HELLFIRE, HOME, AND HARM: AN INVESTIGATION OF THE INTERACTION BETWEEN RELIGIOSITY, FAMILY PROCESSES, AND ADOLESCENT DEVIANT BEHAVIOR

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HELLFIRE, HOME, AND HARM: AN INVESTIGATION OF THE INTERACTION BETWEEN RELIGIOSITY, FAMILY PROCESSES, AND ADOLESCENT DEVIANT BEHAVIOR

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VITA

Lloyd Ernest Pickering, son of Ernest Dinwoodie and Ariel Yvonne (Thomas) Pickering, was born January 27, 1963, in Robbinsdale, Minnesota. He graduated as Valedictorian from Emmanuel Christian School in Toledo, Ohio in June, 1980. He then attended Baptist Bible College in Clarks Summit, Pennsylvania where, after earning National Dean's List and Who's Who Among Students in American Universities and Colleges honors and being inducted into the Alpha Gamma Epsilon honor society, he graduated cum laude with a Bachelor of Science degree in Bible (Pastoral Studies) in May, 1984. While serving as a church youth pastor, he entered Central Theological Seminary in Minneapolis, Minnesota where he graduated magna cum laude with a Master of Divinity degree in June, 1992. After completing his church ministry, he entered the Graduate School at Auburn University in Auburn, Alabama, in September, 1995. He graduated in March, 1999, with a Master of Science degree in Human Development and Family Studies. On May 21, 1999, he married Kellie Rae Calhoun, daughter of David and Darla (Haglund) Calhoun. On October 16, 2000, the same day his father passed away, his son, Northe Crosse Ernest Pickering, was born. On August 29, 2002, his daughter, Darielle Trystin Pickering, was born. His son, Nighte Calhoun Pickering, was born on January 26, 2005.

DISSERTATION ABSTRACT

HELLFIRE, HOME, AND HARM: AN INVESTIGATION OF THE INTERACTION BETWEEN RELIGIOSITY, FAMILY PROCESSES, AND ADOLESCENT DEVIANT BEHAVIOR

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Doctor of Philosophy, May 13, 2005
(M.S., Auburn University, 1999)
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Directed by Alexander T. Vazsonyi

There is an abundant literature dealing with the relationship between religiosity and deviant behavior in adolescence (Baier & Wright, 2001; Johnson, de Li, Larson, & McCullough, 2000; Johnson, Jang, Larson, & de Li, 2001). A considerable amount of research has also been conducted on the nature of the family processes/deviance connection (Baumrind, 1996; Patterson, 1982; Simons et al., 1991). There are few studies, however, that investigate the interplay between religiosity and family processes in deterring deviance (Benda & Corwyn, 2000; Benda & Toombs, 2000). The current study sought to test two potentially competing models of the interrelationship between religiosity, family processes, and deviance: 1) family processes mediating the relationship

between religiosity and deviance, and 2) religiosity moderating the relationship between family processes and deviance. In addition, these models were also tested to see whether they would be moderated by age (younger, older) or sex (male, female).

A sample of $N = 865$ high school students responded to survey questions dealing with religiosity (8 single items, 3 scales), family processes (6 scales for both mothers and fathers), and deviance (7 subscales, a total deviance scale, and 4 additional scales). Race and SES were used as control variables. A structural equation modeling (SEM) analytic approach (Holmbeck, 1997) was used for the mediation analyses and results indicated that family processes never mediated the relationship between religiosity and deviance. SEM (Mounts, 2002) was also utilized for testing moderation effects, both for religiosity as well as sex and age. Results from these moderation analyses indicated that, not only was it found that religiosity did not moderate the relationship between family processes and deviance, but also neither age nor sex ever moderated any of these structural models. Additional findings in the study included the fact that religiosity and deviance were moderately, negatively correlated ($r = .31$); that the religiosity scales, particularly relational practice, performed better than the single-item religiosity measures; and that religiosity was related to all types of deviance, including secular and victim deviance.

Future research in this area should seek to improve methods of data collection (e.g., multi-method) and to develop better scalar measures of religiosity.

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My daughter, Darielle, whose smile brightens the darkest days.

My son, Nighte, who is, indeed, a warrior.

My mother, Yvonne, who is a living example of perseverance amid great difficulty.

My sister, Dawn, who never gave up on me

My father, Ernest, who has always been my greatest hero.

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CHAPTER 1: INTRODUCTION

The question of whether religion has a deterring effect[1] on adolescent deviant behavior has been studied for quite some time. Opinions among early social scientists varied extensively, from those who simply assumed that religion led to conformity (e.g., Coogan, 1954; Davis & Moore, 1945) to those who felt religion was the very problem (e.g., Barnes & Teeters, 1951; Bonger, 1916; Ellis, 1910; Durkheim, 1951; Lombroso, 1918; Lunden, 1964; Reckless & Smith, 1932; Steiner, 1924; von Hentig, 1948). An important study by Hirschi and Stark (1969) provided finality to this debate for many when it suggested that religiosity (i.e., religious activities and beliefs) had little or no effect on deviance. Subsequently, and based on this evidence, a number of social scientists assumed that religion has no deterrent effect on deviance (e.g., Cochran &

[1] Throughout this manuscript, religiosity is referred to as a "deterrent" to adolescent deviant behavior. The use of this word in its various forms is consistent with previous literature. It is also consistent with a control theory perspective, since, as Hirschi (1969) stated, bonds with conventional control agents can serve as "a major deterrent" to antisocial behavior (p. 83). Understandably, the use of this terminology may carry with it some controversy, since, to some, this may imply causality. It is readily acknowledged that the current study is unable to make inferences regarding causality due to the cross-sectional nature of the data. Therefore, the use of words such as "deter," "deterrent," and "deterrence" are intended only to accentuate the fact that the presence of religious behavior is consistently accompanied by the absence of deviant behavior and that, though the ultimate goal, on a macro-level, of any socializing agent, is to promote conformity to social norms, the mechanism, on a micro-level, by which this is accomplished is deterrence (e.g., teaching young people *not* to do certain things). As Hirschi (1969) said, "If the bond to the [controlling agent] is weakened, the probability of delinquent behavior increases; if this bond is strengthened, the probability of delinquent behavior declines" (p. 88).

Akers, 1989; Schur, 1969; Sloane & Potvin, 1986). However, recent research has provided new evidence on the importance of religiosity in adolescent deviance.

In a recent article employing latent variable structural modeling, Johnson, Jang, Larson, and de Li (2001) modeled religiosity as a multi-item latent construct, rather than a single item as in much of the earlier work in this area. In doing so, they found conclusive evidence that "the effects of religiosity on delinquency are neither spurious nor indirect" (p. 37) referring to the fact that, in this study, religiosity had a consistent effect on deviance even after controlling for several important background (i.e., age, race, SES) and theoretical (i.e., delinquent peer association) predictors. Furthermore, this evidence which was based on longitudinal data, was found at each of three time points, thus justifying the causal inference that religiosity deters deviance. In other recent work, Johnson, de Li, Larson, and McCullough (2000) used a systematic review approach to examine the cumulative findings of the previous literature in this area. Forty studies were identified and aggregated quantified findings indicated that a consistent negative relationship existed between religiosity and deviance. The authors concluded that "a commitment to religious values and beliefs can have both an immediate and a long-term impact on their [i.e., adolescents'] behavior" (p. 46). In a similar investigation, Baier and Wright (2001) used a meta-analytic approach to survey the evidence. Analyses on data from 60 studies confirmed that "religion had a statistically significant, moderately sized effect on crime" (p. 16). Again, based on the evidence, the authors suggested that there exists "solid evidence" of a "deterrent effect of religion" (p. 17).

Clearly, recent empirical evidence suggests that religiosity may serve to deter adolescent deviant behavior. Yet, its role as a deterrent has not been sufficiently explored. One of the best theoretical perspectives or frameworks for such an exploration is Hirschi's (1969) social control theory. In it, he proposed that adolescents with strong bonds to family and society are less likely to deviate from conventional behavior than those with weak bonds. In other words, a strong bond to a conventional institution is the necessary deterrent to deviant behavior. From this perspective, religiosity could be considered a bonding mechanism for the deterrence of deviance. In fact, even Baier and Wright (2001) recognized this when they stated that, "Although religion as such was not discussed in the original model [i.e., Hirschi's], social control theory would hold that by strengthening an individual's bond to society, religious institutions should deter criminal behavior" (p. 4). Thus, in a social control framework, religiosity would be considered a conventional social structure that fortifies an individual's bond with conventional society and, therefore, leads to conformity or deters deviance. Indeed, social control theory offers unique utility for the examination of this question and, in fact, religiosity has been repeatedly conceptualized in this manner in empirical work (e.g., Cochran, Wood, & Arneklev, 1994; Evans et al., 1996; Ross, 1994). So, a basic control model of the relationship between religiosity and deviance may conceptualize religiosity as a social control agent or mechanism, similar to the family or the school as originally hypothesized by Hirschi, to which an adolescent may bond, thus deterring deviance (see Figure 1).

However, simply attributing a negative relationship to religiosity and deviance may not be sufficient to fully understand the nature of the interaction between these two

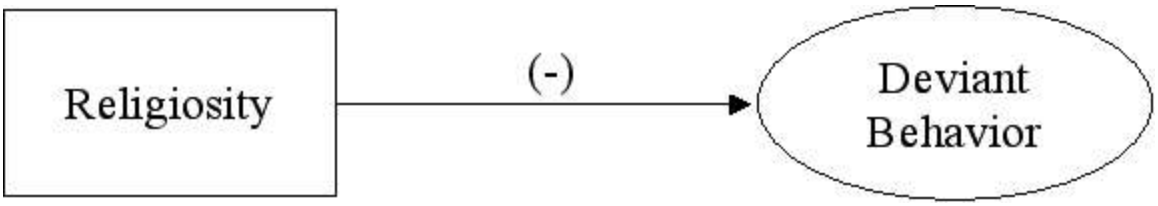

Figure 1. Social control model of religiosity and deviant behavior.

constructs. Therefore, a number of investigators have attempted to go beyond this simple bivariate relationship by seeking to identify potentially intervening factors. The role of family processes in preventing adolescent deviant behavior is well-established, both theoretically and empirically. From a theoretical perspective, social control theory establishes a place of prominence for family processes (i.e., parenting practices or family functioning) in the deterrence of deviance when it proposes that affective ties with conventional people (i.e., attachment), particularly parents and family members who serve as the primary socialization agents for children, will impede deviant behavior. In addition, previous empirical investigations have established the importance of family processes in deviance (e.g., Baumrind, 1996; Patterson, 1982; Patterson & Dishion, 1985; Simons, Whitbeck, Conger, & Conger, 1991).

So we know that both religiosity and family processes are important in the explanation of adolescent deviant behavior. But an important question that remains unanswered is how religiosity and family processes may interact in order to explain deviance. It is possible that religiosity has an independent effect on deviance in addition to family processes (see Figure 2). More importantly, both of these social control elements may have a hierarchical causal order with one being more distal whose effects

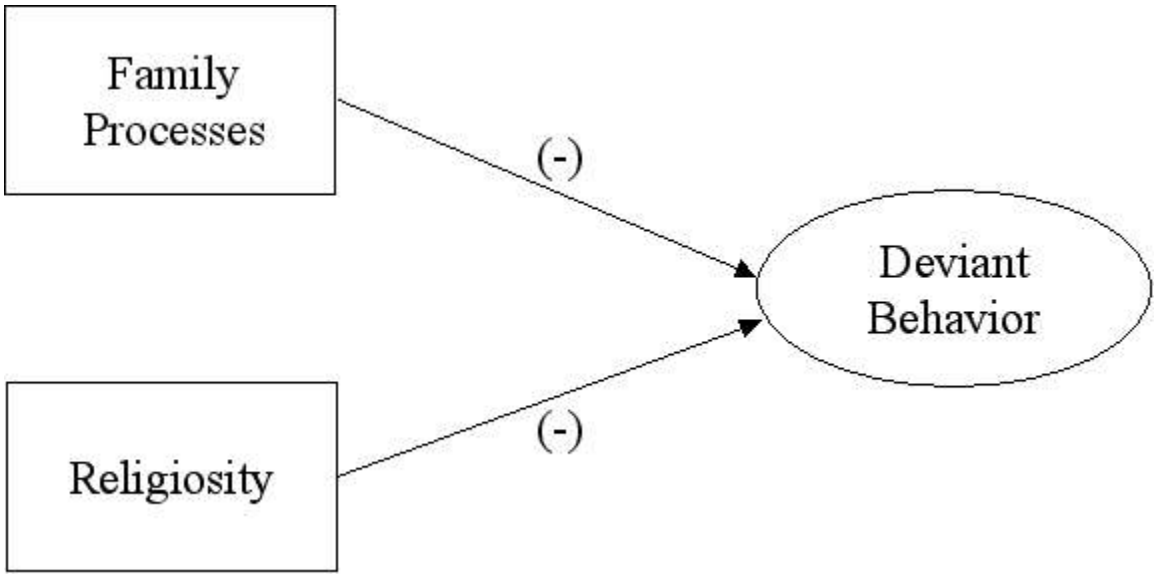

Figure 2. Social control model of family processes, religiosity, and deviant behavior.

are, perhaps, mediated or moderated by the other more proximal influence. For instance, family processes might mediate the effects of religiosity on deviance (see Figure 3). In such a mediating model, family processes might "explain away" any relationship between religiosity and deviance. However, if such a model were tested and religiosity maintained a significant relationship with deviance, even after controlling for family processes, this would be important evidence for the strength of religiosity as a separate control mechanism. Recent work by Benda and Toombs (2000) and Benda and Corwyn (2000)

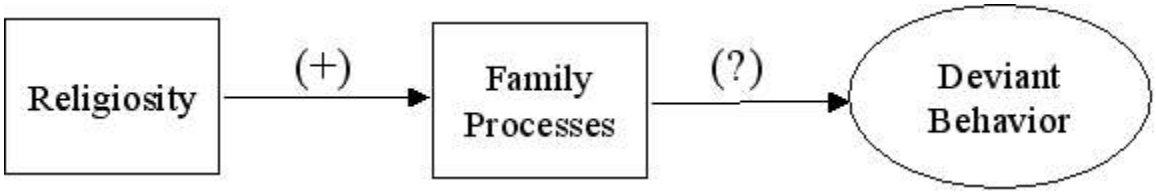

Figure 3. Social control model hypothesizing mediating role of family processes.

has attempted to examine the interplay between family processes and religiosity in exactly this manner. Results were mixed with some indication that the effect of religiosity on deviance was mediated by family processes (Benda & Corwyn, 2000) and some indication that it was not (Benda & Toombs, 2000). In a similar test of mediation, Foshee and Hollinger (1996) found that maternal religiosity negatively predicted adolescent alcohol use and that this relationship was not explained by any background (e.g., race, gender, age, education, family structure) or control (attachment, belief in conventional rules, commitment to conventional activities) variables.

It is also possible that the relationship between family processes and religiosity is even more complex and can not be explained by simple mediation. For instance, it may be that one conditions the other in a moderating role. Based on previous literature, we know that family and religion are linked (Free, 1991; Mahoney, Pargament, Tarakeshwar, & Swank, 2001; Snarey & Dollahite, 2001). The evidence suggests that this link is both direct (i.e., religiosity leads to better family functioning; e.g., Brody, Stoneman, & Flor, 1996; Gunnoe, Hetherington, & Reiss, 1999; Pearce & Axinn, 1998) and indirect (i.e., religiosity leads to better marriage which leads to better parenting and family functioning; e.g., Booth, Johnson, Branaman, & Sica, 1995; Brody, Stoneman, Flor, & McCrary,

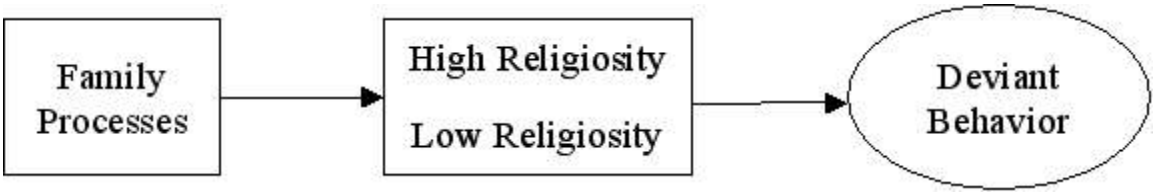

Figure 4. Social control model hypothesizing moderating role of religiosity.

1994; Mahoney et al., 1999) as well as bidirectional (i.e., greater attachment to parents leads to higher levels of responsiveness to parental attempts to promote healthy socialization practices, e.g., religious involvement; Marcos, Bahr, & Johnson, 1986). Therefore, there is some evidence indicating a possible interaction effect. From a social control perspective, this could be modeled by including religiosity as a moderator between family processes and deviant outcomes (see Figure 4). In other words, is there anything unique about the parenting practices of families that score high on measures of religiosity in comparison to those of families that do not? Do these families perhaps parent in systematically different ways? For instance, Bahr, Maughan, Marcos, and Li (1998) found evidence that families that were more religious exhibited stronger bonds between parents and children and higher levels of parental monitoring.[2]

In fact, based on Hirschi's social control theory, it may even be important to test for a two-way interaction between family processes and religiosity in their relationship to deviance (see Figure 5). Recall that social control theory hypothesizes that the attachment or bond that will serve to effectively deter deviant behavior will be to persons of a conventional nature (e.g., parents). This hypothesis makes the assumption that the parents

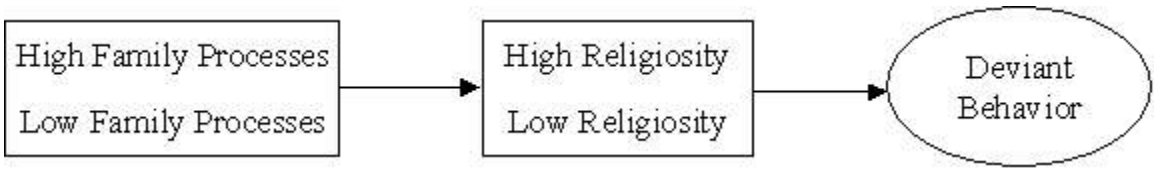

Figure 5. Social control model hypothesizing two-way interaction of family processes and religiosity.

[2] See later discussion (p. 34) on the use of this term.

to whom the child is attached are conventional in their own beliefs and behaviors. Unfortunately, of course, not all parents are conventional themselves. It is likely that conventional parents would be more vigilant in their supervision (see footnote #2) of their child since their own beliefs would dictate the importance of teaching conventional (i.e., law-abiding, non-norm-violating) behavior to their child. Furthermore, an effective bond (i.e., one with conventional parents) might also be characterized by less parent-child conflict and better family communication. In other words, just reporting closeness to a parent may not be a sufficient operationalization of Hirschi's intended meaning when he spoke of attachment to conventional people as a positive socializing factor for the deterrence of deviant behavior.

In conclusion, although Hirschi and Stark (1969) suggested that "participation in religious activities and belief in a supernatural sanctioning system have no effect on delinquent activity" (p. 211), there seems to be sufficient recent evidence that religiosity impacts whether an adolescent will be deviant, especially in conjunction with family processes. Therefore, the social control perspective allows the framing of several potentially competing and testable questions and hypotheses about these relationships: 1) Is religiosity consistently related to deviance?; 2) Do religiosity and family processes work together to predict deviance in an additive fashion?; 3) Does family processes mediate the relationship between religiosity and deviance?; 4) Does religiosity moderate the relationship between family processes and deviance?; 5) Do religiosity and family processes interact in their relationship with deviance?

In addition to these questions, a further study of the relationships between family processes, religiosity, and deviance seems very timely because of three other important issues requiring further clarification. First, previous work has indicated that religiosity may be differentially related to different types of deviant behavior. More specifically, some studies have found evidence that religiosity is important with regard to "lesser" deviant acts (what may be termed status offenses, anti-ascetic behavior, property offenses, or victimless crime), but not index or criminal offenses (crimes against persons; Burkett, 1993; Burkett & White, 1974; Cochran et al., 1994; Middleton & Putney, 1962). However, findings in this area have been inconsistent and inconclusive since others have found that religiosity impacts a wide variety of deviant behaviors, including victim or person related crimes (Higgins & Albrecht, 1977; Jensen & Erickson, 1979). Second, key developmental issues have been largely ignored in this area of research, including age and gender. There has been some evidence that the relationship between family and religiosity varies by gender (e.g., Fiese & Tomcho, 2001; Flor & Knapp, 2001; Sullivan, 2001). In addition, we know that there are strong differences in deviant behavior associated with age (e.g., Osgood, Johnston, O'Malley, & Bachman, 1988). At the same time, there has been some indication that age and gender are not important in understanding the relationship between family, religion, and deviance (e.g., Foshee & Hollinger, 1996). Therefore, it seems that an examination of the relationships between these variables by age and gender would be an important addition to the literature. Third, most previous empirical research has exhibited a methodological weakness by relying on the single-item measurement of religiosity: "Researchers have rarely modeled religiosity as a latent

variable being measured by multiple indicators, which would be appropriate for an abstract, multidimensional concept such as religiosity" (Johnson et al., 2001, p. 25). In fact, Johnson et al. (2000) stated that the reason for inconsistent findings on the relationship between religiosity and deviance was probably mostly methodological and "with improvements in measurement and analytic methods, we should expect more consistent empirical results" (p. 46).

CHAPTER 2: LITERATURE REVIEW

Introduction

In subsequent pages, previous empirical findings regarding religiosity, family processes, and deviance are discussed in depth. First, an important groundwork is laid by reviewing the literature dealing with the relationship between religiosity and deviance. Next, the role of family processes in relation to both adolescent deviant behavior and religiosity is examined. At this point, a theoretical framework is discussed which may provide a helpful heuristic for the examination of the interplay between these variables – family processes, religiosity, and deviance. Next, the literature dealing with such a linkage between these three concepts is detailed. Finally, three additional potentially important intervening factors (type of deviance, developmental issues, and measurement) are briefly reviewed. At the end of this literature review, the hypotheses for the current study will be enumerated and a detailed rationale for the current study will also be provided.

Religiosity and Deviance

Attempts to link religiosity to deviance are far from new in social research. Many early sociologists believed that religion played a role as a conforming influence in society. For example, describing the role of religion in society, Davis and Moore (1945) wrote,

> Through the worship of the sacred objects and the beings they symbolize, and the acceptance of supernatural prescriptions that are at the same time codes of behavior, a powerful control over human conduct is exercised, guiding it along lines sustaining the institutional structure and conforming to the ultimate ends and values. (p. 245)

Because of this firm belief that religion provided a "powerful control," some scholars urged that it was not possible to find and implement an effective cure for crime that failed to integrate the instruction of religious principles (Kalmer & Weir, 1936; Travers & Davis, 1961). In fact, some social scientists (e.g., Coogan, 1952) felt so strongly about the role of religion in preventing deviance that their work focused on vehemently opposing anyone who would too quickly dismiss the importance of religion as a deterrent to deviance. Even politicians (e.g., President Eisenhower) and influential criminal justice officials (e.g., J. Edgar Hoover, Director of the FBI) spoke in favor of the need for religious control over crime and delinquency (Coogan, 1954). However, on the other side of the debate, some actually attributed to religion the blame for the delinquent behavior of youth (see Gannon, 1967b, pp. 418-419, 430; see also Barron, 1954; Taft, 1956; Tappan, 1949). Unfortunately, the unsubstantiated claims of politicians and law enforcement officials and the unsupported opinions of well-meaning social scientists with no data did little to settle the debate.

Early Research (Pre-1969)

Studies Concluding There Is No Effect

Some early researchers did empirically examine the specific effects of religion on the behavior of individuals, particularly deviant behavior. Several of these studies found that religion had no significant impact on deviance. For example, in an early study on this subject, Middleton and Fay (1941) compared eighth- and ninth-grade girls from an institution for delinquents to those in a regular high school, both in Indiana. Interestingly, delinquent girls not only reported being church members more than non-delinquent girls, but also claimed to have a more favorable attitude toward church attendance. Also, institutionalized girls indicated that they read the Bible more frequently and had a more positive attitude toward the Bible than their high school counterparts.

Kvaraceus (1944) studied 761 delinquents (563 boys and 198 girls) to see if church membership and/or church attendance were factors in their behavior. He found that about 54% of these delinquents claimed to be regular attenders at church, thus indicating that, even though half of these delinquents went to church, they were still delinquent. The proportion of delinquents who reported regular church attendance was found to be not significantly different from the proportion of regular church attenders found in the general population.

