

PARENTAL AND RELIGIOUS INFLUENCES ON ADOLESCENT  
EMPATHY AND ANTISOCIAL BEHAVIOR AMONG LATINO  
AND EURO-AMERICAN YOUTH: AN INVESTIGATION OF  
MEDIATING AND MODERATING EFFECTS

by

KYLE STEPHEN GILLETT, M.S.

A DISSERTATION

IN

MARRIAGE AND FAMILY THERAPY

Submitted to the Graduate Faculty  
of Texas Tech University in  
Partial Fulfillment of  
the Requirements for  
the Degree of

DOCTOR OF PHILOSOPHY

Approved

Roy Bean  
Chairperson of the Committee

Alan Reifman

Maria Bermudez

Steve Harris

Accepted

John Borrelli  
Dean of the Graduate School

August, 2006

Copyright © 2006 Kyle Stephen Gillett

All Rights Reserved

## ACKNOWLEDGEMENTS

I would first of all like to thank Dr. Roy Bean for his friendship, example, and mentoring. I would like to express my appreciation for his belief in me as a researcher and as a clinician. I also want to thank him for his continual personal and professional support for me throughout my attendance at Texas Tech University. His willingness to take me on as a student and provide suggestions, guidance, and support has opened new doors for my future and has pointed me on a path towards happiness and success.

I would like to thank Dr. Alan Reifman for the substantial amount of time that he has spent providing excellent statistical support, detailed proofreading, and conceptual guidance on my dissertation. His patient tutoring, keen eye, and detailed feedback have been an invaluable asset to me for this study.

I am also very thankful for Drs. Maria Bermúdez and Steve Harris, and for their commitment to improving my research and clinical abilities. They have provided helpful insights for this dissertation, as well as valuable inspiration in therapeutic settings.

I would like to thank the rest of the faculty for their dedication and guidance through this program, as well as my fellow students and colleagues for their love, support and friendship. These three years would not have been the same without them.

Most of all, I would like to thank my amazing wife, Julie for her undying love, support and strength. She has provided me with friendship, happiness, sanity, yummy food, warm hugs, a happy home, and a beautiful family—namely two sons, Skyler James Gillett (2 ½ years) and Ethan Cole Gillett (1 month). She is my best friend, my eternal love, and my all.

## TABLE OF CONTENTS

ACKNOWLEDGEMENTS	ii
ABSTRACT	vii
LIST OF TABLES	viii
LIST OF FIGURES	x
CHAPTER	
I.    INTRODUCTION AND STATEMENT OF PURPOSE	1
II.   REVIEW OF LITERATURE	4
Socialization Factors and Direct Relationships	6
Parenting	6
Parenting and Antisocial Behaviors	8
Religiosity and Antisocial Behaviors	10
Empathy and Indirect Relationships	11
Empathy	11
Parenting and Empathy	13
Empathy and Antisocial Behaviors	14
Empathy and Religiosity	16
Empathy as a Mediating Variable	18
Moderating (Comparative) Variables	20
Ethnicity	20
Socioeconomic Status (SES)	24
Gender and Age	25

	Family Structure	26
	Hypotheses	28
	Hypothesis 1	28
	Hypothesis 2	29
	Hypothesis 3	29
III.	METHOD	30
	Sample	30
	Procedure	31
	Measures	32
	Youth and Family Project questionnaire	32
	Parental Support	33
	Parental Behavioral Control	33
	Parental Psychological Control	34
	Religiosity	34
	Empathy	34
	Antisocial Behavior	35
	Mediating Versus Moderating Variables	36
	Analysis	37
IV.	RESULTS	40
	Sample	40
	Full Structural Model	41
	Preliminary Analyses	45
	Age	45

Socioeconomic Status (SES)	46
Gender	46
Ethnicity	47
Family Structure	49
Comparing Full, Direct and Indirect Models	51
Full Structural Model	56
Comparing Updated Full, Direct and Indirect Models	58
Summary of Updated Full Structural Model	60
Correlations	65
Relationships between Stand-Alone Demographic Variables and Latent Factors	66
Relationships between Latent Factors	67
Comparative Model Testing	69
Ethnicity	71
SES	73
Gender	79
Family Structure	79
V.    DISCUSSION	84
Review of Hypotheses and Findings	84
Hypothesis 1	84
Adolescent Religiosity to Adolescent Empathy	86
Adolescent Religiosity to Adolescent Antisocial Behavior	88
Parenting to Adolescent Empathy	89

Parenting to Adolescent Antisocial Behavior	90
Adolescent Empathy to Adolescent Antisocial Behavior	93
Correlations	95
Relationships Between Demographic Variables and Latent Factors	96
Hypothesis 2	100
Hypothesis 3	104
Ethnicity	105
SES	108
Gender	113
Family Structure	114
Clinical Implications	118
Strengths and Limitations of Study	126
Suggestions for Future Research	129
Conclusion	132
REFERENCES	135

## ABSTRACT

Utilizing structural equation modeling, this research investigated the socialization variables of Parenting and Religiosity and their relationship with Adolescent Antisocial Behavior. The potential mediating and moderating effects that Empathy, Ethnicity, Socioeconomic Status (SES), Gender and Family Structure played in the relationship between the previously mentioned socialization variables and Antisocial Behavior were also explored. Findings suggest that Adolescent Religiosity and facilitative Parenting (high levels of Parental Support and Parental Behavior Control combined with low levels of Parental Psychological Control) both display significant unidirectional relationships with Adolescent Empathy and Adolescent Antisocial Behavior. It was further determined that Empathy did not mediate the relationship between socialization variables (Parenting and Adolescent Religiosity) and Adolescent Antisocial Behavior. In addition, Ethnicity, SES and Family Structure were shown to significantly moderate numerous pathways in the overall model. However, upon further investigation it was identified that very few moderated pathways were identified between the main latent factors in the model. Instead, it was identified that the relationships between many of the demographic variables and latent factors in the model displayed significant moderated pathways. Clinical implications are offered and the results of this study provide relevance to the profession of Marriage and Family Therapy as a whole.



## LIST OF TABLES

1.	Means and Standard Deviations of Composite Variables Representing Latent Factors Displayed by Groupings of Comparison Variables	44
2.	Correlations between Age and Latent Factors in Full Structural Model	46
3.	Correlations between SES and Latent Factors in Full Structural Model	46
4.	Analysis of Variance Results for Gender and Latent Factors in Full Structural Model	47
5.	Analysis of Covariance Results for Ethnicity and Latent Factors in Full Structural Model with SES serving as Covariate	48
6.	Analysis of Covariance Results for Family Structure and Latent Factors in Full Structural Model with SES serving as Covariate	50
7.	Comparative Model Testing Using the Chi-Square Difference Test	56
8.	Correlations in Original Full Structural Model	57
9.	Comparative Model Testing Using the Chi-Square Difference Test on Updated Models	60
10.	Means and Standard Deviations of Composite Variables Representing Latent Factors Displayed by Groupings of Comparison Variables	63
11.	Standardized Factor Loadings for the Updated Full Structural Model	64
12.	Correlations in Updated Full Structural Model	66
13.	Regression Weights in Updated Full Structural Model	68
14.	Comparative Model Testing Using the Chi-square Difference Test: Comparing Updated Full Structural Model across Ethnicity	71
15.	Paths in the Updated Full Structural Model as Moderated by Ethnicity (Unstandardized Results from Unconstrained Model)	73
16.	Comparative Model Testing Using the Chi-square Difference Test: Comparing Updated Full Structural Model across SES	74

17.	Paths in the Updated Full Structural Model as Moderated by SES – Reported by Below Average, Average, and Above Average SES (Unstandardized Results from Unconstrained Model)	78
18.	Comparative Model Testing Using the Chi-square Difference Test: Comparing Updated Full Structural Model across Gender	79
19.	Comparative Model Testing Using the Chi-square Difference Test: Comparing Updated Full Structural Model across Family Structure	80
20.	Paths in the Updated Full Structural Model as Moderated by Family Structure – Reported as Living with Both Biological Parents and Other (Unstandardized Results from Unconstrained Model)	83

## LIST OF FIGURES

1.	Full Structural Model without Comparison Paths, with Hypothesized Directionality of Relationships	42
2.	Full Measurement Model without Comparison Paths	43
3.	Full Structural Model with Comparison Paths	52
4.	Direct Model with Comparison Paths	53
5.	Indirect Model with Comparison Paths	54
6.	Updated Direct Model with Comparison Paths	58
7.	Updated Indirect Model with Comparison Paths	59
8.	Updated Full Structural Model with Comparison Paths and Hypothesized Directionality of Relationships	61
9.	Updated Full Measurement Model	62
10.	Significant Pathways in Updated Full Structural Model	67

## CHAPTER I

### INTRODUCTION AND STATEMENT OF PURPOSE

Research suggests that higher levels of empathy are related to increased levels of prosocial behavior (Krevans & Gibbs, 1996) and decreased levels of violence (McMahon & Washburn, 2003) in Euro-American adolescents. In addition, adolescents who exhibit antisocial behaviors such as gang involvement (Valdez, Kaplan & Codina, 2000), substance abuse (Schreiber, 1992) and firesetting (Walsh, Lambie & Stewart, 2004) have been found to have lower levels of empathy. Consequently, it seems important for therapists, who work with troubled adolescents, to have a clear understanding of the socialization factors that are related to adolescent antisocial behaviors and the nature of the possible mediating effect that empathy plays in these relationships. With a better understanding of empathy as a construct, such therapists may be able to understand why some adolescents have lower levels of empathy, which may help them discover new and additional ways of fostering empathy and decreasing antisocial behavior in their lives.

The construct of empathy has been defined at several levels of complexity. Smith (1989) suggests, "Simply put, *empathy* is understanding another's experience from the other's point of view, projecting oneself into the other's place as subject of her experience" (p. 112). The Merriam-Webster online dictionary defines empathy using greater detail:

the action of understanding, being aware of, being sensitive to, and vicariously experiencing the feelings, thoughts, and experience of another of either the past or present without having the feelings, thoughts, and experience fully communicated

in an objectively explicit manner; *also* : the capacity for this (Merriam-Webster Online, 2004).

For the purpose of this study, empathy was defined as *concern for others*, matching one of the four parts of empathy suggested by Davis (1980), which are: empathic concern, perspective taking, fantasy, and personal distress. The definition of empathy in this study focuses on empathic concern, as it is hypothesized to be the aspect of empathy most strongly related to the way an individual interacts with others. It is believed that the greater an individual's concern for others, the less likely they are to behave in a manner that would cause harm to themselves or others.

Several empirical research articles discuss the relationship between socialization variables and child/adolescent empathy (e.g., Barnett, 1987; Lopez, Bonenberger & Schneider, 2001), and others have illustrated the relationship between child/adolescent empathy and prosocial versus antisocial behaviors (e.g., Sams, Truscott & Road, 2004). However, only one study could be found that investigated the constructs of parenting, child empathy and prosocial (as opposed to antisocial) behaviors simultaneously (see Krevans and Gibbs, 1996). Unfortunately, no studies could be found that concurrently evaluated the relationship between parenting, empathy, and antisocial behavior in an adolescent population. In addition, no articles were found that investigate the cross-cultural nature of empathy in this age grouping.

The purpose of this study was to examine the relationship between parenting variables (parental support, parental behavioral control and parental psychological control), adolescent empathy (concern for others) and antisocial behaviors towards others and self in a sample that includes both Latino and Euro-American youth. In addition, a

measure of adolescent religiosity (i. e., church attendance, perception of religiosity) was included in the study as an exogenous variable. The following two main research questions were addressed: (a) How are parenting variables and religiosity related to adolescent antisocial behaviors as mediated by adolescent empathy? (b) Is this relationship different across Euro-American and Latino families, SES, gender, age, or family structure? The main structural model that was used for analysis can be seen in *Figure 1*.

Findings from this study will provide suggestions for Marriage and Family Therapists (MFTs) and other clinicians who work with adolescents who exhibit antisocial behaviors to: (a) understand what socialization factors may be related to higher levels of empathy and lower levels of antisocial behavior; (b) develop family-based interventions to facilitate increased empathy and decreased delinquency for adolescents; and (c) understand how this process may be similar or different for families of Latino and Euro-American descent.

## CHAPTER II

### REVIEW OF LITERATURE

As mentioned in Chapter 1, previous research has explored the relationship between variables of parenting and child/adolescent empathy (e.g., Barnett, 1987; Lopez et al., 2001; Mussen & Eisenberg-Berg, 1977), as well as the relationship between child/adolescent empathy and prosocial versus antisocial behaviors (e.g., Eisenberg, Miller, Shell, McNalley, & Shea, 1991; McMahon & Washburn, 2003; Sams, Truscott & Road, 2004; Tremblay, Pihl, Vitaro & Dobkin, 1994). Furthermore, numerous articles have examined the direct relationship between parenting and antisocial behaviors (e.g., Barber, Olsen & Shagle, 1994; Jones, Forehand & Beach, 2000; Steinberg, 1987, 1990). However, only one article could be found that investigated the relationship between parenting and socially related (prosocial) behaviors in children, while acknowledging empathy as a mediating variable (see Krevans & Gibbs, 1996).

The fact that no studies could be found that investigate such a relationship in adolescents, or that focus on antisocial (as opposed to prosocial) behaviors in this context, demonstrates an alarming gap in the literature. This is especially problematic when considering that antisocial behaviors exhibited in adolescence are usually much more detrimental to society and potentially dangerous to others than are antisocial behaviors exhibited during childhood. Because this topic had not yet been examined, it was proposed in this study to investigate the relationship between variables of parenting (parental support, parental behavioral control and parental psychological control),

adolescent empathy (concern for others) and antisocial behaviors in the adolescent population.

In addition, previous research has suggested a small, yet consistently significant relationship between adolescent religiosity and adolescent empathy as well as other forms of moral development among American adolescents (Bruggeman & Hart, 1996; Francis & Pearson, 1987; Furrow, King & White, 2004). It has also been shown that religiosity is negatively correlated with delinquent behaviors such as theft, vandalism, violence and substance abuse (Booth & Martin, 1998; Donahue & Benson, 1995; Elifson, Petersen & Hadaway, 1983; Jang & Johnson, 2001). Because of this, religiosity was included in this study as an exogenous variable.

Furthermore, given the obvious dearth of literature on this topic among American teens, it is not surprising that these relationships had not been investigated in other U.S. subgroups. Because of this, it was proposed to include in this study a sample that consisted of Latino and Euro-American youth. Socioeconomic status (SES) was also investigated in this sample to determine if differences might be found in the model between those of differing SES, and to evaluate its potential confounding relationship with ethnicity. In addition, constructs of adolescent gender and age were included in this analysis due to their suggested relationship with the constructs of adolescent empathy (Krevans & Gibbs, 1996; Lopez et al., 2001) and antisocial behaviors (Calvo, Gonzalez & Martorell, 2001). Finally, family structure was investigated in this study in order to determine if there were differences in the proposed model across differing family structures.



I will begin by discussing the main socialization factors included in this study (the three dimensions of parenting, and adolescent religiosity) and their direct relationship with adolescent antisocial behaviors. I will then discuss empathy and its relationship to the aforementioned socialization factors (exogenous variables) as well as its relationship to antisocial behavior (endogenous variable). In this form, empathy will be presented as a mediating variable between parenting variables and antisocial behaviors in adolescents. Following that, I will discuss ethnicity, SES, gender, age and family structure as five variables that were used in comparative model testing in order to evaluate the possibility of their moderating effects on the proposed model. In conclusion, I will discuss the identification and measurement of mediating versus moderating variables.

### Socialization Factors and Direct Relationships

Parenting. There are three main dimensions of parenting behavior that have consistently been shown to be related to child and adolescent well-being and development: *support*, *behavioral control*, and *psychological control*. It has been shown that support and behavioral control have a positive correlation to well-being, and psychological control has a negative correlation to well-being (Bean, Barber & Crane, 2005; Barber, 1997; Gray & Steinberg, 1999; Steinberg, Mounts, Lamborn & Dornbusch, 1991). For numerous years, only two dimensions were researched—support and control—but due to a lack of conceptual clarity, control was sometimes considered an aspect of positive, effective parenting and at other times considered negative and dictatorial (Peterson & Rollins, 1987). Due to this lack of clarity, Schaefer (1965a), first

separated control into two discrete constructs—behavioral control and psychological control. Many researchers have since followed his lead (e.g., Barber, 1996; Bean et al., 2005; Garber, Robinson & Valentiner, 1997; Steinberg, 1990), thus creating the aforementioned conceptualization of three key dimensions of parenting.

Parental support has often been defined as the amount of warmth, love, or acceptance that parents convey to their children and has been repeatedly regarded as essential to the normative development of children and adolescents. Parental behavioral control refers to the level of regulation or supervision/monitoring that a parent provides in reference to the child's behavior. Increased levels of behavioral control are related to enhanced adolescent functioning. Parental psychological control, on the other hand, refers to manipulation of, and intrusion upon, the child's psychological world (e.g. devaluation of feelings, restraining verbal interactions) (Bean et al., 2005). In contrast to the literature focused on parental support and behavior control, research has demonstrated that psychological control is negatively related to the well-being of children and adolescents (Barber, 2001). In addition, further research has suggested that high levels of psychological control are related to an increase in internalized disorders in adolescence while low levels of behavior control are related to an increase in externalized disorders (Barber, Olsen & Shagle, 1994).

Investigating the dimensions of parenting both as separate variables and in the aggregated form as parenting styles highlights their consistent association with greater academic and social achievement and fewer problem behaviors in children and adolescents (Barber, Olsen & Shagle, 1994; Schaefer, 1965*a*; Steinberg et al., 1991) Unfortunately, however, their relationship is still somewhat unclear due to the fact that

the majority of studies on parenting have examined their unique (examining the dimensions of parenting as separate variables) *or* joint (examining the dimensions of parenting in the aggregated form of parenting styles) effects (e.g., Herman, Dornbusch, Herron & Herting, 1997). Examining only their unique *or* joint effects is associated with several methodological weaknesses. For example, when research focuses solely on the unique effects of parenting dimensions, it fails to address the interrelationship that may be found between dimensions, or fails to recognize error that may be accounted for by another dimension of parenting. On the other hand, when research only investigates these dimensions in an aggregated form, such as in parenting styles, the individual effects of each dimension are often lost. Because of this, it has been suggested to examine parenting dimensions' unique *and* joint effects (see Bean et al., 2005). This is very important because examining the three dimensions of parenting (support, behavioral control and psychological control) together but as separate dimensions allows the researcher to isolate the individual effect of each dimension and study it within the social context of the other co-occurring parenting behaviors (Bean et al., 2005).

Parenting and Antisocial Behaviors. In order to examine empathy as a mediating variable between the constructs of parenting and antisocial behaviors, the direct relationship between parenting and antisocial behaviors must first be recognized. Numerous studies have been conducted examining the relationship between parenting variables and adolescent antisocial behaviors. Barber et al., (2003) found that parental psychological control has a positive relationship with adolescent antisocial behaviors and that parental behavioral control has a negative relationship with adolescent antisocial

behavior. Bradford et al. (2004) replicated this study using recommendations from cross-cultural psychology in which researchers take a model that has been validated in one culture and “transport and test” it for validity in another. These authors used the model provided by Barber et al., (2003) and tested it across 11 different cultures including school-going adolescents from Bangladesh, Bosnia, China, Colombia, Germany, India, Palestine, three different ethnic groups in South Africa, and the United States. Findings suggested that the same relationships found in the Barber et al., (2003) study were present across all 11 cultures that were sampled (Bradford et al., 2004). This research not only reports on significant relationships between parenting and antisocial behaviors but also suggests that these relationships are similar cross-culturally in all parent/child relationships.

In addition, numerous other studies report that increases in parental support (Bryant & Crockenberg, 1980; Carlo, Roesch & Melby, 1998) and behavior control (Claes & Lacourse, 2001) lead to decreased antisocial behaviors. Carlo, Roesch and Melby (1998) investigated the relationship that adolescent anger and sociability and parental support have with prosocial and antisocial youth outcomes. Using self-report measures that represented each of the above variables, they sampled 80 adolescents. Their findings suggested that when parental support was high and anger and sociability were low, aggression and antisocial behaviors were correspondingly low.

It has also been found that an increase in parental support leads to decreased antisocial behaviors (Bryant & Crockenberg, 1980; Carlo, Roesch & Melby, 1998). Bryant and Crockenberg (1980) found in their study involving 50 mothers and their daughters that a mother’s responsiveness to the needs of her child (interpreted as

conceptually comparable to parental support) was related to a decrease in antisocial behaviors and an increase in prosocial behaviors. In addition, Mestre, Samper, Tur and Díez (2001) found in their study of 733 youth from Spain (males and females age 14 – 15) that prosocial reasoning is strongly related to an adolescent's perceived relationship with their mother and father. When adolescents perceived that their relationship with their parents was positive and supportive, they exhibited higher levels of prosocial reasoning. Claes and Lacourse (2001) found in their study of high school students in France, that higher levels of parental monitoring (discussed as behavioral control in this study) are related to decreases in deviant behaviors.

Religiosity and Antisocial Behaviors. Religiosity has been shown to have low to moderate negative correlations with delinquent behaviors towards others such as theft, vandalism and violence (Donahue & Benson, 1995; Nonnemaker, McNeely & Blum, 2003). Johnson, Jang, Larson and De Li (2001) further report that these relationships remain significant even when examined alongside other possible covariates (e.g., social bonding, social learning, and other sociodemographic variables). However, some researchers have suggested that when the relationship between religiosity and antisocial behaviors towards others is tested within the context of possible covariates, such as baseline levels of violence and drug use, such correlations drop away (Elifson, Petersen & Hadaway, 1983; Sussman, Skara, de Calice, Hoffman & Dent, 2005).

This relation has been shown to be stronger and more significant between religiosity and delinquent behaviors focused on the self, such as substance abuse (Booth & Martin, 1998; Hadaway, Elifson & Peterson, 1984; Jang & Johnson, 2001), and

adolescent sexual behavior (Donahue & Benson, 1995). In their study, which included interview data with 600 adolescents who attended public school in the southern United States, Hadaway, Elifson and Petersen (1984) examined the relationship between religious involvement and substance use while considering other possible confounding variables (i.e., marijuana use by friends, religious salience, parent's view of friends, school grade, etc.). They found that even when controlling for such extraneous variables, religiosity still had a significant effect on the use of alcohol and other substances, as well as attitudes towards substance use. Furthermore, Brownfield and Sorenson (1991) found that the rate of multi-drug use (e. g., marijuana, psychedelics, barbiturates, alcohol or cocaine) among white, high-school aged males who never attended church services was over three times greater than for those who attended church at least once a week. In addition, several research studies show that religiously affiliated youth on average begin sexual activity at a later age and have fewer sexual partners than do same-aged peers that are less involved in religious activity (Halpern et al., 1994; Murry, 1994; Thornton & Camburn, 1989).

### Empathy and Indirect Relationships

Empathy. It has been reported that the capacity for empathy begins very early in life. Numerous researchers have found that children have the capability to be empathic as early as their first or second year of life (Barnett, 1987; Hoffman, 1984; Thompson, 1987). This ability continues to develop in the preschool years during which children begin to cite empathic rationales for the behavior of sharing (Damon, 1988). Such

rationales are also reported to drive the development of moral reasoning (e.g., justice, fairness, equality and equity) and other values (e.g., needs, talents and hard work) throughout elementary school (Damon, 1988). Although empathy does indeed emerge early in life, it is suggested that true empathic behavior does not manifest until later in life when children have developed “the cognitive abilities to discriminate affective cues in others, more mature cognitive skills in assuming the perspective and role of another person, and emotional responsiveness, the affective ability to experience [a wide range of] emotions” (Feshbach, 1987, p. 273). This suggests that adolescence is a time period in which empathic behavior is often exhibited.

As presented in Chapter 1, empathy, as a construct, can be defined in several ways. However, most definitions hold one central idea in common—understanding the thoughts, feelings, and experience of another from their point of view (e.g., Davis, 1980; Smith, 1989). Empathy is also a principle of action, as Davis (1980) suggested by defining one important construct of his Interpersonal Reactivity Index (IRI) as *Concern for Others*. This definition of empathy goes one step further in not only recognizing another’s feelings, thoughts, and experience from the other’s perspective, but also adds in a personal affective reaction in which the individual feels *concern* for the other. It is this construct of empathy that is hypothesized to be most closely related to one’s behavior towards others, as it directly reflects his or her ability to emotionally respond to another’s position or experience. For this reason, the construct of empathy has been defined as having *concern for others*, and the Empathic Concern (EC) subscale of the IRI was used to measure empathy in this study.

Parenting and Empathy. Although the dimensions of parenting have been repeatedly related to adolescent outcome behaviors, no research could be found that investigated their specific relation to empathy in adolescents. One study suggests that when children receive affectionate, responsive parenting they are more likely to develop positive levels of empathy because they learn what it feels like to get their needs met (Barnett, 1987). This idea ties well into the parenting dimension of support, but does not directly address the relation between all three parenting dimensions and empathy.

Lopez et al. (2001) specifically looked at parental discipline styles and assessed their association with levels of empathy in young adults. The authors split parental discipline into two categories—power assertion (using power differential to coerce child behavior; which can be related to *parental psychological control*) and induction (helping the child to understand the consequences of their behavior on themselves and others; Eisikovits & Sagi, 1982; Rich, 1983; which has been identified as a type of parental behavioral control; Supple, 2001). They found parental use of induction to be positively related to empathy levels. They also found that parental use of corporal punishment (physical discipline) was negatively related to levels of empathy in young adults. One other article was located in which the authors investigated the interrelationship between parental discipline, child's empathy and prosocial behavior (Krevans & Gibbs, 1996). A discussion related to this article can be found in the subsection entitled *Empathy as a Mediator* later in this section. In addition, no studies were found that discussed the relationship between parenting and empathy in a multi-ethnic sample.



Empathy and Antisocial Behaviors. The next step in the review of literature focuses on the relationship between empathy and antisocial behaviors. Research shows that increases in empathy are related to decreases in violence and aggression (Garaigordobil, Álvarez, & Carralero, 2004; McMahon & Washburn, 2003; Miller & Eisenberg, 1988; Tremblay, Pihl, Vitaro & Dobkin, 1994). Garaigordobil, Álvarez, and Carralero (2004) found, in their study of 139 pre-adolescents (aged 10-12 years) that participants with high levels of antisocial behaviors showed less concern for others and a lower capacity for empathy than non-delinquent counterparts. In their study including fifth through eighth grade students, McMahon and Washburn (2003) found that increases in empathy significantly predicted less aggressive or antisocial behavior. In addition, Miller and Eisenberg (1988) found a moderate negative relationship between empathy and antisocial and aggressive behaviors.

In contrast, a lack of empathy can be related to various antisocial behaviors, such as increased gang involvement (Valdez, Kaplan & Codina, 2000), drug dealing (Schreiber, 1992), firesetting (Walsh, Lambie & Stewart, 2004) and sexual offenses (Burke, 2001; Bush, Mullis & Mullis, 2000; Farr, Brown, & Beckett, 2004). To be more specific, Schreiber (1992) found, in his study of 33 delinquent adolescents, that those who had been charged with dealing crack cocaine had significantly lower levels of empathy than those who were not drug dealers. In addition, Farr et al. (2004) reported, in their study of 101 adolescent males (44 sexual offenders and 57 non-offenders) that sex offenders displayed significant empathy deficits when compared to their non-offending counterparts. Valdez, Kaplan and Codina (2000) found in their study involving 75 Mexican American males in late adolescence that gang members scored twice as high as

non-gang members on lack of empathy. Furthermore, Soderstrom (2003) refers to psychopathy (also sometimes referred to as conduct disorder or antisocial personality disorder) as an “empathy disorder”—suggesting that such disorders are related to a lack of, or inability to experience, empathy.

Unfortunately, however, very little research could be found discussing the actual nature of empathy in an adolescent population. Most research on adolescent empathy focuses only on the negative outcomes that are related to possessing low levels of empathy. One study, however, reported that programs can be useful in helping adolescents develop higher levels of empathy and therefore lower levels of aggressive, delinquent behavior (McMahon & Washburn, 2003). These authors studied the impact of violence prevention programs on fifth through eighth grade African American students in inner-city, Chicago schools. After evaluating pretest and posttest surveys measuring a variety of variables, it was discovered that students who participated in the instituted violence prevention program showed significant increases in violence prevention knowledge and skills, self-reported empathy, and teacher-reported prosocial behaviors. Furthermore, it was reported that increases in empathy significantly predicted decreases in aggressive and antisocial behaviors (McMahon & Washburn, 2003).

Although adolescent prosocial behaviors were not measured in this study, it was necessary to include articles focusing on this topic in order to further supplement the literature relating empathy to antisocial behaviors. Numerous studies have suggested that prosocial behaviors are inversely related to antisocial behaviors in children and adolescents (Bryant & Crockenberg, 1980; Gabrys, 1983)—several of which place prosocial and antisocial behaviors at two polar ends of a social behavior continuum

(Polyson, 1979; Silva, Martinez-Arias, Moro & Ortet, 1996; Silva, Martinez-Arias, Rapaport, Ertle & Ortet, 1997). Because of this, increased prosocial behavior will be equated with decreased antisocial behaviors in this section of the literature review.

Studies have shown that positive levels of empathy are related to higher levels of moral reasoning and prosocial behavior (Eisenberg et al., 1991; Krevans & Gibbs, 1996). Eisenberg et al. (1991) conducted a longitudinal study over a span of 11 years and found higher levels of empathy to be related to increases in moral reasoning (part of which is defined as prosocial reasoning/behavior). In their study involving 102 early college students, Lopez et al. (2001) found that higher levels of empathy were directly related to increases in prosocial behavior. As previously reported, if prosocial behavior is negatively correlated with antisocial behaviors, it is proposed that the Lopez et al. (2001) and Eisenberg et al. (1991) studies provide evidence that higher levels of empathy would be related to a decrease in antisocial behaviors. With the lack of clear research evaluating the relationship between empathy and antisocial behaviors during adolescence, it was proposed that there is a great need to further explore this relationship with the goal of identifying certain variables that may be useful in the intervention process.

Empathy and Religiosity. While investigating the current research literature related to empathy, it became evident that religiosity and its relationship to empathy needed to be addressed in this study as well. Numerous studies have shown a small, yet consistent relationship between religiosity and empathy as well as other forms of moral development among American adolescents (Bruggeman & Hart, 1996; Francis & Pearson, 1987; Furrow, King & White, 2004). In fact, Francis and Pearson (1987)

propose that religiosity may be a “missing link” that can account for changes in empathy during adolescence.

Morgan (1983) suggests that the relationship between religiosity (more specifically, Christianity) and moral qualities such as empathy may be due in part to the Biblical focus on stories or proverbs such as the parable of the Good Samaritan or the so-called Golden Rule (“Do unto others as you would have others do unto you.”). Another finding suggests a stronger relationship between religion and prosocial behaviors than between religion and empathy as an internal value (Donahue & Benson, 1995). This may be due to the social influences inherent in religious involvement that encourage individuals to “practice what you preach.”

In a study involving 801 urban public high school students, Furrow, King and White (2004) used structural equation modeling to investigate the relationship between religious identity and prosocial concerns, including *concern for others*. Their findings suggested a positive relationship between religious identity and prosocial personality—some of the most influential structural paths were found in the relationship between religious identity, prosocial concerns and empathic concern (factor loadings ranged from .45 to .67).

Due to the strong relationships found between religiosity, adolescent empathy and delinquency, it was very important to investigate the impact that religiosity has on these variables in this study. It was proposed that religiosity would be positively correlated with parental support and behavior control and negatively correlated with parental psychological control. In addition, it was believed that higher levels of religiosity would be related to increased empathy and decreases in antisocial behaviors. Religiosity was

evaluated as an exogenous variable along with the three parenting dimensions in order to determine which of these four constructs relate to empathy and delinquent behaviors (see Figure 1). In addition, no studies could be found that specifically investigated these relationships in a multi-ethnic sample.

Empathy as a Mediating Variable. As discussed previously, several researchers have evaluated the relation between parenting variables and empathy (Barnett, 1987; Lopez et al., 2001). There is also much already known about the positive relation found between empathy and prosocial behavior (Eisenberg et al., 1991; Strayer & Schroeder, 1989) and its negative relation with antisocial behavior (Farr et al., 2004; Garaigordobil, Álvarez, & Carralero, 2004). In addition, other studies report on the relationship between parenting variables and delinquent behavior (Barber, 1996; Barber et al., 1994; Bean et al., 2005). However, only one could be found that directly discussed the interrelationship between the constructs of parenting, empathy and child behavior (Krevans & Gibbs, 1996), which illustrates the need for research to further delineate this relationship.

Although research is limited in regard to the topic of empathy in adolescents, research in child development literature has shown that increased levels of prosocial behavior and decreased levels of delinquent behavior are associated with both empathy and parental discipline. Krevans and Gibbs (1996) report that a child's empathy mediates the relation between parental discipline and children's prosocial behavior. More specifically, they found that children whose parents used higher levels of inductive discipline were more empathic, and children with higher levels of empathy exhibited more prosocial behavior.

Only one other study was located that measured a similar framework of constructs. Wootton, et al. (1997) sampled 166 (136 clinic-referred and 30 volunteer) children between the ages of 6 and 13. The authors found that ineffective parenting styles were associated with childhood conduct problems only in children with low levels of “callous-unemotional traits,” (e.g., lack of empathy, manipulateness, lack of guilt, and emotional constrictedness). When children displayed high levels of callous-unemotional traits, such as a lack of empathy, they displayed a significant level of conduct problems regardless of their parents’ effectiveness. These findings suggest that empathy may moderate the relation between styles of parenting and childhood conduct problems.

Moderating and mediating variables contribute differing effects on such relationships. Because of this—and due to the fact that lack of empathy was only one piece of the multifaceted construct of “callous-unemotional traits”—this finding further contributes to the need of delineating the role that empathy plays in the relationship between parenting and antisocial behaviors.

Multiple research studies have been discussed that illustrate the relationship between parenting and antisocial behaviors; parenting and empathy; and empathy and antisocial behaviors. As all of these relationships have been strongly supported, there appears to be a significant overlap that has not yet been studied within the adolescent population. With this in mind, this study was designed to investigate the mediating role of empathy in the relationship between parenting variables and adolescent antisocial behaviors.

## Moderating (Comparative) Variables

Ethnicity. Very few studies could be found that investigated differences in disaggregated parenting variables and youth outcome in ethnically diverse families (as exceptions, see Bean et al., 2005; Bradford et al., 2004; Herman, et al., 1997). In this study, the focus on both Euro-American and Latino youth is due to the fact that these groups are the largest ethnic groups in the United States. In addition, Latinos are the fastest growing ethnic U.S. group, as it is projected that the Latino population in the United States will grow from 12.6% of the total population in the year 2000 to 24.4% in 2050 (U.S. Census, 2000). Furthermore, it was identified that the sample in the overall proposed dataset had an even distribution of Euro-American (38.7%) to Latino (37.9%) adolescents, thereby providing further rationale for comparative model testing between these two ethnic groups.

Previous research has found that the relation between parenting dimensions and youth measures such as adolescent depression, antisocial behavior and academic achievement does indeed vary across ethnic samples (Bean et al., 2005). No studies however could be found that investigated the relationship between parenting dimensions and empathy across ethnic groups, nor were any studies found that investigated this relationship in a Latino sample. Only a few studies could be identified that investigated the relationship between parenting and prosocial versus antisocial behaviors in a Latino sample. In a study including a sample of 446 Latino youth between the ages of 14 and 19, Kerr et al. (2003) examined the relationship between familial/parenting factors, and positive and negative youth behaviors. The authors found that higher levels of familial

connectedness and parental monitoring (comparable to *parental support* and *parental behavioral control*, respectively) were consistently associated with fewer problem behaviors in Latino youth. In addition, Mestre et al. (2001) conducted a study that involved 733 Spanish adolescents between the ages of 14 and 15. Using several instruments related to prosocial reasoning and behavior, the authors found that when adolescents' perceived having a positive (*supportive*) relationship with their parents, they exhibited higher levels of prosocial reasoning and behavior.

At the same time, it has been identified that Latino youth are more likely than Euro-American youth to engage in a number of antisocial behaviors such as: use of alcohol and illicit drugs (Johnston, O'Malley & Bachman, 2000), carrying a weapon, engaging in a physical fight, or sexual behavior increasing the risk of pregnancy or AIDS (U.S. Department of Health and Human Services, 2000). Considering this finding—while acknowledging that the relationship between parenting and antisocial behaviors may be consistent across cultures (Bradford et al., 2004; Kerr et al., 2003; Mestre et al., 2001)—it is plausible that Latino families could display higher levels of parental psychological control and lower levels of parental support and behavior control than do Euro-American families. If this were true, and in accordance with the model presented in this study, it might suggest that Latino adolescents have lower levels of empathy than Euro-American adolescents due to negative parenting behaviors. However, it must be recognized that ethnicity is a variable that is often related to other environmental and SES-related factors which have also been shown to be risk factors for adolescent delinquent behavior. Because of this, it can not simply be deduced that differences in levels of antisocial behavior between Euro-American and Latino youth are related only to



their ethnic background. It has been suggested that there is likely a significant interaction effect between the variables of ethnicity and SES when their relationship with antisocial behaviors is examined (Eamon & Mulder, 2005; Samaan, 2000).

Eamon and Mulder (2005) found in their study of 420 Latino adolescents that youth who lived in poverty for a higher proportion of their life exhibited a greater number of antisocial behaviors than did higher SES youth. In addition, Samaan (2000) reported that children who live in poverty, or who have suffered from economic losses, are more likely to report higher rates of depression, anxiety and antisocial behaviors than higher SES counterparts. This author also found that after controlling for SES, Latino, African American, and Native American adolescents were less likely to report the previously mentioned mental health problems (Samaan, 2000). Because of this, it was determined to be of great importance to evaluate the possible interaction between ethnicity and SES when studying the proposed structural model, therefore, SES was included as a variable for comparative model testing in this study.

Further examining the question as to why Latino adolescents have been reported to engage in more antisocial behaviors than Euro-American adolescents, it must be considered that Latino families differ from Euro-American families in their tendency toward sociocentric (collectivistic), as opposed to individualistic, ethnic values (Leyendecker & Lamb, 1999). There are several ways to account for possible differences in the proposed model while considering this finding. One might believe that Latino families' focus on collectivistic values would likely suggest a higher level of empathy or concern for others. Another possible explanation is that the sociocentric values found in Latino families may serve as an insulating factor against further delinquent behavior, and

it is only with their presence that there is not more delinquent behavior in Latino youth. In contrast, it could be suggested that Euro-American families' focus on individualistic values may nurture a lower level of empathy or concern for others, thereby yielding higher levels of antisocial behaviors. In this case, other variables such as SES may act as an insulating factor, shielding Euro-American youth from increased levels of antisocial behaviors.

As can be seen in the above argument, there is a significant lack of systemic research on this topic. However, several studies suggest that relationships between parenting behaviors and youth outcomes are similar across cultures (see Barber et al., 2003; and Bradford et al., 2004). These studies demonstrate that variables of parenting (identical to those found in this study) have the same effects on youth outcomes across eleven different cultural/ethnic groups. Due to these findings, it was proposed that the model included in this study would yield significant findings in both Euro-American and Latino populations. Therefore, this being an exploratory study, the primary focus of this research was to further understand the nature of the relationship between parenting variables, adolescent empathy and adolescent antisocial behaviors among Euro-American and Latino families. It is believed that the outcomes of this study will be beneficial to MFTs and other clinicians as they work with delinquent youth—of both Euro-American and Latino descent—and their families.

This is especially important when considering that some previous research findings focused on dimensions of parenting have been criticized due to their focus on middle-class Euro-Americans (Dornbusch, Ritter, Leiderman, Roberts & Fraleigh, 1987). This has created some concern regarding ethnocentric bias when styles of parenting are

applied to other ethnic groups (Nucci, 1994; Ogbu, 1981). The cultural relevance of parenting styles has also been questioned since some studies have reported that parenting styles are less consistently related to youth outcomes in non-Euro-American samples (e.g., Dornbusch et al., 1987; Steinberg et al., 1991). These concerns provided further reasoning to investigate this relationship across both Euro-American and Latino samples.

Socioeconomic Status (SES). It is considered common practice in the behavioral sciences to include measures of SES in analyses of human behavior from diverse samples. This is believed to be of particular importance when evaluating cultural differences due to the fact that some authors have found that SES accounts for greater variance in certain behaviors than does ethnicity (e.g., Pong, Hao & Gardner, 2005). In their study of 17,996 adolescents in grades 7-12, Pong et al. (2005) found that SES accounted for a greater portion of the variability of school achievement than did ethnicity or parenting styles when comparing foreign born Latino and third-generation Euro-American students. However, in other ethnic groups in their study (e.g., second-generation Latino, foreign born Asian, second-generation Euro-American, etc.), significant differences were found in parenting styles and scholastic achievement regardless of SES. This is likely due to the significant differences that are present in these latter three ethnic groupings in regard to their racial experiences and immigration factors. In contrast to previous literature on parenting across diverse samples, Supple (2001) found in his study of African American, Mexican American and Euro-American adolescents that race/ethnic differences in levels of parenting persisted even after

controlling for family socioeconomic status. It is clear that the interrelation of the variables of ethnicity and SES is indeed very complex and yet relatively unclear.

With these inconsistent findings in mind, it was considered of great importance in this study to evaluate the influence of SES on the relationship between parenting variables, adolescent empathy and adolescent antisocial behavior. This was examined by including SES in comparative model testing procedures. Furthermore, the influence of SES was compared to the influence of Ethnicity for the purpose of determining if either of these variables had a larger impact on the proposed model than the other. Such systemic evaluation of this relationship is believed to further clarify the previously inconsistent and complex findings related to the interrelation of ethnicity and SES and their influence on adolescent antisocial behavior.

Gender and Age. Furthermore, gender and age are two additional variables that were proposed to be included in this research due to their strong ties to empathy and prosocial versus antisocial behavior, in the literature. It has been repeatedly found that females score higher than males on measures of empathy (Krevans & Gibbs, 1996; Lopez et al., 2001) and prosocial behavior (Calvo et al., 2001; Krevans & Gibbs, 1996), and lower on levels of antisocial behaviors (Calvo et al., 2001).

Lopez et al. (2001) found that although parental discipline was related to empathy, gender was an even stronger predictor of adolescent empathy with females repeatedly scoring higher than males on levels of emotional empathy. In the study including 78 sixth and seventh graders, child's gender was a strong predictor of levels of empathy and prosocial behaviors, once again with girls scoring higher than boys on all

measures (Krevans & Gibbs, 1996). In addition, Calvo et al. (2001) found in their sample of 421 children and adolescents (1-18 years in age) that females score higher than males on measures of prosocial behavior and males score higher than females on measures of antisocial behavior. This could be due to society's differential socialization of girls toward prosocial behavior.

With regards to age, child development literature reports that empathy increases with age (Damon, 1988; Feshbach, 1987). This same relationship may not be present, however in adolescence. One study reported an interaction effect between age and gender, as Tobari (2003) found that among Japanese adolescents, females scored higher than males on all measures of empathy in middle school, but once adolescents reached high school, gender differences in empathy levels decreased.

No studies could be found that investigated age or gender differences in parenting, empathy or antisocial behaviors when examining Latino and Euro-American adolescents. Due to this void in the research literature, and because gender and age have both been identified as factors related to empathy and prosocial versus antisocial behaviors in adolescence, they were included in comparative model testing procedures in this study.

Family Structure. The final comparison variable that was utilized in this study is family structure. For the purposes of this study, family structure referred to whether the adolescent lived in the home with both of their married biological parents or not. Many studies have investigated the effect that living in a single-parent home has on children. Demuth and Brown (2004) reported in their study (using data from the 1995 National

Longitudinal Survey of Adolescent Health) of over 90,000 American youth from grades 7-12 that one-third of all children in the United States are born to unwed mothers, and approximately one-half of all American children will spend at least a portion of their life living in a single-parent family. These are alarming percentages when considering that it was further reported that adolescents in single-parent families display significantly greater delinquency than do adolescents who live in the home with both married biological parents (Demuth & Brown, 2004). However, it must be acknowledged that such differences may be more fully accounted for by lower levels of SES that are often present within single-parent households.

Using the same dataset, Manning and Lamb (2003) studied the wellbeing of adolescents living in cohabiting parent stepfamilies. These authors report that teens living in homes with cohabiting stepparents generally fare worse than teens that live with both married biological parents. They further identified that the difficulties in outcome that adolescents face in families with cohabiting stepparents are very similar to those experienced by adolescents who live with single unmarried mothers. In fact, it was reported that the only differences found were that adolescents living with cohabiting stepparents displayed greater delinquency and had lower grade point averages than those living with single unmarried mothers (Manning & Lamb, 2003).

Furthermore, it was reported that the significant difference in adolescent antisocial behaviors between single-parent and dual-parent (both married, biological parents) family structure was reduced when several family processes (including parenting variables) were controlled for (Demuth & Brown, 2004). This finding provides strong rationale for including family structure as a comparison variable in the proposed study. If

family processes, such as variables of parenting, have been shown to interact with family structure when studying adolescent antisocial behaviors, then it is possible that the proposed model in this study may vary across differing family structures.

### Hypotheses

Hypothesis 1. It has been hypothesized that all paths proposed in the Full Structural Model would be found to be statistically significant. Furthermore, it was hypothesized that the paths between the following variables would be found to have significant, positive relationships in the full model: ADOLESCENT RELIGIOSITY to ADOLESCENT EMPATHY; PARENTAL SUPPORT to ADOLESCENT EMPATHY; PARENTAL BEHAVIORAL CONTROL to ADOLESCENT EMPATHY; PARENTAL PSYCHOLOGICAL CONTROL to ADOLESCENT ANTISOCIAL BEHAVIOR. It was also hypothesized that the paths between the following variables would be found to have significant, negative relationships in the full model: ADOLESCENT RELIGIOSITY to ADOLESCENT ANTISOCIAL BEHAVIOR; PARENTAL SUPPORT to ADOLESCENT ANTISOCIAL BEHAVIOR; PARENTAL BEHAVIORAL CONTROL to ADOLESCENT ANTISOCIAL BEHAVIOR; PARENTAL PSYCHOLOGICAL CONTROL to ADOLESCENT EMPATHY; ADOLESCENT EMPATHY to ADOLESCENT ANTISOCIAL BEHAVIOR (see *Figure 1* for proposed full model and hypothesized directionality of relationships).

Hypothesis 2. It was hypothesized that the Indirect Model—in which the latent factor ADOLESCENT EMPATHY, mediates the relationship between socialization variables (PARENTAL SUPPORT, PARENTAL BEHAVIORAL CONTROL, PARENTAL PSYCHOLOGICAL CONTROL, RELIGIOSITY) and ADOLESCENT ANTISOCIAL BEHAVIOR—would be found to be a more parsimonious substitute for the full structural model. This mediating hypothesis was tested using comparative model testing.

Hypothesis 3. Furthermore, it was hypothesized that the five variables used in comparative model testing—namely Ethnicity, SES, Gender, Age and Family Structure—would yield significant moderating effects in the model which was determined to be the best fit model (Direct, Indirect, or Full Structural Model).



## CHAPTER III

### METHOD

#### Sample

Data for this study came from the Youth and Family Project which was gathered from an urban school district in the southwestern United States (Bean, 2003). There were 2292 out of 4150 eligible students that completed questionnaires in this project; however, 78 were discarded due to concerns regarding response integrity. The total sample for this project was therefore 2214—yielding a 53.3% response rate. Students were in grades 9-12 and their average age was 16.0 years with a standard deviation of 1.1. The sample consisted of 272 ninth graders (*M* age = 14.3), 617 tenth graders (*M* age = 15.3), 709 eleventh graders (*M* age = 16.2), and 616 twelfth graders (*M* age = 17.3). The sample was divided fairly evenly by gender (females – 55.2% and males – 44.7%).

In terms of ethnicity, 39.9% of the adolescents self-identified as Euro-American, 39.1% as Latino, 12.0% as African American, and 9.0% as various other ethnic groups or having multi-ethnic heritage. Due to the even distribution between Euro-American and Latino adolescents in this sample, data from these two ethnic groups were used for analysis in this study.

Respondents were asked to identify their perception of their family's financial situation as compared to other families, and 14.7% reported that they were poorer than most, 55.1% reported that they were about the same as most, and 30.2% reported that their family was richer than most. Furthermore, 50.3% of the respondents reported that they lived with both of their biological parents, 27.1% reported that they lived with only

one biological parent (generally their mother), 15.8% lived with one biological parent and one step-parent, and the other 6.8% reported that they lived either alone, with relatives, or with non-family guardians. Respondents were asked to report on their mother's and father's parenting behaviors regardless of their living arrangements, and participants who did not live with both biological parents were given the option to rate their non-custodial parents as well (e.g., step-parents, guardians, etc.).

### Procedure

School administrators approved the surveying of adolescents in grades 9-12 who were enrolled in five high schools/junior high schools within the district. A letter informing parents about the study and an informed consent document was sent home with every student enrolled in an English class at each of the schools. These "permission slips" were sent home one month prior to administration of the surveys. Students with signed permission slips were given the option to participate in the study or join students without permission slips in whatever assignment or activity individual teachers had planned for the day.

Self-report questionnaires were administered during students' English classes at each individual school. Each school was surveyed over a 1-2 day span and the entire data collection project, across all five schools, was completed in a period of two months. Directions were provided for teachers to distribute questionnaires to participating students at the beginning of their class periods and read the accompanying instruction sheet. Students were then asked to fill out the questionnaires as completely as possible

before the end of their period. Surveys were collected at the end of each period and compiled at the end of each day.

Once collected, all surveys were checked for response integrity (e.g., questionable answer patterns). After manually reviewing each questionnaire, any that appeared to be completed in a non-random, biased answering pattern were eliminated from the study. Following data entry, ten percent of all surveys were randomly selected and checked for correctness in data entry.

### Measures

Youth and Family Project questionnaire. The Youth and Family Project questionnaire is a 16 page self-report survey document (Barber et al., 2003) that examines numerous adolescent variables in the context of his or her socialization environment (including family, peers, school and community). This questionnaire has been used in many different countries as part of a multinational, multiethnic group study of adolescents called the Cross-National Adolescence Project (C-NAP, Barber, et al., 2003). Adolescents have been surveyed from Bangladesh, Bosnia, China, Colombia, Germany, India, Palestine, as well as three distinct ethnic groups from South Africa and the United States. Research has shown consistent reliability of measures in the questionnaire across all cultures studied (Bradford, et al., 2004). This study utilizes the Youth and Family Project questionnaire and focuses specifically on measures of parental support, parental behavioral control, parental psychological control, religiosity, empathy, antisocial behavior, along with several additional demographic variables.

Parental Support. Parental support was measured using the Acceptance subscale from the revised Child Report of Parent Behavior Inventory (CRPBI, Schaefer, 1965b), consisting of 10 items. Responses were gathered through a 3-point Likert-type scale that ranges from 1 (*not like her/him*) to 3 (*a lot like her/him*) regarding to what extent each item describes the adolescents' mother and father. Participants were asked to report on only two parents regardless of whether they were biological parents, step-parents, or legal guardians.

Reporting separately for mothers and fathers, adolescents responded to the following sentence stem and sample items: "My Mother or Father is a person who": (a) "Gives me a lot of care and attention;" (b) "Makes me feel better after talking over my worries with her (him);" (c) "Smiles at me very often." Cronbach's alpha for multinational studies range from .85 to .93 (Bean, et al., 2005; Bradford, et al., 2004).

Parental Behavioral Control. Behavioral control was measured through the use of a monitoring scale, called the Behavioral Control Scale, often used in family and adolescent research (e.g., Barber, 1996; Brown, Mounts, Lamborn & Steinberg, 1993). This scale consists of five items—all of which are scored on a 3-point Likert-type scale that ranges from 1 (*doesn't know*) to 3 (*knows a lot*). The items ask adolescents how much their mother/father (two parents—regardless of their biological relationship) "really knows" about (a) "who your friends are," (b) "where you go at night," (c) "what you do with your free time," (d) "how you spend your money," (e) "where you are most afternoons after school." The higher the score, the higher the perceived levels of functional parental monitoring. Cronbach's alphas ranged from .75 to .91 in several multinational studies (Bean, et al., 2005; Bradford, et al., 2004).

Parental Psychological Control. Psychological control was measured by the Psychological Control Scale—Youth Self-Report (Barber, 1996) made up of eight items. Like the parental support scale, adolescents used a 3-point Likert-type scale that ranges from 1 (*not like her/him*) to 3 (*a lot like her/him*) to answer how well each item describes their mother and father. Again, adolescents reported separately for two parents, biological or not, on the following sentence stem and sample questions: “My Mother or Father is a person who”: (a) “Is less friendly with me if I do not see things her/his way;” (b) “Changes the subject whenever I have something to say;” (c) “Is always trying to change how I feel or think about things.” The parental psychological control scale exhibited Cronbach’s alphas ranging from .72 to .89 on several multiethnic studies (Bean, et al., 2005; Bradford, et al., 2004).

Religiosity. Adolescents reported on their religiosity by answering four questions related to religious activity. Three of these items focus on religious attendance, perceptions of religiosity, and future plans for special religious service. The fourth question consists of four separate items that make up a private religiosity scale. This scale reports on the frequency of religious behaviors that the adolescent demonstrates in private settings. All items employ Likert-type scales with 5 to 7 possible answers representing the entire spectrum of responses to each item. The religiosity items in this study yielded a Cronbach’s alpha coefficient of .86.

Empathy. Empathy was measured using seven items from the Empathic Concern (EC) subscale of Davis’ (1980) Interpersonal Reactivity Index (IRI). The entire IRI is made up of 28 items divided into four subscales which assess both cognitive and affective components of empathy. The other three subscales focus on identifying with fictional

characters, adopting the perspective of others, and experiencing negative reactions to other's misfortunes (Davis, 1980). Davis (1980) reports that the IRI demonstrates substantial internal consistency ranging from .71 to .77 and adequate test-retest reliability ranging from .62 to .71. In addition, he further reports that after comparing the IRI with other existing empathy scales, it was shown to have good convergent and discriminant validity, therefore exhibiting good construct validity (Davis & Franzoi, 1991).

In this study, using the EC subscale, adolescents were asked how well each statement described their feelings towards others. These items utilize a 5-point Likert-type scale that ranges from 1 (*does not describe me well*) to 5 (*describes me very well*). Following are examples of these items: (a) "I often have tender, concerned feelings for people less fortunate than I;" (b) "Other people's misfortunes do not usually disturb me a great deal."

Antisocial behavior. Antisocial behavior was measured using the eight-item delinquency subscale and the five-item aggression subscale on the Child Behavior Checklist-Youth Self-Report (Achenbach, 1991; Achenbach & Edelbrock, 1987). Responses on the 3-point Likert-type scale will range from 1 (*not true*) to 3 (*very true or often true*). Example items on delinquency subscale: (a) "I lie or cheat;" (b) "I use alcohol or drugs for non-medical purposes;" (c) "I steal things from places other than home." Example items on aggression subscale: (a) "I destroy things belonging to others;" (b) "I get in many fights;" (c) "I threaten to hurt people." Cronbach's alpha coefficients for the delinquency subscale ranged from .64 to .80 in various multi-ethnic studies (Bradford, et al., 2004). The aggression subscale yielded a Cronbach's alpha coefficient of .73.

## Mediating Versus Moderating Variables

Across time in social psychological inquiry, researchers have often confused the definitions and purposes of investigating the effects of moderators and mediators on the variables in question. Baron and Kenny (1986) summarized the distinction between moderating and mediating variables and clearly outlined preferred methods of investigating their significance. They describe that moderators are third variables that indirectly affect the direction and/or strength of the relationship between an independent (predictor) variable and a dependent (criterion) variable. On the other hand, mediating variables serve a more internal role and often represent internal psychological processes within the person or organism that is studied. When a variable is found to have a mediating effect on a relationship, the relationship between the predictor and criterion variable is more fully accounted for when the mediator is measured and included. Furthermore, there is a decrease in error as the mediator is included (Baron & Kenny, 1986).

Baron and Kenny (1986) also suggest the most effective ways of investigating the role a mediating variable plays in the relationship between an independent and dependent variable and provide reference to several previously written articles that outline specific procedures. Particularly when researchers are able to include multiple indicators for each of their constructs, Baron and Kenny (1986) highly recommend the use of structural equation modeling to map out the influence of a mediating variable on the predictor and criterion variable(s) in a study. In addition, it was planned to use Sobel testing (Preacher & Leonardelli, 2002) the purpose of examining the significance of mediating relationships.

With regards to testing the moderating effect of a categorical moderator and continuous independent variables, Baron and Kenney (1986) suggest to evaluate the relation of the independent and dependent variables separately by the level of the moderator (e.g., when examining the moderating effect of gender on the relationship between parenting and antisocial behavior, one would evaluate the relationship between parenting and antisocial behavior separately for males and for females) and then test the difference between these relationships. One important point that Baron and Kenney (1986) make is that correlating the relationships between the independent and dependent variables has serious deficiencies. Because of this, it is recommended to measure the relationship between the independent and dependent variables using unstandardized regression coefficients as opposed to correlations (Duncan, 1975). These procedures, including the use of structural equation modeling and comparative model testing, were used to investigate the presence of moderating relationships in the model.

### Analysis

Structural Equation Modeling (SEM) involving multiple groups was performed to evaluate relationships in the proposed model (including the mediating effect of Adolescent Empathy) and any possible moderating interactions in the model that involve ethnicity, SES, age, gender and family structure. For a visual representation of the structural model used in this study, see *Figure 3*. Preliminary analyses were run to investigate the potential relationship that the previously mentioned comparative variables may play in the overall model. Findings from these preliminary analyses guided the design of potential paths in the overall model between stand alone comparative variables



and all other latent factors in the model. Relationships between comparative variables and other latent factors were included in the analysis in order to both decrease error and to evaluate the effect of all comparative variables simultaneously.