In a study of 554 college students, Middleton and Putney (1962) tested the hypothesis that, if differences existed in levels of delinquent behavior between the religious and the non-religious, they were due to differences in standards rather than differences in the upholding of standards. In other words, these authors felt that certain

standards ("common social standards," such as shoplifting, stealing, hitting, lying, cheating) were universally held within American society and, therefore, it was not surprising that both religious and non-religious alike conform to them. On the other hand, other standards ("anti-ascetic standards," such as gambling, smoking, petting, nonmarital sex, pornography, drinking) reflect the morality adhered to only by religious people and, consequently, only religious people care about conforming to such standards.

Results of this study indicated that, indeed, non-religious students reported higher levels of participation in anti-ascetic actions yet were not different from religious students in their levels of participation in anti-social activities. Furthermore, religious students were significantly more likely than non-religious students to believe that anti-ascetic activities were wrong, and there was no statistically significant difference between the groups in moral beliefs concerning anti-social actions. Finally, in a test of consistency between belief and action, it was found that both religious and non-religious participants were equally likely to be consistent (or inconsistent) in their beliefs and actions.

These analyses were completed using a measure of religiosity which relied on a person's belief in a personal God. As an additional test of the strength of religiosity in these relationships, two additional sets of analyses were completed using two different measures of religiosity. The first was simple church attendance and the second was a measure of the importance of religion in the person's life. These additional analyses replicated the same findings. Thus, based on these results, the authors concluded that religiosity is not an important factor in predicting the types of delinquent behavior which are most important to society as a whole (i.e., anti-social behavior).

Gannon (1967b) used a random sample of 150 delinquents to further explore the impact religion might have on behavior. The sample was limited to boys of the Catholic faith who were 14 to 16 years of age. A self-report survey was administered to boys on the first day of their intake at a juvenile detention center. The survey included measures of social and religious background; religious beliefs, values, and practices; and attitudes toward stealing, sex, fighting, peer group values, and God. In addition, subsequent to the survey, an hour-long in-depth survey was conducted with each boy to further explore these areas.

Using frequencies, Gannon made the following findings: 1) the vast majority (79.8%) reported attending mass once a month or more; 2) only 4 of the 150 boys said they had never prayed while over 40% reported praying often; 3) a large majority (69%) indicated that they had a favorable or positive attitude toward God; 4) a large majority reported understanding and even agreeing with the church's standards against delinquent practices, while at the same time, participating in these activities anyway. Based on these findings, the author concluded that religious commitment, as evidenced in the lives and responses of these delinquent boys, was not an important deterrent to delinquency, but rather had controlling influence only when supported by other factors of a more important nature to the adolescent (see also Miller, 1965, who understood that juvenile delinquents were very outwardly religious and offered possible explanations for this). According to this study, delinquent boys had knowledge of what was wrong and understood such behavior to be sinful in the eyes of their church, yet this knowledge did not have any real impact on their way of living. The author concluded that this inconsistency between belief

and practice was characteristic of religious people in general, and that, consequently, religiosity played a role in behavior only when convenient for the actor.

In another similar study, Gannon (1967a) studied a group of Catholic boys in a youth correctional institution. An intensive treatment program involving weekly religious instructional classes and monthly individual counseling sessions was implemented. Two hundred and seventy-two boys were pretested at the beginning of the program, and 128 of these were still available to be posttested at the end of the program. Thus, the author was able to collect data over time indicating whether a specific intervention had been effective in promoting religious control.

Though results seemed to indicate that the intervention program had been effective in increasing the boys' religious knowledge and attitudes, this change did not seem to have much impact on actual behavior. The author concluded that delinquent boys were able to "compartmentalize" their religious beliefs, thus effectively separating them from their daily life. These boys were interested in stressing ritual observance of religious practices, but were not interested in translating those observances into their actual behavior.

Studies Concluding There Is An Effect

In contrast to these early studies which found no positive influence of religion on behavior, others have found that such an influence does exist. For instance, Carr-Saunders, Mannheim, and Rhodes (1944) compared delinquent and non-delinquent youth in England in both rural and urban settings. In the city, delinquents regularly attended religious institutions 29% of the time while non-delinquents (from the same

neighborhoods) attended 39% of the time. The same 10% difference was discovered when comparing delinquents and non-delinquents in the country.

In a more extensive study, Wattenberg (1950) used official government and police data to find out more about the impact of church attendance on delinquent boys. In a first round of data collection in 1946, all boys picked up for offenses were interviewed. According to these self-reports, over two-thirds of these delinquents reported attending church regularly or occasionally, a seemingly high number. However, follow-up data collected one year later in order to identify recidivism indicated that there was a statistically significant difference in the patterns of church attendance between repeat and non-repeat offenders. These data seemed to indicate that the more delinquent a young person was, the less likely they were to be church attenders.

Travers and Davis (1961) conducted a two-part study to investigate the effect of religion on delinquency. Their sample included 223 male, white boys. The subjects were all Catholic and ranged in age from 10 to 17 years old. There were 120 nondelinquents and 103 delinquents. One of the interesting aspects of this study was that religion was not operationalized simply as church affiliation or attendance. Rather, the author developed a measure of religious motivation. Each item in the survey presented a scenario where a delinquent act (e.g., stealing) was imminent (e.g., a boy's friends were about to steal something and he was asked to join in). The multiple choice responses for each item each presented a different motivation for completing or not completing this act. There were six motivational concepts reflected in the responses including religion, civil authority, family loyalty, peer group loyalty, community loyalty, and practical consequences, thus enabling

each boy to identify his thinking processes and the motivation behind what he would or would not do. This represented a significant advance in the measurement of religion for the purposes of identifying its impact on deviant behavior.

Results from the first part of this study revealed that boys classified as high in religious motivation were significantly less likely to be delinquent. The second part of the study more closely examined the boys classified as delinquent in an attempt to more fully understand which factors may contribute to their attitudes toward religion. Results showed that neither age, lack of school achievement, seriousness of offense, grade level, nor mother's work status contributed to the delinquents' tendency to be more or less religious.

In an extensive study on several factors associated with delinquency, Cortes (1965) questioned 100 delinquents and 100 nondelinquents concerning, among other things, their religiosity. In order to control for several additional factors (age, achievement motivation, parental occupational level, parental educational level, family structure, race, and residence location), a smaller subset of 40 (20 from each group) subjects was selected by matching them on these factors. This study was unique in that the parents (both mothers and fathers) of these boys participated as well by separately completing the same measures.

Results indicated that delinquents were significantly more likely to score lower on the religious measures than nondelinquents. In addition, both mother and father reports corroborated this evidence, namely that delinquent youth were significantly less religious.

In fact, in the entire study, the measure of religiosity was the most powerful discriminator between delinquents and nondelinquents.

Allen and Sandhu (1967) compared 179 institutionalized delinquent boys to 198 high school attending nondelinquent boys on measures of religiosity. The samples were fairly well-matched regarding age, family income, and race. No differences were found between the groups on religious categorization (i.e., denominational affiliation) or frequency of church attendance. However, findings indicated that delinquent boys reported significantly weaker religious feelings (one item asking what kind of feelings they had about religion, with responses ranging from "very strong" to "none"). An additional finding provided some very interesting information. In multivariate analyses, results showed that nonparticipation in church contributed to higher delinquency rates, but for controls, the opposite was found, namely that church participation contributed to higher delinquency rates. Though this may have been a measurement issue where delinquent boys' delinquency was measured according to official criminal status, while nondelinquent boys' delinquency was self-reported, the reasons for this counterintuitive finding were unclear.

Summary of Early Research (Pre-1969)

Early research on whether or not religiosity had a measurable impact on deviant behavior was strongly divided, with some evidence affirming the negative deterrent effect of religiosity and other evidence not supporting it. Most of this early research was done with legally delinquent youth (often in a comparison with non-delinquents), usually males only, frequently Catholic. Also, most of this work relied on univariate frequencies

employing group comparisons rather than multivariate techniques. Studies that found there was no effect of religiosity on delinquency used single-item measures, such as church attendance or church membership/affiliation, while studies that employed scalar measurement of religiosity found such an effect.

A Landmark Study: Hirschi and Stark (1969)

As is clearly seen, there has been considerable debate on this topic among academics for at least a century now. The most common strain of this argument centers around a study published by Hirschi and Stark (1969). In this study, the authors were concerned with what they believed to be misguided confidence in the widely accepted assumption that participation in religious activities provided a powerful social control against deviancy. This belief, they felt, had been "supported by clergymen" (p. 202) and was "congruent with the social scientific view that religious sanctioning systems play an important role in ensuring and maintaining conformity to social norms" (p. 202; see also Davis, 1948, who made a similar connection). Hirschi and Stark were not so much challenging the idea of social controls (after all, Hirschi authored his own form of social control theory), but questioning whether the "Christian sanctioning system of hellfire for sinners and heavenly glory for the just" (p. 203) qualified as such an effective social control.

Hirschi and Stark's (1969) sample included a little over 4,000 junior and senior high school students from public schools in California (i.e., the Richmond Youth Study). Their measures included a 6-item self-report index of delinquency, an official measure of delinquency based on police records, a single-item measure of church attendance, 2 items

measuring morality, 2 items measuring attitudes toward the law, and a 2-item self-report index of belief in the supernatural. Analyses utilizing these measures employed a simple frequency technique. Cross-tabulations of each independent variable with church attendance were performed and the gamma statistic (a non-parametric measure of bivariate association) was used to determine statistical significance of the results.

Results showed that church attenders were not significantly more likely to condemn statements of questionable morality, were "only slightly" significantly more likely to express respect for police and the system of law, and were significantly more likely to hold supernatural beliefs. In turn, results indicated that those who endorsed questionable morality and/or had less respect for the legal system were significantly more likely to be delinquent. Furthermore, findings revealed that those who held supernatural beliefs were just as likely to commit delinquent acts as those who did not. In a final analysis, church attendance was found to be completely unrelated to delinquency. In other words, those who attended church were just as likely to commit acts of delinquency as those who did not.

These results provided unequivocal evidence, in the minds of the authors, that "Participation in religious activities and belief in a supernatural sanctioning system have no effect on delinquent activity" (p. 211). This was the "shot heard 'round the world" of social science. For many, if not most, this was considered the final word on the matter. For some reason, though earlier empirical work on this subject had produced mixed results, Hirschi and Stark's findings received greater prominence. After this, Hirschi and Stark (1969) became the standard citation proving the idea that religiosity had no effect

on deviant behavior. However, both antecedent and subsequent literature provided a different picture.

Specific Responses to Hirschi & Stark (1969)

Since the publication of this influential study, researchers have been consistently retesting the relationship between religion and deviance using various types of samples and a wide variety of measures. Many of these studies have been published in direct response to Hirschi and Stark by tying in to the key word from their title (i.e., "hellfire"). For instance, Burkett and White (1974) attempted to take "another look" at the "hellfire" hypothesis. These authors hypothesized that the reason Hirschi and Stark found no relationship was because they measured more serious forms of delinquency (e.g., vandalism and assault) which are condemned not only by religion but also by society at large (basically a restatement of Middleton & Putney's [1962] original "antiascetic hypothesis"). Therefore, according to these authors, religiosity would be no more effective as a deterrent to such activities than any other social control. However, these authors hypothesized that religion might be more important in the deterrence of delinquent acts which are condemned by churches yet condoned by secular leaders (e.g., alcohol and marijuana use).

In this study, 855 high school seniors (all Caucasian) in the Pacific Northwest were surveyed using the exact same measures of morality, worldly authority, supernatural sanctions, and delinquency (specifically larceny, vandalism, and assault) from Hirschi and Stark (1969). In addition, frequency of alcohol and marijuana use were measured. Results of this study indicated that church attendance was only weakly related to delinquency as

measured by Hirschi and Stark (i.e., larceny, vandalism, and assault) but was more closely related to alcohol and marijuana use. For these authors, the evidence seemed to suggest that religiosity was a more effective deterrent against victimless crimes than against victim crimes. This was interpreted as meaning that churches teach a different form of morality encompassing substance use which was no longer vigorously condemned by other contemporary social structures.

Higgins and Albrecht (1977) hypothesized that the lack of a finding in Hirschi and Stark may have resulted simply from geographic location. In fact, both Hirschi and Stark's data as well as Burkett and White's were collected in the Pacific Northwest, an area that is known to be less religiously oriented. Higgins and Albrecht, on the other hand, collected their data in Atlanta, Georgia, and proposed that religiosity may be a more important part of the average Southeast adolescent's experience.

One thousand four hundred and ten tenth-grade students from six Atlanta high schools were asked to indicate how often they attended church or religious services. In addition, delinquent behavior was measured using a self-report checklist of 17 items ranging from coming home later than midnight to stealing a car. Finally, respect for the juvenile court system was assessed for both the study participant and their friends with a four-item scale. Church attendance was found to be strongly negatively related to each of the delinquency items, both for the total sample (gamma = -.48 for the composite measure) as well as all four race-by-sex subgroups (white males, nonwhite males, white females, nonwhite females). Also, church attendance was positively related to both self's and friends' respect for the juvenile system which were both, in turn, negatively related to

delinquency. These findings provided some evidence that the relationship between religiosity and deviance varied by geographical region since church attendance, which was not related to delinquency in California, was strongly related to delinquency in Atlanta.

It is important to note several differences of this study from previous studies. First, this study revealed a moderate to high negative correlation between church attendance using the very same measures of delinquency employed by both Hirschi and Stark (1969) for which they found no relationship, and Burkett and White (1974) for which they found only a weak relationship. Second, this strong relationship was found not only for victimless crimes (e.g., skipping school, reckless driving), but also for several more serious offenses involving victims (e.g., using force to steal someone's money, fighting, vandalism). This was inconsistent with Burkett and White's findings and conclusions.

Data from 3,268 Arizona high school students were used by Jensen and Erickson (1979) to take yet another look at the "hellfire hypothesis." A single item measure of church attendance was utilized along with measures of youth church activity participation and religious affiliation (Catholic, Protestant, Mormon). Hirschi and Stark's (1969) measure of supernatural beliefs was also used as well as a measure of delinquency involvement.

Their findings suggested that church attendance was consistently related to a wide variety of self-reported delinquent activities rather than just "victimless" ones. This study also found evidence for differential effects of church attendance on delinquency by

religious affiliation; namely, those who consistently attended churches with higher ascetic values were less delinquent. In addition, results seemed to indicate that religiosity played a lesser role in the deterrence of deviance among metropolitan or urban youth as opposed to rural youth. Finally, regression analyses showed that religiosity explained additional variance (from .8% to 3.5%) in delinquency, even after holding constant such social control items as activity participation, school bonds, parent bonds, and legal bonds. In fact, this explanatory power was substantially greater for those who were affiliated with churches with more strict moral teachings (13.6% to 21.5%). As a further test of these results, Jensen and Erickson obtained Hirschi and Stark's original data and sought to replicate some of these findings. Indeed, further analyses revealed that church attendance was significantly related to drinking, smoking, and truancy in these data. In addition, high levels of regular church attendance at churches with more strict moral teachings was found to be significantly negatively related to delinquency.

In Stark, Kent, and Doyle (1982), one of the coauthors of the original 1969 study revisited the topic. Equipped with insights from intervening literature which has just been reviewed (e.g., Burkett & White, 1974; Higgins & Albrecht, 1977), Stark and colleagues hypothesized that "religious ecology" was the reason for the lack of findings in the earlier paper. This hypothesis was largely dependent on Higgins and Albrecht's speculation that geographical location was the source of the variation in the relationship between religiosity and delinquency. More specifically, Stark et al. (1982) proposed that church attendance would only deter deviance to the extent that religious beliefs were pervasive in the community in which the individual resided. In other words, because the western area

of the country (where Hirschi and Stark's data had been collected) could be considered largely "unchurched," the effect was undetectable, thus reflecting the fact that religious values are not important to people who live in a nonreligious or largely secularized social environment.

As predicted, these authors found that 1) church attendance was strongly related to both official (gamma = -.46) and self-reported (gamma = -.45) delinquency in a sample from a "moral community" (Provo, Utah); 2) church attendance and importance of religion were only weakly related to measures of recent (gammas = -.08, -.14) and lifetime (gammas = -.13, -.14) deviance in a "secular community" (Seattle, Washington); and 3) church attendance, importance of religion, and religious values were all strongly related (gammas ranging from -.19 to -.29) to three different measures of delinquency in a national sample of Caucasian boys. As a final test of their hypothesis, Stark and colleagues isolated three of the secular communities in their data that were from California and exhibited very similar church attendance rates to the original Richmond Youth Study data. Using this data, they replicated Hirschi and Starks' original findings of no effect of church attendance or religiosity on deviance.

The finding that religiosity was strongly related to delinquency in a national sample was viewed by the authors as evidence that, "For the nation as a whole, religion serves to undergird the moral order" (p. 14). However, they interpreted this finding to mean that personal religious convictions only constrain deviance in a social environment where religiosity is positively reinforced.

Cochran and Akers (1989) responded directly to this line of research when they examined the more specific relationship between religiosity and substance use (marijuana and alcohol). In a sample of 3,065 male and female adolescents in the seventh through twelfth grades from seven school districts in three Midwestern states, it was found that three measures of religiosity were all significantly negatively related to alcohol use, explaining close to 9% of the variance after controlling for age, race, gender, and SES, while two of these measures were significantly negatively related to marijuana use (explaining over 5% of the variance). These authors concluded that religion has consistently moderate "demonstrable potent effects" (p. 221).

Stark (1996) attempted to alleviate the confusion that had developed over the "contextual theory," or the idea that the effect of religiosity on deviance varies by geographical region or sociological context. This time, the sample came from a national study conducted in 1980 that included close to 12,000 seniors in high school. Indeed, results indicated that a rather strong relationship existed between church attendance and trouble with the law in all regions of the country (gammas ranging from -.23 to -.39) except the Pacific West (gamma = -.02). In addition, this same effect was found for males (gamma = -.30), females (gamma = -.33), whites (gamma = -.39), and blacks (gamma = -.29) in the non-Pacific regions.

The literature just reviewed represents only a subset of the literature dealing with the relationship between religiosity and deviance. Its importance lies in the fact that it is the most consistent strain of thinking representing an ongoing dialogue among social scientists concerning the "Hellfire Hypothesis" as originally proposed by Hirschi and

Stark (1969). In parallel with this line of work, there has been a large body of literature dealing with this same bivariate relationship. Several researchers have undertaken thorough reviews of this literature. These reviews will be examined in the next section.

Other Important Literature

There have been some important studies which have attempted to investigate and summarize this entire body of literature. For instance, Tittle and Welch (1983) searched the literature available at their time (20 years ago now) and found that there were "fewer than two dozen research reports in which the effect of individual religiosity on deviant behavior has been the primary focus of attention" (p. 654). In addition, they found a total of 65 published studies that had reported some empirical evidence regarding the relationship between a measure of religiosity and some indicator of rule-breaking. Most importantly, a perusal of these studies revealed that only 10 of the 65 (15%) failed to report a significant negative relationship between religiosity and deviance. Based on this evidence, these authors concluded that "the evidence seems remarkably consistent in suggesting that religion is related to deviant behavior. Indeed, only a few variables in social science have proven to be better predictors of rule breaking" (p. 654).

More recently, Johnson et al. (2000) sought to summarize the extant research literature utilizing an innovative method called a "systematic review" (SR). This review technique adds a quantitative element to the traditional literature review approach, thus making the review more scientific (i.e., less subjective) as well as replicable. For the purposes of their review, these authors identified 40 journal articles "that examined the effect of religion on juvenile delinquency published from January 1985 to December

1997" (p. 36). More specifically, this review included studies that contained at least one quantified variable, consisted only of juvenile and/or young adults (20 years of age or under), were published in peer-reviewed journals, and used a sample collected in the United States.

The measures used in this review were extensive and included the following: 1) quality of research (including such things as use of longitudinal data and specification of race and/or gender), 2) role of religious measures (peripheral or central to study), 3) effect of religious measures (none, positive, negative, etc.), 4) dimensions of religious measures (attendance, prayer, Bible study, etc.), 5) number of religious measures, and 6) reliability of measurement. Results indicated that 30 of the 40 studies found a statistically significant negative effect of religiosity on deviance while only five found no effect. In addition, only one of the studies found a positive effect and in this study, religion was used as a control variable. This is rather strong cumulative evidence of a consistent negative bivariate relationship between religiosity and deviance in the literature.

This study also provided evidence concerning the importance of sound measurement. First, results showed that studies which included a multi-dimensional measure of religiosity were more likely to find a statistically significant negative relationship with deviance. Second, results documented that when measure reliability was assessed, a negative effect was always found. In fact, of the 40 studies included in the review, only 13 checked the reliability of their measures. Interestingly, though, all 13 of these studies found a significant negative relationship.

The results from this study are an important confirmation that, as a whole, the literature dealing with religiosity and deviance provides more consensus than most have acknowledged. In their concluding remarks, Johnson and colleagues provide a strong acknowledgment of this fact as well as a challenge to researchers who have ignored it.

> From the above review, it is apparent that the role of religiosity in explaining and understanding juvenile delinquency has been an overlooked factor in many studies. Although religion is one of the major social institutions, most studies in our target population of articles did not include a measure of religious commitment or religiosity. In general, researchers do not include religious measures in their study . . . (p. 45).

Another recent study by Baier and Wright (2001) has provided further solid evidence of the existence of this relationship. In this meta-analysis, the authors used both database and ancestry searches to identify 60 studies suitable for their analyses (i.e., those that included a measure of association between religion and criminal behavior). Of these 60 studies (produced between 1962 and 1998), 56 were published while 4 were dissertations or conference presentations. In order to obtain a uniform statistic for cross-study comparison, a Pearson's *r* correlation coefficient was calculated for any study that did not originally utilize this statistic.

Several important findings were made in this meta-analytical review of the literature. First, of the 60 studies identified for analysis, none indicated a positive relationship between religion and deviance. Second, the mean reported effect size among these 60 studies was $r = -.12$. Third, the null hypothesis that the mean effect for religion

on deviance equals zero was rejected (t = -11.9). Fourth, almost one-fourth of these studies (13 of 60 or 22%) found a fairly substantial effect size ranging from r = -.2 to r = -.5.

Together, these three summary studies reviewed 123 separate empirical investigations, both published and unpublished. The findings based on this extensive review of the literature establish that there is a consistently moderate negative relationship between religiosity and deviance. The fact that so many of the published studies in this area reveal significant findings is powerful since, in the aftermath of Hirschi and Stark's (1969) study, "the religion-on-crime literature has viewed nonsignificant findings as important contributions" (Baier & Wright, 2001, p. 7). In other words, in many, if not most, fields of study, only significant findings are published. However, because of the considerable impact of a nonfinding in this area, studies revealing a nonsignificant relationship have been viewed as equally important for publication. In light of this evidence, it is safe to say that the negative relationship between religiosity and deviance is an empirically established fact.

Family and Deviance

Family Processes as a Dimensional Construct

Thus, it appears that religion plays an important role in the prediction of deviance. In addition to religion, family has also been identified as playing an influential role in understanding deviant behavior. In fact, though researchers have found evidence for multiple etiological factors related to adolescent deviance, a central role has been assigned to the influence of family (Barber & Rollins, 1990; Cernkovich & Giordano,

1987; Geismar & Wood, 1986; Hirschi, 1969; Loeber & Stouthamer-Loeber, 1986; Snyder & Patterson, 1987; Zhang & Messner, 1995). Numerous familial factors have been investigated, some more peripheral than others. For instance, both familial deviance (Baker & Mednick, 1984; Farrington, Gundy, & West, 1975; Lauritsen, 1993; Moffitt, 1987; Nagin & Farrington, 1992; Rutter & Giller, 1984; Sampson & Laub, 1993; West & Farrington, 1973, 1977) and family structure (Dornbusch et al., 1985; Free, 1991; Loeber & Stouthamer-Loeber, 1986; Rankin, 1983; Rebellon, 2002; Steinberg, 1987; Wells & Rankin, 1985) have been found to have some importance.

However, most of the literature attempting to link family with deviance has focused on fluid functioning rather than static structure. Researchers have hypothesized that the most interesting connection between family and deviance emphasizes family processes involving behavioral interactions between family members. This process is often conceptualized as consisting of several dimensions. Attempts to explore the dimensionality of parenting have resulted in a number of conceptualizations (Maccoby & Martin, 1983). Some of these have contained two variables on a continuum which, when overlapped, created a four-fold typology (warmth/hostility and control/autonomy, Schaefer, 1959; warmth (acceptance)/hostility (rejection) and restrictive/permissive, Becker, 1964; demandingness and responsiveness, Baumrind, 1967, 1971) while others have emphasized related sets of orthogonal factors (acceptance, firm control, and psychological control, Schaefer, 1965; consistent discipline, maturity demands, restrictiveness, and encouragement of independent contacts, Baumrind & Black, 1967).