The Full Structural Model was originally run including all significant relationships found in the preliminary analyses. This model was compared to the Direct Model (see *Figure 4*) and the Indirect Model (see *Figure 5*), however it was determined that due to multicollinearity of the parenting variables, these variables could not all be included in the model separately. Because of this, the three variables of parenting were consolidated into one overall parenting construct, and the new Updated models (see *Figures 6,7,8*) were run again. Chi-square difference testing was used to evaluate which model was the best fit for the data, and Sobel testing was planned to further distinguish potential mediating effects within the model. This test assesses whether or not a mediating variable significantly carries the influence of an independent variable to a dependent variable (Preacher & Leonardelli, 2002). The Sobel test is commonly used when evaluating mediating variables in structural equation models (Deardorff, Gonzales & Sandler, 2003), as it provides formal statistical significance testing for such relationships (MacKinnon, Warsi & Dwyer, 1995). However, Sobel testing was not used because chi-square difference testing provided enough evidence that no significant mediating effect was present.

Following the examination of direct versus indirect paths in the Updated Models, group comparisons were conducted to determine if the models and their path coefficients differ across ethnicity, SES (second set of analyses), gender (third set), and family structure (fourth set). While group comparisons were being evaluated using one

comparison variable, the other three comparison variables were included in the analysis in order to determine the possible moderating relationship that each comparison variable played on each other comparison variable. Age was determined in the preliminary analyses to have little relation to variables in the model. These comparisons followed a procedure suggested by Bollen (1989; see also Bartle-Haring, 1997). Differences found in the models were reported on and evaluated in Chapter IV. Path coefficients, correlations, and factor loadings are represented in a tabular format. In addition, means and standard deviations for all variables for each ethnic, SES, gender, age and family structure group are also presented in a tabular format.

## CHAPTER IV

### RESULTS

#### Sample

After the complete dataset ( $N = 2214$ ) from the Youth and Family Project was limited to only Euro-American and Latino adolescents, data from a total of 1697 participants were included in this study—all from the same school district. Students were in grades 9-12 and their average age remained 16.0 years with a standard deviation of 1.1. The sample consisted of 194 ninth graders ( $M$  age = 14.3,  $SD = 0.46$ ), 457 tenth graders ( $M$  age = 15.3,  $SD = 0.52$ ), 576 eleventh graders ( $M$  age = 16.3,  $SD = 0.48$ ), and 470 twelfth graders ( $M$  age = 17.3,  $SD = 0.54$ ). The sample was divided fairly evenly by gender (females = 55.0% and males = 45.0%). In terms of ethnicity, 50.5% of the adolescents self-identified as Euro-American and 49.5% as Latino, providing an even distribution.

Respondents were asked to identify their family's financial situation as compared to other families, and 14.4% reported that they were poorer than most, 54.9% reported that they were about the same as most, and 30.6% reported that their family was richer than most. Furthermore, 54.1% of the respondents reported that they lived with both married biological parents, 25.3% reported that they lived with only one biological parent (generally their mother), 15.6% lived with one biological parent and one step-parent, and the other 5.0% reported that they lived either alone, with relatives, or with non-family guardians. As mentioned previously, respondents were asked to report on their mother's

and father's parenting behaviors regardless of their living arrangements, and participants were given the option to rate the parenting behaviors of non-custodial parents as well.

### Full Structural Model

Structural Equation Modeling (SEM) involving multiple groups was performed to evaluate relationships in the proposed model and any possible interactions in the model that involve ethnicity, SES, age, gender and family structure. Data were entered into SPSS and then imported into AMOS 5 (Arbuckle, 1994-2003) where they were analyzed using maximum likelihood estimation. Six latent variables were formed—one to represent each of the measures outlined above. These latent factors represent PARENTAL SUPPORT, PARENTAL BEHAVIORAL CONTROL, PARENTAL PSYCHOLOGICAL CONTROL, ADOLESCENT RELIGIOSITY, ADOLESCENT EMPATHY, and ADOLESCENT ANTISOCIAL BEHAVIOR. One stand-alone indicator represented ethnic group (1 = Euro-American, 2=Hispanic); one represented SES (1 = below average, 2 = average, 3 = above average); one represented gender (1 = male, 2 = female) and one was used to represent family structure (1 = adolescent lives with both married biological parents, 2 = other). For a visual representation of the structural model described above, see *Figure 1*.

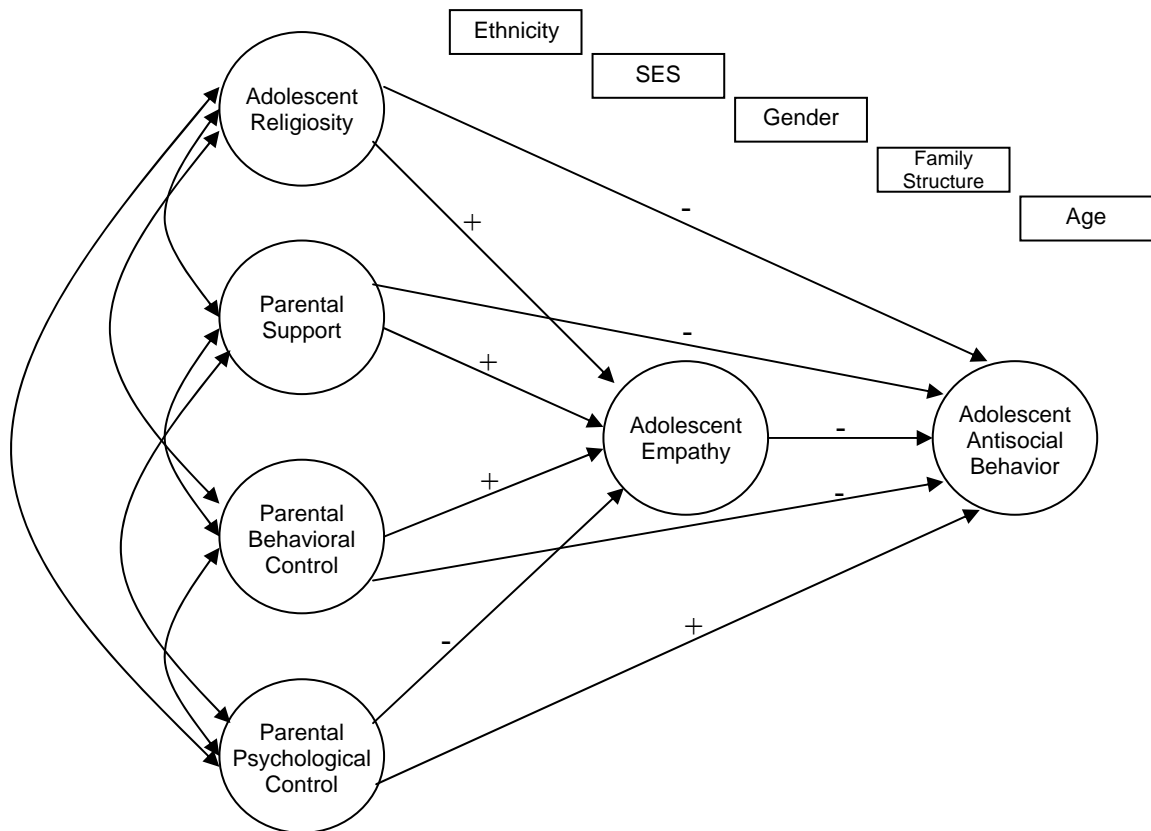


Figure 1 – Full Structural Model without Comparison Paths, with Hypothesized Directionality of Relationships

Each latent factor had a different number of manifest indicators. The following is a brief description of each manifest indicator, listed by the latent factor that it represents:

PARENTAL SUPPORT – pattlm\_1 (sum total of parental acceptance/support subscale on CRPBI for mother), pattlf\_1 (sum total of parental acceptance/support subscale on CRPBI for father); PARENTAL BEHAVIORAL CONTROL – pmttlm\_1 (sum total of parental monitoring subscale on CRPBI for mother), pmttlf\_1 (sum total of parental monitoring subscale on CRPBI for father); PARENTAL PSYCHOLOGICAL CONTROL – ppctlm\_1 (sum total of parental psychological control subscale on CRPBI for mother), ppctlf\_1 (sum total of parental psychological control subscale on CRPBI for father); ADOLESCENT RELIGIOSITY – i2\_1rev, i3\_1rev and i5\_1rec (individual items

related to adolescent religiosity), prtotl\_1 (sum total of private religiosity subscale), ADOLESCENT EMPATHY – e2a, e2b\_1rev, e2c, e2d, e2e\_1rev, e2f\_1rev, e2g (individual items from the Empathic Concern subscale of Davis’ IRI); and ADOLESCENT ANTISOCIAL BEHAVIOR – cbcatl\_1 (sum total of aggression subscale from CBC-YSR), cbcctl\_1 (sum total of antisocial behavior subscale from CBC-YSR). For a visual representation of the measurement model described above, see *Figure 2*. Means and standard deviations of composite variables representing all latent factors in the Full Structural Model, as divided by all comparison variables in the model, can be seen in *Table 1*.

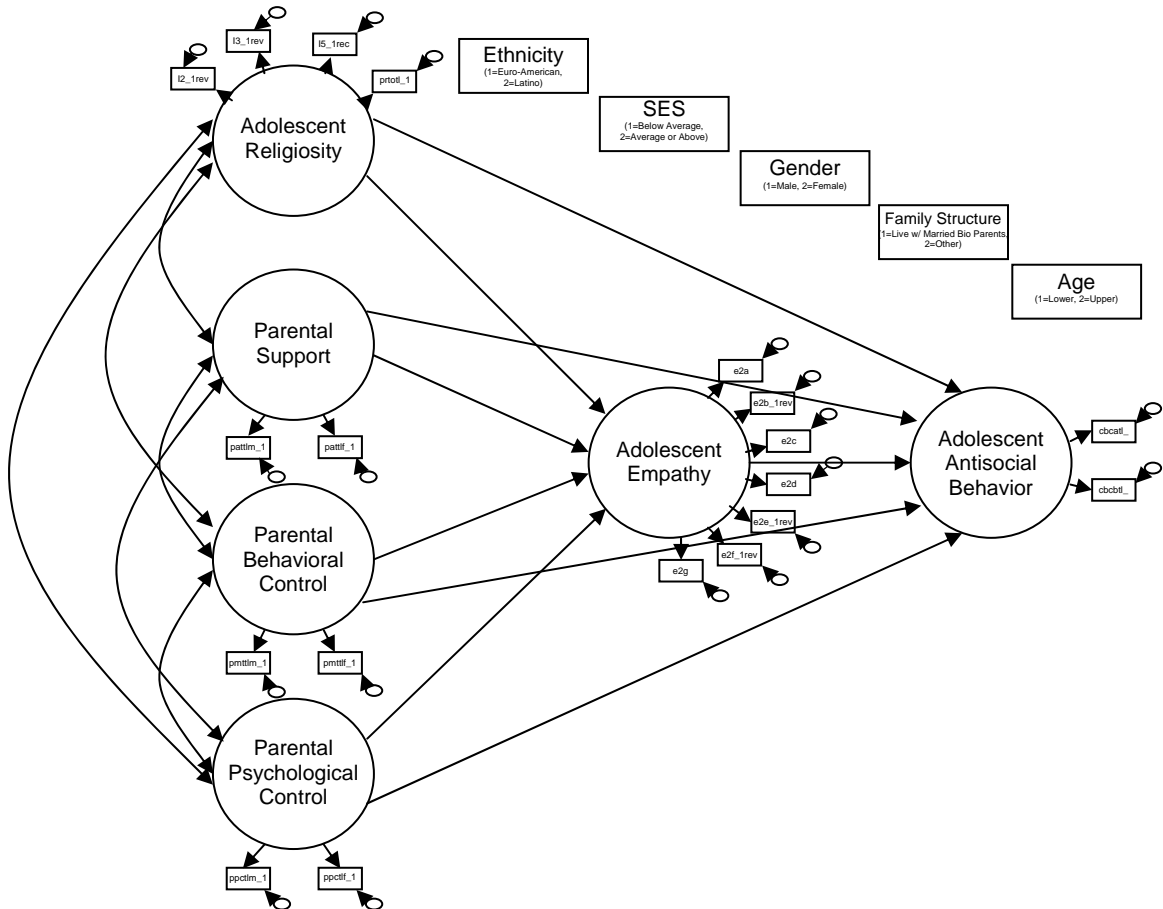


Figure 2 – Full Measurement Model without Comparison Paths

Table 1 – Means and Standard Deviations of Composite Variables Representing Latent Factors Displayed by Groupings of Comparison Variables

	<i>N</i>	<i>M (SD)</i>					
		Adolescent Religiosity	Parental Support	Parental Behavior Control	Parental Psychological Control	Adolescent Empathy	Adolescent Antisocial Behavior
Total	1697	20.98 (8.78)	45.77 (8.99)	22.42 (4.81)	24.93 (6.55)	27.20 (4.91)	4.69 (4.01)
<b>Ethnicity</b>							
Euro-American	857	22.26 (9.08)	46.39 (9.09)	22.80 (4.88)	24.61 (6.11)	27.43 (4.98)	4.16 (3.68)
Latino	840	19.68 (8.27)	45.14 (8.85)	22.03 (4.70)	25.25 (6.96)	26.96 (4.83)	5.23 (4.26)
<b>SES</b>							
Below Average	230	19.19 (8.74)	41.26 (9.20)	21.15 (4.86)	26.87 (6.65)	26.62 (5.70)	5.52 (4.35)
Average	874	21.38 (8.38)	46.08 (8.65)	22.53 (4.49)	24.66 (6.80)	27.28 (4.67)	4.49 (3.83)
Above Average	487	22.25 (8.91)	47.25 (9.13)	22.69 (5.24)	24.43 (6.08)	27.53 (5.04)	4.57 (4.23)
<b>Gender</b>							
Male	762	19.64 (8.82)	45.31 (9.10)	22.43 (4.90)	24.62 (7.03)	25.52 (5.06)	4.96 (3.98)
Female	933	22.08 (8.60)	46.14 (8.89)	22.42 (4.74)	25.19 (6.13)	28.56 (4.34)	4.47 (4.03)
<b>Family Structure</b>							
Both Bio Married	885	22.46 (8.66)	47.00 (9.50)	23.59 (4.77)	23.34 (6.28)	27.16 (4.91)	4.14 (3.89)
Other	752	19.88 (8.46)	44.24 (8.19)	20.99 (4.44)	25.63 (6.89)	27.29 (5.00)	5.32 (4.15)
<b>Age</b>							
14	127	22.29 (9.00)	48.26 (8.40)	23.97 (4.32)	23.87 (5.96)	26.78 (4.76)	3.59 (3.74)
15	372	20.45 (8.80)	45.17 (8.99)	22.57 (4.72)	25.15 (8.19)	27.38 (4.82)	4.82 (4.35)
16	527	21.03 (8.52)	45.98 (9.02)	22.45 (4.88)	25.09 (6.36)	27.36 (4.99)	4.90 (4.26)
17	407	21.38 (8.90)	45.61 (9.04)	22.15 (4.83)	24.93 (5.79)	27.60 (4.80)	4.52 (3.67)
18	157	21.13 (8.98)	45.06 (8.61)	21.66 (4.82)	24.66 (5.48)	26.31 (5.20)	5.04 (3.72)
19	3	14.00 (7.55)	46.95 (11.53)	22.00 (5.29)	28.14 (6.37)	24.67 (5.03)	4.80 (1.59)

### Preliminary Analyses

The first step in the analysis of this study was to examine the influence of each of the comparison variables on each of the latent factors in the full structural model. This preliminary analysis was conducted to determine what role each of these variables should play in the analysis of the full model. Composite variables that represented latent factors in the model were created by taking a sum total of the manifest indicators for each latent factor in the model (taking into account any need for possible reverse scoring). Pearson's correlations were used when examining the effect of age and SES on composite variables representing all latent factors in the model. A one-way ANOVA was used to determine the effect of gender on these composite variables. Analysis of Covariance (ANCOVA), with SES acting as the covariate, was used to evaluate the effect of both ethnicity and family structure on all of the composite variables that represent latent factors in the full model. All relationships that were found to be significant in this preliminary analysis were included as paths—in the full model and all corresponding models—between the stand-alone indicator and the corresponding latent factor. This was done so that the influence of these indicators could be evaluated in the initial run of the full structural model.

Age. Pearson's correlation was used to determine the relationship between age and all of the latent factors in the full structural model. Age was shown to be significantly correlated with Parental Behavioral Control ( $-.096, p < .001$ ; see *Table 2*). No other significant correlations were found. Because only one significant correlation was identified, it was decided that age would not be included in comparative model testing in this study.



Table 2 – Correlations between Age and Latent Factors in Full Structural Model

	Adolescent Religiosity	Parental Support	Parental Behavioral Control	Parental Psychological Control	Adolescent Empathy	Adolescent Antisocial Behavior
Age	.000	-.041	-.096 ***	.010	-.014	.040

\*  $p \leq .05$  level of significance (two-tailed); \*\*  $p \leq .01$  level of significance (two-tailed); \*\*\*  $p \leq .001$  level of significance (two-tailed)

Socioeconomic Status (SES). The relationship between SES and all latent factors in the full structural model was analyzed using Pearson’s Correlation. SES was found to be significantly correlated with all latent factors in the full structural model (see *Table 3*). Because of this, SES will be included as a stand-alone indicator in the full structural model, and will be included in comparative model testing.

Table 3 – Correlations between SES and Latent Factors in Full Structural Model

	Adolescent Religiosity	Parental Support	Parental Behavioral Control	Parental Psychological Control	Adolescent Empathy	Adolescent Antisocial Behavior
SES	.105 ***	.199 ***	.078 **	-.107 ***	.057 *	-.061 *

\*  $p \leq .05$  level of significance (two-tailed); \*\*  $p \leq .01$  level of significance (two-tailed); \*\*\*  $p \leq .001$  level of significance (two-tailed)

Gender. A one-way ANOVA was used to examine the relationship between gender and all latent factors in the full structural model. Results suggest that males scored significantly different than females on the following variables: Adolescent Religiosity ( $F = 32.95, p < .001$ ), Adolescent Empathy ( $F = 178.08, p < .001$ ), and Adolescent Antisocial Behavior ( $F = 6.26, p < .05$ ; see *Table 4*). Because of this, Gender

will be included as a stand-alone indicator in the full structural model, and will be included in comparative model testing.

Table 4 – Analysis of Variance Results for Gender and Latent Factors in Full Structural Model

<i>Source</i>	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Adolescent Religiosity					
Male vs. Female	1	2493.79	2493.79	32.95	.000
Corrected Total	1694	130614.42			
Parental Support					
Male vs. Female	1	287.52	287.52	3.56	.059
Corrected Total	1694	137081.56			
Parental Behavioral Control					
Male vs. Female	1	.076	.076	.003	.954
Corrected Total	1694	39185.28			
Parental Psychological Control					
Male vs. Female	1	136.54	136.54	3.18	.075
Corrected Total	1694	72794.96			
Adolescent Empathy					
Male vs. Female	1	3895.170	3895.170	178.08	.000
Corrected Total	1694	40926.09			
Adolescent Antisocial Behavior					
Male vs. Female	1	100.71	100.71	6.26	.012
Corrected Total	1694	27320.69			

Ethnicity. Analysis of covariance (ANCOVA) was used to investigate the relationship between ethnicity and all latent factors in the model, with SES serving as the covariate. Results suggest that ethnicity was significantly related to the following latent factors in the model while holding SES constant: Adolescent Religiosity ( $F = 25.40, p < .001$ ), Parental Support ( $F = 6.02, p < .05$ ), Parental Behavior Control ( $F = 8.41, p < .01$ ), and Adolescent Antisocial Behavior ( $F = 28.07, p < .001$ ; see *Table 5*). Because of this, Ethnicity will be included as a stand-alone indicator in the full structural model, and will be included in comparative model testing.

Table 5 – Analysis of Covariance Results for Ethnicity and Latent Factors in Full Structural Model with SES serving as Covariate

<i>Source</i>	<i>M</i>	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Adolescent Religiosity						
Latino vs. Euro-American		1	1850.06	1850.06	25.40	.000
Corrected Total		1590	118801.40			
Euro-American	22.38 <sup>a</sup>					
Latino	20.21 <sup>a</sup>					
Parental Support						
Latino vs. Euro-American		1	474.82	474.82	6.02	.014
Corrected Total		1590	130985.80			
Euro-American	46.28 <sup>a</sup>					
Latino	45.18 <sup>a</sup>					
Parental Behavioral Control						
Latino vs. Euro-American		1	192.45	192.45	8.41	.004
Corrected Total		1590	36769.11			
Euro-American	22.72 <sup>a</sup>					
Latino	22.02 <sup>a</sup>					

Table 5 -- Continued

<i>Source</i>	<i>M</i>	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Parental Psychological Control						
Latino vs. Euro-American Corrected Total		1 1590	156.12 69490.50	156.12	3.62	.057
Euro-American	24.61 <sup>a</sup>					
Latino	25.24 <sup>a</sup>					
Adolescent Empathy						
Latino vs. Euro-American Corrected Total		1 1590	44.64 38937.01	44.64	1.829	.176
Euro-American	27.42 <sup>a</sup>					
Latino	27.08 <sup>a</sup>					
Adolescent Antisocial Behavior						
Latino vs. Euro-American Corrected Total		1 1590	451.25 26079.78	451.25	28.07	.000
Euro-American	4.15 <sup>a</sup>					
Latino	5.22 <sup>a</sup>					

a. Means assume that in all cases, the covariate, SES, is held constant at a value of 3.19.

Family Structure. The relationships between family structure and all latent factors in the model were measured using ANCOVA with SES serving as the covariate. Results suggest that family structure was significantly related to the following variables when SES was held constant: Adolescent Religiosity ( $F = 29.04, p < .001$ ), Parental Support ( $F = 23.46, p < .001$ ), Parental Behavioral Control ( $F = 111.57, p < .001$ ), Parental Psychological Control ( $F = 11.29, p = .001$ ), Adolescent Antisocial Behavior ( $F = 30.61, p < .001$ ; See *Table 6*). Because of this, Family Structure will be included as a stand-

alone indicator in the full structural model, and will be included in comparative model testing.

Table 6 – Analysis of Covariance Results for Family Structure and Latent Factors in Full Structural Model with SES serving as Covariate

<i>Source</i>	<i>M</i>	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Adolescent Religiosity						
Both Bio Parents vs. Other		1	2112.54	2112.54	29.04	.000
Corrected Total		1584	118500.8			
Both Bio Parents	22.41 <sup>a</sup>					
Other	20.04 <sup>a</sup>					
Parental Support						
Both Bio Parents vs. Other		1	1831.32	1831.32	23.46	.000
Corrected Total		1584	130523.03			
Both Bio Parents	46.72 <sup>a</sup>					
Other	44.52 <sup>a</sup>					
Parental Behavioral Control						
Both Bio Parents vs. Other		1	2399.74	2399.74	111.57	.000
Corrected Total		1584	36647.29			
Both Bio Parents	23.52 <sup>a</sup>					
Other	21.00 <sup>a</sup>					
Parental Psychological Control						
Both Bio Parents vs. Other		1	485.41	485.41	11.29	.001
Corrected Total		1584	69264.90			
Both Bio Parents	24.41 <sup>a</sup>					
Other	25.54 <sup>a</sup>					
Adolescent Empathy						
Both Bio Parents vs. Other		1	21.23	21.23	.868	.352
Corrected Total		1584	38840.67			
Both Bio Parents	27.15 <sup>a</sup>					
Other	27.39 <sup>a</sup>					

Table 6 -- Continued

<i>Source</i>	<i>M</i>	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Adolescent Antisocial Behavior						
Both Bio Parents vs. Other		1	491.67	491.67	30.61	.000
Corrected Total		1584	26001.44			
Both Bio Parents	4.15 <sup>a</sup>					
Other	5.29 <sup>a</sup>					

a. Means assume that in all cases, the covariate, SES, is held constant at a value of 3.19.

#### Comparing Full, Direct and Indirect Models

Three separate structural models were used to investigate all main effects and mediating relationships within the overall model. The first model that was used was referred to as the Full Structural Model and was largely saturated, meaning that every possible path between latent factors, and every path from the comparative variables that was found to be significant in the preliminary analyses was included and accounted for by the structural model (see *Figure 3*).

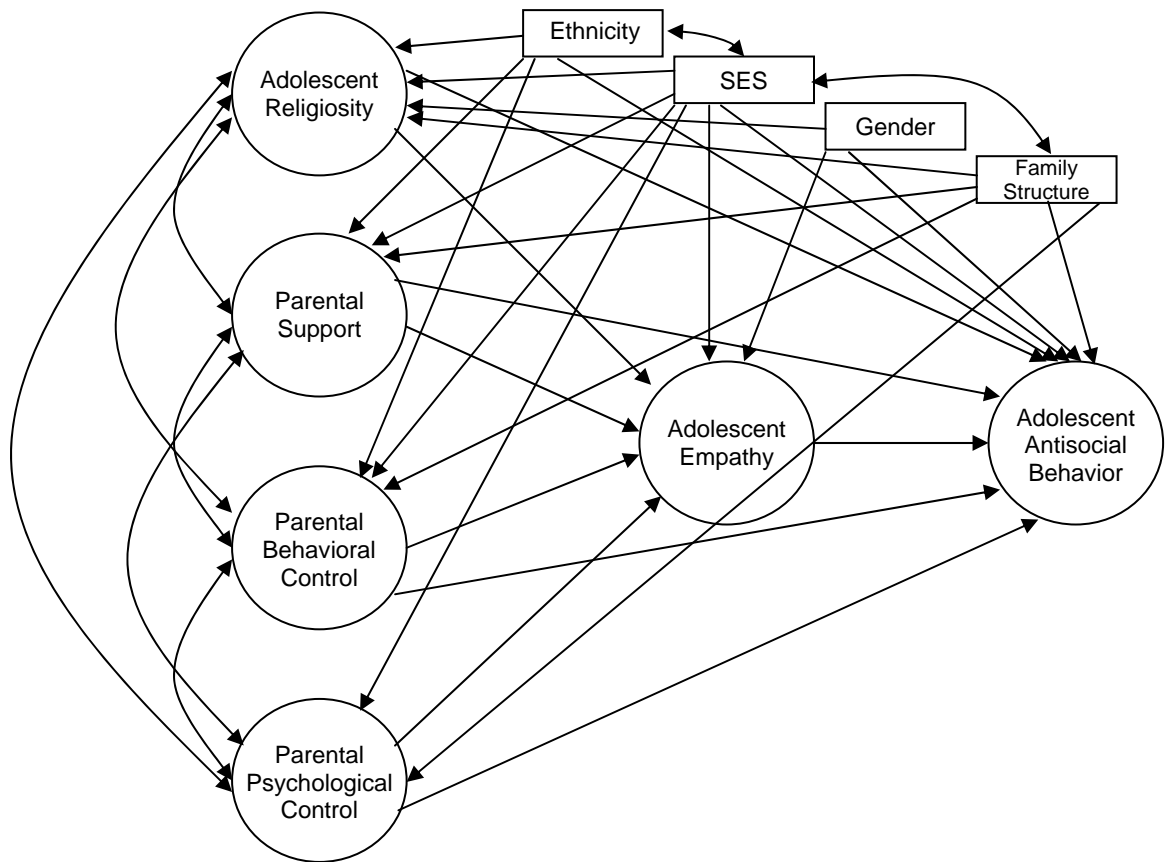


Figure 3 – Full Structural Model with Comparison Paths

This model not only included the direct paths that illustrate the relationship between variables of parenting, religiosity, and adolescent antisocial behaviors, but also included all indirect paths which illustrate the hypothesized mediating role that adolescent empathy plays in the relationship between the aforementioned variables. Two additional models were analyzed, both of which are nested in the Full Model (meaning that every path in each of the nested models is also accounted for within the Full Model). The first of these nested models, the Direct Model, included *only* the direct paths between parenting variables, religiosity and adolescent antisocial behavior. No indirect paths were included in this model (see *Figure 4*).