Recent work in this area has continued to rely heavily on typological orientations while "unpacking" them in somewhat different ways than originally hypothesized. For instance, Baumrind (1978) originally used the concepts of demandingness and responsiveness to identify four types of parenting – authoritative, authoritarian, indulgent, and neglecting. Consequently, much of Steinberg's work has focused on these types, and more specifically, on authoritative parenting, which is viewed as the most optimal in this typology (Steinberg, 2001). In recent work, however, Steinberg has sought to enumerate the contents of authoritative parenting as more than simply "demandingness" and "responsiveness." More specifically, Gray and Steinberg (1999) state that the "three core dimensions of authoritative parenting" (p. 574) are acceptance-involvement, strictness-supervision, and psychological autonomy (or warmth, firmness, and psychological autonomy granting; see Steinberg, 2001). Even more recently, Steinberg and Silk (2002; see also Steinberg, 1990) have named these three dimensions autonomy, harmony, and conflict. In this conceptualization, harmony is defined as warmth, involvement, and emotional closeness while conflict includes contentiousness and hostility. Autonomy involves the balance between parental control and adolescent autonomy and is described as having two sub-dimensions, psychological control (control of opinions, feelings, and thoughts; see Barber, 1996) and behavioral control (control of activities).

In an important recent test of this dichotomy of autonomy, Pettit, Laird, Dodge, Bates, and Criss (2001) contributed evidence that may link earlier typological conceptualizations (e.g., Baumrind) to more recent dimensional advances in the study of parental socialization of children (e.g., Steinberg & Silk, 2002). They found that parental

monitoring (i.e., positive behavioral regulation) was associated with a proactive parenting style (e.g., authoritative parenting) while psychological control (i.e., negative emotional manipulation) was associated with a harsh parenting style (e.g., authoritarian parenting). These findings seem to undergird the validity and efficacy of the dichotomous approach to parental control, namely, that some types of control (i.e., behavioral control) produce good and healthy adolescent outcomes while others (i.e., psychological control) result in harmful internalizing and externalizing problems for adolescents.

This conceptualization emphasizing three important dimensions – autonomy, harmony, and conflict – may provide a helpful outline for capturing the totality of family functioning. Steinberg and Silk's (2002) contention is that all research dealing with parent-adolescent relationships can be categorized into these overarching dimensions. Vazsonyi, Hibbert, and Snider (2003) recently used this tridimensional categorization (harmony, autonomy, conflict) to rigorously test a multidimensional measure of family processes. Their final model contained six parenting dimensions reflecting these three overarching domains: 1) *Harmony* measured by closeness and communication, 2) *Autonomy* measured by support, monitoring, and peer approval, and 3) *Conflict* measured by conflict. Confirmatory factor analyses (CFA's) of this model indicated good fit for younger and older adolescents as well as males and females. This provides solid evidence for looking at family processes in this tridimensional manner.

Literature in the Autonomy Dimension

Behavioral Control

Before this literature is perused, it is important to establish a baseline of understanding regarding the usage of terminology in this section. Traditionally, terms such as “parental supervision,” “parental monitoring,” and even “parental control” have all been used interchangeably to refer to the role of parents in controlling their children’s behavior. Recent work by Kerr and Stattin (2000; Stattin & Kerr, 2000) has attempted to develop greater semantic specificity in this area by distinguishing between “what parents know” (knowledge) and “how they know it” (sources of knowledge). In this line of work, Kerr and Stattin assign the term “monitoring” to actual parental knowledge and point out that this monitoring (i.e., knowledge) may be passive. In other words, from their perspective, monitoring is a passive role, implying the possession of knowledge from one of many sources, while control and/or supervision imply activity on the part of the parent. While such semantic distinctions may be helpful for future research, they do not reflect the terminology employed in most research to date. Therefore, in this section, the terms “supervision,” “monitoring,” “control,” and even “discipline” will be used interchangeably to refer to the general processes whereby parents seek to exert behavioral control over their adolescent’s activities.

Early research on juvenile delinquency established that discipline and supervision were significantly lacking in the homes of deviant adolescents (Glueck & Glueck, 1950; McCord & McCord, 1959; Nye, 1958). Subsequent research has confirmed the veracity of this robust relationship (Farrington, 1989; Riley & Shaw, 1985; West & Farrington,

1977). For example, Galambos and Maggs (1991) found that lack of supervision after school (self-care) led to high rates of deviant activity, particularly for girls, whose misbehavior sometimes exceeded that of the boys in such situations (see also Posner & Vandell, 1994 and Steinberg, 1986). Thus, lack of parental supervision during the critical developmentally transitional years of adolescence has consistently been found to be related to increases in problem behaviors (Flannery, Vazsonyi, Torquati, & Fridrich, 1994; Richardson et al., 1989; Vazsonyi & Flannery, 1997) including drifts toward antisocial peers (Patterson, Reid, & Dishion, 1992).

Work from the Oregon Social Learning Center (Patterson and colleagues) has upheld this tenet, namely that lack of parental supervision leads directly to childhood antisocial behavior (e.g., Patterson, Dishion, & Bank, 1984). Patterson has articulated his theory on how this happens in his coercion model (Patterson, 1982). The core assumption of this model is that parenting skills, including discipline and monitoring, are the specific mechanisms by which childhood antisocial behaviors are constructed and maintained (Patterson, Forgatch, Yoerger, & Stoolmiller, 1998; Stoolmiller, Patterson, & Snyder, 1997). In a test of this model, Forgatch (1991) used structural equation modeling to show that parental discipline and monitoring accounted for 30%-52% of the variance in antisocial behaviors in three different at-risk samples. Often, the disrupted parenting practices resulting in antisocial behavior are a result of ineptness rather than intentionality (e.g., Wahler & Dumas, 1986). In other words, parents who are incompetent in their attempts at discipline and erratic in their expressions of anger are unintentionally promoting antisocial behavior (Kazdin, 1987).

Patterson et al. (1998) found that parenting variables (i.e., discipline and supervision) were a significant proximal influence on deviant behaviors recorded at three different points of time – antisocial childhood behavior, early arrest, and chronic juvenile offending – thus indicating a trajectory-like processes for which parenting is a primary socialization factor. Similarly, Vuchinich, Bank, and Patterson (1992) found that parental practices influenced antisocial behavior even when controlling for previous antisocial behavior. In fact, the addition of the causal path from parenting to behavior reduced the estimated stability of antisocial behavior by 16%. The direct causal nature of parenting with regard to youthful deviance has also been confirmed in prevention and intervention trials employing random assignment designs (Chamberlain, Ray, & Moore, 1996; Dishion, Patterson, & Kavanagh, 1992). Similarly, successful clinical trials have been shown to reduce antisocial behaviors through the strengthening of parental practices (Dadds, Schwartz, & Sanders, 1987; Eisenstadt, Eyberg, McNeil, Newcomb, & Funderburk, 1993; Patterson, Chamberlain, & Reid, 1982; Patterson, Dishion, & Chamberlain, 1993; Webster-Stratton, 1984).

Researchers in the Child Development Project (Bates, Dodge, Pettit, and colleagues) have also examined the importance of parental monitoring on child behavioral outcomes (e.g., Pettit, 1997). Their work has found evidence for the fact that after-school activity lacking in parental (or any adult) supervision is a powerful risk factor in the development of externalizing problem behaviors (e.g., Pettit, Laird, Bates, & Dodge, 1997) as is non-parental childcare in general (Bates et al., 1994). Furthermore, they have documented that parenting practices not only contribute uniquely to

externalizing problems, even when child, peer, and sociocultural factors are considered simultaneously (Deater-Deckard, Dodge, Bates, & Pettit, 1998), but also that parental monitoring moderates a number of other etiological factors, including peer activity and neighborhood safety (Pettit, Bates, Dodge, & Meece, 1999). In general, research from this group has reinforced the idea that negative parenting (e.g., harsh, hostile, punitive) contributes to youth deviance (e.g., Deater-Deckard & Dodge, 1997; Deater-Deckard, Dodge, Bates, & Pettit, 1996; Pettit & Dodge, 1993; Weiss, Dodge, Bates, & Pettit, 1992) while positive parenting (e.g., responsive, affectionate, proactive) is associated with lower levels of behavioral problems (e.g., Bates, Bayles, Bennett, Ridge, & Brown, 1991; Pettit & Bates, 1989; Pettit, Bates, & Dodge, 1993; Pettit & Dodge, 1993; Pettit, Harrist, Bates, & Dodge, 1991).

Psychological Control

The distinction between behavioral and psychological control was highlighted years ago by Schaefer (1965), but was not subsequently pursued by social scientists until Steinberg and colleagues revived the subject (Steinberg, 1990; Steinberg, Elmen, & Mounts, 1989). Most recently, Barber's (2002) edited book has brought the issue to the forefront of the study of parenting. In his earlier review of literature related to this construct, Barber (1996) describes parental psychological control as "psychologically controlling processes involv[ing] socialization pressure that is nonresponsive to the child's emotional and psychological needs (Maccoby & Martin, 1983), that stifles independent expression and autonomy (Baumrind, 1965, 1978; Hauser, 1991; Hauser et al., 1984)" (p. 3299). Though the construct of parental psychological control continues to

evolve amidst debate over its conceptualization (Barber, Olsen, & Shagle, 1994), empirical evidence indicates that it is an important positive predictor of adolescent problem behavior (Barber, 1996; Steinberg, 1990).

Although the specific components of psychological control are still somewhat unclear, the general consensus is that it relates to parental intrusiveness on a child's emotional development and includes elements of parental support and approval (or the lack thereof, e.g., love withdrawal; Barber, 1996; Pettit et al., 2001). Thus, an appropriate lack of psychological control may involve positive evaluations of the teen from the parent (Burbach & Bourdin, 1986), acceptance of the teen's ability to make autonomous decisions (e.g., choice of friends; Hauser, 1991; Hauser et al., 1984), and encouragement of healthy interactions outside the family (Baumrind, 1965, 1978; Youniss & Smollar, 1985). Such a parenting style would be more conducive to healthy emotional development in the adolescent (Steinberg, 1990). On the other hand, a discouraging, nonaccepting, disapproving parental style has been shown to carry dire behavioral consequences (Anderson, Hinshaw, & Simmel, 1994).

Research has found that psychological control processes are more strongly related to internalizing than externalizing behaviors (Barber, 1992, 1996; Baumrind, 1965, 1968, 1978; Becker, 1964; Coopersmith, 1967; Maccoby & Martin, 1983; Steinberg, 1990). However, among those studies that have undertaken an examination of the relationship between parental or familial support and adolescent deviant behavior, the overwhelming majority have shown that growing up in an emotionally supportive family is predictive of lower risk for delinquency and drug abuse (Brook, Brook, Gordon, Whiteman, & Cohen,

1990; Johnson & Pandina, 1991; Kandel, Kessler, & Margulies, 1978; Wills & Vaughn, 1989; Windle & Miller-Tutzauer, 1992). In a recent measurement article, Tolan, Gorman-Smith, Huesmann, and Zelli (1997) established that familial psychological support played an important role in the multi-dimensional measurement of family processes and that this measure, in turn, significantly predicted both externalizing (i.e., aggression) and internalizing (i.e., depression) problems (see also Dekovic, 1999). In fact, support was one of only two scales in the 6-scale model that significantly predicted both types of behavioral problems (see also Vazsonyi et al., 2003).

Research has also been done in this area from a negative perspective. In other words, the above research focuses on the positive outcomes (less deviance and substance use) associated with healthy emotional support from parents or family. However, there also exists research dealing with the harmful effects of parental psychological overcontrol (Barber, 1992). For example, Stierlin (1974) observed that parents of teens in psychologically dysfunctional families interfered with the appropriate development of autonomy by utilizing specific types of interactional strategies designed to hinder healthy individuation and/or differentiation, thus creating severe behavioral problems (see also Hauser et al., 1984). In addition, Costanzo and Woody (1985) have suggested that intrusive psychological control can emotionally and socially cripple an adolescent, leading ultimately to the necessity of employing alternative strategies (e.g., antisocial behavior) for the accomplishment of goals. Previous research focusing specifically on the authoritarian parenting style implies that overcontrolling parents produce children lacking in social skills (Maccoby & Martin, 1983). For instance, Baumrind (1967; Baumrind &

Black, 1967) found that socially withdrawn nursery school children tended to have parents fitting the authoritarian description.

Literature in the Harmony Dimension

Emotional Closeness[3]

In addition to parental control, the affective component of the parent-child relationship has been identified as a possible contributor to the development of inappropriate behavioral patterns. Low levels of parental affection have been found to be associated with greater amounts of adolescent deviance (Gove & Crutchfield, 1982; Henggeler, 1989; Hurrelman, 1990; Tolan & Lorion, 1988). Apparently, adolescents whose interactions with parents are characterized by high levels of affection develop a perception of being supported and, consequently, those in supportive families have been found to be at a lower risk for various types of deviant behavior (Johnson & Pandina, 1991; Kandel, Kessler, & Margulies, 1978; Sokol-Katz, Dunham, & Zimmerman, 1997).

The importance of the affective dimension of parenting on children's behavior has been found to emerge in very early life. In fact, Sroufe, Egeland, and Kreutzer (1990) presented compelling evidence that attachment behaviors such as proximity-seeking and primary caregiver contact measured in the first two years of life were predictive of behavioral problems several years later. Also, clinically treated preschool children, referred because of disruptive behavioral problems, have been found to be more likely to display behaviors associated with insecure attachment (Greenberg, Speltz, DeKlyen, &

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[3] Several terms have been used interchangeably to refer to this component, including affect, warmth, acceptance, and responsiveness (Rothbaum & Weisz, 1994). Similarly, these terms will be used interchangeably in this paper.

Endriga, 1991; Speltz, Greenberg, & DeKlyen, 1990). In addition, Sutton, Cowen, Crean, and Wyman (1999) found that low parental warmth was significantly related to aggressive behavior as early as the second and third grades. There seems to be some indication that insufficient attachment is a greater risk for those children who already faced other risky factors, such as having a young, single mother (Egeland & Sroufe, 1981; Erickson, Sroufe, & Egeland, 1985; Sroufe, 1983).

Research has shown that this is a rather stable pathway leading from early infancy into adolescence and beyond (Greenberg, Speltz, & DeKlyen, 1993). While of school age, attachment to family has been found to reduce the overall frequency, prevalence, and intensity of involvement in deviant activities, regardless of neighborhood, ethnicity, or gender (Dornbusch, Erickson, Laird, & Wong, 2001). It also seems that emotional attachment to parents may be more salient earlier in life and for younger compared to older adolescents (Corwyn & Benda, 2001). There is also some evidence for the fact that the effects of parental warmth on a child's behavior accumulate over time. For instance, Scaramella, Conger, and Simons (1999) used longitudinal data from 319 adolescents and their parents over a five year period to examine the role of parental warmth in inhibiting the growth trajectories of externalizing behavioral problems. Their results clearly indicated that affection received from parents provided a buffer against the development of antisocial behavior. More importantly, this buffering effect seemed to prevent the accumulation of misbehavior in an additive fashion through the years.

There is also evidence that warmth and involvement from parents is a strong enough factor in adolescent deviant behavior as to even explain away any negative impact

associated with harsh corporal punishment. In a very important study, Simons, Johnson, and Conger (1994) found that, after the effect of parental involvement was removed, no detrimental effect of harsh corporal punishment remained on adolescent aggressive behavior or general delinquency. These findings seemed to indicate that overly punitive parental discipline was simply a correlate or symptom of a deeper problem, namely lack of consistent parental warmth. This is very important evidence for the crucial role played by parental emotional closeness in the deterrence of deviance.

Not only is positive affect an important protective factor against deviant behavior, but negative affect has also been found to place children and adolescents at a greater risk for such. Previous research has shown that a predominance of negative parental affect is associated with such behaviors as defiance or hostile aggression in their children (Grusec & Lytton, 1988; Olweus, 1980). In a study among African-American female adolescents, Pittman and Chase-Lansdale (2001) found that those whose mothers were measured as being low on parental warmth were the most at risk for a variety of externalizing problems (see also Gray-Ray & Ray, 1990). Specifically in relation to substance abuse, young people who report strong, positive relationships with their parents also indicate lower levels of substance use (Barnes, 1984; Barrera, Chassin, & Rogosch, 1993; McDonald & Towberman, 1993; Selnow, 1987). For example, Volk, Edwards, Lewis, and Sprenkle (1989) found that non-drug-abusing adolescents reported significantly higher levels of family cohesion (i.e., lower levels of disengagement) than their drug-abusing peers, thus indicating that positive affect from parents was, in itself, an important protective factor against substance use (Fletcher & Jefferies, 1999; White, Johnson, &

Buyske, 2000). In a meta-analytic summary of 47 studies, Rothbaum and Weisz (1994) confirmed that, as a general rule, measures of parental caregiving are negatively associated with children's externalizing behaviors. Furthermore, in a unique meta-analytic factor analysis, a "pattern of caregiving" tapping into a construct they termed acceptance-responsiveness was identified that demonstrated an even stronger deterrent effect on antisocial behaviors.

Thus, the type of home where the appropriate balance of affection and supervision has been achieved and consistently maintained (i.e., authoritative; Baumrind, 1987) has been identified as the optimal setting for the deterrence of adolescent misconduct (Loeber & Dishion, 1984; Maggs & Galambos, 1993; Patterson & Stouthamer-Loeber, 1984; Steinberg, Mounts, Lamborn, & Dornbusch, 1991; Vuchinich et al., 1992). For example, Baumrind (1991) found that parents who were nonauthoritarian yet still directive (that is, they maintained an adequate balance of love and discipline) were able to successfully shield their children from dysfunctional, risk-taking behavior more so than other types of parents (see also Baumrind, 1989).

Communication

Because a large amount of the literature dealing with family processes and deviance has examined the role of a typological parenting style classification system in adolescent behavioral outcomes (Durbin, Darling, Steinberg, & Brown, 1993; Lamborn, Mounts, Steinberg, & Dornbusch, 1991; Steinberg, Lamborn, Darling, Mounts, & Dornbusch, 1994; Steinberg, Lamborn, Dornbusch, & Darling, 1992; Steinberg et al., 1991), it is difficult to identify the specific effects on deviance directly attributable to

patterns of parent-teen communication. Typically, these studies include measures of parent-adolescent communication that are either confounded with other parenting dimensions or are not broken out from the authoritative parenting construct so that unique contribution may be examined. For example, in an examination of authoritative parenting on adolescent behavior, Slicker (1998) included measures of behavioral control, acceptance, and democracy. One of the behavioral control items was, "How much do your parents try to know what you do with your free time?," while another item intended to measure acceptance read, "My parents spend time just talking to me," and a third item attempted to measure democracy by stating, "My parents tell me that their ideas are correct and that I should not question them" (p. 353). It is clear, of course, that all three of these items contain a very strong communication component and touch on the quality of communication between parent and adolescent, even though none are specifically intended to measure a construct called "communication."

Thus, in examinations utilizing a typological orientation, specific parenting behavioral dimensions, such as communication, are not normally investigated individually because these researchers are interested only in general patterns or climates of parenting formed by clusters or constellations of behaviors rather than the relationship of specific dimensions to specific outcomes (Steinberg, Darling, & Fletcher, 1995). This is also true in clinical research utilizing typologies such as the circumplex model (Olson, 1986, 2000; Olson et al., 1983; Olson, Russell, & Sprenkle, 1983; Olson, Sprenkle, & Russell, 1979) or the Beavers systems model (Beavers, 1981, 1989; Beavers & Hampson, 1993).

Another aspect of this literature which makes it difficult to tease out the effects of verbal communication on deviant behavior is the use of broad constructs incorporating aspects of communication as well as other dimensions. For example, Pettit and Bates (1989) used an observational coding system to identify important mother-child dyadic interactions. One of their measures, called *proactive maternal involvement*, combined both social contact and teaching behaviors. Certainly teaching is facilitated by verbal communication, as is the initiation of social contact, but non-verbal behaviors would be inherently included as well. Thus, though their results indicated that children with less problem behaviors had more positive interactions with their mothers and that this relationship was predictive over time, it is unclear what specific role maternal communication played in such proactive involvement patterns. Similarly, a recent study by Lynch (2001) included a measure called *family interaction/bonding*. Parental monitoring, parental caring, and parental communication were all three included in this single latent construct.

An examination of a study by Forehand, Miller, Dutra, and Watts-Chance (1997) clearly illustrates this snag in the literature. Their study is one of the few that includes a separate and distinct measure of parent-adolescent communication. However, their literature review relies exclusively on studies that did not. For instance, Weintraub and Gold (1991) studied parental affection, Gray-Ray and Ray (1990) examined parental rejection, and Smith and Krohn (1995) looked at parental involvement, yet Forehand et al. called all of these “communication.”

Because of these potentially confounding issues, the literature examining the unique effect of parent-adolescent communication on deviant behavior is limited. Those studies that have done so have produced mixed and rather weak results. Forehand et al. (1997) found that, in four different samples of youth from different geographical locations, parent-adolescent communication was significantly positively correlated with parental monitoring and significantly negatively correlated with deviance. However, in a set of hierarchical regression analyses, only monitoring maintained a significant relationship with deviance after several demographic variables were controlled. In addition, no interaction terms (e.g., communication and monitoring, communication and age, communication and sex) were significant. These findings seem to indicate that, though communication may be a family processes that is important in the prevention of deviant behavior, its importance diminishes, or even vanishes, when other, more important dimensions of family functioning (e.g., monitoring) are taken into account.

However, other studies have presented different findings. For example, a longitudinal study, such as that conducted by Ellickson and Morton (1999), carries with it considerable weight concerning the causal role of certain dimensions of family processes in the formation (or prevention) of deviant behavior. In this study, data concerning the target adolescents' communication with parents were collected during their seventh grade year in school. Three years later, in tenth grade, data were collected concerning behavioral outcomes. Their results presented compelling evidence that parent-adolescent communication played a significant predictive role in adolescent deviant behavior. More specifically, adolescents who felt comfortable talking to a parent about personal problems

and did so regularly in seventh grade were significantly less likely to begin to use hard drugs by the time they were in tenth grade. On the other hand, those who did not report good communication with a parent in seventh grade were at an increased risk for hard drug usage by tenth grade. Interestingly, this predictive relationship was found for several different ethnic groups, including White, Hispanic, and Asian youth. In a similar affirmation of the important role of parent-adolescent communication in the deterrence of deviance, Leas and Mellor (2000) found that, though a multi-factorial measure of parental attachment did not significantly predict juvenile delinquency, one of the subscales, namely parental communication, did.

Literature in the Conflict Dimension

There is a large literature dealing with the fact that parental abuse of children leads to externalizing (George & Main, 1979; Hoffman-Plotkin & Twentyman, 1984; Howes, 1988; Howes & Eldredge, 1985) and deviant (Gray, 1988; Straus, 1991; Widom, 1989) behaviors. Indeed, previous research has consistently documented that individuals who were subjected to physical maltreatment during childhood are at risk for the commitment of delinquent behaviors in adolescence (Eckenrode, Laird, & Doris, 1993; Sternberg et al., 1993). Recently, Benda and Corwyn (2002) found that abuse during adolescence (at the age of 12 or older) was significantly related to violent behavior among both younger (less than 16 years old) and older (16 years old and older) adolescents and that this relationship was not mediated by any demographic (gender, race, father's education, family structure) or theoretical (five social control, three strain, and four social learning) variables. In addition, they showed that abuse during childhood (before the age

of 12) was also positively related to violent behavior for both age groups and was not mediated for the younger group. Similarly, Keiley, Howe, Dodge, Bates, and Pettit (2001) found a direct link between the physical maltreatment of a child by a parent and externalizing behaviors. More specifically, this longitudinal study used growth modeling to reveal that the earlier a child was abused, the more likely they were to exhibit adjustment problems in early adolescence.

In addition, we know that interparental conflict and/or marital discord is also harmful to adolescent development (Vandewater & Lansford, 1998). Rutter and Giller (1984) noted that the relationship between "broken homes" and delinquency may be largely explained by the presence of marital discord (see also Penning & Barnes, 1982) to the extent that there may not even be a direct link otherwise (Wilson & Hernstein, 1985). Also, interparental conflict has been found to be significantly associated with antisocial behavior in children even when their home was unbroken (Porter & O'Leary, 1980). In studies involving only children from broken homes, the extent of parental marital discord has been found to be associated with the likelihood of deviant behavior (Hetherington, Cox, & Cox, 1979; Wallerstein & Kelly, 1980).