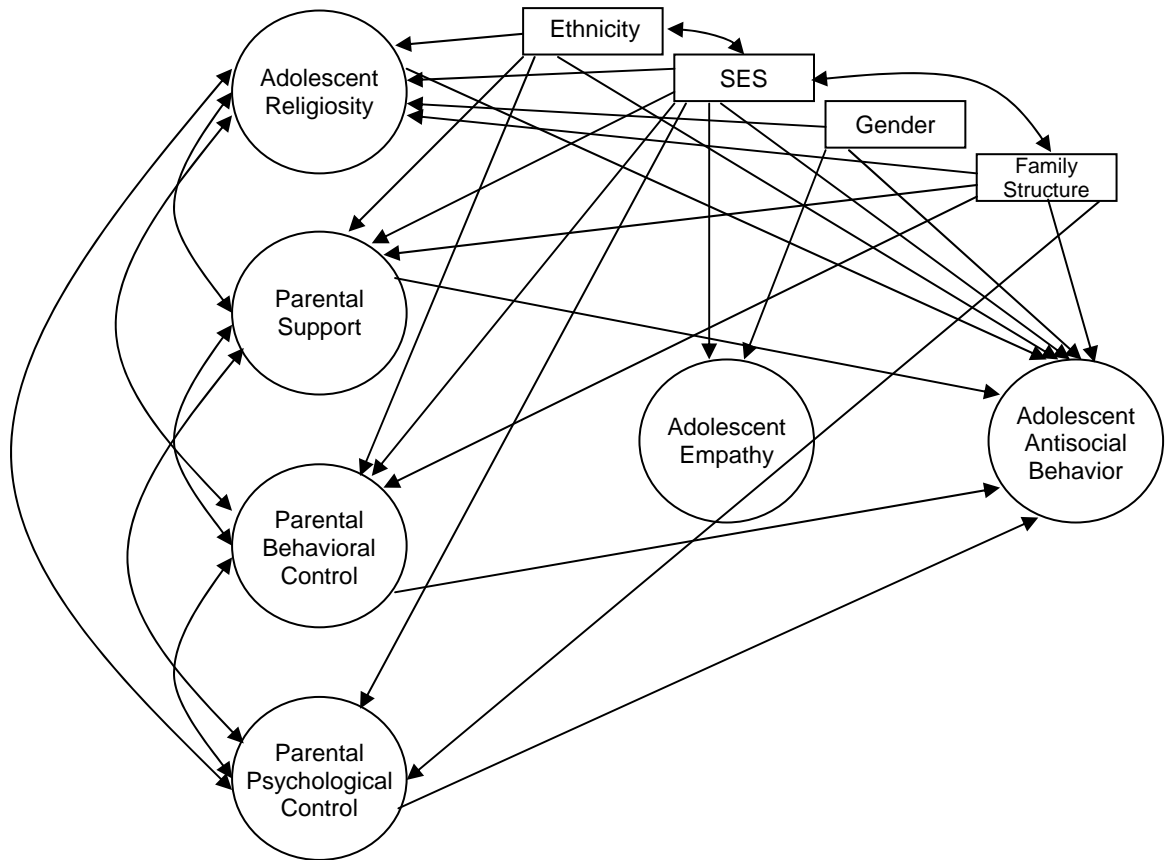


Figure 4 – Direct Model with Comparison Paths

The second nested model, the Indirect Model, included *only* the indirect paths that illustrate the hypothesized role that adolescent empathy plays in the relationship between parenting variables, religiosity and adolescent antisocial behavior. In this second nested model, no direct paths were included (see *Figure 5*).



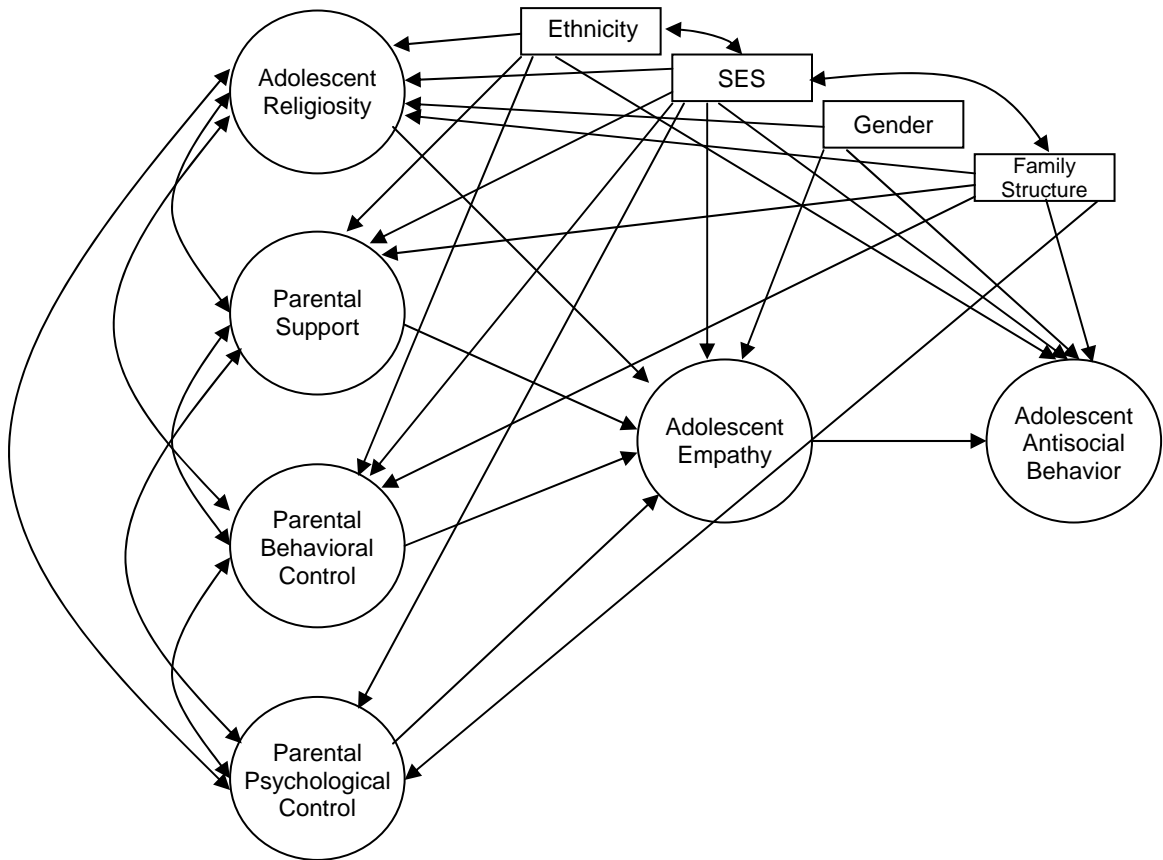


Figure 5 – Indirect Model with Comparison Paths

The Full Structural Model and the Indirect Model were run without error, as outlined in the procedures section. The Direct Model was originally run as outlined in the procedures section, but an error occurred and the residual of the latent factor Adolescent Antisocial Behavior (*aab\_res*) produced a negative variance. Due to this error, the variance for *aab\_res* in the Direct Model was manually set to .01 and the model was re-evaluated. This second run produced an error-free output of the results.

The first model to be evaluated was the Full Model. This was done in order to see the results for the sample as a whole and to provide a baseline from which the Direct-only and Indirect-only models could be compared. A Chi-square difference test was used to

evaluate whether the Direct-effects-only and/or the Indirect-effects-only model could serve as a more parsimonious substitute for the Full Model (see McCourt, 2004). Models were compared by evaluating the difference in chi-square and degrees of freedom between the Full Model and each of the corresponding nested models. Change in chi-square along with change in degrees of freedom was evaluated at a minimum of  $p < .05$  using a chi-square table. If no significant difference in chi-square was identified between the Full Model and the nested models, the Full Model would have been rejected and one of the nested, more parsimonious models would have been accepted. In most cases, the higher the chi-square value, the poorer the fit of the model, therefore the model with the lowest chi-square value often ends up being the most statistically sound.

In both the Direct Model and the Indirect Model, the difference in chi-square exceeded the critical value specified in the chi-square table which indicated that the difference in both nested models when compared to the Full Model was significant (see *Table 7*). Results suggest, due to the fact that both tests (Full versus Direct, and Full versus Indirect) were significant, that both nested models significantly harmed the fit and were thereby rejected. The Full Model was determined to be the most correct model, and would therefore be used in all comparative model testing.

Table 7 – Comparative Model Testing Using the Chi-Square Difference Test

Model	$\chi^2$	<i>df</i>	$\Delta \chi^2$ ( $\Delta df$ ) Compared to Full
Full Model	1990.72	199	
Direct Model	2185.39	205	194.67 (6) *** <sup>1</sup>
Indirect Model	2265.57	203	274.85 (4) ***

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

Full Structural Model. Upon closer examination of the results from the Full Structural Model, it was noted that the residuals on the three parenting constructs, namely Parental Support, Parental Behavioral Control, and Parental Psychological Control were multicollinear. This means that these residuals, and thereby these three latent factors, were too highly correlated to be placed in the same model. The correlations between these residuals were as follows: Parental Support to Parental Psychological Control (-.92); Parental Behavioral Control to Parental Psychological Control (-.64); Parental Support to Parental Behavioral Control (.84; see *Table 8*).

---

<sup>1</sup> As previously indicated, it was necessary to set the residual variance for the factor Adolescent Antisocial Behavior (*aab\_res*) to .01 in the Direct Model in order to produce an error-free output of the results. Consequently, this affected the  $\Delta$  in *df* between the full model and the direct model. In order to make sure that imposing a constraint on *aab\_res* in the Direct Model did not affect comparative model testing, *aab\_res* was set to .01 in the Full Structural Model as well, and these two models were compared again. Imposing the constraint in the Full Structural Model had very little affect on its  $\chi^2$  which was 1990.95. This changed the  $\Delta \chi^2$  between the Full Structural Model and Direct Model to 194.44, and the  $\Delta df$  to 5, which still yielded a  $p$  of  $< .001$ . This finding suggests that imposing the constraint on *aab\_res* in the Direct Model did not change the results of the Chi-Square Difference Testing.

Table 8 – Correlations in Original Full Structural Model

			Estimate
Ethnicity	↔	SES	-.078 **
SES	↔	Family Structure	-.193 ***
Parental Support (R)	↔	Parental Psychological Control (R)	-.920 ***
Parental Behavioral Control (R)	↔	Parental Psychological Control (R)	-.640 ***
Parental Support (R)	↔	Parental Behavioral Control (R)	.841 ***
Adolescent Religiosity (R)	↔	Parental Psychological Control (R)	-.182 ***
Adolescent Religiosity (R)	↔	Parental Support (R)	.303 ***
Adolescent Religiosity (R)	↔	Parental Behavioral Control (R)	.322 ***

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

(R) denotes Residual

Upon further investigation, it is believed that the multicollinearity of these constructs may have affected the overall structural model by decreasing the strength of the path coefficients involving these parenting factors. To address the problem of multicollinearity, the two manifest indicators that loaded on each of the corresponding latent parenting factors were combined into a single composite score (e.g., Parental Support for Mother and Parental Support for Father were combined together into one Parental Support composite score, etc.). Then, the three composite scores created for Parental Support, Parental Behavioral Control and Parental Psychological Control were combined together into one overall parenting composite score that will be referred to from this point on as the PARENTING factor. This new Parenting factor was created in each of the three models (now referred to as the Updated Full Structural Model, Updated Direct Model, and Updated Indirect Model; see *Figures 6,7,8*), the models were reevaluated using AMOS 5, and differences in chi-squares were tested.

Comparing Updated Full, Direct and Indirect Models

The same procedures were used as before, and the chi-square difference test was used to determine whether the Updated Direct Model (see *Figure 6*) and/or the Updated Indirect Model (see *Figure 7*; both of which were nested within the Updated Full Structural Model) could serve as a more parsimonious substitute for the Updated Full Structural Model (see *Figure 8*).

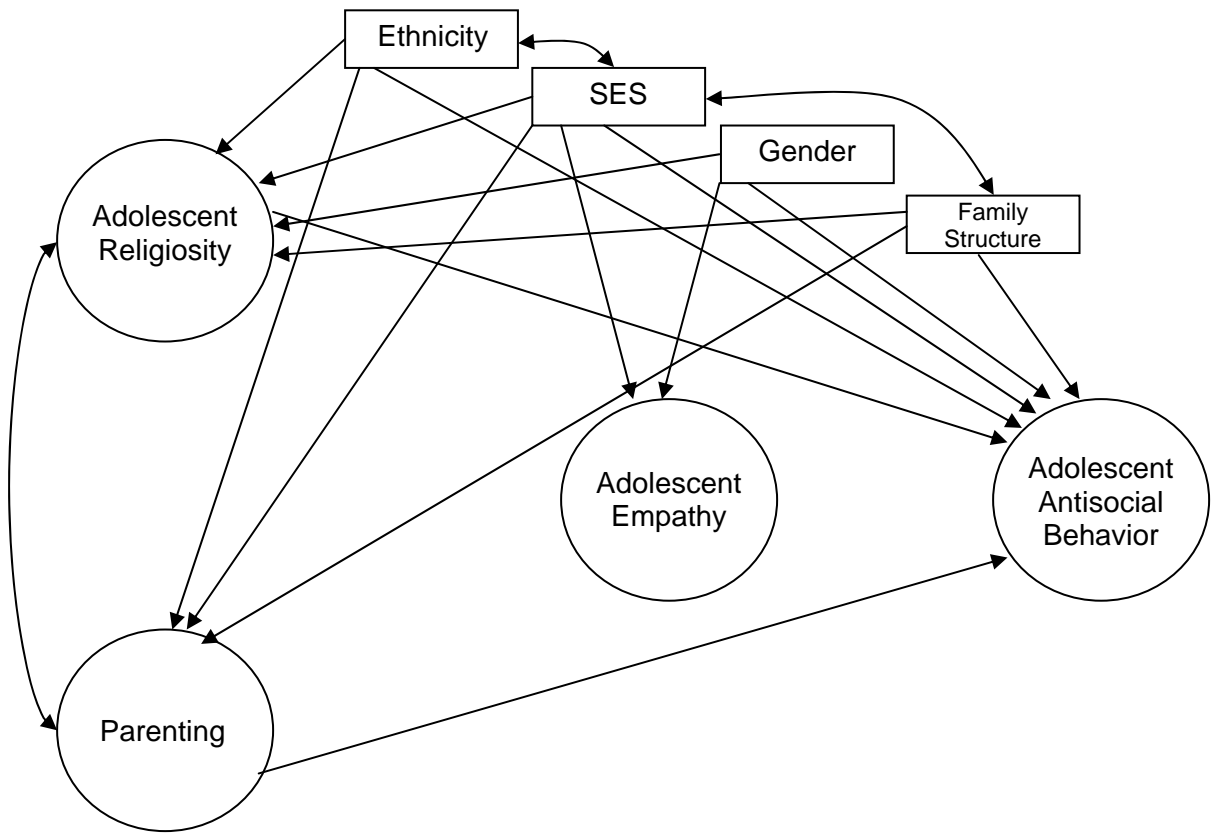


Figure 6 – Updated Direct Model with Comparison Paths

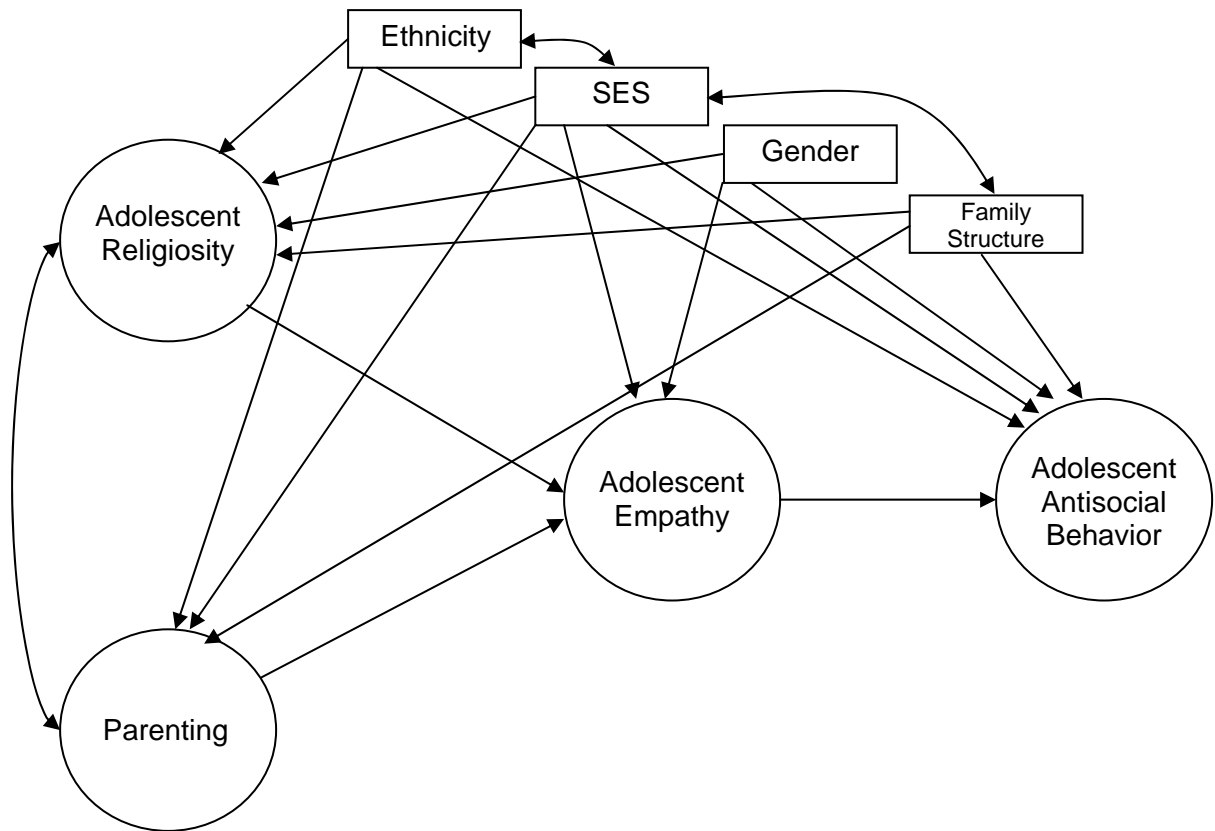


Figure 7 – Updated Indirect Model with Comparison Paths

*Table 9* illustrates the results of the chi-square difference testing between these three models. As can be seen, the change in chi-square for both the Updated Direct Model and the Updated Indirect Model were shown to be significant and thereby significantly harmed the fit. Because of this, both nested models were rejected using the standards of the chi-square difference test. Therefore, the Updated Full Structural Model was accepted as the best fit for the data, and will be used in all corresponding comparative model testing.

Table 9 – Comparative Model Testing Using the Chi-Square Difference Test on Updated Models

Model	$\chi^2$	<i>df</i>	$\Delta \chi^2$ ( $\Delta df$ ) Compared to Full
Updated Full Model	966.31	153	
Updated Direct Model	1139.87	156	173.56 (3) ***
Updated Indirect Model	1237.31	155	271.00 (2) ***

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

Summary of Updated Full Structural Model. Structural Equation Modeling (SEM) was performed to evaluate relationships in the Updated Full Structural model and any possible interactions in the model that involved ethnicity, SES, gender and family structure (age was eliminated from the comparative analyses due to lack of significant relationships found with latent factors in the model, see Preliminary Analyses section above). Data were entered into SPSS and then imported into AMOS 5 (Arbuckle, 1994-2003) and were analyzed using maximum likelihood estimation. Four latent variables were formed: ADOLESCENT RELIGIOSITY, PARENTING, ADOLESCENT EMPATHY, and ADOLESCENT ANTISOCIAL BEHAVIOR. One stand-alone indicator represented ethnic group (1 = Euro-American, 2 = Hispanic); one represented SES (1 = below average, 2 = average, 3 = above average); one represented gender (1 = male, 2 = female) and one was used to represent family structure (1 = adolescent lives with both married biological parents, 2 = other). For a visual representation of the structural model described above, see *Figure 8*.

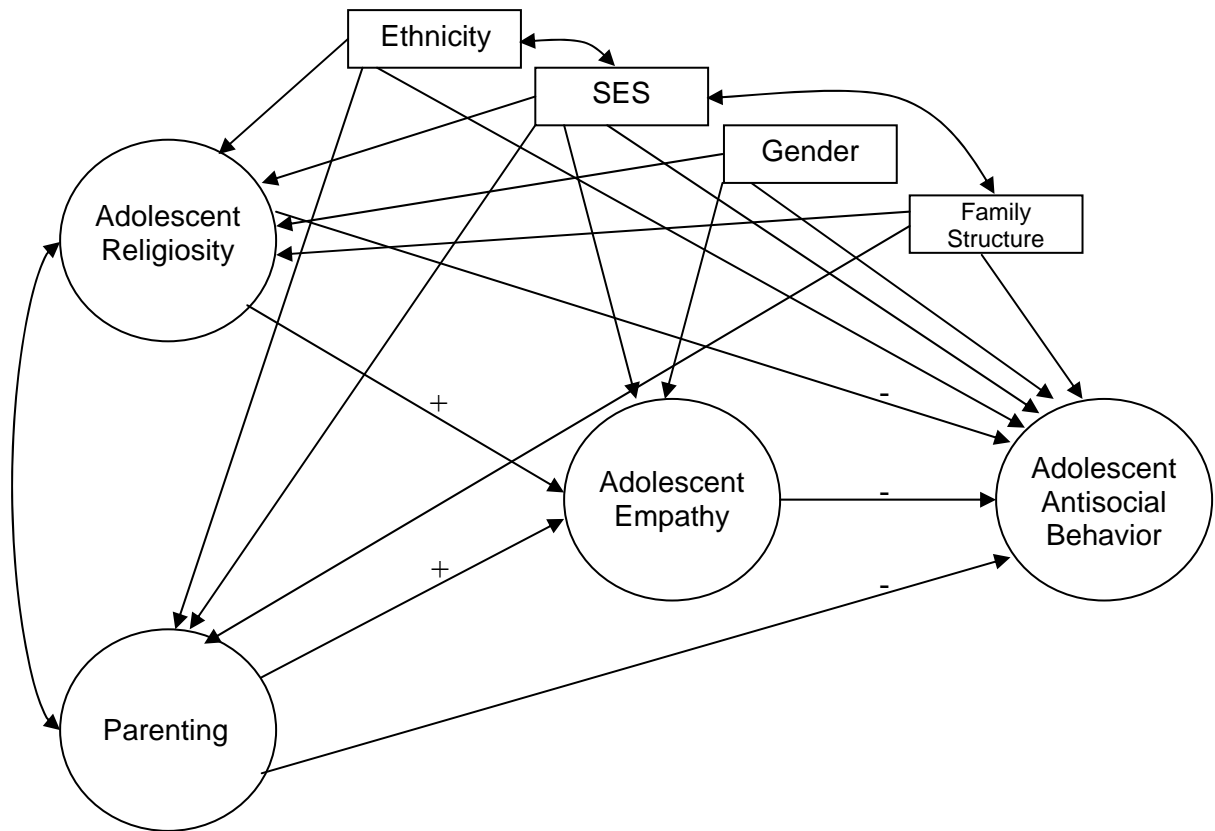


Figure 8 – Updated Full Structural Model with Comparison Paths and Hypothesized Directionality of Relationships

Each latent factor had a different number of manifest indicators. The following is a brief description of each manifest indicator, listed by the latent factor that it represents:

**PARENTING** – ps (sum total of parental acceptance/support subscale on CRPBI for both mother and father), pbc (sum total of parental monitoring subscale on CRPBI for both mother and father), ppc (sum total of parental psychological control subscale on CRPBI for both mother and father); **ADOLESCENT RELIGIOSITY** – i2\_1rev, i3\_1rev and i5\_1rec (individual items related to adolescent religiosity), prtntl\_1 (sum total of private religiosity subscale), **ADOLESCENT EMPATHY** – e2a, e2b\_1rev, e2c, e2d, e2e\_1rev, e2f\_1rev, e2g (individual items from the Empathic Concern subscale of Davis' IRI); and **ADOLESCENT ANTISOCIAL BEHAVIOR** – cbcatl\_1 (sum total of aggression





Table 10 – Means and Standard Deviations of Composite Variables Representing Latent Factors Displayed by Groupings of Comparison Variables

	<i>N</i>	<i>M (SD)</i>			
		Adolescent Religiosity	Parenting	Adolescent Empathy	Adolescent Antisocial Behavior
Total	1697	20.98 (8.78)	107.33 (16.34)	27.20 (4.91)	4.69 (4.01)
<b>Ethnicity</b>					
Euro-American	857	22.26 (9.08)	108.58 (16.90)	27.43 (4.98)	4.16 (3.68)
Latino	840	19.68 (8.27)	106.05 (15.65)	26.96 (4.83)	5.23 (4.26)
<b>SES</b>					
Below Average	230	19.19 (8.74)	99.54 (17.09)	26.62 (5.70)	5.52 (4.35)
Average	874	21.38 (8.38)	108.08 (15.47)	27.28 (4.67)	4.49 (3.83)
Above Average	487	22.25 (8.91)	109.51 (16.96)	27.53 (5.04)	4.57 (4.23)
<b>Gender</b>					
Male	762	19.64 (8.82)	107.27 (16.19)	25.52 (5.06)	4.96 (3.98)
Female	933	22.08 (8.60)	107.37 (16.48)	28.56 (4.34)	4.47 (4.03)
<b>Family Structure</b>					
Both Bio Married	885	22.46 (8.66)	110.24 (17.14)	27.16 (4.91)	4.14 (3.89)
Other	752	19.88 (8.46)	103.74 (14.76)	27.29 (5.00)	5.32 (4.15)

Factor loadings in the Updated Full Structural Model for each manifest indicator on its corresponding latent factor were found to be good (all .4 and above—see *Table 11*).

Table 11 – Standardized Factor Loadings for the Updated Full Structural Model

Indicator	Loading
<b>ADOLESCENT RELIGIOSITY</b>	
i2_1rev	.69 <sup>1</sup>
i3_1rev	.81
i5_1rec	.70
prtotl_1	.79
<b>PARENTING</b>	
ps	.78
pbc	.66 <sup>1</sup>
ppc	-.61
<b>ADOLESCENT EMPATHY</b>	
e2a	.45 <sup>1</sup>
e2b_1rev	.42
e2c	.67
e2d	.73
e2e_1rev	.40
e2f_1rev	.42
e2g	.66
<b>ADOLESCENT ANTISOCIAL BEHAVIOR</b>	
cbcatl_1	.67
cbcctl_1	.93 <sup>1</sup>

<sup>1</sup> = Manifest indicator fixed to 1 in the unstandardized solution

The model was also found to be a well-fit model. The Tucker-Lewis Index (TLI), also known as the Non-Normed Fit Index (NNFI), was used to evaluate the overall fit of this model, along with the Comparative Fit Index (CFI) and the Root Mean Square Error of Approximation (RMSEA). These indices all, using a slightly different method, evaluate the improvement in fit that is accounted for by the proposed model (i.e., how well the paths, including all direct and indirect relationships, work to replicate the known correlations found between pairs of measured variables) when compared to the null

model (in which all variables are uncorrelated). It is suggested that both the TLI and the CFI indicate a good fit model if their values are equal to or greater than .9. The RMSEA suggests that a model is a good fit if its value is lower than .1. The TLI and CFI for the model were .865 and .902 respectively. These indices suggest roughly that the Updated Full Structural Model is 87% - 90% better at explaining the relationship between the variables in the model than would the null model. The RMSEA for the model is .056 which also suggests a good fit (Rapport, Scanlan & Denney, 1999). In addition, the R-square statistic was computed for the purpose of determining the proportion of variation in ADOLESCENT ANTISOCIAL BEHAVIOR that can be explained by the Updated Full Structural Model. The R-square of the Updated Full Structural Model is .312, which suggests that the predictors of ADOLESCENT ANTISOCIAL BEHAVIOR explain 31.2 percent of its variance.

Correlations. When looking at the Updated Full Structural Model, it is evident that there are a number of strong relationships that have been identified in this model. Findings suggest that ADOLESCENT RELIGIOSITY is related to PARENTING with a correlation of .310 ( $p < .001$ ). In addition, both Ethnicity and Family Structure are related to SES with respective correlations of  $-.079$  ( $p = .001$ ) and  $-.193$  ( $p < .001$ , see *Table 12*).

Table 12 – Correlations in Updated Full Structural Model

		Correlation (Standardized Estimate)	Covariance (Unstandardized Estimate)	S.E.	C.R.	P
Ethnicity (a3rec)	↔ SES (l6_rec)	-.079	-.026	.008	-3.195	.001
SES (l6_rec)	↔ Family Structure (l3rec)	-.193	-.063	.008	-7.584	.000
Adolescent Religiosity Residual	↔ Parenting Residual	.310	1.154	.128	8.989	.000

Relationships between Stand-Alone Demographic Variables and Latent Factors.

According to this model, differences in Ethnicity suggest that Euro-American participants displayed higher levels of ADOLESCENT RELIGIOSITY (standardized regression weight = -.127,  $p < .001$ ), more positive PARENTING (-.055,  $p < .05$ ), and lower levels of ADOLESCENT ANTISOCIAL BEHAVIOR (.071,  $p < .01$ ) than did Latino participants. With regards to Gender (a1), females displayed higher levels of ADOLESCENT RELIGIOSITY (.121,  $p < .001$ ) and ADOLESCENT EMPATHY (.325,  $p < .001$ ), than did males. Adolescents who lived with both biological parents (Family Structure = l3rec) reported higher levels of ADOLESCENT RELIGIOSITY (-.135,  $p < .001$ ) and more positive PARENTING (-.201,  $p < .001$ ) than did adolescents who did not live with both biological parents. In addition, according to this model, adolescents who perceived to be of higher SES (l6\_rec) displayed higher levels of ADOLESCENT RELIGIOSITY (.089,  $p = .001$ ), received more positive PARENTING (.146,  $p < .001$ ), and reported higher ADOLESCENT ANTISOCIAL BEHAVIOR (.072,  $p < .01$ , see *Table 13*) than do adolescents who perceived to be of lower SES.

Relationships between Latent Factors. Results from this model suggest that higher levels of ADOLESCENT RELIGIOSITY yield higher levels of ADOLESCENT EMPATHY (standardized regression weight = .255,  $p < .001$ ) and lower levels of ADOLESCENT ANTISOCIAL BEHAVIOR (-.182,  $p < .001$ ). Higher levels of positive PARENTING yield greater ADOLESCENT EMPATHY (.191,  $p < .001$ ) and lower levels of ADOLESCENT ANTISOCIAL BEHAVIOR (-.444,  $p < .001$ ). However, outcomes of this model suggest that ADOLESCENT EMPATHY is unrelated to ADOLESCENT ANTISOCIAL BEHAVIOR. All significant pathways are displayed in *Figure 10*, and all regression weights can be found in *Table 13*.

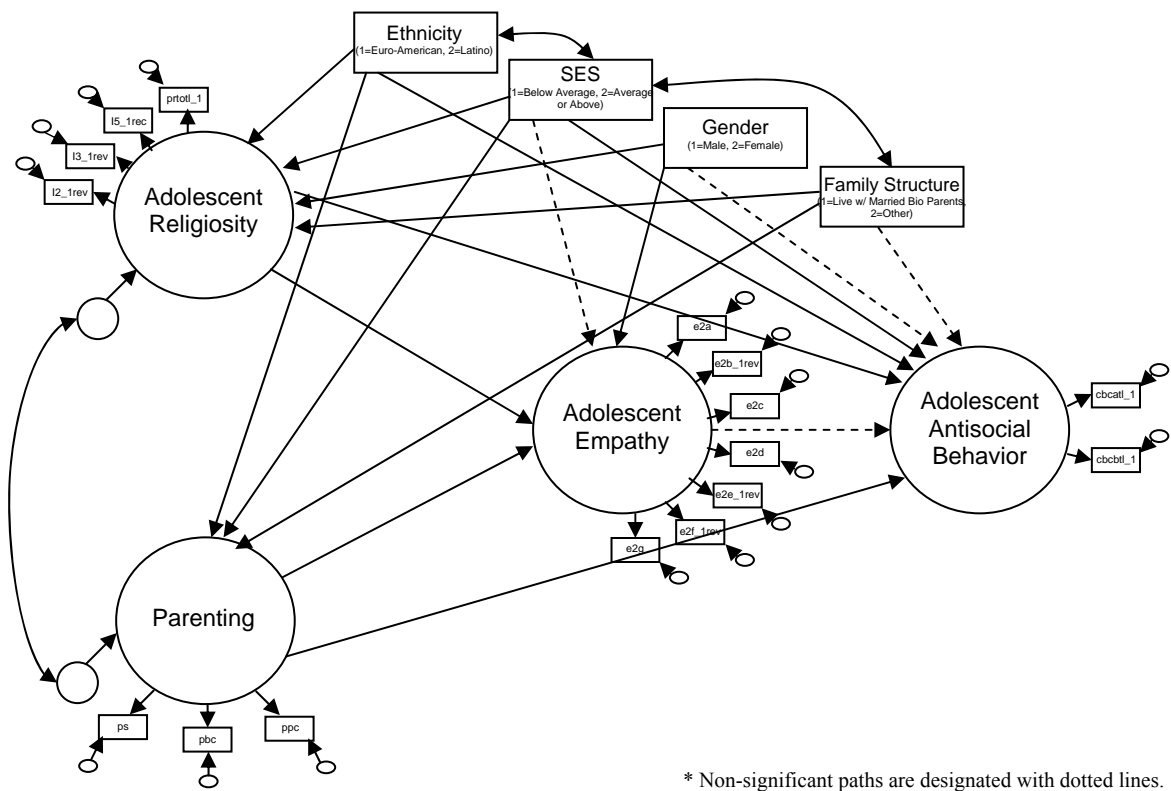


Figure 10 – Significant Pathways in Updated Full Structural Model

Table 13 – Regression Weights in Updated Full Structural Model

		Standardized Estimate	Unstandardized Estimate	S.E.	C.R.	P
Ethnicity (a3rec)	→ ADOLESCENT RELIGIOSITY	-.127	-.318	.065	-4.865	.000
SES (16_rec)	→ ADOLESCENT RELIGIOSITY	.089	.172	.053	3.261	.001
Gender (a1)	→ ADOLESCENT RELIGIOSITY	.121	.305	.064	4.799	.000
Family Structure (13rec)	→ ADOLESCENT RELIGIOSITY	-.135	-.339	.068	-4.997	.000
Ethnicity (a3rec)	→ PARENTING	-.055	-.351	.175	-2.004	.045
SES (16_rec)	→ PARENTING	.146	.718	.143	5.014	.000
Family Structure (13rec)	→ PARENTING	-.201	-1.285	.186	-6.929	.000
SES (16_rec)	→ ADOLESCENT EMPATHY	.005	.003	.019	.172	.864
Gender (a1)	→ ADOLESCENT EMPATHY	.325	.310	.029	10.617	.000
PARENTING	→ ADOLESCENT EMPATHY	.191	.028	.005	5.582	.000
ADOLESCENT RELIGIOSITY	→ ADOLESCENT EMPATHY	.255	.096	.013	7.552	.000
ADOLESCENT EMPATHY	→ ANTISOCIAL BEHAVIOR	-.026	-.147	.180	-.814	.416
ADOLESCENT RELIGIOSITY	→ ANTISOCIAL BEHAVIOR	-.182	-.383	.063	-6.047	.000
Ethnicity (a3rec)	→ ANTISOCIAL BEHAVIOR	.071	.377	.124	3.036	.002
SES (16_rec)	→ ANTISOCIAL BEHAVIOR	.072	.292	.101	2.889	.004
Gender (a1)	→ ANTISOCIAL BEHAVIOR	-.049	-.260	.135	-1.924	.054
Family Structure (13rec)	→ ANTISOCIAL BEHAVIOR	.028	.150	.131	1.139	.255
PARENTING	→ ANTISOCIAL BEHAVIOR	-.444	-.369	.029	-12.885	.000

### Comparative Model Testing

Following examination of the Updated Full Structural Model, group comparisons were conducted to determine if the models and their path coefficients differ across Ethnicity (first set of analyses), SES (second set of analyses), Gender (third set), and Family Structure (fourth set). In essence, these comparisons evaluate the possible moderating effect (as discussed in the *Mediating Versus Moderating Variables* section of Chapter III). When the moderating variable is naturally categorical, as are the four variables that will be used in this process for this study, multiple group modeling is an appropriate method for testing for interactions or group differences.

Group comparisons followed a procedure suggested by Bollen (1989; see also Bartle-Haring, 1997). Data were entered separately for each group and a Chi-square difference test was used to evaluate group equivalency. A baseline model was established in which all parameters were free to vary. The model was run again using equality constraints in which all corresponding structural paths, non-directional correlations, and freely estimated factor loadings paths were made to be invariant across groups (e.g., the RELIGIOSITY to EMPATHY structural path was equated in the Euro-American and Latino groups, the non-directional correlation from the RELIGIOSITY residual to the residual on PARENTING was equated in the two groups, the freely estimated factor loading from the PARENTING factor to the parental support manifest indicator was equated across both groups, etc.). The Chi-squares of the two models were compared and if the test was found to be significant, a group difference was indicated (e.g., Euro-American versus Hispanic) in the relationship between PARENTING,



## ADOLESCENT RELIGIOSITY, ADOLESCENT EMPATHY, and ADOLESCENT ANTISOCIAL BEHAVIOR.

Upon identification of such group differences, the unconstrained model was accepted and differences in the *unstandardized* regression coefficients were analyzed (Duncan, 1975; Garson, 2004). The unstandardized coefficients were analyzed in this situation because of the fact that equality constraints technically hold only for unstandardized solutions. To further explain, when coefficients are standardized, each variable's standard deviation is incorporated in the resulting value. Since the standard deviation of any given variable will generally differ across groups, even parameters that are constrained to be equal across groups will often show some differences in their standardized solution.

If such differences in the unstandardized coefficients were not found, then the more parsimonious model was accepted. Generally speaking, the higher a model's Chi-square value, the lower the goodness-of-fit. However, imposing equality constraints automatically harms model fit, as each group cannot receive its own mathematically optimal solution. Thus, if the rise in Chi-square associated with imposing invariance across groups (relative to the Chi-square for a model of different free solutions in each group) is *not statistically significant*, then the invariance model is chosen based on the simplicity of needing fewer unique paths to be estimated. In each separate comparative model, it was considered to display all significant pathways and their corresponding regression weights in a *figure* in order to increase ease in identifying significant differences in pathways between each individual model. However, it was determined that

the resulting visual presentation would likely be too compact and complex, so it was decided to instead display all regression weights in tabular format.

Ethnicity. Comparative model testing was used to determine if the relationships in the Updated Full Structural Model were moderated by participant’s ethnicity. A chi-square difference test was utilized to determine which model (constrained or unconstrained) was the best fit for the data (see *Table 14*). Due to the fact that the difference between the two models was found to be significant, the test indicated that the unconstrained model was the best fit. In other words, forcing the paths in the model to be invariant significantly harmed the overall fit. Because of this, it was concluded that paths in the Updated Full Structural Model were indeed moderated by ethnicity. Results were reported below using the unconstrained model (see *Table 15*).

Table 14 – Comparative Model Testing Using the Chi-square Difference Test: Comparing Updated Full Structural Model across Ethnicity

Model	$\chi^2$	<i>df</i>	$\Delta \chi^2$ ( $\Delta df$ )
Unconstrained Model	1080.98	276	
Constrained Model	1148.36	305	67.38 (29) ***

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

Upon examination of group differences between Euro-American adolescents and Latino adolescents in the Unconstrained Updated Full Structural Model, several significant differences were found (see *Table 15*). It appears that the path from SES (16\_rec) to ADOLESCENT RELIGIOSITY is different between Euro-American

adolescents (unstandardized regression weight = .125, non-significant) and Latino adolescents (.224,  $p < .01$ ). This finding suggests that in Latino adolescents, perceived higher SES is related to higher levels of religiosity. This relationship does not hold true in Euro-American adolescents.

Although the relationship from Family Structure to ADOLESCENT RELIGIOSITY is significant in both ethnic groups, it appears that this relationship is of higher significance for Euro-American adolescents (-.495,  $p < .001$ ) than it is for Latino adolescents (-.190,  $p < .05$ ). This suggests that adolescents from both ethnic groups report slightly higher levels of religiosity when they live with both biological parents, and this relationship displays greater significance for Euro-American teenagers.

Results suggest that the path from ADOLESCENT RELIGIOSITY to ADOLESCENT ANTISOCIAL BEHAVIORS is different between Euro-American (-.560,  $p < .001$ ) and Latino (-.182, non-significant) adolescents. This finding suggests that higher levels of religiosity among Euro-American adolescents are related to lower levels of antisocial behaviors, but that this relationship was not found among Latino adolescents.

Results also suggest that the path from Family Structure to ADOLESCENT ANTISOCIAL BEHAVIOR is different between Euro-American (.118, non-significant) and Latino (.479,  $p < .01$ ) teens. This suggests that Latino adolescents who do not live with both biological parents engage in significantly more antisocial behaviors. This relationship does not hold up among Euro-American teens.

Finally, the relationship from Gender to ADOLESCENT ANTISOCIAL BEHAVIOR appears to be different between Euro-American (-.376,  $p < .05$ ) and Latino

(-.034, non-significant) youth. This finding suggests that Euro-American females display lower levels of antisocial behavior than do Euro-American males. This relationship was not found to be significant in Latino youth.

Table 15 – Paths in the Updated Full Structural Model as Moderated by Ethnicity (Unstandardized Results from Unconstrained Model)

		Euro-American	Latino
SES (16_rec)	→ ADOLESCENT RELIGIOSITY	.125	.224 **
Gender (a1)	→ ADOLESCENT RELIGIOSITY	.328 ***	.300 ***
Family Structure (13rec)	→ ADOLESCENT RELIGIOSITY	-.495 ***	-.190 *
SES (16_rec)	→ PARENTING	.632 ***	.781 ***
Family Structure (13rec)	→ PARENTING	-1.614 ***	-.942 ***
SES (16_rec)	→ ADOLESCENT EMPATHY	-.005	.012
Gender (a1)	→ ADOLESCENT EMPATHY	.299 ***	.317 ***
PARENTING	→ ADOLESCENT EMPATHY	.027 ***	.030 ***
ADOLESCENT RELIGIOSITY	→ ADOLESCENT EMPATHY	.088 ***	.106 ***
ADOLESCENT EMPATHY	→ ADOLESCENT ANTISOCIAL BEHAVIOR	-.007	-.338
ADOLESCENT RELIGIOSITY	→ ADOLESCENT ANTISOCIAL BEHAVIOR	-.560 ***	-.182
SES (16_rec)	→ ADOLESCENT ANTISOCIAL BEHAVIOR	.118	.479 **
Gender (a1)	→ ADOLESCENT ANTISOCIAL BEHAVIOR	-.376 *	-.034
Family Structure (13rec)	→ ADOLESCENT ANTISOCIAL BEHAVIOR	.107	.145
PARENTING	→ ADOLESCENT ANTISOCIAL BEHAVIOR	-.322 ***	-.423 ***

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

SES. Table 16 depicts the chi-square difference testing that was done to evaluate the possible moderating effect of SES on the Updated Full Structural Model. Significant differences were noted between the chi-square of the constrained and unconstrained models, and therefore the unconstrained model was determined to have better fit.

Constraining the paths in the model significantly harmed the fit. Therefore, differences in the model due to moderation by SES were evaluated and are discussed using the unconstrained model below (see *Table 17*).

Table 16 – Comparative Model Testing Using the Chi-square Difference Test: Comparing Updated Full Structural Model across SES

Model	$\chi^2$	<i>df</i>	$\Delta \chi^2$ ( $\Delta df$ )
Unconstrained Model	1261.71	422	
Constrained Model	1334.45	474	72.74 (52) *

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

Upon examination of group differences in the Updated Full Structural Model between adolescents who perceived to be of below average, average, and above average SES, numerous differences were found (see *Table 17*). The relationship found from ethnicity to ADOLESCENT RELIGIOSITY was more significant in those of average SES (unstandardized regression weight =  $-.310$ ,  $p < .001$ ) than those of below average ( $-.389$ ,  $p < .05$ ) or above average ( $-.284$ ,  $p < .05$ ) SES. Interpreting this finding, it suggests that for adolescents who reported to be of average SES, Euro-Americans scored slightly higher on ratings of religiosity than did Latinos. This relationship was not as strong in below or above average participants.

For adolescents who self-reported to be of average SES, the relationship from gender to ADOLESCENT RELIGIOSITY was of greater significance ( $.369$ ,  $p < .001$ ) than in both the below average ( $.238$ , non-significant) and the above average ( $.287$ ,  $p < .05$ ) samples. This suggests that for participants of average SES, females reported

significantly higher religiosity than did males. This same relationship was found in adolescents of above average SES, although it was not as significant. The relationship was not found, however in those of below average SES.

The relationship from family structure to ADOLESCENT RELIGIOSITY was found to be different across SES. Those of average SES ( $-.451, p < .001$ ) and above average SES ( $-.346, p < .01$ ) reported a significant relationship between these variables, while those of below average SES did not ( $.022$ , non-significant). This means that those of average and above average SES reported greater religiosity when they lived in the home with both of their biological parents. This relationship was not found in those of below average SES.

A significant relationship was found from family structure to positive PARENTING in both average ( $-1.546, p < .001$ ) and above average ( $-2.011, p < .001$ ) samples, but not in the below average sample ( $.042$ , nonsignificant). This finding suggests that in both average and above average SES samples, adolescents who lived with both biological parents reported higher levels of positive parenting behaviors. This relationship was not found in the below average sample.

Adolescents who reported being from both average ( $.026, p < .001$ ) and above average ( $.033, p < .001$ ) SES displayed a significant relationship from positive PARENTING to ADOLESCENT EMPATHY, however this relationship was not significant in those from below average SES. This means that for adolescents from average or above SES, more positive levels of parenting lead to an increase in empathy. This relationship was not displayed for those of below average SES.

All participants reported a significant relationship from ADOLESCENT RELIGIOSITY to ADOLESCENT EMPATHY, however those of below average SES (.092,  $p < .05$ ) displayed a less significant relationship on these variables than did those of average (.097,  $p < .001$ ) or above average (.097,  $p < .001$ ) SES. This finding suggests that for all participants, as religiosity increased, so did levels of empathy. Although differences in significance were reported between levels of SES, the actual difference was very minor (less than .005) and will therefore not be interpreted as a significant difference.

With regards to the relationship from ADOLESCENT RELIGIOSITY to ADOLESCENT ANTISOCIAL BEHAVIOR, those of average (-.400,  $p < .001$ ) and above average SES (-.410,  $p < .001$ ) reported a greater significance than did those of below average SES (-.323,  $p < .05$ ). Interpreted, this finding suggests that as adolescent religiosity increased, antisocial behaviors decreased. This relationship was found to have slightly greater significance for those of average or above SES.

A significant relationship was found from ethnicity to ADOLESCENT ANTISOCIAL BEHAVIOR for those of average (.350,  $p < .05$ ) and above average SES (.746,  $p < .001$ ) but not for those of below average SES (-.179, non-significant). This finding suggests that for adolescents of average or above SES, Latino adolescents engage in higher levels of antisocial behavior than do Euro-Americans. This relationship was not found in adolescents of below average SES.

In average (-.428,  $p < .05$ ) and below average (-.769,  $p < .05$ ) adolescents, a significant relationship was found from gender to ADOLESCENT ANTISOCIAL BEHAVIORS. This means that in the average and below average SES samples, females

engaged in fewer antisocial behaviors than did males. This relationship was not found in the above average SES sample.

A significant relationship was found from family structure to ADOLESCENT ANTISOCIAL BEHAVIOR for adolescents who reported to be of average SES (.393,  $p < .05$ ). This suggests that adolescents of average SES engaged in greater levels of antisocial behavior when they did not live with both of their biological parents. This finding was not reported in adolescents of below average or above average SES (see *Table 17*).



Table 17 – Paths in the Updated Full Structural Model as Moderated by SES – Reported by Below Average, Average, and Above Average SES (Unstandardized Results from Unconstrained Model)

		Below Average	Average	Above Average
Ethnicity (a3rec)	→ ADOLESCENT RELIGIOSITY	-.389 *	-.310 ***	-.284 *
Gender (a1)	→ ADOLESCENT RELIGIOSITY	.238	.369 ***	.287 *
Family Structure (l3rec)	→ ADOLESCENT RELIGIOSITY	.022	-.451 ***	-.346 **
Ethnicity (a3rec)	→ PARENTING	-.984	-.228	-.578
Family Structure (l3rec)	→ PARENTING	.042	-1.546 ***	-2.011 ***
Gender (a1)	→ ADOLESCENT EMPATHY	.266 **	.315 ***	.304 ***
PARENTING	→ ADOLESCENT EMPATHY	.013	.026 ***	.033 ***
ADOLESCENT RELIGIOSITY	→ ADOLESCENT EMPATHY	.092 *	.097 ***	.097 ***
ADOLESCENT EMPATHY	→ ADOLESCENT ANTISOCIAL BEHAVIOR	-.132	.129	-.408
ADOLESCENT RELIGIOSITY	→ ADOLESCENT ANTISOCIAL BEHAVIOR	-.323 *	-.400 ***	-.410 ***
Ethnicity (a3rec)	→ ADOLESCENT ANTISOCIAL BEHAVIOR	-.179	.350 *	.746 **
Gender (a1)	→ ADOLESCENT ANTISOCIAL BEHAVIOR	-.769 *	-.428 *	.226
Family Structure (l3rec)	→ ADOLESCENT ANTISOCIAL BEHAVIOR	-.431	.393 *	-.155
PARENTING	→ ADOLESCENT ANTISOCIAL BEHAVIOR	-.403 ***	-.368 ***	-.341 ***

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

Gender. Comparative model testing was used to investigate the possible moderating effect that gender had on the paths in the Updated Full Structural Model. Chi-square difference testing, as depicted in *Table 18*, suggested that the difference in chi-square between the constrained and unconstrained model was insignificant. Thus, constraining the paths in the model was not shown to harm the overall fit of the model. Because of this, the constrained model was found to be the best fit model—suggesting that gender did not play a moderating effect in the Updated Full Structural Model. Therefore, the Updated Full Structural Model, as it stands, provides an adequate explanation of the relationships found therein for both male and female adolescents.

Table 18 – Comparative Model Testing Using the Chi-square Difference Test: Comparing Updated Full Structural Model across Gender

Model	$\chi^2$	<i>df</i>	$\Delta \chi^2$ ( $\Delta df$ )
Unconstrained Model	1056.10	274	
Constrained Model	1097.36	304	41.26 (30)

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

Family Structure. Comparative model testing was used to determine whether Family Structure played a mediating role in the Updated Full Structural Model. *Table 19* displays the chi-square difference test that was completed to compare the constrained and unconstrained versions of the Updated Full Structural Model. The difference in chi-square between these two models was found to be significant, therefore suggesting that constraining the pathways significantly harmed the fit of the model, and that the

unconstrained model is the better fit of the two models. Differences in the model as moderated by family structure were investigated and are reported below (see *Table 20*).

Table 19 – Comparative Model Testing Using the Chi-square Difference Test: Comparing Updated Full Structural Model across Family Structure

Model	$\chi^2$	<i>df</i>	$\Delta \chi^2$ ( $\Delta df$ )
Unconstrained Model	997.07	276	
Constrained Model	1056.56	305	59.49 (29) ***

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

Examining group differences across family structure revealed significant variation between adolescents who lived with both married biological parents and those who did not (see *Table 20*). The path from ethnicity to ADOLESCENT RELIGIOSITY was found to be divergent between adolescents who lived with both biological parents (unstandardized regression weight =  $-.438$ ,  $p < .001$ ) and those who did not ( $-.130$ , nonsignificant). This suggests that Latino adolescents who live with both of their biological parents report lower levels of religiosity than do Euro-American adolescents who live with both biological parents. This relationship was not found to be the same for those who do not live with both biological parents.

Adolescents living with both biological parents displayed a significant relationship from SES to ADOLESCENT RELIGIOSITY ( $.210$ ,  $p < .01$ ), but those not living with both biological parents did not ( $.110$ , nonsignificant). This finding suggests that for adolescents living with both biological parents, as SES increases, so do levels of religiosity.

A significant relationship from gender to ADOLESCENT RELIGIOSITY was found for adolescents who lived with both biological parents (.382,  $p < .001$ ) and for those who did not (.194,  $p < .05$ ). This suggests that for both groups, females are likely to have higher levels of religiosity than are males. This relationship is slightly more significant for adolescents who live with both of their biological parents.

A difference in the relationship from ethnicity to PARENTING was found between adolescents who lived with both biological parents (-.673,  $p < .001$ ) and those that did not (.008, non-significant). Interpreting this result suggests that for youth living with both biological parents, Latino samples report lower levels of positive parenting than do Euro-American samples. This finding is not sustained for adolescents who do not live with both biological parents.

The path from SES to PARENTING was found to be different for youth who live with both married biological parents (.974,  $p < .001$ ) and those who do not (.352,  $p < .05$ ). Although both are found to be significant, this relationship was found to be more significant for those youth living with both biological parents. This means that as the perception of SES increases, so does reported positive parenting, and that this relationship is of greater significance for adolescents living in the home with both biological parents.

Furthermore, the relationship from ethnicity to ADOLESCENT ANTISOCIAL BEHAVIOR was found to be significant among adolescents who do not live with both biological parents (.398,  $p < .05$ ), but not significant for those who do (.326, non-significant). This suggests that for adolescents who do not live with both biological

parents, Latinos are more likely to exhibit antisocial behavior. This same relationship was not found for those who do live with both biological parents.

Differences were found across family structure in the path from SES to ADOLESCENT ANTISOCIAL BEHAVIOR. This relationship was found to be significant for adolescents who live with both biological parents (.314,  $p < .05$ ) and non-significant for those who do not live with both biological parents (.270, non-significant). This finding suggests that for youth that live with both biological parents, as SES increases so does antisocial behavior. This relationship was not found to be significant for those who did not live with both biological parents.

Finally, the relationship from gender to ADOLESCENT ANTISOCIAL BEHAVIOR appears to be moderated by family structure. This relationship is significant for those who live with both biological parents (-.461,  $p < .01$ ) and is not significant for those who do not (-.072, non-significant). In other words, females are less likely to engage in antisocial behavior when they live with both biological parents than if they do not

Table 20 – Paths in the Updated Full Structural Model as Moderated by Family Structure – Reported as Living with Both Biological Parents and Other (Unstandardized Results from Unconstrained Model)

		Both Bio Parents	Other
Ethnicity (a3rec)	→ ADOLESCENT RELIGIOSITY	-.438 ***	-.130
SES (l6_rec)	→ ADOLESCENT RELIGIOSITY	.210 **	.110
Gender (a1)	→ ADOLESCENT RELIGIOSITY	.382 ***	.194 *
Ethnicity (a3rec)	→ PARENTING	-.673 **	.008
SES (l6_rec)	→ PARENTING	.974 ***	.352 *
SES (l6_rec)	→ ADOLESCENT EMPATHY	.034	-.008
Gender (a1)	→ ADOLESCENT EMPATHY	.286 ***	.324 ***
PARENTING	→ ADOLESCENT EMPATHY	.028 ***	.044 ***
ADOLESCENT RELIGIOSITY	→ ADOLESCENT EMPATHY	.085 ***	.117 ***
ADOLESCENT EMPATHY	→ ADOLESCENT ANTISOCIAL BEHAVIOR	.010	-.357
ADOLESCENT RELIGIOSITY	→ ADOLESCENT ANTISOCIAL BEHAVIOR	-.329 ***	-.427 ***
Ethnicity (a3rec)	→ ADOLESCENT ANTISOCIAL BEHAVIOR	.326	.398 *
SES (l6_rec)	→ ADOLESCENT ANTISOCIAL BEHAVIOR	.314 *	.270
Gender (a1)	→ ADOLESCENT ANTISOCIAL BEHAVIOR	-.461 **	-.072
PARENTING	→ ADOLESCENT ANTISOCIAL BEHAVIOR	-.418 ***	-.354 ***

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

## CHAPTER V

### DISCUSSION

The focus of this chapter is to examine the implications of the findings that were outlined in Chapter IV. In order to facilitate the discussion of these points, this chapter is broken down into four main sections. First, the hypotheses will be reviewed and all major findings associated with the hypotheses will be elucidated. Following this section, the relevant clinical implications of this study will be discussed. The third section will outline the strengths and weaknesses of this study. Finally, possible directions for future research will be presented.

#### Review of Hypotheses and Findings

##### Hypothesis 1

As presented at the end of Chapter II in this study, it was hypothesized that all paths laid forth in the proposed Full Structural Model would be found to be statistically significant. In addition, it was hypothesized that the paths between the following variables would be found to have significant, *positive* relationships in the full model: ADOLESCENT RELIGIOSITY to ADOLESCENT EMPATHY; PARENTAL SUPPORT to ADOLESCENT EMPATHY; PARENTAL BEHAVIORAL CONTROL to ADOLESCENT EMPATHY; PARENTAL PSYCHOLOGICAL CONTROL to ADOLESCENT ANTISOCIAL BEHAVIOR. It was also hypothesized that the paths

between the following variables would be found to have significant, *negative* relationships in the full model: ADOLESCENT RELIGIOSITY to ADOLESCENT ANTISOCIAL BEHAVIOR; PARENTAL SUPPORT to ADOLESCENT ANTISOCIAL BEHAVIOR; PARENTAL BEHAVIORAL CONTROL to ADOLESCENT ANTISOCIAL BEHAVIOR; PARENTAL PSYCHOLOGICAL CONTROL to ADOLESCENT EMPATHY; ADOLESCENT EMPATHY to ADOLESCENT ANTISOCIAL BEHAVIOR.

During the primary evaluation of the Full Structural Model in this study, it was identified that none of the proposed pathways between latent factors in the model were found to be significant. This raised a red flag due to the fact that all of the relationships outlined in this study had been previously identified as significant in the literature (see Barber et al., 2003; Barnett, 1987; Bean et al., 2005; Booth & Martin, 1998; Bradford et al., 2004; Brownfield & Sorenson, 1991; Bruggeman & Hart, 1996; Bryant & Crockenberg, 1980; Carlo et al., 1998; Claes & Lacourse, 2001; Donahue & Benson, 1995; Francis & Pearson, 1987; Furrow et al., 2004; Garaigordobil et al., 2004; Hadaway et al., 1984; Jang & Johnson, 2001; Johnson et al., 2001; Krevans & Gibbs, 1996; Lopez et al., 2001; McMahan & Washburn, 2003; Miller & Eisenberg, 1988; Nonnemaker et al., 2003; Soderstrom, 2003; Tremblay et al., 1994; Valdez et al., 2000).