However, child abuse or maltreatment and interparental conflict are not the same as parent-child conflict. Though early adolescent theorists (e.g., Freud, 1962; Hall, 1904) viewed adolescence as a period consumed with inevitable parent-child turbulence ("storm and stress"), more recent work has recognized that conflict with parents during this time is less frequent and less traumatic than originally felt (e.g., Steinberg, 1990) and normally involves the mundane issues of daily life (Montemayor, 1983). However, where parent-

adolescent conflict does exist, it seems to be a risk factor for negative behavioral outcomes (Shek & Ma, 2001; Tomlinson, 1991), though there is some disagreement on this matter (e.g., Buysse, 1997). Research has widely recognized parent-adolescent conflict as an important etiological factor in the development of psychological maladjustment (Reich, Earls, & Powell, 1988; Foster & Robin, 1988; Hall, 1987), such as depression (Forehand et al., 1988) and anxiety (Slater & Haber, 1984). Such conflict has also been linked to externalizing problems at school (Forehand, Long, Brody, & Fauber, 1986), status offenses (Adams, Gullotta, & Clancy, 1985; Justice & Duncan, 1976), and a general antisocial tendency (Knight, Broome, Cross, & Simpson, 1998). Kim, Hetherington, and Reiss (1999) found that conflict with mothers (more so than fathers; cf. Shek & Ma, 2001 who found that conflict with fathers was more influential than with mothers) had a strong positive relationship with externalizing behaviors in adolescence for both boys and girls from both intact and stepfamily homes. In fact, these researchers noted that such conflict contributed more substantially to adolescent problem behavior than did parental monitoring.

However, with all of this empirical knowledge, researchers remain somewhat frustrated at the lack of conclusive evidence regarding the relationship between parent-child conflict and behavioral disorders. For instance, Rubenstein and Feldman (1993) stated, “it is not known to what extent adolescent behavioral and emotional disorders are a function of the amount of conflict in the family” (p. 43). Some of this frustration stems from the “chicken-egg” dilemma. In other words, not enough work has been done to identify the direction of the influence and/or its reciprocal nature. It may also be that the

importance of parent-adolescent conflict lies not with its existence within the family, but in other, more subtle, moderating factors. For instance, whether such conflict is a developmentally-enhancing or psychologically-damaging experience has been found to rely on the manner in which the conflict is resolved (Hill, 1988; Laursen & Collins, 1994; Montemayor & Hanson, 1985). Thus, in some instances, such conflict may actually be "good" or helpful in the facilitation of necessary social-cognitive abilities in the context of relationships (Cooper, 1988). Some researchers have found that the effect of parent-child conflict on problem behavior is at least partially mediated through such factors as family involvement, parental monitoring, or peer delinquency (Ary, Duncan, Duncan, & Hops, 1999; Kim et al., 1999).

Perhaps the primary source of parent-child conflict during adolescence is the negotiation of autonomy (Steinberg & Silk, 2002). As young people grow older, new roles need to be negotiated in the family. Both parents' and teens' views of family relationships and expectations of each other change and violations of these expectations can cause conflict (Collins, 1988, 1990; Dekovic, Noom, & Meeus, 1997). Such developmental expectation mismatches have been found to be most prevalent during early adolescence (Collins, Laursen, Mortensen, Luebker, & Ferreira, 1997). In fact, the most common view of parent-child conflict is that it follows an inverted U-shape which peaks during early adolescence and subsides thereafter (Montemayor, 1983; Steinberg & Silk, 2002). However, some recent work is beginning to show that, though a slight increase in parent-adolescent conflict can be documented during early adolescence, subsequent

decreases are not necessarily empirically verifiable (Collins & Laursen, 1992; Laursen & Collins, 1994; Laursen, Coy, & Collins, 1998).

Summary of Family and Deviance Literature

First, early empirical research in the autonomy dimension of family processes established that parental supervision was lacking in the homes of delinquent adolescents (Glueck & Glueck, 1950). More recent research concurs (Vazsonyi & Flannery, 1997). In fact, research emanating from more than one ongoing research project (Oregon Social Learning Center, Forgatch, 1991; Patterson et al., 1998; Vuchinich et al., 1992; Child Development Project, Deater-Deckard et al., 1998; Pettit et al., 1997) confirms this simple truth – less parental behavioral control equals more adolescent problem behavior. In addition, research shows that psychological control, as originally explicated by Schaefer (1965) and more recently expanded by Barber (2002) is important as well. More specifically, having an emotionally supportive family results in lower levels of risk for deviance among adolescents (Johnson & Pandina, 1991; Windle & Miller-Tutzauer, 1992). Also, intrusive psychological control by parents can drive adolescents to employ deviant behavior for the accomplishment of otherwise frustrated goals (Costanzo & Woody, 1985).

Second, research concerning the harmony dimension of family processes has shown that less parental affection leads to more deviance (Henggeler, 1989; Hurrelman, 1990) while large amounts of affective support protect against deviant activity (Johnson & Pandina, 1991; Sokol-Katz et al., 1997). A weak emotional attachment very early in life (first two years) has been shown to be important in the prediction of problem

behavior in adolescence (Sroufe et al., 1990) and this trajectory, if uninterrupted, seems to be quite stable, even into adulthood (Greenberg et al., 1993). There is some evidence that the earlier parents and children bond, the better (Corwyn & Benda, 2001), partly because the effects of this warm relationship accumulate over time (Scaramella et al., 1999). In addition, parental expressions of negative affect have been found to place children and adolescents at a much greater risk for deviant behavior (Pittman & Chase-Lansdale, 2001). In general, then, positive parental caregiving is negatively associated with adolescent deviance (Rothbaum & Weisz, 1994). Communication is an aspect of family harmony that is difficult to study because it is often subsumed under a larger dimensional conceptualization (e.g., Slicker, 1998) or broader construct (e.g., Lynch, 2001). We do know that it may be important in the understanding of adolescent deviance (Ellickson & Morton, 1999), but perhaps not as important as other family processes (Forehand et al., 1997), though there is disagreement in this area (Leas & Mellor, 2000).

Third, research in the conflict dimension shows that parental abuse leads to problem behavior (Eckenrode et al., 1993; Sternberg et al., 1993) and that, even though abuse as late as adolescence can significantly impact behavior (Benda & Corwyn, 2002), the earlier abuse is inflicted, the more severe the behavior problems are later (Keiley et al., 2001). Interparental conflict has also been implicated in the formation of deviant behavior in adolescents (Porter & O'Leary, 1980; Vandewater & Lansford, 1998). In addition, parent-child conflict, whether with mothers (Kim et al., 1999) or fathers (Shek & Ma, 2001), constitutes a serious risk factor for problem behavior, regardless of sex or family structure (Kim et al., 1999). Additional factors such as absence of a parent from

the home (Loeber & Stouthamer-Loeber, 1986; Steinberg, 1987) or parental deviance (Nagin & Farrington, 1992; Sampson & Laub, 1993) have also been found to contribute to norm-violating behavior.

Family and Religiosity

A large majority of high school students and young adults attend religious services at least sometimes and say that religion has at least some importance in their lives (Bachman et al., 2002; Smith, Denton, Faris, & Regnerus, 2002; Smith, Faris, Denton, & Regnerus, 2003). Furthermore, Bachman and colleagues suggest that patterns of religiosity and church attendance are normally established by the end of high school and remain stable into adulthood. Of course, these patterns are largely transmitted from parents to teens (Erickson, 1992; Flor & Knapp, 2001). In fact, parental religious beliefs have been found to be the best predictors of adolescent religious beliefs (Acock & Bengston, 1978; Dudley & Dudley, 1986; Hayes & Pittlekow, 1993; Hoge, Petrillo, & Smith, 1982). Thus, it was understandable when Snarey and Dollahite (2001) recently noted that "religious faith and family relations are interrelated in positive, statistically significant, and psychologically interesting ways" (p. 646). In other words, family and religiosity are powerfully intertwined. Researchers attempting to explore the nature of this interrelationship have done so in different areas of family life. Some have examined the direct role religiosity may play in shaping parental behaviors such as parental warmth and control or parental coping with a child's developmental or physical difficulties. Others have been interested in the indirect effect religiosity may have on marital relationships

which, in turn, have an influence on children. Most of the literature dealing with family and religiosity focuses on these areas.

Parenting

Religion has also been found to have an impact on families through the mechanism of parenting. For example, Brody et al. (1994) reported that both maternal and paternal religiosity positively influenced marital interaction quality as well as co-caregiver conflict (i.e., conflict arising between spouses concerning child-rearing issues). In turn, these aspects of the marital relationship (interaction quality, caregiving conflict) had a direct impact on parent-child relationship quality. More specifically, high levels of personal religiosity by parents led them to report better quality interactions in their marriage and less caregiving conflict between them which then led to better quality relationships between the parents and their child.

Studies often highlight the mother-child connection while neglecting the input of fathers. However, recent findings from the National Study of Youth and Religion confirm the importance of the role of fathers in the religion-family equation. Using data from the National Longitudinal Survey of Youth 1997 (NLSY97), Smith and Kim (2002) have found evidence that youth from religiously active homes are more likely than nonreligious youth to have a positive relationship with their father. Similarly, Gunnoe et al. (1999) found that greater personal religiousness led to better authoritative parenting skills (for both mothers and fathers) and that this, in turn, led to more positive behavioral outcomes for their adolescent children.

Research has found that Christian conservatism is modestly correlated with the general belief of placing a high priority on child conformity and obedience (Danso, Hunsberger, & Pratt, 1997; Ellison & Sherkat, 1993b), more favorable attitudes toward corporal punishment (Danso et al., 1997; Ellison & Sherkat, 1993a; Grasmick, Bursik, & Kimpel, 1991; Grasmick, Morgan, & Kennedy, 1992; Wiehe, 1990), and more frequent use of corporal punishment (Ellison, Bartkowski, & Segal, 1996a, 1996b; Gershoff, Miller, & Holden, 1999). However, this emphasis on parental control by religious parents does not seem to require the sacrifice of child autonomy (Alwin, 1986).

Though the literature tying religiosity to warmth in family relationships is small, results have consistently suggested that greater religiousness is related to greater positivity. For example, in a very important longitudinal study on religion and family, Pearce and Axinn (1998) showed that higher religious importance scores at time 1 were significantly related to positive mother-child relationships at time 2 (five years later). Parent-child congruence on religious matters also positively predicted later relationship warmth. Wilcox (1998) even found that parental endorsement of theologically conservative religious views about the Bible was related to greater parental warmth (i.e., hugging and praising) as was church attendance.

There is a line of research dealing with the use of religion by parents to cope with children with developmental or physical disabilities. As many as three-quarters of parents with disabled or severely sick children use religion to cope (Coulthard & Fitzgerald, 1999). In general, it has been found that religious coping strategies are associated with better parental health (Coulthard & Fitzgerald, 1999), less parental stress and depression

(Friedrich, Cohen, & Wilturner, 1988; Rogers-Dulan, 1998), more family cohesion (Weisner, Beizer, & Stolze, 1991), greater social support (Barbarin & Chesler, 1984), and less parental depression (Rogers-Dulan, 1998). One specific religious coping strategy is using benevolent cognitive reappraisals (e.g., "My child is a gift from God") to reframe the child's problems and the parents' role in caregiving (Haworth, Hill, & Glidden, 1996; Skinner, Bailey, Correa, & Rodriguez, 1999; Weisner et al., 1991). Parents of disabled or sick children have also reported receiving psychological benefits, such as hope, strength, and peace, from religious practices such as prayer, church attendance, or holy pilgrimages (Bailey, Skinner, Rodriguez, Gut, & Correa, 1999).

Greater maternal, paternal, or family religiosity has also been linked to fewer internalizing problems for youth (Brody et al., 1996). In a very important ten-year longitudinal study, Miller, Warner, Wickramaratne, and Weissman (1997) presented evidence for the fact that maternal religiosity protected children against depression. Some have speculated that religion will lead to excessively harsh disciplinary practices which will, in turn, lead to child psychopathology. It is notable that such a path has not yet been identified. Rather, in this study, stronger religious beliefs and practices were found to result in significantly less psychopathology.

Marriage

Several studies have linked religion and family by investigating the impact of religious beliefs and behaviors on various aspects of marriage.

Marital Dissolution

Having a religious affiliation (as opposed to having none; Bock & Radelet, 1988; Breault & Kposowa, 1987; Chan & Heaton, 1989), attending church services (Bahr & Chadwick, 1985; Call & Heaton, 1997; Clydesdale, 1997; Heaton & Goodman, 1985), and denominational homogamy between spouses (Bahr, 1981; Lehrer & Chadwick, 1993) have all been documented as protective factors against marital dissolution. Similarly, marital satisfaction has been positively linked to religious affiliation (Bahr & Chadwick, 1985; Bock & Radelet, 1988; Larson & Goltz, 1989) and religious participation (i.e., church attendance; Bahr & Chadwick, 1985; Booth et al., 1995; Hatch, James, & Schumm, 1986) as well as religious importance (Dudley & Kosinski, 1990; Mahoney et al., 1999; Young, Denny, Luquis, & Young, 1998). Denominational homogamy has also been found to predict marital satisfaction (Heaton & Pratt, 1990; Shehan, Bock, & Lee, 1990), presumably as a result of conflict resulting from different religious beliefs between spouses. In addition, church attenders and couples who share common religious beliefs (Larson & Goltz, 1989; Mahoney et al., 1999; Wilson & Musick, 1996) have been found to be more strongly committed to their marital relationships.

Marital Conflict

The benefit of religiosity for marriage does not seem to be in preventing conflict, since research in this area has not been able to document this kind of effect (Bahr, 1982; Booth et al., 1995; Mahoney et al., 1999; Scanzoni & Arnett, 1987). However, there is some evidence that greater religiousness is associated with a higher quality of communication (Brody et al., 1994) and greater skill in handling disagreements (Mahoney

et al., 1999). Some have hypothesized that greater religious involvement would be related to higher levels of domestic violence, but efforts to substantiate this claim have been unsuccessful (Brinkerhoff, Grandin, & Lupri, 1992). In fact, there is evidence for the reverse (Ellison, Bartkowski, & Anderson, 1999; Fergusson, Horwood, Kershaw, & Shannon, 1986).

Marriage and Parenting

Brody et al. (1994) added the dimension of marital relationships to their investigation of religiosity and family processes in order to explore potential operative mechanisms. Their research involved African-American families and found that both maternal and paternal religiousness predicted less co-parenting conflict and better marital quality. In fact, marital quality and parenting skills mediated the effect of parental religiousness on the quality of the parent-child relationship. Furthermore, in a second follow-up study, Brody et al. (1996) found that paternal religiousness was related to greater observed family cohesion and fewer child internalizing problems while both maternal and paternal religiousness predicted less marital conflict and fewer child externalizing problems. In this study, results from a structural equation model indicated that parental religiousness produced positive child behavioral outcomes by promoting family cohesiveness and lowering marital conflict.

Summary of Family and Religiosity Literature

First, religiosity seems to influence family processes through the channel of parenting. Parents who show higher levels of personal religiosity exhibit stronger authoritative parenting skills (Gunnoe et al., 1999; Smith & Kim, 2002) and report less

parent-child conflict (Brody et al., 1994). Conservative religious beliefs lead parents to emphasize child obedience and corporal punishment (Danso et al., 1997; Gershoff et al., 1999), though not at the loss of child autonomy (Alwin, 1986) or at the cost of abuse (Mahoney et al., 2001). At the same time, it has been found that religion leads to more positive parent-child relationships (Pearce & Axinn, 1998) characterized by more physical affection and greater warmth (Wilcox, 1998). Parents with very sick or disabled children report using religion as an effective coping mechanism (Bailey et al., 1999; Coulthard & Fitzgerald, 1999; Rogers-Dulan, 1998) which seems to lead, in turn, to less internalizing problems for their children (Brody et al., 1996; Miller et al., 1997).

Second, there is evidence that religiosity impacts family processes through spousal interaction. Religious affiliation, religious participation, and denominational homogamy have all been found to predict both marital satisfaction and marital dissolution (Bahr & Chadwick, 1985; Heaton & Pratt, 1990; Lehrer & Chadwick, 1993) as well as commitment to marriage (Mahoney et al., 1999). Greater religiousness has also been found to be related to better marital communication (Brody et al., 1994) and conflict management (Mahoney et al., 1999).

Third, there has been some evidence that religiosity interacts with both marriage and parenting simultaneously. Both marital quality and parenting skills have been found to mediate the relationship between parental religiousness and quality of parent-child relationship (Brody et al., 1994; Gunnoe et al., 1999). In fact, paternal religiosity has been found to be especially important in predicting less marital conflict and greater family cohesion leading to more positive child outcomes (Brody et al., 1996).

Theoretical Considerations

The search to understand the relationship between religiosity and deviance should not be void of theory, since theory should provide structure and meaning for future exploration in this area. Despite the fact that Hirschi and Stark's (1969) study did not provide support for the relationship between religiosity and deviance, Hirschi's (1969) social control theory provides an ideal theoretical framework for such study.

Though Hirschi is not the first (see e.g., Paternoster & Bachman, 2001, who state that "there was a rich history of control theories of crime by the mid-1960's," or, in other words, before Hirschi published his; p. 73) nor the only (e.g., there have been Matza, Nye, Reckless, Toby, Briar, Piliavin, and Reiss, to name only a few control theorists, whose ideas may be attributed to the likes of Hobbes and Durkheim; Hirschi, 1969, p. xv) control theorist, he has been labeled "the spokesperson of the microsociological perspective [of social control theory]" (Adler, Mueller, & Laufer, 1995, p. 61). Thus, it is his explication of social control that has guided and justified research on a broad range of topics, not the least of which is the relationship between religiosity and deviance.

The basic premise of Hirschi's social control theory is that "delinquent acts result when an individual's bond to society is weak or broken" (1969, p. 16). So the explanation of deviance from a control theory perspective requires an accounting of the reason for societal conformity. The important thing to explain, then, according to this perspective, is not why people deviate from societal norms, but rather, why they conform to them. In other words, while many are looking for an explanation of why people deviate, control theory assumes that deviation will happen and looks instead for a reason for conformity.

Therefore, the important question to answer, from a social control perspective, is not "Why do people disobey the rules of society?" but rather, "Why do people obey the rules of society?"

Hirschi answers this question by hypothesizing that it is a "bond to society" that causes people to conform and, consequently, when this bond is weak or broken, delinquent acts result. Subsequently, Hirschi delineates the nature of this "bond," stating that it has four specific elements: 1) attachment to conventional people, 2) commitment to conventional action, 3) involvement in conventional activities, and 4) belief in conventional values. Concerning the attachment to conventional people which is a necessary part of this bond, Hirschi specifies three contexts – parents, school, and peers – where bonds with people are important and presents data (from the Richmond Youth Study) to support their role as controls against deviance. Here, he could have easily discussed the church (i.e., "religiosity") as another parallel control mechanism, but presumably he chose not to because of his own findings that religiosity was not important in this context.

The important thing to understand about deviant behavior is what social structures or institutions may successfully persuade and enable an individual to conform to societal norms, it becomes obvious how religiosity may fit into social control theory.

> An important social institution not included by Hirschi is religion. Bonds to religious organizations may inhibit drug use in several ways. First, individuals may become *attached* to a church and the people they associate with in the church. Because of that attachment, individuals who attend a church may be less

> likely to use various drugs than might individuals who do not attend a church. Second, *involvement* in religious activities may leave less time available for drug experimentation. Involvement may also provide a network of support which may insulate people from opportunities to use drugs. Third, *commitment* to a religious organization and its goals may provide meaning to life that will make drug use appear less attractive. Fourth, the *belief* system of most religious groups is against drug use, and those teachings may reinforce personal beliefs against drug use. (Bahr, Hawks, & Wang, 1993, p. 448)

Thus, religiosity can conceivably exhibit all four elements of a bonding mechanism, making it a potentially important control factor in any control-based empirical investigation of adolescent deviant behavior. Not surprisingly, religiosity has been frequently conceptualized in this manner (e.g., Cochran et al., 1994; Evans et al., 1996; Ross, 1994, as only a small sampling).

In addition to its utility in conceptualizing religiosity as a control mechanism for the deterrence of deviance, social control theory offers the ability to identify some etiological factors as more distal and others as more proximal. Such flexibility lends itself nicely to a search for the more complex relationships between potential causal factors. For instance, it is well documented that family control factors, such as attachment to parents, are important in the explanation of adolescent deviance. In addition, we know that religiosity has, at the very least, a moderate effect in controlling deviance. A social control perspective allows us to go beyond these simplistic bivariate associations in the identification of a more complex model of the mechanisms by which these processes may

operate. It may be that religiosity mediates the relationship between family processes and deviance. Just as easily, however, the inverse could be true, that is, family processes may mediate between religiosity and deviance. Another intriguing possibility is that one or the other moderates the relationship so that high levels of one produce a more favorable relationship, while low levels result in a relationship which is less favorable.

All of these possibilities exist within a social control framework and can be empirically tested. Therefore, this theoretical perspective is employed in this paper in order to facilitate an exploration of the interplay between two specific control mechanisms, family processes and religiosity, in the explanation of adolescent deviant behavior.

Family, Religiosity, and Deviance

It is evident, based on the preceding material, that significant bivariate relationships between religiosity and deviance, family and deviance, and family and religiosity have been empirically documented. However, the interplay between all three of these has not been widely studied. Discovering the specific mechanisms by which these three important factors operate is an important next step in this area of research. Research concerning other intervening factors in the relationship between religion and deviance has already been conducted. Most frequently, this research has used a social control perspective and has examined the mediating role of several important control factors.

The purpose for such an examination lies in the widely held idea among control theorists that the frequently observed and well-documented relationship between religiosity and deviance is spurious in the sense that sufficient controls have not been

utilized. In this view, there are two likely scenarios under which the spuriousness of this relationship may be exposed. First, more proximal control factors may mediate the effect of religiosity, which, being more distal or antecedent, has no direct linkage to delinquency (e.g., Elifson, Peterson, & Hadaway, 1983). Second, religiosity may be one of multiple sources of social control over deviance which, being comparatively weaker than the others, loses its impact when the others are simultaneously considered. In either case, according to this school of thought, the inclusion of additional, "more important" sources of social control would reduce the inverse bivariate relationship between religion and deviance to nonsignificance.

As an example of an empirical test of this social control perspective, Evans, Cullen, Dunaway, and Burton (1995) investigated the possibility that secular social controls may attenuate the effect of religion on crime. Three separate measures of religiosity (religious activity, religious salience, and religious beliefs) were included as well as two measures of social control (informal social constraints and formal legal deterrents). Their findings suggested that religious activity had a direct effect on criminality even in the presence of the secular controls. It is important to note, concerning this study, that the sample was composed of adults, not adolescents. Furthermore, the measure of deviance in this study was limited to self-report items concerning criminal behavior. In other words, a wider variety of non-criminal deviance was not examined.

Since Hirschi's (1969) social control theory advocates the central role of family processes as a bonding mechanism, most studies conducted from a social control perspective have included some measure of parenting. For instance, in a very recent

study, Benda and Toombs (2000) tested several mediation and moderation models in a test of the robustness of the religiosity-deviance relationship. Both attachment to mother and attachment to father were included as potentially intervening social control elements. Their sample consisted of 600 men in a boot camp program ranging in age from 15-47 years. Two separate measures of religiosity were included in the study. The first was a multi-item scale of religiosity, including such activities as prayer, Bible study, and attempts to convert others. The second was a single-item measure of church attendance. Using hierarchical logistic regression to predict a dichotomous indicator of violent behavior, results showed that church attendance was not related to violence while the religiosity scale was significantly related ($\beta = -.67$). As additional variables were added to the equation (sociodemographic, social control, strain, social learning; a total of 22 variables/scales), the effect of the religiosity scale was not diminished. More specifically, neither attachment to mother or father nor any of 22 other theoretically-oriented variables explained away the effect of religiosity on deviance. These results present strong evidence for the fact that the effect of religiosity is not mediated, but rather is quite robust. Similar findings were made by Chadwick and Top (1993) where, in a multiple regression including several measures of peer and family influence on various types of deviant behavior, the individual religious behavior measure retained its significant impact on all four measures of deviance (victim offenses, victimless offenses, property offenses, and a total deviance measure).

Benda (1995) made some more complex findings. His study sample consisted of 1,093 public high school students (grades 9-12) attending six different schools in both

rural and urban areas of Oklahoma, Maryland, and Arkansas. Results from this study indicated that the effect of an 8-item religiosity scale on three measures of delinquency (property crime, personal crime, status offenses) and four measures of substance use (marijuana, amphetamine, alcohol, heavy alcohol) was differentially affected by the entry of intervening measures of parenting (attachment to mother, attachment to father, parental monitoring). On the one hand, parenting mediated the relationship of religiosity with marijuana use, while, at the same time, a non-significant relationship with person crimes became significant upon entry of the parenting variables, indicating a possible suppressor effect. Also, though religiosity was never significantly related to amphetamine use, it maintained a significant relationship with property crimes, status offenses, and both types of alcohol use, even after controlling for parenting variables.