Upon further examination, it was determined that the residuals on each of the three parenting factors, namely Parental Support, Parental Behavior Control, and Parental Psychological Control were highly correlated. Because it was likely that this multicollinear relationship between the parenting variables in this study was causing the insignificant outcomes between the latent factors in the model, a plan was set forth to



eliminate this problem. The indicators on each of the individual parenting factors were combined into one composite score. Then, these three composite scores (Parental Support, Parental Behavior Control, and Parental Psychological Control) were placed in a new model as individual indicators on a latent factor representing a grand composite of all three parenting variables. This latent factor was referred to as Parenting. A new model referred to as the Updated Full Structural Model was formed in which Parenting was added and the three separate parenting factors were removed. The model was then re-evaluated and significant pathways were identified.

Upon examination of the Updated Full Structural Model, it was identified that Hypothesis 1 was partially supported. Five primary structural pathways were proposed in the Updated Full Structural Model. They were: ADOLESCENT RELIGIOSITY to ADOLESCENT EMPATHY; ADOLESCENT RELIGIOSITY to ADOLESCENT ANTISOCIAL BEHAVIOR; PARENTING to ADOLESCENT EMPATHY; PARENTING to ADOLESCENT ANTISOCIAL BEHAVIOR; and ADOLESCENT EMPATHY to ADOLESCENT ANTISOCIAL BEHAVIOR. All paths in the model were found to be statistically significant except for the pathway from ADOLESCENT EMPATHY to ADOLESCENT ANTISOCIAL BEHAVIOR. Interpretations of these findings follow in the sections below.

Adolescent Religiosity to Adolescent Empathy. The significant relationship that was identified between Adolescent Religiosity and Adolescent Empathy suggests that in the adolescent population, as religiosity increases, so does empathy. This finding supported previous research in the area of adolescent religiosity. Furrow et al. (2004)

identified this relationship in 801 American high school students using structural equation modeling. The most significant relationships identified by these authors were between religious identity, prosocial concerns and empathic concern. This research fits very well with the findings in this study, as the factor Adolescent Religiosity is made up of questions related to one's religious identity. In addition, the questions used in this study to identify Adolescent Empathy were from the Empathic Concern subscale of Davis' (1980) Interpersonal Reactivity Index (IRI). Therefore, these two studies report similar findings when it comes to the positive relationship between religiosity and empathy in the adolescent population. Several additional studies have identified similar relationships between variables of religiosity and empathy, as well as other forms of moral development among American adolescents (see Bruggeman & Hart, 1996; Francis & Pearson, 1987).

As mentioned in Chapter II, Morgan (1983) suggests that the relationship between religiosity and empathy in the adolescent population may be due to teachings in the Bible that instruct on how individuals should treat others, such as the Golden Rule, or the parable of the Good Samaritan. It is also possible that higher levels of religious involvement may provide adolescents with a positive support group of adults and other peers that may help to model empathic principles and behaviors. Stone and Vance (1976) report, in their study of 48 college students, that behavioral modeling is one method that has been shown to increase empathic communication among students. Therefore, associating with a positive group of adults and peers may provide more opportunities for adolescents to be exposed to behavioral models of appropriate empathic responses toward others.

Adolescent Religiosity to Adolescent Antisocial Behavior. Findings of this study suggest that a significant relationship exists between religiosity and antisocial behavior in the adolescent population. According to this study, as levels of Adolescent Religiosity increase, Adolescent Antisocial Behavior decreases, and vice-versa—as religiosity decreases, antisocial behaviors increase. These findings support previous literature in the field (Booth & Martin, 1998; Donahue & Benson, 1995; Hadaway et al., 1984; Jang & Johnson, 2001; Johnson et al., 2001; Nonnemaker et al., 2003). Several researchers have previously identified that religiosity is negatively correlated with delinquent behaviors such as theft, vandalism and violence (Donahue & Benson, 1995; Johnson et al., 2001; Nonnemaker et al., 2003). In addition, several other researchers have reported a significant relationship between religiosity and substance abuse (substance abuse is included in the measurement Antisocial Behaviors in this study; Booth & Martin, 1998; Hadaway et al., 1984; Jang & Johnson, 2001).

This relationship, too, could be related to religious teachings such as the parable of the Good Samaritan and the Golden Rule. It is possible that as adolescents who actively participate in religiously-based activities, and are introduced to such teachings, begin to internalize the idea that engaging in antisocial behaviors is wrong, and that they instead should engage in prosocial behaviors that help others to feel positive and cared for. It is also possible that higher levels of religiosity expose adolescents to a larger group of adults and peers that model prosocial behaviors, thereby instilling in them a greater desire to engage in such behaviors. One additional possibility is that adolescents who consider themselves to have higher levels of religiosity are exposed to religious-based teachings which suggest that engaging in antisocial behavior is wrong or “sinful”.

These adolescents may also have a greater chance of having a positive peer and adult support group that helps them to maintain accountability for their behaviors, thereby decreasing their engagement in antisocial behavior.

Parenting to Adolescent Empathy. The findings of this study suggest that as Parenting increases, so does Adolescent Empathy. Positive parenting, in this study, is related to an increase in parental support and parental behavioral control, and a decrease in parental psychological control. This finding adds new knowledge to the field due to the fact no previous research could be found that investigated the relationship between these variables of parenting and empathy in the adolescent population.

Although this is a newly supported finding, it is far from surprising, for similar relationships have been previously established in child development literature (see Barnett, 1987; Krevans & Gibbs, 1996; Lopez et al., 2001). Barnett (1987) studied a variable similar to that of parental support. He reported that when children receive affectionate, responsive parenting, they are more likely to develop positive levels of empathy because they understand what it feels like to get their needs met. This would potentially suggest that children and adolescents may learn principles and behaviors related to empathy through modeling provided by their parents. Witnessing parents provide support and empathy, then recognizing the way that it feels inside when they are treated in positive, accepting manners may serve to reinforce for them the positive nature of exhibiting appropriate empathic responses to others.

Lopez et al. (2001) suggest that the way a parent disciplines their child is related to the child's development of empathy. These authors found that parental induction,

which is defined as the process of helping children to recognize the impact of their behavior on themselves and others, is positively related to childhood empathy. This type of discipline fits well with high levels of parental support. Combining the findings of this study with those of Lopez et al. (2001) suggests that the more supporting and accepting a parent is, and the more willing they are to discipline in a manner that helps turn their child's attention towards the consequences of their behavior on themselves and others, the more likely that child will be of developing positive levels of empathy. Krevans and Gibbs (1996) also report that empathy in childhood is related to parent's use of positive methods of discipline.

Parenting to Adolescent Antisocial Behavior. Findings in this study suggest that as positive Parenting increases, Antisocial Behavior decreases in the adolescent population. This finding is well supported by a wealth of previous research on the topic (see Barber et al., 2003, Bean et al., 2005; Bradford et al., 2004; Bryant & Crockenberg, 1980; Carlo et al, 1998; Claes & Lacourse, 2001; Mestre et al., 2001). The most notable findings were those of Barber et al. (2003) and Bradford et al. (2004).

Barber et al. (2003) investigated the relationship between parenting and adolescent antisocial behaviors and found that higher levels of parental psychological control led to increased levels of delinquency. These authors also found that increases in parental behavioral control were related to decreases in adolescent delinquency. Taking this one step further, Bradford et al. (2004) replicated the previously mentioned study across 11 different cultures (including a sample of 9,050 school-going adolescents from Bangladesh, Bosnia, China, Colombia, Germany, India, Palestine, three different ethnic

groups in South Africa, and the United States) using principles from cross-cultural psychology. These authors found the same results cross-culturally—that higher levels of parental psychological control are related to increases in delinquency, and higher levels of parental behavioral control are related to decreases in adolescent delinquency.

These findings also provide support for the idea that there may be a behavioral modeling component related to the development of antisocial behavior. Considering the finding in which adolescents who receive higher levels of parental psychological control exhibit greater levels of antisocial behavior, it could be suggested that adolescents learn negative ways of interacting with others from their parents' modeling of psychological manipulation and intrusion in their lives. In other words, adolescents may learn from their parents example that it is appropriate to psychologically manipulate and control others, therefore devaluing the worth of others in their mind. This devaluation of others may further lead to an increase in antisocial behavior because it is perceived that others are of lesser value than oneself.

The fact that behavioral control is related to a reduction in adolescent antisocial behaviors is also consistent with other studies of American youth on this topic (Bean et al., 2005; Eccles et al., 1997; Patterson & Stouthamer-Loeber, 1984). This finding adds additional support to the long-supported idea that the greater amount of monitoring a parent provides for their child, the less likely they will be to find unmonitored time to engage in inappropriate or delinquent behaviors.

Additional research on parental monitoring has suggested, however that a portion of this variable may be explained by the extent to which an adolescent is willing to disclose information about their whereabouts, friends, and behavior to their parents (Kerr

& Stattin, 2000; Stattin & Kerr, 2000). This may suggest that parental monitoring in this capacity may not be the best measure of parental behavior control. However, these same studies provide evidence that the relationship between behavioral control and antisocial behavior remains significant when controlling for disclosure. One additional study was found in which the authors investigated parental monitoring side-by-side with limit setting (another measure of behavioral control). These authors found that both measures displayed a significant negative relation to delinquent behaviors (Barber, Miller, Erickson & Heaton, 2001). This finding further suggests that parental monitoring provides a good representation of behavioral control.

Carlo et al. (1998) add to these previously mentioned findings that higher levels of parental behavioral control and parental support are related to decreases in antisocial behavior among adolescents. Bryant and Crockenberg (1980) similarly found that increases in parental support are associated with decreases in adolescent delinquency. They reported in their study of 50 mother/daughter dyads that as daughters felt greater responsiveness to their needs from their mothers, they exhibited a decrease in antisocial behaviors and an increase in prosocial behaviors. In addition, Mestre et al. (2001) found in their study of 733 Spanish youth that as adolescents perceive their relationship with their parents to be supportive and accepting, they exhibited higher levels of prosocial reasoning.

This last finding may help to explain some of the previous findings related to parental support and adolescent antisocial behavior. If adolescents who perceive their parents as more supportive and accepting are more likely to display higher levels of prosocial reasoning (Mestre et al., 2001), this would suggest that they would likely also

exhibit fewer antisocial behaviors. This finding may further suggest that adolescent antisocial behaviors have a cognitive component to their origin, and are not only behavioral—assuming that cognitive reasoning exists prior to a display of behavior.

Adolescent Empathy to Adolescent Antisocial Behavior. The pathway between Adolescent Empathy and Adolescent Antisocial Behavior was shown to be non-significant in the Updated Full Structural Model employed in this study. This finding was surprising, as a wealth of literature had previously displayed a significant relationship between empathy and delinquency. Numerous authors have reported that increases in empathy are directly related to decreases in antisocial behavior (see Garaigordobil et al., 2004; McMahon & Washburn, 2003; Miller & Eisenberg, 1988; Schreiber, 1982; Tremblay et al., 1994; Valdez et al., 2000). With this in mind, it was necessary to step back and take a more comprehensive view of the study in order to determine possible reasons why this relationship was not found to be significant.

Taking a closer look at the other models in the study, it became apparent that in the Updated Indirect Model, the path from Adolescent Empathy to Adolescent Antisocial Behavior was highly significant. However, when all paths were included in the Updated Full Structural Model, this relationship was no longer found to be significant. Stated more clearly, without the direct relationships from Parenting and Religiosity to Adolescent Antisocial Behavior, the relationship between Empathy and Adolescent Antisocial Behavior was significant. However when these paths were included in the model, significance was lost.



With this finding in mind, it could be suggested that empathy may indeed have a negative relationship with antisocial behaviors, but that the relationships from parenting to antisocial behavior, and from religiosity to antisocial behavior, are much stronger. This finding is very important to take note of, because this may indicate that research on the relationship between empathy and delinquency has, in the past, been missing two vital variables—namely religiosity and parenting. This finding also bears clinical significance, particularly for those working with antisocial youth. As opposed to designing programs solely focused on helping antisocial youth develop higher levels of empathy or other types of moral reasoning, clinical time may be much more well spent focusing on family-level change and helping the adolescents' parents to learn new skills. Skills development should be focused on helping parents to increase their ability to provide higher levels of parental support and behavior control, while limiting use of parental psychological control.

In addition, this may also provide a rationale for the importance of having some form of religiosity or spirituality in the life of American adolescents. This would not suggest the need for adolescents to walk down to their nearest church and sign up as a member. It would, on the other hand, encourage youth to pursue spirituality with another definition—connecting to a power that is greater than oneself. This could encompass a personal spiritual awakening, or more formal involvement in an organized faith, providing social support and connection to its members such as participating in youth groups at a local church.

Although correlations in the model as well as relationships between stand-alone demographic variables and latent factors were not included in Hypothesis 1, their

findings display relevant information to the Updated Full Structural Model, and therefore will be discussed in this portion of Chapter V.

Correlations. All three correlations that were included in the Updated Full Structural Model were found to be significant. Findings of these correlations suggest that Adolescent Religiosity and Parenting display a significant positive correlation with one another. This result is relevant to the outcomes of the study, because it could be suggested, therefore that as parents display higher levels of positive Parenting, it is likely that their adolescent children will display higher levels of religiosity. The relationship indicated between these two constructs was originally included in the study as a *bidirectional* correlation due to the fact that these constructs were considered *socialization* variables and were both looked at as exogenous. However, upon re-evaluation of the findings and of the model, rationale could be provided for why it may have made more conceptual sense for this relationship to be identified as a *unidirectional* pathway in the model as it seems unlikely that Adolescent Religiosity would impact the way in which a parent scores on parenting dimensions. This correlation could be argued if it were determined that Adolescent Religiosity was highly correlated with Parental Religiosity, however this exploration would be beyond the scope of this study.

It was also identified that SES was negatively correlated with the variables Ethnicity and Family Structure in the Updated Full Structural Model. This finding indicates that Euro-Americans were more likely than Latinos to have reported higher levels of SES, and that adolescents living with both married biological parents are more likely to display higher levels of SES than those who reported other family structures.

These findings are not surprising, as they are fully supported by demographic information provided by the U. S. government. It was reported by the United States Census that median annual household income for those of any Hispanic origin is roughly \$12,500 lower than is annual median household income for White Americans (DeNavas-Walt, Proctor & Hill Lee, 2005). These authors further report that families which include both, married parents have an annual median household income of roughly \$34,000 more than single-mother families, and roughly \$19,000 more than single-father families. These numbers provide further support for the findings in this study suggesting that Latinos report lower SES than Euro-Americans and adolescents living with both, married biological parents report higher SES than those from other family structures.

Relationships between Demographic Variables and Latent Factors. Each demographic variable included in the Updated Full Structural Model displayed a significant relationship with two or more latent factors in the model. Ethnicity was shown to display significant relationships with Adolescent Religiosity, Parenting and Adolescent Antisocial Behavior. To be more specific, results suggest that Euro-American adolescents display higher levels of Religiosity, and report more facilitative Parenting than to their Latino counterparts. At the same time, Latino adolescents report higher levels of Antisocial Behaviors than do Euro-Americans. This latter finding supports previous research suggesting that Latino youth are more likely than Euro-American youth to engage in a number of different types of antisocial behavior (Johnson et al., 2000; U.S. Department of Health and Human Services, 2000). It must be acknowledged that this finding may be more fully accounted for by family SES than

Ethnicity (see Eamon & Mulder, 2005; Samaan, 2000). Pairing these results with the finding that Latino youth report less facilitative Parenting than do Euro-American youth, this research suggests that one possible reason Latino adolescents engage in higher levels of antisocial behavior is that their parents provide significantly lower levels of facilitative Parenting than do Euro-American parents, as reported by their children. Although findings suggest that this may be the case, it is still necessary to acknowledge that there are other potential factors that play into this relationship such as SES, family structure, socio-political discrimination, inherited wealth, home ownership, neighborhood safety, availability of non-parental role models, etc.

As suggested in the previous paragraph, SES has been shown to display significant relationships in the Updated Full Structural Model as well. In fact, the relationships identified from SES to latent factors in the model are similar to findings reported for Ethnicity when relating these variables to religiosity and parenting constructs. Findings in this study suggest that as SES increases, Adolescent Religiosity and facilitative Parenting, were shown to also increase. However, the findings for SES begin to differ with those for Ethnicity when their relationship with Adolescent Antisocial Behavior is more closely examined. Contrary to expected outcomes, it was determined that as perceived level of SES increases, Adolescent Antisocial Behavior also increases. While it was expected that higher levels of SES would be related to higher levels of Parenting (see Supple, 2001), it was surprising that increases in SES were associated with increases in Antisocial Behavior. This is because previous research has either displayed non-significant relations between SES and delinquency (e.g., Johnson, 1980; Tittle and Meier, 1991; Weiss, 1987), or it has been reported that delinquency

decreases as household income increases (Duncan, Duncan, Strycker & Chaumeton, 2002). Only one explanation could be found suggesting why those of higher SES may report higher levels of Antisocial Behavior. Wright, et al. (1999) suggest, that higher levels of SES can increase antisocial behavior in adolescents by decreasing conventional values and by increasing social power and risk taking behaviors. However, these authors also suggest that lower levels of SES are also related to increased delinquency.

This is a very interesting finding in that it was expected that higher levels of SES would be related to decreases in antisocial behavior, not increases. This finding also suggests that SES may account for antisocial behavior just as much as Ethnicity does, but not in the expected direction. Pairing this finding with the fact that SES and Ethnicity displayed a significant correlation (although it was not very high) actually strengthens the argument provided in the previous paragraph—that the parenting displayed in Latino families may play a significant role in the fact that Latino adolescents engage in higher levels of antisocial behavior than do Euro-American adolescents. This thought is not supported, however by Pong et al. (2005) who argue that SES accounts for greater variance in certain behaviors than does Ethnicity.

It was reported that Family Structure displayed significant relationships with Adolescent Religiosity and Parenting constructs. More specifically, adolescents who lived with both married biological parents reported higher levels of religiosity as well as more functional parenting than did those not living with both married biological parents. These relationships are also similar to those found for Ethnicity and SES, but divert in similarity in that no significant relationship was found between Family Structure and Adolescent Antisocial Behavior. This finding suggests that Family Structure may indeed

have an impact on religiosity and parenting (that may also be more fully accounted for by either Ethnicity or SES), but does not display a significant impact upon an adolescent's likelihood for engaging in antisocial behaviors. This finding strayed from previous research which indicated that adolescents from single-parent families or cohabiting parent stepfamilies were more likely to engage in delinquent behavior than those who lived with both married biological parents (Demuth & Brown, 2004; Manning & Lamb, 2003). No reasons were indicated for this divergent finding.

Lastly, it was reported that Gender displayed significant relationships with both Adolescent Religiosity and Adolescent Empathy, with females scoring higher than males on both constructs. This finding supported previous research which indicated that females display higher levels of empathy than do males (Krevans & Gibbs, 1996; Lopez et al., 2001). However, the fact that females did not display significantly different levels of antisocial behavior than did males in this study did not support previous literature (see Calvo et al., 2001). Again, no reasons could be found for this contradictory finding, suggesting the need for more research.

As previously stated, Hypothesis 1 was partially supported, in that all relationships between latent factors in the Updated Full Structural Model were found to be significant, except for the relationship from Adolescent Empathy to Adolescent Antisocial Behavior. These findings directly fit with the outcome of Hypothesis 2 due to the fact that the mediating role of empathy was its primary investigation.

## Hypothesis 2

In Chapter II, it was hypothesized that the Indirect Model would be found to be a more parsimonious substitute for the Full Structural Model, thereby suggesting that Adolescent Empathy displayed a significant mediating effect between both of the following relationships: Adolescent Religiosity to Adolescent Antisocial Behavior, and Parenting to Adolescent Antisocial Behavior. As dictated by the multicollinearity of the parenting constructs in the Full Structural Model, the latent factors of Parental Support, Parental Behavioral Control and Parental Psychological Control were combined into one composite parenting factor. The resulting models were referred to as the Updated Full Structural Model, the Updated Direct Model, and the Updated Indirect Model.

The Updated Direct Model and the Updated Indirect Model—which were both nested within the Updated Full Structural Model—were compared to the Updated Full Structural Model using comparative model testing. Chi-square difference testing indicated that both the Updated Direct Model and the Updated Indirect Model significantly harmed the fit of the Updated Full Structural Model. This finding suggested that the Updated Full Structural Model was the best fit model, and was therefore the best representation of the data and pathways laid forth in the model. The fact that the Updated Full Structural Model was the best fit model also suggested that Adolescent Empathy did not provide a significant mediating effect in the following relationships: Adolescent Religiosity to Adolescent Antisocial Behavior, and Parenting to Adolescent Antisocial Behavior. This finding rendered it unnecessary to engage in Sobel testing.

Upon examination of the findings reported, it was determined that Hypothesis 2 was not supported. This was an unsuspected finding due to the fact that similar relationships had been reported in previous research. Krevans and Gibbs (1996) reported in their study of 78 sixth and seventh graders that a child's empathy mediates the relationship between parental discipline and children's prosocial behavior. This study was obviously not an attempt to replicate the findings of Krevans and Gibbs (1996) as indicated by the fact that although similar, the parenting constructs in this study were not identical. First of all, these authors studied parental discipline using measures of induction, power assertion, and love withdrawal. Although it can be suggested that a parent high on parental support would likely use induction as a discipline strategy, and a parent scoring high on levels of parental psychological control may use power assertion or love withdrawal, these direct relationships have not been previously tested.

In addition, the outcome variable employed by Krevans and Gibbs (1996) measured prosocial behavior as opposed to antisocial behavior. Although numerous studies have suggested that prosocial behaviors and antisocial behaviors may occupy polar ends of the same social behavior continuum (Polyson, 1979; Silva et al., 1996; Silva et al., 1997), these polar behaviors may be more mutually exclusive than was previously determined. Although it seems unlikely, it is possible that scoring high on measures related to prosocial behavior does not thus guarantee that the participant would display a low level of antisocial behavior, and the same vice-versa.

As suggested in the previous section which focused on Hypothesis 1, the Updated Indirect Model displayed significant relationships between: Parenting to Adolescent Empathy; and Adolescent Empathy to Adolescent Antisocial Behavior. These findings



are very similar to those of the Krevans and Gibbs (1996) study, however it was noted that once the direct relationships from Parenting to Adolescent Antisocial Behavior and from Adolescent Religiosity to Adolescent Antisocial Behavior were included in the Updated Full Structural Model, the relation between Empathy and Antisocial Behavior lost significance.

In addition, although no studies were identified that investigated the mediating role of Adolescent Empathy between the variables of Adolescent Religiosity and Adolescent Antisocial Behaviors, several were found that focused specifically on the relationships between Religiosity and Empathy (Bruggeman & Hart, 1996; Francis & Pearson, 1987; Furrow et al., 2004), and between Religiosity and Antisocial Behavior (Booth & Martin, 1998; Donahue & Benson, 1995; Hadaway et al., 1984; Jang & Johnson, 2001; Johnson et al., 2001; Nonnemaker et al., 2003). These findings do not suggest that Empathy plays a mediating role, but rather suggest a relationship based upon common cause. Considering these findings along with the previously documented relationship between Empathy and Antisocial Behavior (see Garaigordobil et al., 2004; McMahon & Washburn, 2003; Miller & Eisenberg, 1988; Schreiber, 1982; Tremblay et al., 1994; Valdez et al., 2000), one might draw the conclusion that Empathy plays a mediating role in the aforementioned relationships. However, the finding that suggests the Updated Full Structural Model was a better fit model than either the Updated Indirect or the Updated Direct Models contradicts this hypothesis.

As previously discussed, it appears that as the direct relationships from Parenting to Antisocial Behavior and from Religiosity to Antisocial Behavior were included in the Updated Full Structural Model, significance in the relationship from Empathy to

Antisocial Behavior was lost. This suggests that if researchers investigate the indirect relationships between Parenting or Religiosity to Empathy to Antisocial Behavior without taking into account the direct relationship between Parenting or Religiosity and Antisocial Behavior, it may be concluded that Empathy does indeed play a mediating role between these variables. Because these research outcomes would still advocate for an increase in Parenting and/or Religiosity to help enhance Empathy, thereby enhancing Antisocial Behavior, findings of this nature may not lead clinicians to attend to incorrect variables. However, taking into account the findings of this study, it is concerning to recognize that previous research has investigated the relation between Empathy and Antisocial Behavior without attending to variables of Parenting and Religiosity (see Garaigordobil et al., 2004; McMahon & Washburn, 2003; Miller & Eisenberg, 1988; Schreiber, 1982; Tremblay et al., 1994; Valdez et al., 2000).

The fact that Hypothesis 2 was not supported provides important clinical guidance related to intervening with delinquent youth. This suggests that it may be more beneficial to attend to parenting styles and levels of religiosity, and other contextual or contributing factors, than it is to try and increase levels of empathy when working with adolescents for the purpose of prevention or elimination of antisocial behavior. This lends further support to the use of systemic therapy when working with delinquent youth, as opposed to utilizing an intrapsychic approach to therapy. Therefore, therapists who are trained to work with systemic interventions, such as Marriage and Family Therapists, may be optimal providers of therapy for delinquent youth and their families.

### Hypothesis 3

The final hypothesis presented in Chapter II was that the five variables used in comparative model testing—namely Ethnicity, SES, Gender, Age and Family Structure—would produce significant moderating effects in the model which was determined to be the best fit model. As presented in Chapter IV, preliminary analyses indicated that four of the five variables listed above displayed significant relationships to a majority of the constructs in the Full Structural Model—all but age. Because age was not significantly related to a majority of the constructs in this study, it was eliminated from comparative model testing altogether and was also not included as a stand-alone indicator in the overall model. The other four variables, Ethnicity, SES, Gender and Family Structure, were included in comparative model testing and as stand-alone indicators in the Full Structural Model. Following the preliminary analyses of the data, and the primary analysis of the model, the Full Structural Model was replaced by the Updated Full Structural Model, and it was determined that the Updated Full Structural Model was the best fit model for the data. Because of this, all corresponding comparative model testing procedures involving the variables of ethnicity, SES, gender and family structure were conducted using the Updated Full Structural Model (see *Figure 8*).

In all cases, multiple group modeling—involving separate models for each level of the given moderating variable—was used to evaluate group differences. Models were run once constrained and once with all parameters being left free to vary. Chi-square difference testing was employed to identify whether the constrained or non-constrained model was a better fit for the data. Any time the non-constrained model was found to

have better fit, then a moderating effect was identified between groups of the given variable. On the other hand, when the constrained model was found to have better fit, then the conclusion was drawn that the comparison variable did not moderate the relationships found in the Updated Full Structural Model.

Ethnicity. Findings suggest that although statistically, Euro-American and Latino groups were shown to display different relationships between the constructs in the overall model, it appears that there yet exist many similarities between the two groups. The fact that the relationships between Parenting, Adolescent Empathy and Adolescent Antisocial Behavior were found to display no significant differences between Euro-American and Latino samples supports the findings of Bradford et al. (2004). These authors found substantial invariance in the relationship between parenting and adolescent functioning across school-going adolescents from eleven different cultures around the world.

Prior to testing for moderation effects, it was determined that the structural paths from Ethnicity to the following latent constructs in the Updated Full Structural Model (Adolescent Religiosity, Parenting, and Adolescent Antisocial Behavior) were found to be highly significant. Findings suggested that Euro-Americans reported higher levels of Adolescent Religiosity and facilitative Parenting than did Latinos. Furthermore, it was exhibited that Latinos scored higher on levels of Adolescent Antisocial Behaviors than did Euro-Americans. These findings display the significant effect that Ethnicity had on these three latent factors in the model. Furthermore, these findings added to previous literature indicating that Latino youth were more likely than Euro-American youth to

engage in antisocial behaviors (Johnston et al., 2000; U. S. Department of Health and Human Services, 2000).

Taking this to the next step, results of comparative model testing suggest that Ethnicity displayed a significant moderating effect upon the Updated Full Structural Model. This means that pathways in the model were significantly different between Euro-American and Latino participants. More specifically, it appeared that four pathways were statistically different from one another when comparing the Euro-American model to the Latino model. These pathways were significant in one model, but not significant in the other.

The path from SES to Adolescent Religiosity was significant for the Latino group, but not for Euro-Americans. This suggests that Latinos who reported higher levels of SES were more likely to report higher Religiosity, but this relationship was not found in the Euro-American sample.

The pathway from Adolescent Religiosity to Adolescent Antisocial Behavior was significant for Euro-Americans, but not for Latinos. This suggests that for the Euro-American sample, participants who reported higher Religiosity displayed a decreased level of Antisocial Behaviors. This relationship was not found in the Latino sample.

The relationship from SES to Adolescent Antisocial Behavior was found to be significant in the Latino group, but not for Euro-Americans. This finding suggests that Latino adolescents who reported higher SES displayed a greater level of Antisocial Behaviors.

Last, the relationship from Gender to Adolescent Antisocial Behavior was significant for Euro-Americans, but not for Latinos. In other words, in the Euro-

American sample, females reported engaging in significantly lower levels of Antisocial Behavior than did males. In the Latino sample, no differences were found across gender. With the exception of the pathway from Adolescent Religiosity to Adolescent Antisocial Behavior, no other paths between the four major constructs in the study appeared to be statistically different between the Euro-American and Latino samples.

An interesting difference was found on two of the three pathways from SES to other variables in the model. For two of these pathways (SES to Adolescent Religiosity and SES to Adolescent Antisocial Behavior), Latinos displayed significant relationships while Euro-Americans did not. This may suggest that for Latino adolescents, SES has a stronger effect upon the outcomes of Religiosity and Antisocial Behavior than it does for Euro-American adolescents. Furthermore, the findings display that for Latinos, a rise in SES is related to an increase in both Religiosity and Antisocial Behavior. Combining this with the fact that the path from Religiosity to Antisocial Behavior suggests a significant decrease in Antisocial Behavior as Religiosity increases for Euro-Americans, but not for Latinos provides further support that the relationship between SES, Adolescent Religiosity, and Adolescent Antisocial Behavior is strongly moderated by Ethnicity in this sample.

This finding is surprising, as it was believed that an increase in SES would be related to a decrease in Antisocial Behavior, not an increase, as was found in the Latino subsample. The exploratory nature of this study makes it impossible to offer a definitive explanation for this finding. However, one explanation for this finding was located in the literature (see Wright et al., 1999) and is described in greater detail in the following section.

SES. Although many differences were found between the three SES models, statistical differences on structural paths between the four proposed latent factors in the model were all very similar except for the path from Parenting to Adolescent Empathy. This suggests that many of the moderating effects found in the proposed model across levels of SES were found between demographic comparative variables and latent constructs. This again suggests that the main proposed structural model remained relatively similar across levels of SES in this sample. It must also be noted that the variable measuring SES was operationalized in such a way that adolescents reported their *perception* of their family's SES, not their *actual* SES. Because of this, findings may be difficult to generalize across *actual* SES groups.

Prior to testing for moderating effects, it was determined that three of the four structural paths from SES to latent constructs in the Updated Full Structural Model (Adolescent Religiosity, Parenting, and Adolescent Antisocial Behaviors) were highly significant. Findings suggested that higher levels of SES were related to increases in Adolescent Religiosity, facilitative Parenting, and Adolescent Antisocial Behaviors. As previously discussed, while it was expected that higher levels of SES would be related to higher levels of Parenting (see Supple, 2001), it was not expected that increases in SES would also be associated with increases in Antisocial Behavior. Previous research has either displayed non-significant relations between SES and delinquency (e.g., Johnson, 1980; Tittle and Meier, 1991; Weiss, 1987), or has reported that delinquency decreases as household income increases (Duncan, Duncan, Strycker & Chaumeton, 2002). However, as reported when discussing Hypothesis 1, it is possible that higher levels of SES can

increase antisocial behavior in adolescents by decreasing conventional values and increasing social power and risk taking behaviors (Wright et al., 1999).

Results of comparative model testing suggest that SES displayed a statistically significant moderating effect on the Updated Full Structural Model. In other words, pathways in the model were significantly different between participants who self reported as being of below average, average or above average SES. It appeared that there were seven pathways found to be statistically different from one another when comparing the below average, average and above average models. These pathways were significant in at least one of the three models, and not significant in another.

The path from Gender to Adolescent Religiosity was significant for the average and above average groups, but not for the below average group. This suggests that female participants who self-reported being of average to above average SES displayed higher levels of religiosity than did males from these two groups. This difference was not indicated in adolescents of below average SES.

The pathway from Family Structure to Adolescent Religiosity was also significant for the average and above average SES groups, but not for the below average group. This finding suggests that in the average and above average SES groups, adolescents who lived with both biological married parents displayed higher levels of religiosity than those who did not live with both biological married parents. This relationship was not found in the below average SES group.

The pathway from Family Structure to Parenting was once again significant for the average and above average SES groups, but not for the below average group. This suggests that adolescents who reported being of average to above average SES and who



lived in the same home with both of their biological married parents reported higher levels of functional parenting than did adolescents in these SES groups who did not live with both biological married parents. This relationship was not found in the below average SES group.

Once again, in the average and above average SES groups, the path from Parenting to Adolescent Empathy was found to be significant. This same path was non-significant in the below average SES group. Interpretation of this finding suggests that as Parenting increased in the average and above average SES groups, Adolescent Empathy also increased. This finding was not consistent for the below average SES subgroup.

The path from Ethnicity to Adolescent Antisocial Behavior was found to be significant in the average and above average groups, but not in the below average SES group. This finding suggests that in the average and above average groups, Latino adolescents reported significantly higher levels of antisocial behaviors than did Euro-American adolescents. This difference was not found in the below average SES sample. This finding may provide further explanation as to why it was determined in the Updated Full Structural Model that as SES increased, so did antisocial behavior. It has been determined that Latinos engage in higher levels of antisocial behavior than do Euro-Americans, however past research has often questioned whether this was due to ethnicity, or rather if it was more likely to be due to SES (Pong et al., 2005). This finding seems to provide further evidence that higher levels of antisocial behavior may be more highly related to Ethnicity than to SES, however, more research is needed in this area.

The pathway from Gender to Adolescent Antisocial Behavior was found to be significant in both the below average and the average SES groupings, but not in the above

average group. This suggests that in the below average and average SES groups, females scored lower on levels of antisocial behaviors than did males, but this difference was not found in the above average SES group.

Lastly, a significant relationship was found from Family Structure to Adolescent Antisocial Behavior in the average SES group, but not in the below or above average groups. This finding suggests that average SES adolescents who lived with both biological married parents reported higher levels of antisocial behavior than did those who did not live with both biological parents. This relationship was not found in the below average or above average SES samples.

The most significant differences noted in the comparative model testing across levels of SES were found when comparing the below average group to both the average and above average groups. Many of the differences suggested that the below average group displayed different relationships in the overall model than the average or above average SES groups. This finding suggests that SES moderates the relationships in the model primarily between two main groupings—adolescents reporting below average SES versus those of average or above SES. Interpretation of this finding could suggest that those of below average SES display different relationships between variables of Religiosity, Parenting, Empathy, Antisocial Behavior, Ethnicity, Family Structure and Gender than do average to above average counterparts.

Three of the seven differences found in this model include the construct of Adolescent Antisocial Behavior. This presents an interesting addition to the literature comparing SES and Antisocial Behavior. Sociological explanations of delinquency have historically suggested strong relationships between SES and delinquency (see Cloward &

Ohlin, 1961; Merton, 1938; Shaw & McKay, 1942; Wolfgang & Ferracuti, 1967).

However, more recent studies comparing SES and antisocial behaviors have produced statistically nonsignificant results (e.g., Johnson, 1980; Tittle and Meier, 1991; Weiss, 1987). Findings in this study suggest statistically significant interaction effects across SES when investigating relationships between Adolescent Antisocial Behaviors and several other variables (e.g., ethnicity, gender & family structure). This finding is consistent with previous research which suggests that the relationship between SES and delinquency is primarily indirect and operates through various additional variables (Wright, et al., 1999). These authors suggest that lower levels of SES are related to higher levels of delinquency in that they increase financial strain, alienation, and aggression, and that they decrease educational and occupational aspirations. They also suggest, however, that higher levels of SES can also increase delinquency by decreasing conventional values and by increasing social power and risk taking behaviors. These findings provide further guidance as to why some relationships involving Antisocial Behavior in this study may be significant in the lower SES sample, and others significant in the high SES sample.

One additional factor that must be considered when evaluating the reported differences across SES in the Updated Full Structural Model is that the sample of below average SES adolescents (14.7%, N = 230) was quite small when compared to the average (55.1%, N = 874) and above average (30.2%, N = 487) groupings. Difference in sample size between these groups may be associated with why the larger groups (average and above average SES) displayed greater statistical significance than did the smaller group of below average SES adolescents.

Gender. Prior to testing for moderating effects, it was determined that two of the three structural paths from Gender to latent constructs in the Updated Full Structural Model (Adolescent Religiosity and Adolescent Empathy) were highly significant. Findings suggested that females displayed higher levels of Adolescent Religiosity and Adolescent Empathy than did males in this study. The finding that females score higher on levels of Empathy than do males has been previously supported in the literature (Krevans & Gibbs, 1996; Lopez et al., 2001). It was, however, surprising that a significant relationship was not found between Gender and Adolescent Antisocial Behaviors. Previous literature indicates that females display less antisocial behavior than males (Calvo et al., 2001). This relationship was not identified in this study.

Results suggest that Gender did not display a significant moderating effect on pathways in the Updated Full Structural Model. Because of this, the conclusion can be drawn that the Updated Full Structural Model adequately describes the relationships between variables in the model for both males and females. This finding was somewhat unexpected, as it was believed that relationships between factors in the model would be different across gender due to the fact that previous literature reports that females score higher than males on measures of empathy (Krevans & Gibbs, 1996; Lopez et al., 2001) and lower on levels of antisocial behavior (e.g., Calvo et al., 2001).

The fact that no difference was found in the Updated Full Structural Model across gender may be explained by the fact that Empathy and Antisocial Behavior were only two variables in a large model, and therefore did not provide a significant enough difference to draw the conclusion that gender moderates the pathways in the model. On the other hand, it could be suggested that pathways in the model remain constant across

gender, and that differences in levels of empathy and antisocial behavior may be due to differences in other variables that are related to these constructs.

Family Structure. Although it has been determined that Family Structure does indeed display a significant moderating effect upon the Updated Full Structural Model, it must be acknowledged that none of the four pathways between the major latent factors in the model (Adolescent Religiosity, Parenting, Adolescent Empathy, Adolescent Antisocial Behavior) were found to exhibit significant differences between the two Family Structure groups. This suggests that although a moderating effect may be found when looking at the model as a whole, it does not appear that Family Structure moderated the relationships between the four primary paths that were proposed for the purposes of this study.

Prior to testing for moderating effects, it was determined that two of the three structural paths from SES to latent constructs in the Updated Full Structural Model (Adolescent Religiosity and Parenting) were highly significant. This finding suggests that overall, adolescents who lived with both biological married parents reported higher levels of Religiosity and functional Parenting than did those who did not live with both biological married parents. It was surprising, however, that the path from Family Structure to Adolescent Antisocial Behavior was not found to be significant. Previous research suggests that teens living with both married biological parents often display lower levels of delinquency than do teens living in other family structures (Demuth & Brown, 2004; Manning & Lamb, 2003).

The results of comparative model testing in this study suggest that Family Structure displayed a significant moderating effect upon the Updated Full Structural Model. This means that pathways in the model were significantly different between adolescents who lived with both married biological parents and those who did not live with both married biological parents. More specifically, it appeared that six pathways were statistically different from one another when comparing those living with both biological parents to other family structures. These pathways were found to be significant in one model, but not in the other.

The path from Ethnicity to Adolescent Religiosity was significant for adolescents who lived with both biological married parents, but not for those who lived with other family structures. Interpreted, this finding suggests that Euro-Americans who reported to live with both biological married parents were more likely to report higher levels of Religiosity than Latinos who lived with both biological married parents. This relationship was not found in the sample of adolescents not living with both biological married parents.

The pathway from SES to Adolescent Religiosity was also significant for those living with both biological married parents, but not for those who did not live with both biological married parents. This suggests that adolescents who report living with both biological married parents displayed increases in religiosity as their self-reported SES increased. This finding was not identified for adolescents not living with both biological married parents.

The path from Ethnicity to Parenting was significant for those living with both biological married parents, but not for those living in other family structures. This

finding suggests that Euro-American adolescents who lived with both biological married parents reported more functional levels of parenting than did Latino adolescents with similar family structures. This relationship was not found for adolescents who did not live with both biological married parents.

The pathway from Ethnicity to Adolescent Antisocial Behavior was found to be significant for those not living with both married biological parents, and non-significant for those living with both married biological parents. This finding suggests that for those not living with both married biological parents, Latinos were found to display higher levels of Antisocial Behavior than were Euro-Americans. This relationship was not found for those who reported living with both married biological parents.

The path from SES to Adolescent Antisocial Behavior was determined to be statistically significant for adolescents who reported living with both biological married parents, but not for those living in other family structures. This suggests that for adolescents living with both biological married parents, higher levels of SES were related to increases in self-reported Antisocial Behavior. This moderated relationship was not found for those not living with both biological married parents.

Lastly, the path from Gender to Adolescent Antisocial Behavior was found to be significant for those who reported living with both married biological parents, but not for those who reported living in other family structures. This finding suggests that female adolescents living with both married biological parents reported lower levels of Antisocial Behavior than did males living with both married biological parents. This relationship was not found for those who did not live with both biological married parents.

All but one of the aforementioned differences in pathways suggested that significance was found for adolescents who lived with both married biological parents, and not for those living in other family structures. This may suggest that there is greater consistency in homes that have both biological married parents. Some would suggest that this may be due to the fact that two-parent biological families are less likely to have experienced significant disruption in family life. Haas, Farington, Killias and Sattar (2004) found in their study of over 21,000 Swiss males that boys who lived in disrupted families (not living with both married biological parents) were more likely than those living in intact families to engage in delinquent behaviors. However, these authors also found that when separated out, intact families displaying high levels of conflict predicted the same prevalence of delinquency as did disrupted families. This finding suggests that there may be a significant interaction effect between family structure and family conflict when investigating adolescent delinquency.

In summary, Hypothesis 3 was partially supported in that variables of Ethnicity, SES and Family Structure were found to display a significant moderating effect upon the Updated Full Structural Model. This finding suggests that for these variables, there were significant differences found in the model when each level of the variable was investigated discretely. Although these differences were identified across levels of the comparative variables in the overall Updated Full Structural Model, it was rare for differences to be found on pathways between the various latent factors in the model (e.g., Adolescent Religiosity, Parenting, Adolescent Empathy, Adolescent Antisocial Behavior). This indicates that a large proportion of the moderating effects were found on



paths from demographic variables to the various latent factors in the model as opposed to on the relationships found between the latent factors in the model.

### Clinical Implications

The purpose of this study was to investigate the relationship between socialization variables (Parenting and Adolescent Religiosity) and Adolescent Antisocial Behavior. Due to findings in the previous literature, it was hypothesized that Adolescent Empathy would play a mediating role in the aforementioned relationship between socialization variables and Adolescent Antisocial Behavior. With this original hypothesis in place, it was anticipated that the majority of the clinical implications section would be focused on discussing ways to increase Adolescent Empathy through methods of parenting, religious involvement, and therapeutic intervention. However, the fact that this hypothesis was not supported suggests that when working with delinquent youth, it may be more beneficial to focus clinical time and attention on improving parenting skills and increasing religious involvement (which could be related to spiritual and/or social benefits) rather than working on an individual basis with adolescents to help them increase interpersonal empathy. This finding provides a strong argument for the utilization of systemically related family therapy when treating antisocial adolescents as opposed to using more traditional intrapsychic therapeutic models. With this in mind, it could be suggested that therapists who are trained to work with systemic interventions, such as Marriage and Family Therapists, may be the optimal therapists for treating delinquent youth and their families.

A number of programs have been designed in previous years for the purpose of intervening with troubled youth or training youth in preventative measures for the purpose of decreasing and preventing violence and aggression. Unfortunately many of these programs have been designed upon a foundation of anecdotal evidence, and very few have been evaluated for effectiveness. A recent review of 84 violence prevention programs implemented at the school level found that only 11 of these programs had been evaluated and published in peer-reviewed journals (Drug Strategies, 1998).

Only one of these programs was found to have “very good” ratings related to overall program quality. This program is referred to as Second Step (Committee for Children, 1997) and is implemented in a school setting with the primary goal being violence prevention. This program is divided into five main units: (1) Understanding the Problem, (2) Training for Empathy, (3) Anger Management, (4) Problem Solving, and (5) Applying Skills. As can be seen, one major focus of this program is the training of empathy for the purpose of reducing violent behaviors. Although this program has been shown to produce moderate decreases in aggressive behavior, any gains that were related to the program were lost by a three month follow-up (Orpinas, Parcel, McAlister & Frankowski, 1995). Even when additional peer mediation programs and the provision of parent newsletters were added to this program, no significant positive outcomes were indicated (Orpinas, et al., 2000). Considering these findings while taking into account the findings of the current study, it is proposed that the lack of significant outcomes related to this violence prevention program is likely related to the fact that no aspect of the program focuses on parent education or systemic family change.

As opposed to focusing on violence prevention, one additional model program was found that was primarily focused on violence intervention. This program, part of the Texas Youth Commission (TYC), is known as the Giddings State School and is located in Giddings, Texas (Hubner, 2005). This institution houses just under 400 of the most violent juvenile offenders in the state—all of which have committed violent crimes such as aggravated assault, rape and murder. The youth who are involved in this program are literally awarded one “last chance” before being sent to the federal penitentiary to serve out sentences as long as 40 years. As part of this program, youth are required to participate in what is referred to as the Capital Offenders Group.

The primary intervention offered in this group forces students to participate in structured psychodramas in which each student acts out traumatic scenes from their childhood, and the crimes they committed themselves, with other students acting as key players in the scene, or watching from the sidelines. The culminating process of therapy in this group requires the youth to once again act out their most violent crimes, but this time from the perspective of the victim—providing an emotionally charged, virtual opportunity to experience the crime from a different viewpoint—including all the pain and sheer terror that they themselves inflicted on their victim. Hubner (2005), a participant observer of this experience suggests that this approach provides these youth with “soul-shattering moments with other group members in cathartic outpourings of suffering and anger that lead, incredibly, to genuine remorse and the beginnings of true empathy . . . the first steps on the long road to redemption.” The Giddings School reports that only 10% of the youth who graduate from their program have been re-arrested for a violent crime within three years after their completion—an astonishing rate when

compared to other programs run by the TYC that report extremely high recidivism rates usually between 50-60 percent.

Although this program appears to be very successful in helping antisocial youth to reduce and eliminate violent behaviors from their lives, this approach is only meant for the most violent of offenders, and is not realistic to use in the lives of average American teenagers. In addition, the research contained in this study suggests that measures of parenting and religiosity displayed greater significance when related to adolescent antisocial behavior than did adolescent empathy. Because of this, as opposed to designing programs solely focused on helping antisocial youth develop higher levels of empathy in order to reduce the prevalence of antisocial behaviors, time may be spent much more wisely on working to facilitate family-level change through use of systemic therapies and helping parents to learn new parenting skills. Skills development in this case should be focused on helping parents to increase their ability to provide higher levels of parental support and behavior control, while limiting use of parental psychological control. In addition, time may also be wisely spent on helping youth to increase religious involvement.

Numerous studies have reported the beneficial effects of implementing family based systemic therapy when treating antisocial youth. Sheidow and Woodford (2003) report on the beneficial effects of Multisystemic Therapy (MST) when treating adolescents with serious clinical problems in the family context. These authors report that MST has been shown to effectively reduce not only delinquent behavior and substance abuse, but also psychiatric symptomatology and out-of-home placement due to these difficulties. Borduin (1999) found similar results when evaluating the use of MST

in the treatment of antisocial behavior. This author further reports that in controlled studies with severe juvenile offenders, MST has demonstrated long-term reductions in violent offenses, criminal activity, drug-related arrests, and incarceration.

One finding that has been supported by this study is that Latino youth appear to engage in higher levels of antisocial behavior than do Euro-American youth. This merits considerable attention by Marriage and Family Therapists or other counselors who may work with Latino adolescents. Because most treatment models have been designed and tested for use with Euro-American clients, there is a great need for further research focused on interventions that work for delinquent Latino youth. One study was found that did just that. Santisteban et al. (2003) report that a family-based approach to therapy known as Brief Strategic Family Therapy (BSFT) has been shown to display significant results in the treatment of Hispanic youth who abuse substances and exhibit behavior problems. Comparing this approach to group treatment controls, it was identified that Hispanic adolescents enrolled in BSFT displayed significantly greater improvement in adolescent reported marijuana use, parent reported delinquency and conduct problems, as well as observer reported family functioning. These findings are especially noteworthy and applicable to the findings found in this study due to the fact that this approach has demonstrated positive outcomes in Hispanic youth.

Research literature has not only demonstrated significant findings when using family-based therapeutic approaches with adolescents who engage in antisocial behaviors, but also has suggested that family involvement in preventative measures has displayed positive effects on youth outcome. Several authors have identified Multidimensional Family Prevention (MDFP) as an intensive treatment approach that has

shown success in the prevention of antisocial behavior and substance use in high-risk youth (Becker, Hogue & Liddle, 2002; Liddle & Hogue, 2000). Liddle and Hogue (2000) describe this program as combining the advantages of standard prevention models with those of psychosocial treatment models in a family setting.

One additional prevention program has been identified as noteworthy to the findings in this study, not due to positive outcomes when intervening with antisocial youth, but rather because its focus is on the training of parenting skills that highly resemble the main parenting constructs used in this study. Wells, Law and Johnson (2004) have designed a parenting program called: *Love, Limits, and Latitude: A Thousand Small Moments of Parenting*. As is indicated in the title of their program, the three main pillars that they have chosen to be the focus of their parent training are love, limits and latitude. These pillars appear to fit very well with the three main parenting constructs utilized in this study, namely parental support, parental behavior control and parental psychological control. Love, according to Wells, Law and Johnson (2004) refers to the level of attachment or connection experienced between parent and child. In order for a child to feel connected to their parent, they must first feel supported or accepted, which suggests the importance of displaying high levels of parental support. The second pillar, Limits, refers to the rules and boundaries that are set in the life of a child. This pillar is very closely related to the construct of parental behavior control as outlined in this study. Last, the pillar referred to as Latitude suggests that children need space to be their own person. This includes the ability to have their own thoughts and feelings and not simply to feel controlled by their parent in all areas of life. A parent who displayed

high levels of psychological control would not be honoring the pillar of latitude in their relationship with their child.

As exhibited above, the three main pillars found in the parent training program designed by Wells, Law and Johnson (2004) closely parallel the primary constructs that are present in facilitative parenting (high parental support and behavior control with low levels of psychological control) as identified in this study. Due to the fact that higher levels of parenting in this study were related to decreases in antisocial behavior, it appears that this program could provide a strong foundation for training parents in the use of facilitative parenting methods, thereby decreasing adolescent antisocial behavior. As no other programs were identified in the literature that focus training on these three parenting dimensions, it has been determined that future research should investigate the impact that this program has on increasing facilitative parenting and thereby decreasing antisocial behaviors in children and adolescents.

In addition, although no empirical studies could be found that discussed the process of increasing religiosity in adolescents, findings from this study and many others (Booth & Martin, 1998; Donahue & Benson, 1995; Hadaway et al., 1984; Jang & Johnson, 2001; Johnson et al., 2001; Nonnemaker et al., 2003) provide evidence that higher levels of religiosity are associated with decreases in antisocial behavior. With this in mind, it would be beneficial for parents of children and adolescents to explore ways to help their children to increase their spirituality. To do this, parents may encourage their children to engage in a greater number of spiritual activities, such as: saying prayers, reading scriptures, attending religious services, etc.

Overall, the results of this study provide are relevant to the profession of Marriage and Family Therapy as a whole due to the fact that findings suggest a strong relationship between parenting and adolescent antisocial behavior. This finding adds to previous literature which provides a solid rationale for the importance of involving families in the treatment of adolescent delinquency. With this in mind, it is suggested that because of the fact that Marriage and Family Therapists receive clinically sound systems-based training in intervening with families, these mental health professionals are well-suited to serve the ever-increasing population of delinquent youth.

Furthermore, these findings call into attention the continued need for improving evidence related to systems-based interventions focused on treating antisocial adolescents. Research on this area should also include a greater focus on designing programs specifically for use with Latino youth, or should at least be sure to provide evidence that a certain approach is indicated for use with Latino families. Interestingly, to date much of the literature focused on this area of treatment has been provided by professionals of diverse backgrounds in the social sciences, but very few Marriage and Family Therapists. With this in mind, a challenge is extended to Marriage and Family Therapists across the nation to increase their engagement in the study and treatment of antisocial youth with a strong emphasis on the design and evaluation of systemic approaches to intervene with antisocial adolescents from diverse backgrounds and their families.



### Strengths and Limitations of Study

It has been suggested by Peterson and Rollins (1987) that a number of strengths and limitations are often present in research focusing on the process of parenting. The primary strengths that have been identified in this study are as follows: (a) a large sample size, (b) inclusion of Latino and Euro-American samples, (c) use of a comprehensive model that included socialization variables and measures of both mediating and moderating effects.

This study employed a large sample of almost 1700 school-going adolescents. This large sample size provided a strong basis for the use of Structural Equation Modeling in the analysis of relationships in the sample. In addition, due to the significant sample size of this study it was possible to utilize comparative model testing in the evaluation of several potential moderating variables.

In addition to the sample size being large, this study involved a fairly even distribution between Euro-American (50.5%) and Latino (49.5%) adolescents. This provided a great opportunity to investigate the possible differential relationships that were present in the model between Euro-American and Latino samples. Furthermore, simply including Latino adolescents in this study added a great deal to the importance and application of this study as less is known about the parenting process in the lives of diverse ethnic populations.

Last, investigating both the moderating and the mediating effects of variables on the proposed model provided for a much more comprehensive analysis of the primary factors in the model. This allowed for a higher number of variables to be controlled for

in the model and provided for greater clarity regarding the relationships between various factors and variables in the model.

Limitations in this study included: (a) loss of the ability to analyze the three parenting dimensions as separate factors, (b) cross-sectional data, (c) no external confirmation of the youth's report of data, (d) poor operationalization of SES variable (e) measures of parenting combined for mother and father, (f) the possible presence of many different structural models with the same goodness-of-fit, (g) the IRI may not have been the best empathy measure for use in investigating the relationship between empathy and antisocial behaviors.

Due to the finding of multicollinearity between the three dimensions of parenting, it was necessary to combine all three dimensions into one overall composite parenting factor. Unfortunately, by doing so, the ability to examine parenting dimensions separately and thereby examine the individual effect of each dimension and its relationship to empathy and antisocial behavior was lost. Prior to the need for combining these dimensions of parenting, the fact that this study had proposed to examine both their unique and joint effects was considered a great strength to the study.

The utilization of cross-sectional data as opposed to longitudinal data limited the ability to determine the direction of effect of the variables in the model across time. Although participants were included from grades 9-12, without repeated measures from the same participants, direction of effect can only be theorized.

No external confirmation was available for the youth's report of measures of parenting behavior or their own behavior. This fact potentially raises some questions about the accuracy of their self-report. In addition to the concern about accuracy of the

youth's self report, the variable used to measure SES may not provide reliable data on the true SES of each participant due to poor operationalization. This question asks the youth, "Compared to other kids your age, how well-off do you think your family is?" As the question is worded, this item is not necessarily an actual measure of SES, but a measure of the adolescent's perception of their family's economic status as compared to other families. In addition, because of the fact that no external confirmation is available for the youth's self-report, it cannot be determined whether or not the participant could accurately judge their family's actual SES. This should be taken into account when evaluating any findings in this study related to SES.

Although the distribution of adolescents in both Family Structure groups that were analyzed in comparative model testing in this study (those living with both biological parents versus other) was quite even (50.3% and 49.7% respectively), it is likely that those who did not live with both biological married parents displayed a higher proportion of cases in which parenting scores were reported for only one parent. This could be problematic to the study due to the fact that parenting scores from mother and father were combined due to their moderate to high correlation. It is possible that this could have inaccurately inflated the moderating effect of family structure.

It is necessary to point out that any number of models could potentially be made with the same goodness of fit but differing causal directionality than the proposed model in this study (MacCallum, Wegener, Uchino & Fabrigar, 1993). Thankfully, this may be somewhat limited due to the fact that such constant figures as ethnicity and gender cannot theoretically be caused by other measured variables. This suggests that the directionality of all of the arrows from ethnicity to other constructs in the model, and from gender to

other constructs in the model cannot be reversed, therefore yielding a lower number of potentially equal models. It also does not seem theoretically probable that Parenting or Adolescent Religiosity would *cause* SES. This however does not eliminate the possibility of such “similar, but different” models.

Last, it is proposed that the IRI may not have been the best measure of empathy to use in this study. Jolliffe and Farrington (2004) reported that cognitive measures of empathy were more strongly related to antisocial behavior than were affective measures of empathy. In addition, these authors also reported that two other measures of empathy (The Hogan Empathy Scale and the Questionnaire Measure of Emotional Empathy) produced stronger relationships with antisocial behavior than did Davis’ (1980) Interpersonal Reactivity Index (IRI). These findings raise concern for this study due to the fact that not only was the IRI used for measurement of empathy, but only one of the four subscales (the empathic concern subscale), which happens to be an affective measure of empathy, was included. This limitation could suggest that had another measure of empathy been administered in this study, a stronger relationship may have been identified between empathy and antisocial behavior in the model. Although this is possible, it is unlikely that a different measure would have produced a significant enough relationship to highly modify the outcomes of the study.

### Suggestions for Future Research

The results in this study provided important information pertaining to the relationship between the socialization variables of parenting and religiosity and

adolescent antisocial behavior. However, this study has only identified the tip of the iceberg. There is still a great need for future research to further delineate many of the relationships found in this study.