In a similar follow-up study, Benda and Corwyn (1997) conducted an investigation using three separate multi-item personal religiousness scales (church attendance, religiosity, and evangelism) and two multi-item social control scales (attachment to mother and father). The findings of this study indicated that religiosity and church attendance (but not evangelism) were significantly related to the commission of status offenses (e.g., drinking alcohol), but that this relationship was reduced to non-significance when the social control variables (maternal and paternal attachment) were added to the model. However, the reverse was true when criminal offenses were examined, namely, neither religiosity nor church attendance were related at all to crime, but evangelism maintained a strong significant relationship, even after the addition of

parental attachment. Together, these results are somewhat confusing and difficult to interpret.

Brody et al. (1996) tested a model that hypothesized a mediating role for family processes between religiosity and adolescent behavioral outcomes. One of the unique aspects of this study was its sample. Only African American families (90) with a 9- to 12-year-old firstborn child and two parents living in a rural setting were recruited for the study. A measure of formal religiosity was included for both mothers and fathers based on two items (church attendance, importance of church attendance). There were also two measures of family processes (conflict-harmony scale, engagement scale) based on coded video observations. Interparental conflict was measured with a 10-item self-report instrument. Finally, externalizing behavior was measured in two ways (Revised Behavior Problem Checklist, Self-Control Inventory) separately by mothers, fathers, and teachers. Latent variable path analysis with partial least squares (LVPLS) estimation procedures were used to test a model that hypothesized that the effects of parental religiosity would be mediated through both interparental conflict and family cohesion, thus indirectly affecting child externalizing problems. Indeed, results indicated a good fit for this model (see also Brody & Flor, 1998, where similar findings were made). Unfortunately, this study is only partially helpful since it focuses on parental religiosity rather than the personal religious commitment of the target child.

The above studies found that (at least to a certain extent) the effects of religiosity were not explained away by parental control elements. However, Cochran et al. (1994) found something different. Data for this study were collected from 1,591 ninth through

twelfth grade students attending school in five purposively selected school districts in Oklahoma. The measures included five delinquency scales (assault, theft, vandalism, illicit drug use, licit drug use) and one additional delinquency item (truancy), three religiosity items (religious participation, religious salience, and religious affiliation), and two measures of parental control (parental supervision scale, broken home item). Results indicated that, though both religious participation and salience were significantly related to the delinquency variables, the addition of social control variables, such as parental supervision and broken home status, reduced this relationship to non-significance for all but licit drug use.

Similarly, Evans et al. (1996) used a multi-item, multi-dimensional measure of personal religiosity to assess the efficacy of religion as a deterrent in the presence of other important control factors such as attachment to parents. Results indicated that the moderately significant impact of personal religiosity on general delinquency was reduced to non-significance upon the addition of parental attachment and other control variables. Ross (1994) found that a multi-dimensional measure of religiosity failed to increase the amount of variance explained when added to a regression equation which already included such control items as attachment to family. The problem with this study, though, was that neither the unidimensional (single item measuring church attendance) or multidimensional (five scales with a total of 12 items measuring religiosity) religiosity measures had even an initial significant bivariate relationship with deviance.

In another study, Elifson et al. (1983) found very strong zero-order correlations between a measure of religious salience and several measures of deviant behavior

(gammas ranging from -.15 to -.41), yet when other etiological factors, such as closeness to mother, were added to the regression, its effect was reduced to nonsignificance. Using structural equation modeling (with LISREL), Bahr et al. (1993) found that, when other important factors (e.g., parental monitoring, family drug use) were in the model, the contribution of both cohesion with parents and religious salience was insignificant, and, therefore, both were removed completely from a final model attempting to predict adolescent substance use.

These and similar studies emphasize the mediating role of family processes (and other social control elements) in the relationship between religiosity and deviance. As can be seen, the results are mixed and no definitive conclusion has yet been reached in the literature. Another way of looking at the relationship between these three key constructs (religiosity, family processes, and deviance) may be to hypothesize an intervening role for religiosity. For example, Litchfield, Thomas, and Li (1997) examined the possibility that religiosity mediated the relationship between parenting and adolescent deviant behavior. In 1989, self-report data were collected from 1,715 Mormon adolescents (11-15 years old). Data were subsequently collected from the same youth in 18-month increments at three more points in time – 1,492 in 1990, 1,369 in 1992, and 1,133 in 1993. Three multi-item measures of family processes (behavioral regulation, maternal connection, family religious observance), three multi-item measures of religiosity (public religiosity, private religiosity, future religious plans), and three multi-item indicators of deviant behavior (sex/substances, aggression, vulgarity) were all included in a structural model which hypothesized that the effects of the more distal family variables on deviance would be

mediated through the religiosity variables. Results of LISREL analyses using early data to predict later data (i.e., family processes in 1989 predicting religious behavior in 1990/1992 leading to deviance in 1993) indicated that this model fit the data well. It should be noted that this sample may not be representative since it consisted of "religiously active participants from highly educated, intact families" (Litchfield et al., 1997, p. 215).

Another way in which religiosity may intervene between family processes and deviance is in a moderating role. Previous research has shown that religiousness can moderate the effects of stressful life events (Pargament, 1990), coping with adversity (Balk, 1983; Palmer & Noble, 1986; Seligman, 1991), and adjustment to bereavement (McIntosh & Spilka, 1990). Clearly, religious people can be distinguished from non-religious people on a number of behavioral outcomes. Therefore, it would make sense that religiosity could similarly condition the relationship between family processes and adolescent deviant behavior. In fact, there is some evidence that religiosity may moderate the relationship between family processes and various types of deviant behavior (Bahr et al., 1998; Thomas, 1988). Finally, there is also the possibility that the interrelationship of family processes, religiosity, and deviant behavior is best explained by a two-way interaction between the predictor variables (i.e., family processes and religiosity).

Other Important Intervening Factors

The primary importance of the current investigation lies in its attempt to explain the relationship between family processes and religiosity in their prediction of adolescent deviant behavior. Thus, the preceding review of literature has focused on those constructs

that hold the position of central importance in this examination. However, it would be shortsighted for the present study to completely ignore other important issues that have emerged from decades of research in this area. Such issues, though not central in focus, are still intriguing and, more importantly, may require further empirical clarification regarding their role in understanding family, religiosity, and deviance.

As was stated earlier, Hirschi and Stark's (1969) findings prompted many researchers to examine the conditionality of the relationship between religiosity and deviance. Consequently, several important intervening factors have been tested and identified. For example, there has been some evidence that religiosity may deter only certain types of deviant behavior. This evidence has been inconsistent and tenuous at best, thus requiring a more solid conclusion on the matter. In addition, developmental issues, such as the role of sex or age, have sometimes been examined, but their role still remains quite unclear, particularly in relation to all of these variables of interest (i.e., family processes, religiosity, deviance) simultaneously. Finally, measurement itself (the use of single-item, variance-restricted measures versus multi-item, reliable scales) has come to the forefront of research in this area. Therefore, advancing the field by providing conclusive evidence that more reliable measures of religiosity produce more robust results concerning the role of religion in the development of adolescents in general and, more specifically, in their choice to participate or refrain from deviant behavior continues to be a matter of priority for researchers.

These three issues (i.e., type of deviance, developmental factors, measurement) have been discovered by previous researchers to be important in this area of study.

Though they are not central to the focus of the current study, they represent conditionalities which, if left unclarified, may cast doubt upon the present findings. Therefore, because the data for the current study allow for an examination of these issues, they will be further investigated.

Type of Deviance

A rather large consensus has developed among researchers of religion and deviance that this relationship is conditioned by the type of deviant behavior under examination. More specifically, some feel the evidence suggests that religiosity is only an effective deterrent to deviant behavior that is not condemned by society in general. Middleton and Putney (1962) were perhaps the first to advocate this perspective when they argued the following:

> Much of the confusion surrounding the relation between religion and morality derive [sic] from failure to distinguish two different types of ethical standards – the ascetic and the social. Social standards proscribe actions which in general are harmful to the social group, and, we hypothesize, tend to be shared by the religious and the nonreligious alike as a part of a general social ideology. The fact that religious ideology may also proscribe these actions is incidental; . . . In contrast, ascetic standards – abstinence from sensual indulgences, gambling, and the like – derive from an ascetic religious tradition. Within the context of religious ideology violations of ascetic standards may be held spiritually harmful to the perpetrator. But since such violations are usually not directly or obviously harmful to the social group – at least in moderation – ascetic standards have less

> persuasiveness to the secularly oriented individual. He is therefore more likely to violate them." (pp. 142-143).

Because of Middleton and Putney's use of the term "ascetic standards," this perspective has been labeled "The Antiascetic Hypothesis." In their study using simple frequency analyses, Middleton and Putney found evidence in support of this hypothesis, namely that religious persons are more likely to believe antiascetic actions (gambling, smoking, drinking, and sexual activity) are wrong and they are less likely to engage in them while religious and non-religious persons do not differ in their beliefs about the morality of antisocial actions or in their participation in such.

Since the proposal of this antiascetic hypothesis, several studies have attempted to test it, with very mixed results. Part of the problem has been in the interpretation of what it means to be "antiascetic" and in the operationalization of this concept. One of the earliest studies to test Middleton and Putney's antiascetic hypothesis was Burkett and White (1974) and their interpretation/operationalization shaped much of the subsequent literature. The sought to identify a type of deviant behavior that would be viewed as more acceptable or less serious by society than by religious people and concluded that "victimless" crimes, especially marijuana and alcohol use, were the best example of such. Consequently, when they tested this hypothesis using alcohol and marijuana use as operational measures of "victimless crime" and contrasted these behaviors with "more serious" crimes, such as larceny, vandalism, and assault, they found that religious participation was not related to the more serious category of criminal activities but was, indeed, related to alcohol and marijuana use. Similarly, Albrecht, Chadwick, and Alcorn

(1977) found that measures of religiosity were more strongly related to victimless than victim deviance (see also Elifson et al., 1983; Fernquist, 1995).

After Burkett and White (1974) and Albrecht et al. (1977) laid the groundwork for testing the antiascetic hypothesis, the majority of researchers adopted a similar position and, therefore, the central focus of tests of the antiascetic hypothesis has been on substance use as a type of deviant behavior that is condemned more strongly by churches than other social institutions. However, this is a problematic approach since drug and alcohol use is clearly not "condoned" by society. For example, Corwyn and Benda (2000) found that religiosity had a significant negative impact on "hard drug" use (e.g., cocaine, heroin, hallucinogens, solvents), even in the presence of several other control variables such as attachment to mother, attachment to father, and parental supervision. Others who have made similar findings have concluded that their results supported the antiascetic hypothesis since avoidance of drugs has often been considered a particularly religious teaching. However, based on these findings, Corwyn and Benda concluded that "these results contradict the antiascetic hypothesis" since "there would seem to be little ambiguity in societal values and norms regarding use of 'hard drugs' . . . among adolescents" (p. 253). Thus, there is disagreement and confusion in the literature as to what constitutes antiascetic behavior and what its relationship to religiosity really is.

In spite of the fact that substance use is not necessarily an appropriate measure of antiascetic behavior, numerous studies have focused exclusively on substance use as the behavioral outcome of interest in tests of the deterring influence of religiosity according to the antiascetic hypothesis. For instance, in a test of the effect of religiosity on 18

different deviant behaviors, Jensen and Erickson (1979) found that the strongest relationship was with alcohol and marijuana use. In addition, Jensen and Erickson also tested their idea in Hirschi's original Richmond Youth Study data and found that, in this very data set, church attendance was significantly negatively related to drinking, smoking, and truancy, deviant behaviors which the authors considered antiascetic. Tittle and Welch (1983) also tested this same hypothesis in a somewhat broadened form by hypothesizing that religious proscriptions are enhanced when the community at large is characterized by moral ambiguity and moral guidelines are, therefore, unavailable. They found evidence supporting this hypothesis.

However, empirical evidence regarding the antiascetic hypothesis has not at all been consistent. For example, Chadwick and Top (1993) found religiosity to be significantly negatively correlated with both person and property offenses as well as victimless offenses. Also, in Jensen and Erickson's (1979) study mentioned above, it was found that religiosity had a significant negative relationship with 14 of the 18 deviant behaviors measured, including several more serious offenses such as grand theft, vandalism, and assault. In addition, Evans et al. (1996) found that, though their multi-item measure of personal religiosity was significantly negatively related to a measure of general delinquency, it had only a weak, non-significant, negative relationship to a more specific measure including only antiascetic delinquency items.

The empirical evidence in general indicates that religiosity has a negative relationship with both drug and alcohol use (Brownfield & Sorenson, 1991; Cochran, 1993; Cochran & Akers, 1989; Dudley, Mutch, & Cruise, 1987; Ellis & Thompson, 1989;

Free, 1994; Linden & Currie, 1977; McLuckie, Zahn, & Wilson, 1975; Pearlman et al., 1972; Perkins, 1987; Turner & Willis, 1979; Vener, Zaenglein, & Stewart, 1977; Whitehead, 1970). In the influential Monitoring the Future study, considerable longitudinal evidence has been gathered from a nationally-representative sample in support of the consistently deterrent effect of religiosity on substance use of all kinds. In a summary of eight data points over an eight-year period of time, Bachman et al. (2002) found that young people who regularly attended church (once or more a week) were consistently less involved in cigarette smoking, alcohol drinking, use of marijuana, and use of cocaine. This pattern held true in each of these categories, not only in baseline data, but also in every year for each of the subsequent seven years of follow-up data collection.

Developmental Issues

Much of the religion-deviance literature has completely ignored, or at least treated in a peripheral manner, such developmental issues as age and gender. However, it seems important to understand whether the relationship between religiosity, family processes, and deviant behavior changes as an adolescent gets older or varies depending on whether one is male or female.

Age

Age is an important developmental construct and, therefore, the interplay between age and the variables of interest in the current study is an important developmental question. Previous empirical research has established that participation in religious, family, and deviant activities varies somewhat by age. It would follow that potential

changes in the interrelationship between these variables due to increases in age should also be examined.

Age and Religiosity

Participation in and importance of religion has been found to be age dependent. For instance, Bachman et al. (2002) found that the percentage of people reporting that religion was “very important” gradually increased between the ages of 18 and 32, from 24% to 29% for males and from 33% to 41% for females. However, during the same time period, the percentage who reported “rarely” or “never” attending church increased (44% to 60% for males; 39% to 49% for females) and the percentage of regular church attenders (once a week or more) declined (40% to 25% for males; 46% to 33% for females). Though these findings indicate definite developmental trends in religious participation associated with age, they are also somewhat contradictory and require further exploration.

For the most part, empirical research has shown a persistent overall decline in religiousness during adolescence (Donahue & Benson, 1995). Potvin, Hoge, and Nelson (1976) observed declines in prayer, feelings of closeness to God, and orthodoxy during adolescence (see also Benson, Donahue, & Erickson, 1989; Roehlkepartain & Benson, 1993), while Benson, Yeager, Wood, Guerra, and Manno (1986) reported lowering scores among adolescents on both intrinsic and extrinsic religiousness (see also Allport & Ross, 1967). Unfortunately, these empirical findings are somewhat inconsistent with developmental theories which postulate that issues regarding the meaning and purpose of

life (such as religion) become more salient with age (e.g., Erickson 1968; Kohlberg, 1969). Clearly, greater elucidation is necessary in this area.

Age and Family

The classic view of changes in parent-adolescent relationships during adolescence emphasizes the need for adolescents to emotionally disengage from the family and views those adolescents who remain emotionally attached to parents as somewhat inferior to those who are able to detach themselves (Erickson, 1959; Marcia, 1980). Developmentalists have characterized adolescence as a time when a childlike unilateral trust in parents is replaced by a more autonomous view of authority (Kohlberg, 1969; Piaget, 1965). Some scholars, however, have shown concern that this view may promote agency at the expense of connectedness (Baumrind, 1987, 1991; Gilligan, 1987; Sampson, 1988).

In any case, empirical research has shown that family processes, including parent-adolescent relationships, is fluid during adolescence and different in adolescence than childhood. Many scholars have argued that parent-adolescent relationships follow a curvilinear pattern where they deteriorate rapidly at early adolescence, remain poor during middle adolescence, and finally begin improving during late adolescence (e.g., Montemayor, 1983). However, in a recent meta-analysis of studies examining changes in parent-adolescent conflict during adolescence, Laursen et al. (1998) found that the aggregated evidence did not support this common assertion. Rather, evidence accumulated from 37 empirical studies indicated an identifiable linear decline in parent-adolescent conflict. Conflict was found to be greater in early adolescence than mid-

adolescence and greater in mid-adolescence than late adolescence. There was some evidence, however, for the fact that conflict in mid-adolescence, though less in frequency, may be more heated than in early adolescence.

Age and Deviance

Remarkable stability has been observed in antisocial behavior (Elliot, Huizinga, & Ageton, 1985; Farrington, 1995; Huesmann, Eron, Lefkowitz, & Walder, 1984; Loeber & Dishion, 1983; Olweus, 1979) beginning in early childhood (Lerner, Hertzog, Hooker, Hassibi, & Thomas, 1988) and moving into adolescence and adulthood (Kazdin, 1987; Robins, 1978). In fact, compelling evidence is emerging for a time-ordered sequence of events which may almost universally predict an early-onset trajectory for juvenile offending (Patterson et al., 1998). Progress down this pathway may begin as early as fourth grade (Farrington & Hawkins, 1991) or even first grade (Kellam, Brown, Rubin, & Ensminger, 1983) and leads to later juvenile and adult deviance (Loeber, 1982; Moffitt, 1983; Patterson, 1995; Zhang, Wieczorek, & Welte, 1997).

However, research has also documented that deviance varies considerably with age. More specifically, a population-based pattern has been well-established showing a surge in deviant behavior during adolescence followed by a steady decline beginning in early adulthood and continuing throughout life (Blumstein & Cohen, 1987; Farrington, 1986; Hirschi & Gottfredson, 1983; for an example of this pattern, compare Evans et al., 1996, who found that delinquency increased with age in a high school sample [mean age = 16.4], with Evans et al., 1995, who found that crime decreased with age in an adult sample [median age = 41]). This pattern of gradual change does not seem

consistent with the previous thought of stability. Moffitt (1983) has attempted to reconcile this apparent conflict between stability and change by proposing two separate types of deviance trajectories – adolescence-limited and life-course-persistent. More simply, this trajectory which reflects change should be viewed as stable in itself.

Age, Religiosity, Family, and Deviance

As evidenced in the brief discussions above, age has a documented effect on all three of the variables of interest in the current study. However, research dealing with more than one of these areas simultaneously while also including a measure of age is more rare. Age has sometimes been included in studies involving the link between religion and delinquency. Most of the time, age has simply been controlled in such analyses. For instance, Evans et al. (1996), when controlling for age, found that it was the strongest predictor of delinquent behavior (being older meant being more delinquent) among all demographic variables, was a stronger predictor than even religiosity, and was second only to conventional beliefs in a model including demographic and social control elements. In a similar earlier study, Evans et al. (1995) controlled for age and results indicated that it was a stronger predictor of crime than any theoretical or religiosity measures.

Benda and Toombs (2000) provided a more interesting opportunity to examine the effects of age on the religion-deviance relationship when they tested whether age moderated the effect of religiosity on violent behavior. As expected, their results indicated that age did indeed moderate this relationship. More specifically, they found that the inhibitory effects of religiosity on violence were greater for older subjects (over

24 years old) than for younger. However, an opposite finding was made by Rohrbaugh and Jessor (1975) whose study suggested that the effect of religion as a personal control against deviant behavior declined with age.

Age has also been examined in its relationship to family processes and deviance, resulting in mixed findings. On the one hand, Miller, Cowan, Cowan, Hetherington, and Clingempeel (1993) reported that the younger children in their study exhibited stronger associations between familial variables and various measures of externalizing behavior than the older children in the study. They attributed this finding to the fact that older children were achieving greater levels of independence and were interacting with people other than just parents (e.g., peers, teachers, others) and, consequently, greater autonomy coupled with multiple types of outside influence resulted in a reduction of the importance of family processes in the determination of behavior.

On the other hand, Rothbaum and Weisz (1994) conducted an extensive meta-analysis where the results from 47 empirical studies were quantitatively aggregated and subsequently statistically analyzed. They found that older children/adolescents (6 years and older) exhibited a stronger connection between parental caregiving and externalizing behaviors than younger children (5 years and younger). This was exhibited by the fact that their mean effect size was larger (r = .31 vs. r = .21) and the percentage of the effects that were significant in these studies was significantly greater (61% vs. 33%). After controlling for type of measure (self-report vs. observation), these differences became slightly more pronounced (mean effect size: older, r = .37; younger, r = .21; percentage of significant effects: older, 64%; younger, 33%). These results seemed to indicate that

family processes (i.e., parental caregiving) was a more important deterrent to deviance (i.e., externalizing behavior) among older children/young people. This may be viewed as support for the assertion of reciprocity theory that parent-child mutuality may take years to develop and that, consequently, the parent-child bond is stronger at older compared to younger ages (e.g., Patterson, 1982). Though the results of the meta-analysis may seem to outweigh those from a single study (Miller et al., 1993), it still remains that such conflicting evidence may require further elaboration.

In a more recent study, Amato and Fowler (2002) presented evidence that harsh parental punishment was consistently positively related to problem behavior for young people regardless of their age. In addition, they found that parental support was important for preventing behavior problems among adolescent youth, but not among preadolescent children. In this study, parental monitoring seemed to have no significant impact on problem behavior for youth of any age.

Summary of Age, Religiosity, Family, and Deviance

Church attendance seems to decline with age while at the same time the salience of personal religiosity increases (Bachman et al., 2002), though there are conflicting findings in this area (Benson et al., 1986). There is also evidence that adolescents' participation in family processes diminishes as they grow older (Laursen et al., 1998). Deviant behavior shows a corresponding increase during the adolescent years (Farrington, 1986; Hirschi & Gottfredson, 1983). In fact, this pattern of increased deviant activity during adolescence has been found to both mediate (Evans et al., 1995, 1996) and moderate (Benda & Toombs, 2000; Rohrbaugh & Jessor, 1975) the effect of religiosity on

deviance. In addition, some have found that the association between family processes and deviance was stronger for younger than older adolescents (Miller et al., 1993) while others have made the opposite finding (Rothbaum & Weisz, 1994). Recently, a case has been made for the possibility that such relationships do not change over time, but are, in fact, the same regardless of age (Amato & Fowler, 2002).

Sex

Sex is another important developmental construct and it is important developmentally speaking to determine whether the interrelationship between the variables of interest in the current study is conditioned by sex. Previous research has found that religious participation, family relationships, and deviant behavior all vary somewhat by sex, but it is not yet accurately known whether we should expect their simultaneous relationship to be different for males and females.

Sex and Religiosity

Empirical research has provided consistent evidence that females exhibit more religious behavior than males (Donahue & Benson, 1995; Fiese & Tomcho, 2001; Sullivan, 2001). This pattern seems to hold throughout the lifespan (Argyle & Beit-Hallahmi, 1975; Batson, Schoenrade, & Ventis, 1993; Francis, 1985; Roehlkepartain & Benson, 1993; Snarey & Dollahite, 2001) though the effect size is normally weak (i.e., < .10). There is also evidence that parental religiosity, which is one of the most potent predictors of adolescent religiosity, has a stronger impact on girls than boys (Erickson, 1992).

Sex and Deviance

The fact that males are much more deviant in their behavior has been well-established empirically (Blumstein, Cohen, Roth, & Visher, 1986; Elliott, Huizinga, & Menard, 1989; Hickman & Piquero, 2001; Maccoby, 1986). In fact, "maleness" is normally considered a risk factor in the etiology of deviant behavior (Huselid & Cooper, 1994; Zahn-Waxler, 1993). Donahue and Benson (1995) found that "femaleness" was negatively associated with every form of deviance they tested, including alcohol use, binge drinking, marijuana use, sexual intercourse, and violence, while Deater-Deckard et al. (1998) found "maleness" to be positively associated with three separate measures of externalizing behavior (see also Carlucci, Genova, Rubackin, Rubackin, & Kayson, 1993; Engs & Hanson, 1990; Evans et al., 1995; Evans et al., 1996).