First of all, implementing a study with identical constructs and an identical model, but utilizing longitudinal design would provide a great amount of additional information that could be used for intervention with delinquent youth. In particular, if a longitudinal study of this nature could begin during childhood and continue through adolescence, it would provide a wealth of important information regarding the relationship between parenting, religiosity and antisocial behavior across time. In such a study, it would be very valuable to once again investigate the mediating and moderating effects of empathy and other demographic variables. This may further clarify the role that empathy may or may not play in the model and would provide further insight into when demographic factors such as Ethnicity, SES, Gender and Family structure begin affecting youth behaviors.

Although concerns were stated in the limitations section that SES was a poorly operationalized variable, significant relationships were still identified between SES and several other variables in the model. In addition, SES was identified to display a significant moderating effect in the overall model. With this in mind, it could be important to replicate this study, yet include a better measure of SES that students or, even better, that their parents would fill out. This would help to further and more accurately investigate the relationship between SES and other variables in the proposed model.

In addition to the need for better operationalization of SES variables, it would be very beneficial to the literature if additional measures of adolescent empathy were designed and normed for use in future studies on empathy. In the meanwhile, this study could be replicated using either The Hogan Empathy Scale or the Questionnaire Measure of Emotional Empathy, due to the fact that they have been identified to have a stronger relationship with antisocial behavior. Such a study may help to further clarify the relationship between parenting, empathy, and antisocial behavior in the adolescent population.

As it has been determined that parenting is strongly related to antisocial behavior, it would be very beneficial for additional family based prevention programs to be designed and tested for the purpose of helping parents to learn appropriate parenting skills that may help to reduce delinquent behavior. Several programs exist, but do not provide parent training that focuses on the specific parenting dimensions that have been shown to be related to delinquency in this study. The parenting program entitled *Love, Limits, and Latitude: A Thousand Small Moments of Parenting* (Wells, et al., 2004) fits very well with the dimensions outlined in this study, however it is focused primarily on parent training for young children. Designing a similar program or modifying the already existing program in order to provide greater training for parents on how to appropriately balance the parenting dimensions in the adolescent population would be highly beneficial. Moreover, there is a great need for parent training programs and family intervention programs to be designed and tested for efficacy with families from diverse backgrounds in mind. As this study has suggested that Latino adolescents display higher

levels of antisocial behavior than to Euro-American adolescents, this provides a strong rationale for designing programs specifically for use within these populations.

One additional direction for future research in the area of parenting and adolescent antisocial behaviors might include a study that investigated the moderating effect of empathy on a model similar to the one used in this study. Although empathy was not shown to have a mediating effect on the model in this study, it is possible that it could play a moderating effect in a similar model.

### Conclusion

In summary, this research has provided insight into the socialization variables of Parenting and Religiosity and their relationship with Adolescent Antisocial Behavior. This study has also explored the potential mediating and moderating effects that Empathy, Ethnicity, SES, Gender and Family Structure played in the relationship between the previously mentioned socialization variables and Antisocial Behavior.

First, it was determined that the Updated Full Structural Model was a well-fit model for the data. Within the model, Adolescent Religiosity and facilitative Parenting (high levels of Parental Support and Parental Behavior Control combined with low levels of Parental Psychological Control) both appeared to display significant unidirectional relationships with Adolescent Empathy and Adolescent Antisocial Behavior. Although this finding suggests common causality between the variables of Adolescent Empathy and Adolescent Antisocial Behavior, further investigation determined that no significant relationship existed. Upon closer examination of these findings, it was determined that

Empathy did not mediate the relationship between socialization variables (Parenting and Adolescent Religiosity) and Adolescent Antisocial Behavior. It is believed that this may be due to the fact that when the direct relationships from Parenting and Religiosity to Antisocial Behavior were included in the model, all significance that was found between Empathy and Antisocial Behavior thence disappeared.

Following the rejection of the mediating hypothesis, comparative model testing was used to determine the potential moderating effects of several demographic variables in the study. This process identified that Ethnicity, SES and Family Structure significantly moderated numerous pathways in the overall model. However, upon further investigation it was identified that very few moderated pathways were identified between the main latent factors in the model. Instead, it was identified that the relationships between many of the demographic variables and latent factors in the model displayed significant moderated pathways. This calls into question the idea that the proposed model, including just the relationships between the latent factors in the study, may not have truly been moderated by the proposed demographic variables, had other demographic variables not been included in the model itself. More research is needed to further delineate the relationship of the latent factors in this study across populations diverse in Ethnicity, SES, and Family Structure.

Clinical implications are offered and the results of this study provide great relevance to the profession of Marriage and Family Therapy as a whole. It was identified that a focus on parent training and the improvement of the relationship between adolescents and their parents is likely much more beneficial to the treatment of adolescent delinquency than is taking an individual, intrapsychic approach to therapy. In



addition, because of the fact that Marriage and Family Therapists are provided with intense training on how to provide interventions through use of a systemic, family focused model, these mental health professionals are well-suited to work with delinquent youth and their families.

## REFERENCES

- Achenbach, T. M. (1991). *Manual for the youth self-report and 1991 profile*. Burlington: University of Vermont, Department of Psychiatry.
- Achenbach, T. M., & Edelbrock, C. (1987). *Manual for the Child Behavior Checklist and revised child behavior profile*. Burlington: University of Vermont, Department of Psychiatry.
- Arbuckle, J. L. (1994-2003). *AMOS 5*. Chicago: Small Water Corp.
- Barber, B. K. (1996). Parental psychological control: Revisiting a neglected construct. *Child Development, 67*, 3296-3319.
- Barber, B. K. (1997). Adolescent socialization in context: The role of connection, regulation, and autonomy in the family. *Journal of Adolescent Research, 12*, 5-11.
- Barber, B. K. (2001). *Parental psychological control of children and adolescents*. Washington DC: American Psychological Association Press.
- Barber, B. K., Miller, B. C., Erickson, L. D. & Heaton, T. B. (2001). *Parenting dimensions and the timing of first intercourse in adolescence*. Manuscript submitted for publication.
- Barber, B. K., Olsen, J. E. & Shagle, S. C. (1994). Associations between parental psychological and behavioral control and youth internalized and externalized behaviors. *Child Development, 65*, 1120-1136.
- Barber, B. K., Stolz, H. E., Olsen, J. A. & Maughan, S. L. (2003). *Parental support, psychological control, and behavioral control: Validations across time, analytic method, and culture*. Unpublished Manuscript, University of Tennessee.
- Barnett, M. (1987). Empathy and related responses in children. In N. Eisenberg & J. Strayer (Eds.), *Empathy and its development* (pp. 146-162). Cambridge: Cambridge University Press.
- Baron, R. M. & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173-1182.
- Bartle-Haring, S. & Sabatelli, R. M. (1997). Emotional reactivity toward parents and interpersonal competence: Differences across gender and type of relationship. *Journal of Youth and Adolescence, 26*, 399-413.

- Bean, R. A. (2003). Youth and family project, Lubbock, TX.
- Bean, R. A., Barber, B. K., & Crane, D. R. (in press). Parental support, behavioral control, and psychological control among African American youth: The relationships to academic grades, antisocial behavior, and depression. *Journal of Family Issues*.
- Becker, D., Hogue, A. & Liddle, H. A. (2002). Methods of engagement in family-based preventive intervention. *Child and Adolescent Social Work Journal, 19*, 163-179.
- Bollen, K. A. (1989). *Structural equations with latent variables*. New York: Wiley & Sons.
- Booth, J. & Martin, J. E. (1998). Spiritual and religious factors in substance use, dependence, and recovery. In H. G. Koenig (Ed.), *Handbook of religion and mental health* (pp. 175-200). San Diego: Academic Press.
- Borduin, C. M. (1999). Multisystemic treatment of criminality and violence in adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry, 38*, 242-249.
- Bradford, K., Barber, B. K., Olsen, J. A., Maughan, S. L., Erickson, L. D., Ward, D., et al. (2004). A multi-national study of interparental conflict, parenting, and adolescent functioning: South Africa, Bangladesh, China, India, Bosnia, Germany, Palestine, Colombia, and the United States. *Marriage and Family Review, 35*, 107-137.
- Brown, B. B., Mounts, N., Lamborn, S. D. & Steinberg, L. (1993). Parenting practices and peer group affiliation in adolescence. *Child Development, 63*, 391-400.
- Brownfield, D. & Sorenson, A. M. (1991). Religion and drug use among adolescents: A social support conceptualization and interpretation. *Deviant Behavior: An Interdisciplinary Journal, 12*, 259-276.
- Bruggeman, E. L. & Hart, K. J. (1996). Cheating, lying, and moral reasoning by religious and secular high school students. *Journal of Educational Research, 89*, 340-344.
- Bryant, B. K. & Crockenberg, S. B. (1980). Correlates and dimensions of prosocial behavior: a study of female siblings with their mothers. *Child Development, 51*, 529-544.
- Burke, D. M. (2001). Empathy in sexually offending and nonoffending adolescent males. *Journal of Interpersonal Violence, 16*, 222-233.
- Bush, C. A., Mullis, R. L. & Mullis, A. K. (2000). Differences in empathy between offender and nonoffender youth. *Journal of Youth and Adolescence, 29*, 467-478.

- Calvo, A. J., González, R. & Martorell, M. C. (2001). Variables relacionadas con la conducta prosocial en la infancia y adolescencia: Personalidad, autoconcepto y género. *Infancia y Aprendizaje*, 24, 95-111.
- Carlo, G., Roesch, S. C. & Melby, J. (1998). The multiplicative relations of parenting and temperament to prosocial and antisocial behaviors in adolescence. *Journal of Early Adolescence*, 18, 266-290.
- Claes, M. & Lacourse, É. (2001). Pratiques parentales et comportements déviants à l'adolescence. *Enfance*, 43, 379-399.
- Cloward, R. & Ohlin, L. (1961). *Delinquency and opportunity*. Glencoe, IL: Free Press.
- Committee for Children. (1997). *Second step: A violence prevention curriculum, middle school/junior high*. Seattle, WA: Committee for Children.
- Davis, M. H. (1980). A multidimensional approach to individual differences in empathy. *Catalog of Selected Documents in Psychology*, 10, 85.
- Davis, M., & Franzoi, S. (1991). Stability and change in adolescent self-consciousness and empathy. *Journal of Research in Personality*, 25, 70-87.
- Deardorff, J., Gonzales, N.A. & Sandler, I.N. (2003). Control beliefs as a mediator of the relation between stress and depressive symptoms among inner-city adolescents. *Journal of Abnormal Child Psychology*, 2, 1-10.
- Demuth, S. & Brown, S. L. (2004). Family structure, family processes, and adolescent delinquency: The significance of parental absence versus parental gender. *Journal of Research in Crime and Delinquency*, 41, 58-81.
- DeNavas-Walt, C., Proctor, B. D. & Hill Lee, C. (2005). *Income, poverty, and health insurance coverage in the United States: 2004, Current population reports, Consumer income*. U. S. Census Bureau, Retrieved March 11, 2006, from <http://www.census.gov/prod/2005pubs/p60-229.pdf>.
- Donahue, M. J. & Benson, P. L. (1995). Religion and the well-being of adolescents. *Journal of Social Issues*, 51, 145-160.
- Dornbusch, S. M., Ritter, P. L., Leiderman, P. H., Roberts, D. F., & Fraleigh, M. J. (1987). The relation of parenting style to adolescent school performance. *Child Development*, 58, 1244-1257.
- Drug Strategies. (1998). *Safe schools, safe students: A guide to violence prevention strategies*. Washington, D.C.: Levine and Associates, Inc.

- Duncan, O. D. (1975). *Introduction to structural equation models*. New York: Academic Press.
- Duncan, S. C., Duncan, T. E., Strycker, L. A. & Chaumeton, N. R. (2002). Relations between youth antisocial and prosocial activities. *Journal of Behavioral Medicine*, 25, 425-438.
- Eamon, M. K. & Mulder, C. (2005). Predicting antisocial behavior among Latino young adolescents: An ecological systems analysis. *American Journal of Orthopsychiatry*, 75, 117-127.
- Eccles, J. S., Early, D., Frasier, K., Belansky, E., McCarthy, K. (1997). The relation of connection, regulation, and support for autonomy to adolescents' functioning. *Journal of Adolescent Research*, 12, 263-286.
- Eisenberg, N., Miller, P. A., Shell, R., McNalley, S. & Shea, C. (1991). Prosocial development in adolescence: A longitudinal study. *Developmental Psychology*, 27, 849-857.
- Eisikovits, Z. & Sagi, A. (1982). Moral development and discipline encounter in delinquent and non-delinquent adolescents. *Journal of Youth and Adolescence*, 11, 217-230.
- Elifson, K. W., Petersen, D. M. & Hadaway, C. K. (1983). Religiosity and delinquency: A contextual analysis. *Criminology*, 21, 505-527.
- Farr, C., Brown, J. & Beckett, R. (2004) Ability to empathize and masculinity levels: Comparing male adolescent sex offenders with a normative sample of non-offending adolescents. *Psychology, Crime and Law*, 10, 155-167.
- Feshback, N. D. (1987). Parental empathy and child adjustment/maladjustment. In N. Eisenberg & J. Strayer (Eds.), *Empathy and its development* (pp. 271-289). Cambridge: Cambridge University Press.
- Fiske, S. T., Kenny, D. A. & Taylor, S. E. (1982). Structural models for the mediation of salience effects on attribution. *Journal of Experimental Social Psychology*, 18, 105-127.
- Francis, L. J. & Pearson, P. R. (1987). Empathic development during adolescence: religiosity, the missing link? *Personality and Individual Differences*, 8, 145-148.
- Furrow, J. L., King, P. E. & White, K. (2004). Religion and positive youth development: Identity, meaning, and prosocial concerns. *Applied Developmental Science*, 8, 17-26.

- Gabrys, J. B. (1983). Contrasts in social behavior and personality of children. *Psychological Reports, 52*, 171-178.
- Garaigordobil, M., Álvarez, Z. & Carralero, V. (2004). Conducta antisocial en niños de 10 a 12 años: Factores de personalidad asociados y variables predictoras. *Analisis y Modificacion de Conducta, 30*, 241-271.
- Garber, J., Robinson, N. S. & Valentiner, D. (1997). The relations between parenting and adolescent depression: Self-worth as a mediator. *Journal of Adolescent Research, 12*, 12-33.
- Garson, G. D. (2004). *Structural equation modeling*. Retrieved on November 16, 2004 from: <http://www2.chass.ncsu.edu/garson/pa765/structur.htm>.
- Gray, M. R. & Steinberg, L. (1999). Unpacking authoritative parenting: Reassessing a multidimensional construct. *Journal of Adolescent Research, 12*, 34-67.
- Hadaway, C. K., Elifson, K. W. & Petersen, D. M. (1984). Religious involvement and drug use among urban adolescents. *Journal for the Scientific Study of Religion, 23*, 109-128.
- Hart, D. & Fegley, S. (1995). Prosocial behavior and caring in adolescence: Relations to self-understanding and social judgment. *Child Development, 66*, 1346-1359.
- Halpern, C. T., Udry, J. R., Campbell, B., Suchindran, C. & Mason, G. A. (1994). Testosterone and religiosity as predictors of sexual attitudes and activity among adolescent males: A biosocial model. *Journal of Bisocial Science, 26*, 217-234.
- Herman, M. R., Dornbusch, S. M., Herron, M. C. & Herting, J. R. (1997). The influence of family regulation, connection, and psychological autonomy on six measures of adolescent functioning. *Journal of Adolescent Research, 12*, 34-67.
- Hoffman, M. L. (1984). Empathy, its limitations, and its role in a comprehensive moral theory. In W. Kurtines & J. Gewirtz (Eds.), *Morality, moral behavior, and moral development* (pp. 283-302). New York: Wiley.
- Hubner, J. (2005). *Last chance in Texas: The redemption of criminal youth*. New York: Random House.
- Jang, S. J. & Johnson, B. R. (2001). Neighborhood disorder, individual religiosity, and adolescent use of illicit drugs: A test of multilevel hypotheses. *Criminology, 39*, 109-143.
- Johnson, B. R., Jang, S. J., Larson, D. B. & De Li, S. (2001). Does adolescent religious commitment matter? A reexamination of the effects of religiosity on delinquency. *Journal of Research in Crime & Delinquency, 38*, 22-44.

- Johnson, R. E. (1980). Social class and delinquent behavior. *Criminology*, 18, 86-93.
- Johnston, L. D., O'Malley, D. M. & Bachman, J. G. (2000). *Monitoring the future national results on adolescent drug use: Overview of key findings, 2000*. (NIH Publication No. 01-4923). Bethesda, MD: National Institute on Drug Abuse.
- Jolliffe, D. & Farrington, D. P. (2004). Empathy and offending: A systemic review and meta-analysis. *Aggression and Violent Behavior*, 9, 441-476.
- Jones, D. J., Forehand, R. & Beach, S. R. H. (2000). Maternal and paternal parenting during adolescence: Forecasting early adult psychosocial adjustment. *Adolescence*, 35, 513-530.
- Judd, C. M. & Kenny, D. A. (1981). Process analysis: Estimating mediation in evaluation research. *Evaluation Research*, 5, 602-619.
- Kerr, M. & Stattin, H. (2000). What parents know, how they know it, and several forms of adolescent adjustment: Further support for a reinterpretation of monitoring. *Developmental Psychology*, 36, 1-15.
- Kerr, M. H., Beck, K., Shattuck, T. D., Kattar, C. & Uriburu, D. (2003). Family involvement, problem and prosocial behaviour outcomes of Latino youth. *American Journal of Health Behavior*, 27, 55-65.
- King, V., Elder, G. H. & Whitbeck, L. B. (1997). Religious involvement among rural youth: An ecological and life-course perspective. *Journal of Research on Adolescence*, 7, 431-456.
- Krevans, J. & Gibbs, J. C. (1996). Parents' use of inductive discipline: Relations to children's empathy and prosocial behavior. *Child Development*, 67, 3263-3277.
- Leyendecker, B. & Lamb, M. E. (1999). Latino families. In M. Lamb (Ed.) *Parenting and child development in "nontraditional" families* (pp. 247-262). Mahwah, NJ: Lawrence Erlbaum Associates.
- Liddle, H. A. & Hogue, A. (2000). A family-based, developmental-ecological preventive intervention for high-risk adolescents. *Journal of Marital and Family Therapy*, 26, 265-279.
- Lopez, . N. L., Bonenberger, J. L. & Schneider, H. G. (2001). Parental disciplinary history, current levels of empathy, and moral reasoning in young adults. *North American Journal of Psychology*, 3, 193-204.

- MacCallum, R. C., Wegener, D. T., Uchino, B. N & Fabrigar, L. R. (1993). The problem of equivalent models in applications of covariance structure analysis. *Psychological Bulletin*, *114*, 185-199.
- MacKinnon, D.P., Warsi, G. & Dwyer, J.H. (1995). A simulation study of mediated effect measures. *Multivariate Behavioral Research*, *30*, 41-62.
- Manning, W. D. & Lamb, K. A. (2003). Adolescent well-being in cohabiting, married, and single-parent families. *Journal of Marriage and Family*, *65*, 876-893.
- McCourt, A. (2004). *Identity-seeking, media usage, and health behaviors*. Unpublished doctoral dissertation, Texas Tech University, Lubbock, Texas.
- McMahon, S. D. & Washburn, J. J. (2003). Violence prevention: An evaluation of program effects with urban African American students. *Journal of Primary Prevention*, *24*, 43-62.
- Merriam-Webster Online (2004). Definition of empathy. Retrieved on October 7, 2004 from: <http://www.merriam-webster.com/cgi-bin/dictionary?book=Dictionary&va=empathy>
- Merton, R. K. (1938). Social structure and anomie. *American Sociological Review*, *3*, 672-682.
- Mestre, M. V., Samper, P., Tur, A. & Díez, I. (2001). Estilos de crianza y desarrollo prosocial de los hijos. *Revista de Psicología General y Aplicada*, *54*, 691-703.
- Miller, P. A. & Eisenberg, N. (1988). The relationship of empathy to aggressive and externalizing/antisocial behavior. *Psychological Bulletin*, *103*, 324-344.
- Morgan, P. S. (1983). A research note on religion and morality: Are religious people nice people? *Social Forces*, *61*, 683-692.
- Murry, V. M. (1994). Black adolescent females: A comparison of early versus late coital initiators. *Family Relations*, *43*, 342-348.
- Mussen, P. & Eisenberg-Berg, N. (1977). *Roots of caring, sharing and helping: The development of prosocial behavior in children*. San Francisco: Freeman.
- Nonnemaker, J. M., McNeely, C. A. & Blum, R. W. (2003). Public and private domains of religiosity and adolescent health risk behaviors: Evidence from the National Longitudinal Study of Adolescent Health. *Social Science and Medicine*, *57*, 2049-2050.
- Nucci, L. (1994). Mother's beliefs regarding the personal domain of children. *New Directions for Child Development*, *66*, 81-97.



- Ogbu, J. U. (1981). Origins of human competence: A cultural-ecological perspective. *Child Development, 52*, 413-429.
- Orpinas, P., Kelder, S., Frankowski, R., Murray, N., Zhang, Q. & McAlister, A. (2000). Outcome evaluation of a multi-component violence-prevention program for middle schools: The Students for Peace project. *Health Education Research, 15*, 45-58.
- Orpinas, P., Parcel, G. S., McAlister, A. & Frankowski, R. (1995). Violence prevention in middle schools: A pilot evaluation. *Journal of Adolescent Health, 17*, 360-371.
- Patterson, G. R. & Stouthamer-Loeber, M. (1984). The correlation of family management practices and delinquency. *Child Development, 55*, 1299-1307.
- Peterson, G. W. & Rollins, B. C. (1987). Parent-child socialization. In M. B. Sussman & S. K. Steinmetz (Eds.), *Handbook of marriage and the family* (pp. 471-507). New York: Plenum Press.
- Polyson, J. A. (1979). Toward a better view of children's problem behavior. *Psychology: A Journal of Human Behavior, 16*, 33-37.
- Pong, S, Hao, L. & Gardner, E. (2005). The roles of parenting styles and social capital in the school performance of immigrant Asian and Hispanic adolescents. *Social Science Quarterly, 86*, 928-950.
- Preacher, K. J. & Leonardelli, G. J. (2002). Calculation for the Sobel test: An interactive calculation tool for mediation tests. Available online at <http://www.unc.edu/~preacher/sobel/sobel.htm>.
- Rappport, M. D., Scanlan, S. W. & Denney, C. B. (1999). Attention-deficit/hyperactivity disorder and scholastic achievement: A model of dual developmental pathways. *Journal of Child Psychology and Psychiatry, 40*, 1169-1183.
- Rich, J. M. (1993). Discipline and moral development. *The High School Journal, Dec/Jan*, 139-144.
- Samaan, R. A. (2000). The influences of race, ethnicity, and poverty on the mental health of children. *Journal of Healthcare for the Poor and Underserved, 11*, 100-110.
- Sams, D. P., Truscott, S. D. & Road, L. (2004). Empathy, exposure to community violence, and use of violence among urban, at-risk adolescents. *Child and youth Care Forum, 33*, 33-50.
- Santisteban, D. A., Perez-Vidal, A., Coatsworth, J. D., Kurtines, W. M., Schwartz, S. J, LaPerriere, A. & Szapocznik, J. (2003). Efficacy of brief strategic family therapy

- in modifying Hispanic adolescent behavior problems and substance use. *Journal of Family Psychology*, *17*, 121-133.
- Schaefer, E. S. (1965a). A configurational analysis of children's reports of parental behavior. *Journal of Consulting Psychology*, *29*, 552-557.
- Schaefer, E. S. (1965b). Children's reports of parental behavior: An inventory. *Child Development*, *36*, 413-424.
- Schreiber, K. (1992). The adolescent crack dealer: a failure in the development of empathy. *Journal of The American Academy of Psychoanalysis*, *20*, 241-249.
- Shaw, C. & McKay, H. D. (1942). *Juvenile delinquency and urban areas*. Chicago: University of Chicago Press.
- Sheidow, A. J. & Woodford, M. S. (2003). Multisystemic therapy: An empirically supported, home-based family therapy approach. *Family Journal*, *3*, 257-263.
- Silva, F., Martinez-Arias, R., Moro, M. & Ortet, G. (1996). Dimensions of interpersonal orientation: Description and construct validation of the Spanish assessment kit. *European Psychologist*, *1*, 187-199.
- Silva, F., Martinez-Arias, R., Rapaport, E., Ertle, A., & Ortet, G. (1997). Dimensions of interpersonal orientation: Cross-cultural studies regarding the structure of the "DOI Kit". *Personality and Individual Differences*, *23*, 973-985.
- Smith, D. W. (1989). *The circle of acquaintance: Perception, consciousness, and empathy*. Dordrecht, The Netherlands: Kluwer Academic Publishers.
- Soderstrom, H. (2003). Psychopathy as a disorder of empathy. *European Child and Adolescent Psychiatry*, *12*, 249-252.
- Stattin, H. & Kerr, M. (2000). Parental monitoring: A reinterpretation. *Child Development*, *71*, 1072-1085.
- Steinberg, L. (1987). Familial factors in delinquency: A developmental perspective. *Journal of Adolescent Research*, *2*, 255-268.
- Steinberg, L. (1990). Autonomy, conflict, and harmony in the family relationship. In S. S. Feldman & G. R. Elliott (Eds.), *At the threshold: The developing adolescent* (pp. 255-277). Cambridge, MA: Harvard University Press.
- Steinberg, L., Mounts, N. S., Lamborn, S. D. & Dornbusch, S. M. (1991). Authoritative parenting and adolescent adjustment across varied ecological niches. *Journal of Research on Adolescence*, *1*, 19-36.

- Stone, G. L. and Vance, A. (1976). Instructions, modeling, and rehearsal—implications for training. *Journal of Counseling Psychology*, 23, 272-279.
- Strayer, J. & Schroeder, M. (1989). Children's helping strategies: influences of emotion, empathy, and age. *New Directions for Child Development*, 44, 85-105.
- Supple, A. J. (2001). *Comparing the influence of parental support and control on African American, Mexican American and Euro American adolescent development*. Unpublished doctoral dissertation, University of Wisconsin, Madison, Wisconsin.
- Sussman, S., Skara, S., de Calice, P. Hoffman, B. & Dent, C. W. (2005). Spirituality as a 1-year prospective predictor of violence perpetration and drug use among youth at continuation high schools. *Journal of Applied Social Psychology*, 35, 80-99.
- Thompson, R. (1987). Empathy and emotional understanding: The early development of empathy. In N. Eisenberg & J. Strayer (Eds.), *Empathy and its development* (pp. 119-145). Cambridge: Cambridge University Press.
- Thornton, A. & Camburn, D. (1989). Religious participation and adolescent sexual behavior. *Journal of Marriage and the Family*, 51, 641-653.
- Tittle, C. R. & Meier, R. F. (1991). Specifying the SES/delinquency relationship by characteristics of contexts. *Journal of Research in Crime and Delinquency*, 28, 430-455.
- Tobari, M. (2003). The development of empathy in adolescence: A multidimensional view. *Japanese Journal of Developmental Psychology*, 14, 136-148.
- Tremblay, R., Pihl, R. O., Vitaro, F. & Dobkin, P. L. (1994). Predicting early onset of male antisocial behavior from preschool behavior. *Archives of General Psychiatry*, 51, 732-739.
- United States Bureau of the Census. (2000). *Projected population of the United States, by race and Hispanic origin: 2000 to 2050*. Retrieved November 3, 2004, from <http://www.census.gov/ipc/www/usinterimproj/natprojtab01a.xls>
- United States Department of Health and Human Services. (2000). *Trends in the well-being of American's children and youth*. Washington, DC: U. S. Government Printing Office.
- Valdez, A., Kaplan, C. D. & Codina, E. (2000). Psychopathy among Mexican American gang members: A comparative study. *International Journal of Offender Therapy and Comparative Criminology*, 44, 46-58.

- Walsh, D., Lambie, I. & Stewart, M. (2004). Sparking up: Family, behavioral and empathy factors in adolescent firesetters. *American Journal of Forensic Psychology*, 22, 5-32.
- Weiss, J. G. (1987). Social class and crime. In M. R. Gottfredson & T. Hirschi (Eds.), *Positive Criminology*. Newbury Park, CA: Sage.
- Wells, M. G., Law, D. D., & Johnson, J. E., (2004). *Love, limits, and latitude: A thousand small moments of parenting*. Provo, UT: Brigham Young University Press.
- Wolfgang, M. E. & Ferracuti, F. (1967). *The subculture of violence: Towards an integrated theory in criminology*. London: Tavistock Publications.
- Wootton, J. M., Frick, P. J., Shelton, K. K. & Silverthorn, P. (1997). Ineffective parenting and childhood conduct problems: The moderating role of callous-unemotional traits. *Journal of Consulting and Clinical Psychology*, 65, 301-308.
- Wright, B. R. E., Caspi, A., Moffitt, T. E., Miech, R. A. & Silva, P. A. (1999). Reconsidering the relationship between SES and delinquency: Causation but not correlation. *Criminology*, 37, 175-194.