Sex, Religiosity, Family, and Deviance

Empirical research has identified a role for sex in the understanding of adolescent religious and deviant behavior as well as processes within adolescents' families. However, the function of sex as a moderator between these variables in their simultaneous relationships is still largely unknown. For example, in a study involving the intersection of religiosity and family, Pearce and Axinn (1998) found evidence that the more important religion was to a mother, the more likely her child was to report a higher quality relationship with her. This touches on sex since mothers are specified rather than fathers, but not in the way we would hope. First, fathers were not included in the study at all, therefore, no contrasts could be made between the effects of maternal and paternal

religiosity. Second, the sex of the child was not distinguished in this relationship, therefore, it is left undetermined whether this effect is different for males than females.

In a meta-analytic investigation of the role of gender in the relationship between family and deviance, Rothbaum and Weisz (1994) investigated whether parental caregiving was more salient in the deterrence of externalizing behavior for male or female children. Initial analyses involving all aggregated studies found statistical trends ($p < .10$ for both mean effect size and percentage of significant effects) but no statistical differences between boys and girls. In an additional set of analyses, significant sex differences were found among preadolescent children living with their single mothers. These statistically significant findings indicated that maternal caregiving was more important for the deterrence of deviance in preadolescent boys than girls. This was consistent with Zaslow (1989) who had previously made an even more specialized finding, namely that these associations were stronger for boys than girls only among preadolescents being raised by divorced, unremarried mothers. This may or may not be consistent with Baumrind's (1991) finding that an intact family structure is more important for prohibiting problem behavior for girls than boys.

Only a few studies have examined the linkage between religiosity and deviance through a gender lens. When Rohrbaugh and Jessor (1975) did so, they found a very similar relationship by gender. Religiosity correlated similarly by sex with marijuana use (r = -.29 for males, r = -.31 for females, both statistically significant) and general deviant behavior (r = -.16 for males, r = -.22 for females, both statistically significant) among high school students and the same general pattern held up for college students as well.

On the other hand, Heath et al. (1999) found the deterrent effect of religiosity on drug, cigarette, marijuana, and alcohol use to be stronger among adolescent girls than boys. Along the same line, Albrecht et al. (1977) found some interesting gender differences when testing the effect of religiosity on deviance. Though a measure of religious behavior was significantly negatively related to measures of total and victimless deviance for both males and females, a measure of religious attitudes was only related to these deviance constructs for males. In contrast, neither religious attitudes nor religious behavior were related to victim deviance for males though they were both related for females. Similarly, Chadwick and Top (1993) also identified some interesting gender patterns in their examination of this relationship. Their measure of private religious behaviors was significantly negatively correlated with three different types of deviant behavior (person offenses, property offenses, and victimless offenses) for both males and females and a measure of church attendance was found to provide constraint against victimless offenses for both as well. However, religious beliefs predicted property offenses and religious integration predicted both person and property offenses, but both only for males. Spiritual experiences, on the other hand, predicted person offenses only for females.

In their meta-analytic study of the religion-deviance literature, Baier and Wright (2001) tested for gender differences as well. They found that a quantitative variable representing the male proportion of the samples included in their review positively predicted an effect by religion on deviance. Though this finding was non-significant, it implied that, as a whole, the impact of religion on deviance may be slightly stronger for

males than for females. Consequently, the only thing that is clear from a review of the literature detailing the role of sex in the relationship between religiosity and deviance is that this role is still unclear. Some say the relationship does not differ by sex, others say it is stronger for girls, and still others say it is stronger for boys. Obviously, more clarification is required.

Summary of Sex, Religiosity, Family, and Deviance

Females tend to be more religious than males (Sullivan, 2001) throughout the lifespan (Snarey & Dollahite, 2001) and also may be more strongly influenced by the religion of their parents (Erickson, 1992). On the other hand, males exhibit much higher levels of deviant behavior (Deater-Deckard et al., 1998). Maternal religiosity seems to lead to a much stronger mother-child bond (Pearce & Axinn, 1998). There is evidence that the developmental processes involving parental caregiving and child externalizing behavior (Rothbaum & Weisz, 1994) as well as the relationship between religiosity and deviance (Rohrbaugh & Jessor, 1975) do not differ by sex. However, there have also been studies showing significantly complex patterns of sex moderation (Albrecht et al., 1977; Chadwick & Top, 1993). In meta-analytic work, some results have supported the idea of no sex differences (Rothbaum & Weisz, 1994) while other results have shown that perhaps the effect of religiosity on deviance is slightly stronger for males than females (Baier & Wright, 2001).

Measurement

Though measurement is almost always a point of contention among researchers in various fields of study, it has played a particularly consequential role in the study of

religion and deviance (e.g., Gorsuch & McFarland, 1972). Several of the subsequent criticisms of Hirschi and Stark's (1969) seminal work have been methodological in focus. In particular, their measure of religiosity has come under considerable fire (Knudten & Knudten, 1971). More specifically, they employed a single-item measure assessing frequency of church attendance. They defended this choice by stating that the usual measure of personal religiosity "in studies of the effects of religion on delinquency is a measure of church attendance. In our opinion, this is as it should be. The view that church attendance should reduce delinquency is accepted by sociologists, layman [sic], and the clergy . . ." (p. 205).

Subsequent research, however, has shown that single-item measures of church attendance, though sometimes still effective (e.g., Burkett & White, 1974; Higgins & Albrecht, 1977; Jensen & Erickson, 1979, to name only a few), can often be insufficient for capturing the essence of the type of individual religious commitment that results in lifestyle changes and behavioral control.

> It has been cogently argued in the psychology of religion literature that, given the complexity of religious commitment, single measures simply are inadequate (Fulton, 1997; Gorsuch, 1988; Newcomb & Bentler, 1989). Stated succinctly, church attendance, like attendance in a college classroom, is at best a vicarious indicator of commitment and a poor measure of performance. Church attendance, especially among adolescents, is often a result of parental pressure, social gains, and a belief that attendance leads to eternal security rather than a deep personal

commitment to doctrine that restrains behavior like drug use (Corwyn & Benda, 2000, p. 253).

Based on their review of the literature, these same authors concluded that "studies that fail to find support for a relationship between religion and delinquency . . . almost invariably operationalize religiosity with single-item measures" (Corwyn & Benda, 2000, p. 253). This conclusion finds empirical support in Johnson et al.'s (2000) systematic review of the literature. First, they found that studies utilizing multiple measures of religiosity (i.e., four or more) always reported a significant negative relationship with deviance. Second, they found that studies assessing the reliability of their measure(s) of religiosity (i.e., multi-item scales) always reported a significant negative effect as well. Apparently, multi-item, multi-dimensional measurement of religiosity produces more valid, more reliable, and more consistent results, namely that religion is an effective deterrent against deviant behavior.

In attempts to clarify this issue, some researchers have used both single-item variables and multi-item scales in a side-by-side comparison within the same study, hoping to find that one is more effective than the other or that both are equally effective (e.g., Benda & Toombs, 2000; Evans et al., 1995). Some have even found that other single-item measures (e.g., religious salience) are better than (e.g., Elifson et al., 1983) or at least equal to (e.g., Sloane & Potvin, 1986) a single-item measure of church attendance. In any case, many researchers have self-acknowledged the deficiencies of their single-item measures for tapping the full domain of the concept of religiosity (Cochran, 1989; Higgins & Albrecht, 1977; Rohrbaugh & Jessor, 1975; Tittle & Welch, 1983). More

recent studies employing more sophisticated designs and improved measurement frequently highlight the weakness of the use of single-item measures of religion in previous literature (Benda & Corwyn, 1997; Benda & Toombs, 2000; Corwyn & Benda, 2000; Johnson et al., 2001).

Summary of Other Intervening Factors

The current investigation seeks to examine three potentially important peripheral issues – type of deviance, developmental issues, and measurement. First, some have advocated that religiosity carries with it a unique capacity for social control only in regards to behaviors that are labeled deviant by churches or religious organizations (Middleton & Putney, 1962). In addition, this antiascetic hypothesis has been reoperationalized to mean that antiascetic deviance is behavior which is not harmful to others, but is, rather, victimless (Burkett & White, 1974). There has been considerable confusion, however, as to whether this hypothesis is correct, with large quantities of evidence for both sides (e.g., Jensen & Erickson, 1979, contains evidence for both within one study).

Second, age and sex are already known to be important developmental variables in the study of religiosity (Bachman et al., 2002; Fiese & Tomcho, 2001), family (Laursen et al., 1998), and deviance (Deater-Deckard et al., 1998; Farrington, 1986). Additionally, some researchers have investigated their role in studies involving more than one of the key variables in the present examination (e.g., Benda & Toombs, 2000; Pearce & Axinn, 1998). There have even been meta-analyses that have sought to include age and sex in an effort to better understand their multivariate role (Baier & Wright, 2001; Rothbaum &

Weisz, 1994). However, apparently no study has brought together all of these variables – religiosity, family processes, deviant behavior – and tested their developmental salience by age or sex.

Third, work in this area has largely utilized single-item measures of church attendance or some other religious construct (e.g., Hirschi & Stark, 1969). Unfortunately, formal church participation is not a very good measure of personal religious commitment (Corwyn & Benda, 2000). Along with this, multi-item measurement has been shown to be more reliable and powerful in uncovering the effect of religiosity on deviance (Johnson et al., 2000; Johnson et al., 2001). Because of the inconsistencies and unanswered questions relating to these three areas, the current investigation will attempt to include them in analyses with the hopes that clarification can be acquired.

Rationale for the Current Investigation

It is clear from the literature that religiosity acts consistently as a moderate deterrent to deviant behavior. However, it is not clear from the literature under what circumstances this relationship may be diminished or magnified. Part of the problem has been lack of sufficient measurement and lack of sophisticated analytical techniques. In addition, no clarity exists for how this relationship may vary by age or gender. Therefore, the current study will attempt to add to the literature in the following ways:

1. By providing a side-by-side comparison of various single- and multi-item measures of religiosity in order to separately assess their independent predictive strength regarding adolescent deviant behavior;

2. By using a multi-dimensional conceptualization of family processes, involving several multi-item subscales;

3. By using a multi-dimensional conceptualization of deviant behavior, involving several multi-item subscales;

4. By conducting a test of the mediation role of family processes between religiosity and deviance;

5. By conducting a test of the moderation effect of religiosity between family processes and deviance;

6. By conducting a test of a possible interaction between family processes and religiosity with deviance;

7. By conducting these tests separately by age group and gender in order to seek some developmental clarification regarding these relationships;

8. By conducting these tests using structural equation modeling in order to apply a more sophisticated analytical lens to these tests (only a limited set of studies have utilized this analytical approach – Benda & Whiteside, 1995; Brody & Flor, 1998; Brody et al., 1996; Brody et al., 1994; Cochran et al., 1994; Johnson et al., 2001).

9. By testing several competing structural models in order to ascertain which may be the best representation of the data.

Hypotheses

Based on this review of literature, the following hypotheses were developed and tested in this study.

Hypothesis 1: Bivariate Relationships

It was expected that (A) all religious measures would have a significant negative bivariate relationship with deviant behavior (Baier & Wright, 2001; Johnson et al., 2000) and that (B) this deterrent effect would be stronger for male adolescents (Baier & Wright, 2001) and (C) older adolescents (Benda & Toombs, 2000).

Hypothesis 2: Measurement

It was expected that the religiosity scales would perform better than single-item measures of religiosity in the prediction of deviant behavior.

Hypothesis 3: Type of Deviance

It was expected that (A) the religiosity scales would be more strongly related to victimless deviance, but not unrelated to victim deviance (Chadwick & Top, 1993; Jensen & Erickson, 1979), and that (B) this relationship would be true for both younger and older adolescents (Rothbaum & Weisz, 1994). Furthermore, it was expected that (C) the religiosity scales would be related to victimless deviance for both male and female adolescents (Albrecht et al., 1977), but that (D) religious salience would be related to victimless deviance only for male adolescents (Albrecht et al., 1977), while (E) both the religiosity scales and religious salience would be related to victim deviance for females only (Albrecht et al., 1977). It was also expected that (F) the religiosity scales would be more strongly related to antiascetic deviance, but not unrelated to secular deviance (Jensen & Erickson, 1979), and that (G) this relationship would be true for both male and female adolescents (Rothbaum & Weisz, 1994), as well as (H) younger and older adolescents (Rothbaum & Weisz, 1994).

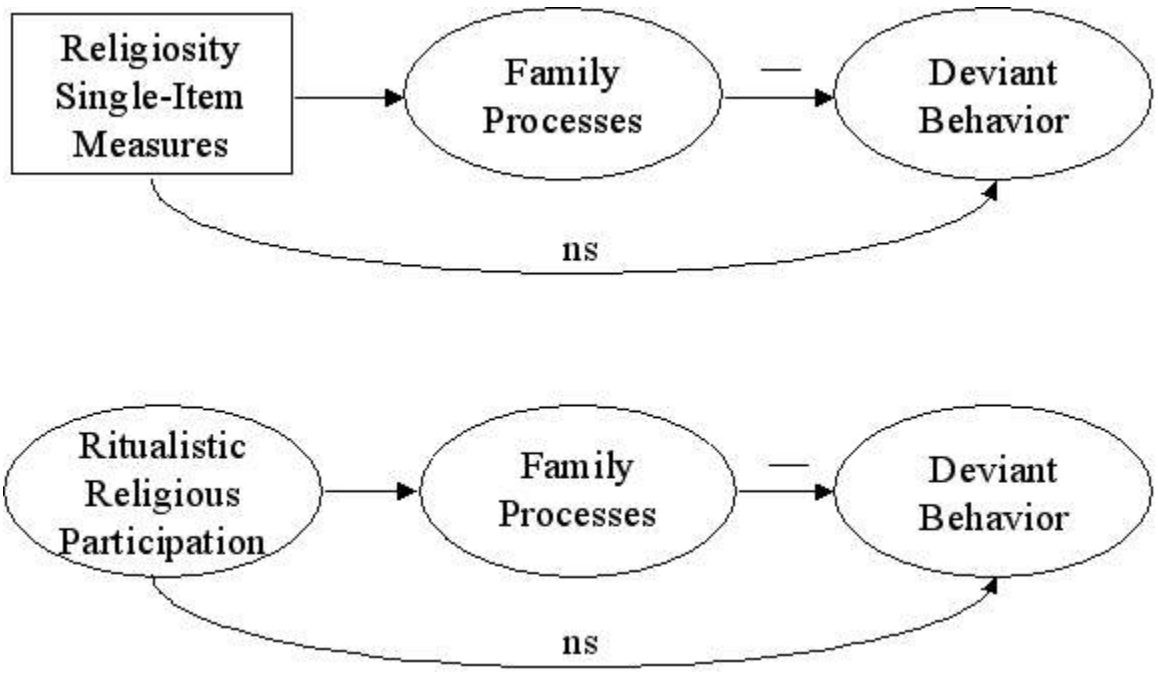

Figure 6. Model showing family processes mediating religiosity single-item measures (Hypothesis 4A) and ritualistic participation (Hypothesis 4B) where there is a significant negative pathway from family processes to deviance and no significant direct pathway from religion to deviance.

Hypothesis 4: Mediation

It was expected that (A) family processes would mediate the relationship between all single-item religiosity measures and deviant behavior (Benda & Toombs, 2000; see Figure 6), and (B) would also mediate the relationship between ritualistic participation and deviant behavior (Benda & Toombs, 2000; see Figure 6), but (C) would not mediate the relationship between relational practice and deviant behavior (Benda & Toombs, 2000; see Figure 7), or (D) between total religiosity and deviant behavior (Benda & Toombs, 2000; see Figure 7), and that (E) this same mediation pattern would be true for both male and female adolescents (Rothbaum & Weisz, 1994), as well as (F) younger and

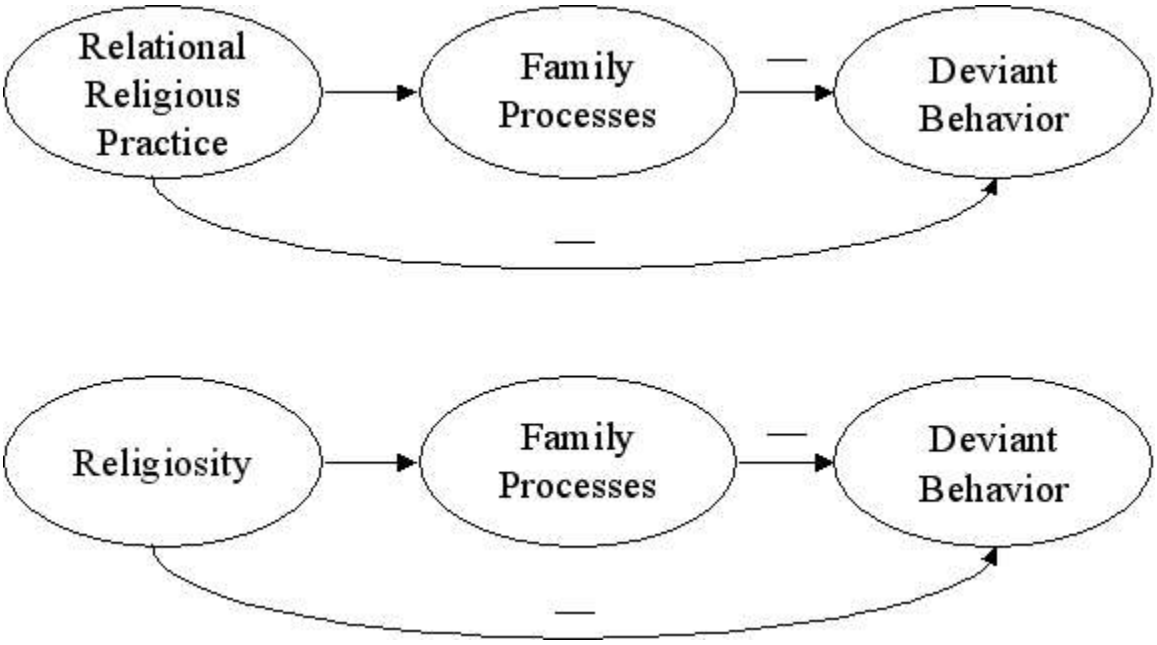

Figure 7. Model showing the partially mediating role of family processes between relational practice and religiosity where negative direct and indirect pathways between religion and deviance both exist.

older adolescents (Rothbaum & Weisz, 1994). In addition, it was expected that (G) the mediating role of family processes between relational practice and total religiosity and deviant behavior would be clarified as that of partial mediation with the religiosity scales having both indirect (through family processes) and direct pathways to deviance (Johnson et al., 2001; see Figure 7), and that (H) this would be equally true for both male and female adolescents (Rothbaum & Weisz, 1994), as well as (I) younger and older adolescents (Rothbaum & Weisz, 1994).

Hypothesis 5: Moderation

It was expected that (A) religiosity would moderate the relationship between family processes and deviant behavior (Bahr et al., 1998; Brody et al., 1996; see

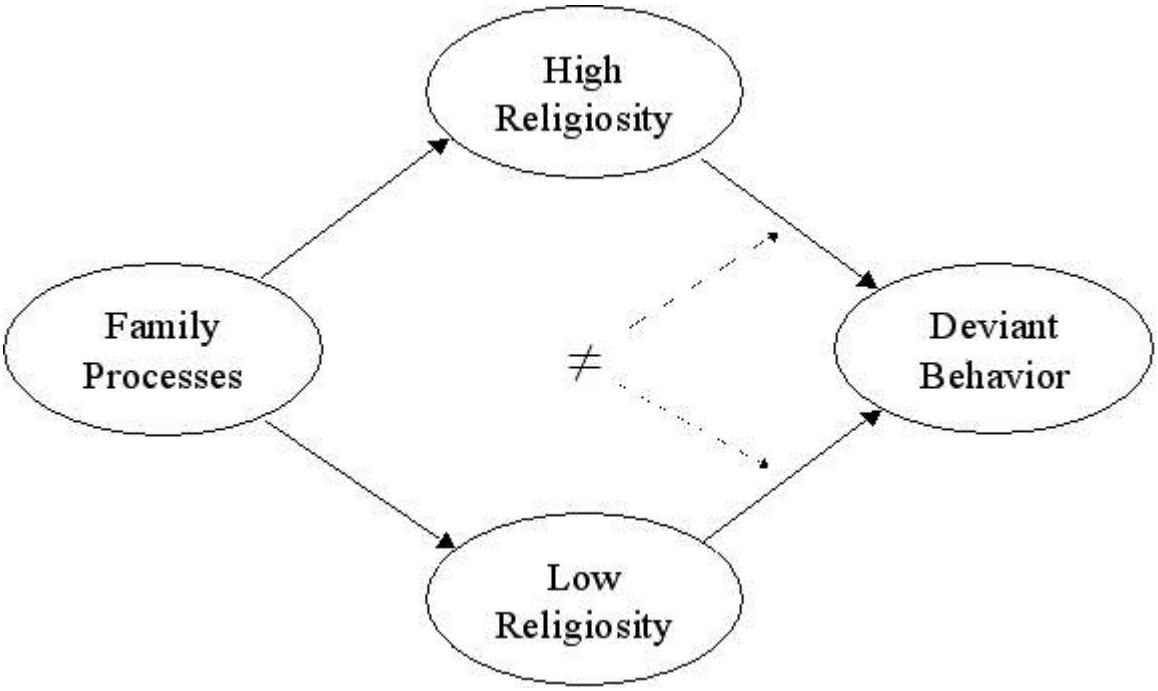

Figure 8. Model showing religiosity moderating between family processes and deviance where the predictive pathways for the two groups (low and high religiosity) are not equal.

Figure 8), and that (B) this pattern of moderation would be true for both male and female adolescents (Rothbaum & Weisz, 1994), as well as (C) younger and older adolescents (Rothbaum & Weisz, 1994).

CHAPTER 3: METHOD

Sample

Data for this study were collected from a total of *N* = 877 adolescents who attended a high school in the southeastern region of the United States. Twelve of the participants were missing data regarding their sex and, therefore, had to be dropped from the current study, resulting in a final sample of *N* = 865 (mean age = 16.4, *sd* = 1.2) students. Four hundred and thirty-two of the participants were female (49.9%, mean age = 16.3, *sd* = 1.2) and 433 were male (50.1%, mean age = 16.4, *sd* = 1.2). The sample was predominantly Caucasian (72.4%) with 20.9% African-Americans and 6.1% other ethnicities (.6% were missing ethnicity data). The majority of sample participants were from two biological parent homes (65.7%), while 16.2% were living with one biological parent only and 13.0% were in a stepfamily arrangement. The families of these participants were mostly middle and upper middle class (74.2% reported family income of $35,000 or more per year) whose primary wage-earner held a white-collar job (75.0% reported a primary wage earner whose job was “semi-professional” or higher). In addition, their parents were well educated (64.1% of fathers and 58.6% of mothers had college and/or graduate degrees). This high level of education and income was largely due to the fact that data were collected in a university town.

Procedures

The data collection for this study was part of the International Study of Adolescent Development (ISAD; Pickering & Vazsonyi, 2002; Vazsonyi & Pickering, 2000, 2003; Vazsonyi, Pickering, Belliston, Hessing, & Junger, 2002; Vazsonyi, Pickering, Junger, & Hessing, 2001). A standard data collection protocol, approved by a university Institutional Review Board (IRB), was followed that consisted of a self-report data collection instrument which included instructions on how to complete the survey, a description of the ISAD project, and assurances of anonymity and confidentiality. These instructions were read verbatim in each classroom before the surveys were distributed. The total student population at the high school was 1,134. All students in the school were invited to participate and 920 (81% of the school population) did so. Forty-three (4% of the school population, 5% of the surveyed sample) of the surveys were dropped from the sample because they were incomplete, leaving a final sample of 877 (77% of the school population, 95% of the surveyed sample) high school students.

Measures

Background Variables

Sex

Subjects were asked to indicate their *sex* on a single item: “What is your gender?” Responses were given as 1 = male and 2 = female.

Age

Participants were asked to indicate the month ("In which month were you born?") and year ("In what year were you born?") of their birth. Subjects' specific ages were calculated based on the fifteenth day of the month.

Grade

Subjects were asked to indicate their *grade* level in school and responses were provided as 1 = 9th grade, 2 = 10th grade, 3 = 11th grade, and 4 = 12th grade.

School Age

Initial frequencies involving crosstabulations of the age and grade variables indicated the presence of a common problem, namely that students in each school grade level represented a wide range of ages. For example, in the tenth grade, the age range

Table 1

Crosstabulations of age and grade variables

	School Grade			
	9th grade	10th grade	11th grade	12th grade
13 year olds	1	1	0	0
14 year olds	118	0	0	0
15 year olds	123	111	0	0
16 year olds	26	84	123	2
17 year olds	1	13	89	100
18 year olds	0	1	6	53
19 year olds	0	0	1	12

spanned from 13 to 18 years old. A similar broad age range was evident in all of the grades (see Table 1).

This produces a dilemma for conducting age-related analyses. Chronological age, of course, represents, at the very least, the physical aspects of maturation, such as onset of puberty. So, a 17 year old girl who is in ninth grade will be quite different physically from

Table 2

Frequencies and Descriptives of Dichotomous Age and School Age Variables

	Age Variable		School Age Variable	
	Younger (n = 451)	Older (n = 414)	Younger (n = 435)	Older (n = 430)
Grade	9 (.59)	11 (.73)	9 (.49)	11 (.64)
9	259	10	269	0
10	171	39	166	44
11	21	198	0	219
12	0	167	0	167
Age	15.4 (.60)	17.4 (.68)	15.4 (.61)	17.4 (.71)
13	2	0	2	0
14	118	0	118	0
15	234	0	234	0
16	97	138	80	155
17	0	203	1	202
18	0	60	0	60
19	0	13	0	13
Mean School Age			21.4 (8.04)	57.3 (12.79)

Note. First numbers in title rows represent means (age and school age) or medians (grade) and second number (in parentheses) represents *sd*.

her 13 year old classmates. In addition, though she attends classes with ninth graders, she may not associate with them outside of school, choosing rather to have friends that match her chronological age. Thus, combining them (13-17 year olds) into one analytical group (i.e., "ninth graders") seems inappropriate.

At the same time, however, her developmental experience (e.g., social development, emotional development, etc.) will inevitably be shaped by the fact that she shares the daily routine and circumstances of ninth graders which are very different from those of most 17 year olds. In addition, she interacts with these ninth graders for hours at a time every day, is treated like a ninth grader by the teachers and administration of the school, and she may even "hang out" with other ninth graders in her extracurricular social life. Thus, including her in an analytical group composed of others of her chronological age (i.e., "17 year olds") seems equally inappropriate. To solve this dilemma, a variable called *school age* was computed as an interaction (i.e., product term) between age and grade. This new school age variable was correlated $r = .91$ with the "age-only" variable. In order to create a categorical variable (i.e., older and younger adolescents) for use in developmental analyses, a median split of the school age variable was used. When a comparative categorical variable was computed using the "age-only" variable, frequencies indicated only a few minor differences with the school age variable.[4]

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[4] There were 36 cases that would have been classified differently by using the age variable rather than the school age variable to create the dichotomous (younger, older) age variable. These cases ranged in age from 16.1 to 17.3. If the age variable had been used, a select group of 26 adolescents who were 16.1 to 16.4 years of age would have been placed into the younger group. However, all 26 of these adolescents were in the tenth and eleventh grades; consequently, when the school age variable was used, they were placed into the older group. Along the same line, a separate group of 10 adolescents

Race

Participants were asked to give only one response to the following question: "What is your ethnic/racial background or heritage?" Responses were given as 1. Caucasian (White), 2. African American, 3. Native American, (e.g., Cherokee, Ute, Cheyenne), 4. Asian American (e.g., Chinese, Japanese, Vietnamese, Korean), 5. Hispanic (e.g., Puerto Rican, Mexican, Cuban), 6. Pacific Islander (e.g., Hawaiian, Samoan, Tongan). For regression analyses, dummy-coded race variables were used.

SES

Two indicators of social status (family income and primary wage earner occupation) were combined to form a measure of socioeconomic status (SES).

Family Income

The income level of each participant's family was measured by asking them to "Please pick one of the following choices describing your family's approximate total annual income" using the following response options: 1. $20,000 or less, 2. $20,000 to $35,000, 3. $35,000 to $60,000, 4. $60,000 to $100,000, 5. $100,000 or more.

Primary Wage Earner's Occupation

Subjects were asked to indicate the type of work performed by the primary wage earner in their family. Six categories, collapsed from Hollingshead's (1975) original nine categories, were specified. Each category contained descriptions of sample jobs which would fit into each of them. Responses were given by indicating the number of the

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who were 16.5 to 17.3 years of age would have been placed into the older group, using the age variable, but, because they were all in ninth grade, they were placed into the younger group when the school age variable was used.

category which contained the closest or most accurate description of the family's primary wage earner's job. The categories, listed here with condensed descriptions, were as follows: 1 = owner of a large business, executive; 2 = owner of a small business, professional; 3 = semi-professional, skilled laborer; 4 = clerical staff; 5 = semiskilled laborer; and 6 = laborer or service worker. Responses for this item were reverse-coded so that higher numbers represented higher social class standing.

SES Scale

An established procedure was used to combine these two measures (e.g., Capaldi, Stoolmiller, Clark, & Owen, 2002; Ruiz, Roosa, & Gonzales, 2002). First, both items were correlated. Results indicated that the bivariate correlation between family income and primary wage earner's occupation was $r = .54$ ($p = .000$). Second, because this analysis indicated a significant relationship between these items, these two items were standardized and combined. Cronbach's alpha reliability statistics for this scale were as follows: for male adolescents, $\alpha = .69$; for female adolescents, $\alpha = .71$; for younger adolescents, $\alpha = .72$; for older adolescents, $\alpha = .69$; for total sample, $\alpha = .70$.

Religiosity

Because the literature in this area has involved considerable debate over the use of single- versus multi-item measures (e.g., Corwyn & Benda, 2000; Denton & Smith, 2001, Gorsuch & McFarland, 1972; Johnson et al., 2000), the current investigation included both. Therefore, 8 item level measures were used as well as 2 multi-item subscales and one total religiosity scale.

Single Item Measures

Church Attendance

Church attendance was measured by asking participants to respond to the question, "How often do you attend the regularly scheduled services of a church (not including weddings, funerals, baptisms, or any other special occasions of a religious nature)?" using the following answers: 1 = practically never, 2 = only on holidays or holy days, 3 = only occasionally, 4 = once a week, 5 = more than once a week.

Church Status

An item measuring *church status* combined the concepts of church membership and church attendance by asking, "What is your current status in relation to church?" Responses to this item were given as 1 = no association with church, 2 = attending nonmember, 3 = nonattending member, 4 = attending member. Because actual attendance at church services was considered a better indicator of commitment to a religious organization than simple membership, the second and third choices were reverse-coded so that higher values on this item would reflect incrementally greater levels of commitment.

Religious Involvement

An item asking, "What is your current level of involvement with a church or religious organization?" was used to measure the level of involvement in religious volunteer work. Possible responses to this item were: 1 = I never participate in church/religious voluntary work/ministry, 2 = I rarely participate in church/religious voluntary work/ministry, 3 = I occasionally participate in church/religious voluntary

work/ministry, 4 = I frequently participate in church/religious voluntary work/ministry, 5 = I am a paid staff member of a church/religious organization.

Bible Reading

A measure of *Bible reading* was included which asked, "How often do you read the Bible or any other book of religious faith?" Possible responses to this item were: 1 = never, 2 = infrequently, 3 = sometimes, 4 = quite a bit, 5 = every day.

Praying

The amount that participants engaged in prayer was assessed by asking, "How often do you pray?" Respondents could answer: 1 = never, 2 = infrequently, 3 = sometimes, 4 = quite a bit, 5 = every day.

Music Listening

Participants were asked to indicate how much they listened to religiously-oriented music by responding to the question, "How often do you listen to Christian music (e.g., Steven Curtis Chapman, Michael W. Smith, DC Talk, Petra, Glad, Twila Paris, etc.) for personal pleasure?" with any of the following answers: 1 = never, 2 = infrequently, 3 = sometimes, 4 = quite a bit, 5 = every day.

Religious Conviction

A measure of *religious conviction* (originally used by Allport and Ross, 1967, and called "extrinsic religiosity") was included in the current study. The item states, "Occasionally I find it necessary to compromise my religious beliefs in order to protect my social and economic well-being." Responses to this item were made on a 4-point Likert-type scale: 1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree. Scores

on this item were reverse-coded so that higher values would represent higher levels of religiosity (i.e., lower levels of compromise of religious beliefs).

Religious Salience

A measure of *religious salience* (also used by Allport and Ross, 1967, and called "intrinsic religiosity") was also included. Participants were asked to respond to the statement, "I try hard to carry my religion over into all my other dealings in life" using the same 4-point Likert-type scale: 1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree.

Multi-Item Scales

Two subscales, each measuring distinct dimensions of religiosity, were included as well as a total religiosity scale. The conceptualization of these two subscales represent the potential dimensional nature of religiosity, conceiving of religiosity as either ritualistic or relational.

Ritualistic Participation

The church attendance, Bible reading, and religious salience items were summed to form a *ritualistic participation* variable. This score represented an individual's focus on religion as a status to be maintained that has, associated with it, certain ritualistic practices to be observed. Cronbach's alpha reliability statistics for this scale ranged from $\alpha = .67$ to $\alpha = .74$ among the study groups (see Table 3).

Relational Practice

The church status, religious involvement, and praying items were combined to form a *relational practice* score, representing an individual's conception of religion as a

Table 3

Reliability Statistics for Study Scales by Sex, Age, and for Total Sample

	Total	Males	Females	Younger	Older
SES	.70	.69	.71	.72	.69
Family Processes					
Maternal					
Closeness	.84	.85	.83	.84	.84
Support	.84	.82	.85	.82	.85
Monitoring	.79	.77	.79	.74	.83
Communication	.85	.82	.87	.85	.86
Conflict	.85	.85	.85	.84	.85
Peer Approval	.83	.82	.83	.84	.81
Family Processes					
Paternal					
Closeness	.89	.90	.88	.89	.90
Support	.82	.82	.84	.82	.82
Monitoring	.89	.87	.90	.87	.90
Communication	.89	.87	.90	.90	.88
Conflict	.86	.83	.88	.86	.86
Peer Approval	.87	.87	.89	.86	.89
Religiosity					
Ritualistic Participation	.71	.67	.74	.68	.74
Relational Practice	.75	.74	.75	.74	.76
Religiosity	.86	.86	.87	.85	.87
Deviance					
Vandalism	.89	.90	.85	.90	.88
Alcohol Use	.89	.91	.88	.88	.90
Drug Use	.92	.93	.90	.92	.92
School misconduct	.86	.87	.84	.86	.86
General	.88	.89	.83	.89	.87
Theft	.87	.88	.84	.87	.88
Assault	.82	.83	.78	.82	.82
Total	.97	.97	.96	.97	.97
Victim	.91	.91	.87	.90	.91
Victimless	.96	.96	.95	.96	.96
Antiascetic	.94	.95	.94	.94	.94
Secular	.96	.96	.94	.96	.96

relationship with a supernatural being that is accompanied by certain heartfelt practices. Cronbach's alpha reliability statistics for this scale ranged from $\alpha = .74$ to $\alpha = .76$ among the study groups (see Table 3). For SEM analyses involving tests of moderation, the relational practice scale was used to form a dichotomous variable. A median split of the standardized residualized relational practice variable (after controlling for SES and race) was used to create two groups (i.e., low and high religiosity).

Religiosity

Seven items, including the six contained in the above two subscales plus the music listening item, were included in a total *religiosity* scale. Cronbach's alpha reliability statistics for this scale ranged from $\alpha = .85$ to $\alpha = .87$ among the study groups (see Table 3).

Family Processes

Family processes were measured using the *Adolescent Family Process* (AFP) measure (Vazsonyi, Hibbert, & Snider, 2003; see Appendix A). The instrument includes a total of 50 items in 6 subscales consisting of 25 identical items worded in a sex-specific manner (i.e., "she" or "he") in order to assess both maternal and paternal family processes. The first three subscales (Closeness, Support, Monitoring) were rated on the following 5-point Likert-type response scale: 1 = strongly disagree, 2 = disagree, 3 = neither disagree nor agree, 4 = agree, 5 = strongly agree. The other three subscales (Communication, Conflict, Peer Approval) were rated on the following 5-point Likert-type response scale: 1 = never, 2 = occasionally, 3 = sometimes, 4 = often, 5 = very often.

Closeness

The *closeness* subscale consisted of 6 items (sample item: “My mother [father] gives me the right amount of affection”) measuring the perceived amount of affective warmth received from parents. Previous work has shown this scale to have good reliability for both mothers (α = .85) and fathers (α = .89; Vazsonyi et al., 2003). In the current study, Cronbach’s alpha reliability statistics for this scale ranged from α = .83 to α = .85 for maternal closeness and from α = .88 to α = .90 for paternal closeness among the study groups (see Table 3).

Support

The *support* subscale consisted of 4 items (sample item: “My mother [father] puts me down in front of other people”) assessing the perceived amount of psychological support received from parents. Responses for this subscale were reverse coded so that a higher score indicated a higher level of support. Previous work has shown this scale to have good reliability for both mothers (α = .83) and fathers (α = .82; Vazsonyi et al., 2003). In the current study, Cronbach’s alpha reliability statistics for this scale ranged from α = .82 to α = .85 for maternal closeness and from α = .82 to α = .84 for paternal closeness among the study groups (see Table 3).

Monitoring

The *monitoring* subscale consisted of 4 items (sample item: “When I am not at home, my mother [father] knows my whereabouts”) indicating the perceived amount of behavioral and activity supervision provided by parents. Previous work has shown this scale to have good reliability for both mothers (α = .78) and fathers (α = .89; Vazsonyi et

al., 2003). In the current study, Cronbach's alpha reliability statistics for this scale ranged from $\alpha = .74$ to $\alpha = .83$ for maternal closeness and from $\alpha = .87$ to $\alpha = .90$ for paternal closeness among the study groups (see Table 3).

Communication

The *communication* subscale consisted of 5 items (sample item: "How often do you talk to your mother [father] about things that are important to you?) measuring the perceived ability to discuss matters of a personal nature with parents. Previous work has shown this scale to have good reliability for both mothers ($\alpha = .88$) and fathers ($\alpha = .91$; Vazsonyi et al., 2003). In the current study, Cronbach's alpha reliability statistics for this scale ranged from $\alpha = .82$ to $\alpha = .87$ for maternal closeness and from $\alpha = .87$ to $\alpha = .90$ for paternal closeness among the study groups (see Table 3).

Conflict

The *conflict* subscale consisted of 3 items (sample item: "How often do you have disagreements or arguments with your mother [father]?") assessing the perceived amount of conflict with parents. Previous work has shown this scale to have good reliability for both mothers ($\alpha = .83$) and fathers ($\alpha = .86$; Vazsonyi et al., 2003). In the current study, Cronbach's alpha reliability statistics for this scale ranged from $\alpha = .84$ to $\alpha = .85$ for maternal closeness and from $\alpha = .83$ to $\alpha = .88$ for paternal closeness among the study groups (see Table 3).

Peer Approval

The *peer approval* subscale consisted of 3 items (sample item: "How often does your mother [father] approve of your friends?") indicating the perceived amount of

parental approval for the adolescent's choice of friends. Previous work has shown this scale to have good reliability for both mothers (α = .83) and fathers (α = .87; Vazsonyi et al., 2003). In the current study, Cronbach's alpha reliability statistics for this scale ranged from α = .81 to α = .84 for maternal closeness and from α = .86 to α = .89 for paternal closeness among the study groups (see Table 3).

Deviance

Based on various conceptualizations of deviant behavior in previous literature, deviance was operationalized in six different ways in the current study.

Normative Deviance

Lifetime deviance was measured by the 55-item Normative Deviance Scale (NDS; Vazsonyi & Killias, 2001; Vazsonyi & Pickering, 2000; Vazsonyi et al., 2001; see Appendix C). The scale was conceptualized to measure acts of normative deviance in general adolescent populations and, therefore, examined a broader spectrum of deviant activities than just status and index offenses. This conceptualization of deviance is consistent with results from nationally representative data sets (e.g., the National Youth Survey, Huizinga, Menard, & Elliott, 1989) which report that over 90% of sampled males and females indicate having committed at least one delinquent act at some time in their life. Very few such self-report scales that include multi-item subscales with psychometric properties have been developed (single-item measures are more common; that is, one item measuring vandalism, for example).

The current investigation utilized all seven subscales of the NDS (vandalism, alcohol, drugs, school misconduct, general deviance, theft, and assault). Responses for all

items in the NDS were given on a 5-point Likert-type scale and identified lifetime frequency of specific deviant behaviors (1 = never, 2 = one time, 3 = 2-3 times, 4 = 4-6 times, and 5 = more than 6 times). In addition, all 55 items were summed then averaged to compute a measure of total deviance.

Vandalism

The *vandalism* subscale consisted of 8 items (sample item: "Have you ever committed acts of vandalism when coming or going to a football game or other sports event?") measuring participation in vandalism behaviors at home, school, work, and/or other public places. Previous work has shown this scale to have good reliability (α = .84; Vazsonyi et al., 2001). In the current study, Cronbach's alpha reliability statistics for this scale ranged from α = .85 to α = .90 among the study groups (see Table 3).

Alcohol Use

The *alcohol use* subscale consisted of 7 items (sample item: "Have you ever consumed alcoholic beverages [e.g., beer, wine, or wine coolers] before you were 21?") assessing consumption of soft and hard liquor, drunkenness, and illegal acquisition of alcohol. Previous work has shown this scale to have good reliability (α = .84; Vazsonyi et al., 2001). In the current study, Cronbach's alpha reliability statistics for this scale ranged from α = .88 to α = .91 among the study groups (see Table 3).

Drug Use

The *drug use* subscale consisted of 9 items (sample item: "Have you ever used 'soft' drugs such as marijuana (grass, pot)?") examining tobacco, marijuana, and "hard" drug usage as well as attendance at school, work, concerts, or parties while under the

influence of a substance, acquisition of a substance at a party, and selling of a substance. Previous work has shown this scale to have good reliability (α = .89; Vazsonyi et al., 2001). In the current study, Cronbach's alpha reliability statistics for this scale ranged from α = .90 to α = .93 among the study groups (see Table 3).

School Misconduct

The *school misconduct* subscale consisted of 7 items (sample item: "Have you ever been in trouble at school so that your parents received a phone call about it?") dealing with cheating, class or school discipline (e.g., suspension or expulsion), and truancy. Previous work has shown this scale to have good reliability (α = .76; Vazsonyi et al., 2001). In the current study, Cronbach's alpha reliability statistics for this scale ranged from α = .84 to α = .87 among the study groups (see Table 3).

General Deviance

The *general deviance* subscale consisted of 11 items (sample item: "Have you ever shaken/hit a parked car just to turn on the car's alarm?") measuring a wide range of deviant activities including traffic moving violations (e.g., speeding, running a red light), trespassing, under-age nightclub attendance, and other general mischief. Previous work has shown this scale to have good reliability (α = .81; Vazsonyi et al., 2001). In the current study, Cronbach's alpha reliability statistics for this scale ranged from α = .83 to α = .89 among the study groups (see Table 3).

Theft

The *theft* subscale consisted of 7 items (sample item: "Have you ever stolen, taken, or tried to take something worth $10 or less (e.g., newspaper, pack of gum, mail,

money, etc.)?") assessing petty and major theft (including grand theft auto) from family, other people, or of public property. Previous work has shown this scale to have good reliability (α = .83; Vazsonyi et al., 2001). In the current study, Cronbach's alpha reliability statistics for this scale ranged from α = .84 to α = .88 among the study groups (see Table 3).

Assault

The *assault* subscale consisted of 6 items (sample item: "Have you ever hit or threatened to hit a person?") examining several different physical violence scenarios, including gang violence. Previous work has shown this scale to have good reliability (α = .76; Vazsonyi et al., 2001). In the current study, Cronbach's alpha reliability statistics for this scale ranged from α = .78 to α = .83 among the study groups (see Table 3).

Total Deviance

A *total deviance* scale was also used that included all 55 deviance items. Previous work has shown this scale to have good reliability (α = .95; Vazsonyi et al., 2001). In the current study, Cronbach's alpha reliability statistics for this scale ranged from α = .96 to α = .97 among the study groups (see Table 3).

Victim Deviance

In order to assess deviant behavior harmful to other persons, the items in the *theft* and *assault* subscales were combined to form a measure of *victim deviance.* Cronbach's alpha reliability statistics for this scale ranged from α = .87 to α = .91 among the study groups (see Table 3).

Victimless Deviance

Deviant behavior that is not directly harmful to other persons was measured by combining the items in the *alcohol use*, *drug use*, *school misconduct*, and *general deviance* subscales. Cronbach's alpha reliability statistics for this scale ranged from $\alpha = .95$ to $\alpha = .96$ among the study groups (see Table 3).

Antiascetic Deviance

To form a measure of deviant behavior that is condemned more strongly by churches and religious organizations than by secular institutions, the items in the *alcohol use* and *drug use* subscales were combined. Cronbach's alpha reliability statistics for this scale ranged from $\alpha = .94$ to $\alpha = .95$ among the study groups (see Table 3).

Secular Deviance

A measure of deviant behavior that is condemned equally by both religious and secular organizations was formed by combining the items in the *vandalism*, *school misconduct*, *general deviance*, *theft*, and *assault* subscales. Cronbach's alpha reliability statistics for this scale ranged from $\alpha = .94$ to $\alpha = .96$ among the study groups (Table 3).

Plan of Analysis

Initial Analyses

Scale Construction

As a first step, 28 scales (SES, 12 family processes, 3 religiosity, 12 deviance) were developed. Some of these scales (i.e., AFP, NDS) were already established, others were reconfigurations of existing reliable scales (i.e., victim/victimless deviance, antiascetic/secular deviance), and still others were newly constructed for this study

(i.e., SES, religiosity). The results of reliability analyses for all scales are found in Table 3.

Measurement Models

Subsequent SEM analyses included two elements (i.e., family processes and deviance) that called for the initial construction of measurement models.

First, based on the statistical evidence that both the maternal and paternal measures of each family processes subscale were strongly related (ranging from $r = .32$ to $r = .54$, average $r = .43$, all significant at $p < .001$ level) and the conceptual assumption that, together, they may represent an average family processes score based on input from both parents (Buysse, 1997; Florsheim, Tolan, & Gorman-Smith, 1998; Tolan et al., 1997), each of the family processes subscales was conceptualized in the structural model as a latent construct being indicated by two manifest variables – the maternal and paternal elements of each subscale (for rationale concerning the aggregation of data across sources, see Gorman-Smith, Tolan, Zelli, & Huesmann, 1996, and Tolan et al., 1997; for an example of such in latent modeling, see Duncan, Duncan, Biglan, & Ary, 1998). Consequently, it was not possible to test a measurement model for the family processes elements of the structural model since this measurement model was unidentified due to negative degrees of freedom (5 distinct sample moments, 6 distinct parameters to be estimated, df = 5-6 or -1). However, this did not pose a problem since preliminary correlations between maternal and paternal subscales provided sufficient justification for this approach.

Second, a measurement model for the deviance construct was tested. This measurement model included all 7 of the deviance subscales (vandalism, alcohol use, drug use, school behavior, general deviance, theft, assault) as manifest indicators of a latent deviance construct based on previous work (Vazsonyi et al., 2001; see Figure 12). An initial test of this model showed poor fit to the data (χ^2 = 435.60, *df* = 14, *p* = .000, CFI = .895, RMSEA = .20). In such cases, the use of conceptually-substantiated correlated errors is viewed as acceptable in order to improve model fit (Peter Bentler, personal communication, November 10, 1998; Byrne, 1994; Hayduk, 1987; Hoyle, 1995). Since this model represented a 55-item measure that formed 7 subscales, each of which was simply a variant of deviance and all of which were part of the total deviance measure, and since all of these items were obtained through mono-method assessment (i.e., all were self-report survey items), there was an a priori expectation that error terms would inevitably be related, thus providing sufficient conceptual justification to allow all 7 of the subscales to covary (a total of 21 correlated error terms). However, in the interest of simplicity, modification indices were used to add 6 correlated errors to the model (alcohol use [e2] to drug use [e3]; theft [e6] to assault [e7]; alcohol use [e2] to school misconduct [e4]; drug use [e3] to school misconduct [e4]; school misconduct [e4] to assault [e7]; vandalism [e1] to assault [e7]; see Table 4). These modifications were made in a stepwise procedure, one at a time, implementing the modification that would result in the most statistically significant improvement to the overall model fit, then running the model again and looking at the modification indices again, etc. The introduction of these modifications to the model resulted in a final measurement model with excellent fit

(χ^2 = 18.00, *df* = 8, *p* = .021, CFI = .998, RMSEA = .042). As can be seen in the table, each incremental change to the model represented a significant chi-square change, as did the difference between the initial (χ^2 = 435.60) and final (χ^2 = 18.00) model ($\Delta\chi^2$ = 417.60, Δdf = 6, *p* < .001).[5]

Analysis Preparation

Because there is an ongoing debate concerning the role of SES and/or race in adolescent development (see Amato & Fowler, 2002, pp. 704-706 for a concise summary of this debate), it was important to investigate the potential impact of these demographic

Table 4

Fit Indices Showing Stepwise Model Improvement for Deviance Measurement Model Using Correlated Errors Recommended by Modification Indices

Parameter	MI	EPC	Model χ^2	Model *df*	Model *p*	Model CFI	Model RMSEA	$\Delta\chi^2$	Δdf	*p* for change
e2 → e3	252.77	.33	144.88	13	.000	.967	.118	290.80	1	<.001
e6 → e7	43.70	.06	97.06	12	.000	.979	.099	47.82	1	<.001
e2 → e4	26.11	.08	70.14	11	.000	.985	.086	26.92	1	<.001
e3 → e4	18.43	.05	37.28	10	.000	.993	.061	32.86	1	<.001
e4 → e7	7.84	.03	28.74	9	.001	.995	.055	8.54	1	<.01
e1 → e7	9.77	.03	18.00	8	.021	.998	.042	10.74	1	<.01

Note. MI = Modification Index; EPC = Estimated Parameter Change

[5] Modification indices (MI = 5.74, EPC = .02) indicated that the freeing of one more parameter (e2 to e5) would result in not only another significant change in chi-square (model χ^2 = 10.75, model df = 7, $\Delta\chi^2$ = 7.25, Δdf = 1, *p* for change = < .01), but also in an overall final model that would have excellent fit in every way, including a nonsignificant chi-square (model CFI = .999, model RMSEA = .027, *p* for model = .15). However, for simplicity sake, this additional parameter was not added to the model.

Table 5

Summary of Study Variables

Background Variables	Family Processes (Maternal and Paternal)
Sex	Closeness
Age	Support
Grade	Monitoring
School Age	Communication
Race	Conflict
SES	Peer Approval
Religiosity	**Deviance**
Church Attendance	Vandalism
Church Status	Alcohol Use
Religious Involvement	Drug Use
Bible Reading	School misconduct
Praying	General Deviance
Music Listening	Theft
Religious Conviction	Assault
Religious Salience	Total Deviance
Ritualistic Participation	Victim Deviance
Relational Practice	Victimless Deviance
Religiosity	Antiascetic Deviance
	Secular Deviance

variables in the current study. In addition, the current investigation proposed to study several key issues regarding the relationship between religiosity, family processes, and deviance separately for male and female and younger and older adolescents. Bivariate correlations were used to establish whether there was any important relationship between these demographic variables (SES, race, sex, age) and both the independent and dependent variables. Race was tested as a dichotomous variable (Caucasian/African American) since there were too few participants from other racial groups. Results of these

analyses are found in Tables 6, 7, and 8, and indicate that these demographic variables are sufficiently associated with both independent and dependent variables to warrant utilizing them as either controls or grouping variables to more closely examine their effects on the relationships between measures of religiosity, family processes, and deviance.

Initial Descriptive Statistics

As a final initial step, several descriptive statistics were computed. The results of these initial sample-descriptive analyses are found in Tables 9 and 10. In addition, within-construct correlation matrices for measures of religiosity, family processes, and deviance can be found in Appendices D, E, and F. Finally, correlations between family processes and both religiosity and deviance can be found in Appendices G and H.

Analyses Related to Hypotheses

Because initial analyses indicated that SES and race were associated with several key study variables, in all subsequent analyses, both SES and race were used as controls.

Hypothesis 1

This hypothesis was tested using bivariate correlations. Part A was tested by computing Pearson's *r* correlations for all 11 measures of religiosity with all 8 measures of normative deviance. Parts B and C were tested by computing the same correlations separately by group (male and female adolescents, younger and older adolescents) then using the Fisher's *r* to *z* transformation statistical test to compare whether the male adolescents' correlations were stronger than the females' and whether the older adolescents' correlations were stronger than the younger adolescents'.

Table 6

Correlations Between Demographic Variables and Measures of Religiosity

	m (*sd*)	SES	Race	Sex	Age
Single-Item Measures					
Church Attendance	3.2 (1.4)	.09**	.07	.06	-.01
Church Status	3.0 (1.2)	.13***	.10**	.11**	-.05
Religious Involvement	2.7 (1.2)	.11**	.04	.11**	-.01
Bible Reading	2.5 (1.2)	.09*	.05	.06	-.01
Praying	3.3 (1.4)	.03	.07	.09**	-.05
Music Listening	2.0 (1.3)	-.09*	.27***	.09*	-.01
Religious Conviction	2.1 (1.0)	-.12**	.14**	-.05	-.07*
Religion Salience	2.6 (1.0)	.01	.08*	.08*	-.02
Multi-Item Measures					
Ritualistic Participation	2.8 (1.0)	.08*	.09*	.08*	-.02
Relational Practice	3.0 (1.0)	.10**	.07*	.12***	-.04
Religiosity	2.8 (0.9)	.07	.13**	.12**	-.03

Note. * ($p < .05$), ** ($p < .01$), or *** ($p < .001$).

Hypothesis 2

This hypothesis was also tested by using bivariate correlations. The total deviance scale was correlated with all 11 religiosity measures. Correlations between each religiosity measure and the total deviance scale were compared using the Fisher's *r* to *z* test to determine whether the multi-item scalar measures were more strongly related to deviant behavior than the single-item measures.

Table 7

Correlations Between Demographic Variables and Measures of Family Processes

	m (*sd*)	SES	Race	Sex	Age
Maternal					
Closeness	3.9 (0.9)	.15***	-.03	.09**	-.02
Support	3.7 (1.1)	.08*	-.13***	.04	.10**
Monitoring	3.8 (0.9)	.05	.03	.25***	-.10**
Communication	3.2 (1.0)	.07*	-.07	.20***	.02
Conflict	2.8 (1.0)	-.02	.03	.09*	-.12**
Peer Approval	3.9 (1.0)	.20***	-.20***	.13***	.03
Paternal					
Closeness	3.6 (1.0)	.29***	-.25***	.02	-.05
Support	3.8 (1.1)	.08*	-.08*	.02	.05
Monitoring	3.2 (1.1)	.14***	-.12**	.10**	-.10**
Communication	2.8 (1.1)	.22***	-.15***	.01	.00
Conflict	2.5 (1.1)	.01	.02	.06	-.07*
Peer Approval	3.6 (1.1)	.21***	-.26***	.05	.00

Note. * ($p < .05$), ** ($p < .01$), or *** ($p < .001$).

Hypothesis 3

This hypothesis was also tested by using bivariate correlations. Part A was tested by checking whether the relationship between the religiosity scales and victimless deviance was stronger than the relationship between the religiosity scales and victim deviance (using Fisher's *r* to *z* transformation test), though the latter relationship should also be statistically significant. Part B involved running the same tests separately for

Table 8

Correlations Between Demographic Variables and Measures of Deviance

	m (*sd*)	SES	Race	Sex	Age
Vandalism	1.6 (0.8)	-.03	-.00	-.31***	.09**
Alcohol Use	2.2 (1.2)	.00	-.11**	-.08*	.17***
Drug Use	1.8 (1.1)	-.05	-.07	-.13***	.13***
School Misconduct	2.1 (1.0)	-.08*	.00	-.19***	.13***
General	1.8 (0.8)	-.06	-.02	-.25***	.12***
Theft	1.5 (0.8)	-.08*	.01	-.23***	.05
Assault	1.6 (0.8)	-.16***	.08*	-.29***	.06
Total Deviance	1.8 (0.8)	-.07*	-.01	-.24***	.14***
Victim Deviance	1.5 (0.7)	-.13***	.05	-.28***	.06
Victimless Deviance	2.0 (0.9)	-.05	-.06	-.18***	.16***
Antiascetic Deviance	2.0 (1.1)	-.02	-.09**	-.11**	.16***
Secular Deviance	1.7 (0.7)	-.09**	.03	-.29***	.11**

Note. * ($p < .05$), ** ($p < .01$), or *** ($p < .001$).

younger and older adolescents. Part C was tested by checking to confirm whether the religiosity scales were significantly related to victimless deviance for both male and female adolescents, Part D was tested by checking to confirm whether religious salience was significantly related to victimless deviance for male adolescents but not female, and Part E was tested by checking to confirm whether religious salience as well as all the religiosity scales were significantly related to victim deviance for female adolescents but not male. Parts F, G, and H involved similar tests as in Parts A and B, namely, checking whether the relationship between the religiosity scales and antiascetic deviance was

stronger than the relationship between the religiosity scales and secular deviance (using Fisher's *r* to *z* transformation test), though the latter relationship should also be statistically significant and subsequently completing the same test separately for male and female adolescents (Part G) and younger and older adolescents (Part H) to examine whether these relationships were similar regardless by sex and age group.

Hypothesis 4

This hypothesis was tested by using structural equation modeling. Part A was tested by estimating 48 separate structural models with each model using one of eight different single-item religiosity measures as the exogenous predictor variable, deviant behavior as the endogenous dependent variable, and one of six family processes as an intervening variable. Part B involved inserting ritualistic participation as the exogenous variable in the same model while Part C placed relational practice into that role and Part D placed religiosity into that role. Parts A, B,C, and D were tested using procedures outlined in Holmbeck (1997). Part E used an SEM multi-group analysis approach to test whether this pattern of mediation was moderated by sex while Part F conducted a similar test of moderation for age. Both Parts E and F were tested using procedures outlined in Mounts (2002; see also Parker, Baltes, & Christiansen, 1997). Part G involved the model parameters for both the direct and indirect pathways from religiosity to deviant behavior. Parts H and I involved a similar examination of pathway parameters in mediating models completed separately by sex and/or age group.

Table 9

Frequency Statistics for Demographic Variables

Variable	Total	Males	Females	Younger	Older
Sex				$\chi^2(1) = .84$, $p = .36$	
Males	433(50.1)			211(48.5)	222(51.6)
Females	432(49.9)			224(51.5)	208(48.4)
Race		$\chi^2(5) = .44$, $p = .99$		$\chi^2(5) = 6.37$, $p = .27$	
Caucasian	626(72.4)	315(72.7)	311(72.0)	312(71.7)	314(73.0)
African-American	181(20.9)	89(20.6)	92(21.3)	100(23.0)	81(18.8)
Native-American	7(.8)	4(.9)	3(.7)	1(.2)	6(1.4)
Asian-American	39(4.5)	20(4.6)	19(4.4)	17(3.9)	22(5.1)
Hispanic	2(.2)	1(.2)	1(.2)	1(.2)	1(.2)
Pacific Islander	5(.6)	2(.5)	3(.7)	2(.5)	3(.7)
Missing	5(.6)	2(.5)	3(.7)	2(.5)	3(.7)
School Grade		$\chi^2(3) = 1.58$, $p = .66$			
9th Grade	269(31.1)	138(31.9)	131(30.3)		
10th Grade	210(24.3)	104(24.0)	106(24.5)		
11th Grade	219(25.3)	114(26.3)	105(24.3)		
12th Grade	167(19.3)	77(17.8)	90(20.8)		
Family Income		$\chi^2(4) = 4.32$, $p = .37$		$\chi^2(4) = 2.13$, $p = .71$	
$20,000 or less	61(7.1)	32(7.4)	29(6.7)	33(7.6)	28(6.5)
$20,000-$35,000	98(11.3)	41(9.5)	57(13.2)	48(11.0)	50(11.6)
$35,000-$60,000	234(27.1)	123(28.4)	111(25.7)	108(24.8)	126(29.3)
$60,000-$100,000	261(30.2)	129(29.8)	132(30.6)	135(31.0)	126(29.3)
More than $100,000	146(16.9)	79(18.2)	67(15.5)	71(16.3)	75(17.4)
Missing	65(7.5)	29(6.7)	36(8.3)	40(9.2)	25(5.8)
Primary Wager Earner's Occupation		$\chi^2(5) = 6.36$, $p = .27$		$\chi^2(5) = 8.94$, $p = .11$	
Laborer	10(1.2)	7(1.6)	3(.7)	7(1.6)	3(.7)
Semiskilled	42(4.9)	16(3.7)	26(6.0)	18(4.1)	24(5.6)
Clerical	55(6.4)	23(5.3)	32(7.4)	34(7.8)	21(4.9)
Semiprofessional	127(14.7)	59(13.6)	68(15.7)	61(14.0)	66(15.3)
Professional	247(28.6)	122(28.2)	125(28.9)	111(25.5)	136(31.6)
Executive	274(31.7)	143(33.0)	131(30.3)	144(33.1)	130(30.2)
Missing	110(12.7)	63(14.5)	47(10.9)	60(13.8)	50(11.6)

Note. For each cell, the first number is the frequency and the second number is the percentage.

Table 10

Descriptive Statistics for Demographic Variables

	Total		Males		Females		Younger		Older	
	m	*sd*	*m*	*sd*	*m*	*sd*	*m*	*sd*	*m*	*sd*
Age	16.35	1.19	16.43	1.21	16.28	1.17	15.37	.61	17.36	.71
School Age	39.26	20.90	38.94	20.78	39.58	21.03	21.40	8.04	57.33	12.79
SES	-.02	.91	.03	.91	.03	.90	-.02	.93	-.01	.88

Note. Means for male and female adolescents were compared using t-tests and findings were as follows: Age, $t = 1.85$, $p = .07$; School Age, $t = -.44$, $p = .66$; SES, $t = 1.46$, $p = .15$; means for younger and older adolescents were compared using t-tests and findings were as follows: SES, $t = -.18$, $p = .86$.

Hypothesis 5

This hypothesis was tested by using structural equation modeling. Part A utilized the same procedure as described above (Mounts, 2002; Parker et al., 1997) to test the moderating role of religiosity (i.e., using the dichotomous religiosity variable described earlier) between family processes and deviant behavior. Part B was tested using the same procedure to compare male and female adolescents while Part C involved using the same procedure for younger and older adolescents.

CHAPTER 4: RESULTS

Hypothesis 1: Bivariate Relationships

Part A

Hypothesis 1A proposed that the measures of religiosity would be statistically related to the measures of deviance, even after controlling for race and SES. Results from initial correlation analyses (see Table 11) indicated that all eight of the religiosity items were significantly related to all seven of the deviance subscales, with only two exceptions – religious conviction and vandalism were not related (r = .05, p = .19) nor were religious conviction and assault (r = .05, p = .20). In addition, all eight of the religiosity items were significantly related to the total deviance measure (average r = .21[6]). Also, the three religiosity scales were all significantly related to all seven of the deviance subscales (ritualistic participation average r = -.18; relational practice average r = -.25; religiosity average r = -.24) as well as the total deviance scale (ritualistic participation, r = -.22; relational practice, r = -.31; religiosity, r = -.29).

[6] Religious conviction was found to be a poor indicator of religiosity as a deterrent to deviance, since they were consistently positively rather than negatively correlated. Consequently, it is not included in calculations of average r's.

Table 11

Second-Order Correlations of Religiosity Measures with Deviance Measures for Total Sample

	Vandalism	Alcohol	Drugs	School	General	Theft	Assault	Deviance
Single-Item Measures								
Church Attendance	-.16	-.18	-.23	-.14	-.15	-.15	-.15	-.20
Church Status	-.19	-.22	-.27	-.18	-.20	-.20	-.21	-.25
Religious Involvement	-.18	-.23	-.25	-.17	-.18	-.21	-.21	-.24
Bible Reading	-.09*	-.16	-.16	-.12**	-.08*	-.08*	-.08*	-.13
Praying	-.20	-.21	-.27	-.19	-.20	-.20	-.20	-.25
Music Listening	-.15	-.23	-.25	-.17	-.14	-.13	-.12**	-.20
Religious Conviction	.05ns	.10**	-.08*	.08*	.08*	.08*	.05ns	.09*
Religious Salience	-.14	-.21	-.23	-.15	-.16	-.18	-.14	-.21
Multi-Item Measures								
Ritualistic Participation	-.16	-.22	-.25	-.17	-.15	-.17	-.16	-.22
Relational Practice	-.23	-.27	-.32	-.22	-.24	-.25	-.25	-.31
Religiosity	-.22	-.28	-.32	-.22	-.22	-.22	-.22	-.29

Note. Values in cells represent Pearson's *r* correlations between variables after controlling for race and SES; all correlations are significant at $p < .001$ unless otherwise noted with ns (non-significant), * ($p < .05$), or ** ($p < .01$).

Part B

Because evidence from these correlation analyses indicated that the religiosity and deviance measures were statistically related at the item level, further discussion will focus on relationships at the scalar level since these scales are more reliable measures. Hypothesis 1B proposed that the negative relationship between the religiosity scales and deviance would be stronger for male adolescents than for female. Results indicated that this was not the case (see Table 12). Though initial inspection appeared to indicate differences by sex, results of Fisher's *r* to *z* transformation tests indicated that only two of these correlation pairs were significantly different. The relationship between religious involvement and assault was stronger for male adolescents (r = -.24 versus r = -.10, p = .026, one-tailed test) while the relationship between music listening and alcohol was stronger for female adolescents (r = -.30 versus r = -.16, p = .018, one-tailed test). Thus, results indicated that the relationship between religiosity and deviance did not differ by sex.

Part C

Hypothesis 1C proposed that the negative relationship between the religiosity scales and deviance would be stronger for older than younger adolescents. The results did not support this prediction (see Table 13). Though initial inspection appeared to indicate a pattern of differences between the age groups, only four were significantly different and, for all four of these, younger adolescents indicated a stronger relationship than older adolescents, contrary to the hypothesis (for religious salience and alcohol, r = -.29 versus r = -.14, p = .03; for religious salience and drug use, r = -.30 versus r = -.16, p = .04; for

Table 12

Second-Order Correlations of Religiosity Measures with Deviance Measures by Sex

	Vandalism		Alcohol		Drugs		School		General		Theft		Assault		Deviance	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Single-Item Measures																
Church Attendance	-.13**	-.17**	-.17**	-.19	-.22	-.23	-.12*	-.13**	-.13*	-.15	-.15**	-.14**	-.16**	-.11*	-.18	-.21
Church Status	-.14**	-.20	-.19	-.25	-.24	-.27	-.17**	-.16	-.16**	-.21	-.17**	-.20	-.18	-.18	-.21	-.26
Religious Involvement	-.15**	-.16**	-.23	-.20	-.26	-.21	-.15**	-.14	-.16**	-.15	-.23	-.13*	-.24	-.10*	-.24	-.20
Bible Reading	-.06ns	-.11*	-.10*	-.22	-.11*	-.21	-.07ns	-.16**	-.07ns	-.06ns	-.05ns	-.09ns	-.04ns	-.11*	-.08ns	-.18
Praying	-.17**	-.21	-.19	-.21	-.24	-.29	-.18	-.17**	-.21	-.15**	-.18	-.20	-.16**	-.23	-.22	-.26
Music Listening	-.12*	-.14**	-.16**	-.30	-.20	-.28	-.15**	-.17**	-.11*	-.13*	-.14**	-.07ns	-.13*	-.05ns	-.16**	-.23
Religious Conviction	.02ns	.06ns	.07ns	.13**	.05ns	.10ns	.05ns	.11*	.06ns	.07ns	.07ns	.08ns	-.00ns	.08ns	.05ns	.11*
Religious Salience	-.10ns	-.19	-.17**	-.25	-.18	-.28	-.11*	-.19	-.13*	-.18**	-.17**	-.17**	-.12*	-.13*	-.16**	-.26
Multi-Item Measures																
Ritualistic Participation	-.12*	-.19	-.17**	-.27	-.21	-.29	-.12*	-.20	-.13*	-.16**	-.15**	-.16**	-.14**	-.14**	-.17	-.26
Relational Practice	-.19	-.23	-.25	-.27	-.31	-.32	-.20	-.19	-.22	-.21	-.24	-.22	-.24	-.21	-.28	-.30
Religiosity	-.17**	-.23	-.23	-.31	-.29	-.34	-.19	-.22	-.19	-.20	-.21	-.19	-.20	-.18	-.25	-.31

Note. M = Males, F = Females; values in cells represent Pearson's *r* correlations between variables after controlling for race and SES; all correlations are significant at $p < .001$ unless otherwise noted with ns (non-signist ficant), * ($p < .05$), or ** ($p < .01$); correlation pairs that differed statistically are shaded.

Table 13

Second-Order Correlations of Religiosity Measures with Deviance Measures by Age

	Vandalism		Alcohol		Drugs		School		General		Theft		Assault		Deviance	
	Y	O	Y	O	Y	O	Y	O	Y	O	Y	O	Y	O	Y	O
Single-Item Measures																
Church Attendance	-.21	-.10ns	-.23	-.14**	-.28	-.19	-.13**	-.14**	-.18	-.11*	-.18	-.13*	-.19	-.12*	-.24	-.16**
Church Status	-.20	-.18	-.24	-.21	-.26	-.28	-.12*	-.24	-.16**	-.24	-.16	-.24	-.19	-.22	-.23	-.28
Religious Involvement	-.18	-.17**	-.27	-.19	-.30	-.21	-.16**	-.17**	-.18	-.17**	-.22	-.20	-.20	-.22	-.27	-.22
Bible Reading	-.10ns	-.09ns	-.23	-.11*	-.20	-.13**	-.14**	-.11*	-.10*	-.06ns	-.13*	-.03ns	-.10ns	-.07ns	-.15**	-.11*
Praying	-.19	-.21	-.25	-.17**	-.28	-.25	-.17**	-.21	-.15**	-.25	-.21	-.19	-.20	-.21	-.24	-.26
Music Listening	-.16**	-.14**	-.24	-.22	-.28	-.21	-.16**	-.18	-.15**	-.13*	-.16**	-.10ns	-.14**	-.10*	-.21	-.19
Religious Conviction	.04ns	.05ns	.11*	.12*	.08ns	.09ns	.11*	.06ns	.08ns	.08ns	.08ns	.07ns	.04ns	.05ns	.08ns	.10ns
Religious Salience	-.20	-.09ns	-.29	-.14**	-.30	-.16**	-.21	-.10ns	-.20	-.12*	-.21	-.15**	-.18	-.11*	-.27	-.15**
Multi-Item Measures																
Ritualistic Participation	-.22	-.10*	-.31	-.15**	-.33	-.19	-.20	-.14**	-.20	-.11*	-.22	-.12*	-.20	-.12*	-.28	-.16**
Relational Practice	-.24	-.23	-.31	-.23	-.35	-.30	-.19	-.25	-.21	-.27	-.25	-.25	-.24	-.26	-.30	-.31
Religiosity	-.25	-.18	-.34	-.22	-.38	-.27	-.22	-.22	-.23	-.20	-.25	-.19	-.24	-.20	-.32	-.26

Note. Y = Younger, O = Older; values in cells represent Pearson's *r* correlations between variables after controlling for race and SES; all correlations are significant at $p < .001$ unless otherwise noted with ns (non-significant), * ($p < .05$), or ** ($p < .01$); correlation pairs that differed statistically are shaded.

ritualistic participation and alcohol, r = -.31 versus r = -.15, p = .02; for ritualistic participation and drug use, r = -.33 versus r = -.19, p = .04). Therefore, the relationship between religiosity and deviance appeared to be largely invariant by age group, taking into account the noted exceptions.

Hypothesis 2: Measurement

The second hypothesis in this study proposed that multi-item scales of religiosity would be stronger predictors of deviance than single-item measures. Results provided some support for this hypothesis (see Table 14). The value of the Pearson's r correlation coefficients representing the relationship between the single-item measures of religiosity and the total deviance measure ranged from r = .08 to r = -.25 (all coefficients statistically significant), while these same coefficient values ranged from r = -.22 to r = -.30 for the multi-item scales (all coefficients statistically significant). Though some of the single-item measures (church status, r = -.25; religious involvement, r = -.24; praying, r = -.25) appeared stronger than the ritualistic participation scale (r = -.22), none of these differences reached statistical significance (for church status, z = -.67, p = .25; for religious involvement, z = -.50, p = .31; for praying, z = -.61, p = .27). The ritualistic participation scale had a significantly larger relationship with deviance than one of the single-item measures (religious conviction). The relational practice scale had a significantly larger relationship with deviance than 5 of the 8 single-item measures (church attendance, Bible reading, music listening, religious conviction, religious salience), while the religiosity scale had a significantly larger relationship with deviance

Table 14

Comparison of Second-Order Correlations of Religiosity Measures (Single- and Multi-Item) with Total Deviance

			Multi-Item Measures					
			Ritualistic (r = -.22, p = .00)		Relational (r = -.30, p = .00)		Religiosity (r = -.28, p = .00)	
Single-Item Measures	*r*	*p*	*z*	*p*	*z*	*p*	*z*	*p*
Church Attendance	-.20	.000	.41	.34	2.22	.01	1.85	.03
Church Status	-.25	.000	-.67	.25	1.13	.13	.77	.22
Religious Involvement	-.24	.000	-.50	.31	1.30	.10	.93	.18
Bible Reading	-.13	.000	1.80	.04	3.60	.00	3.23	.00
Praying	-.25	.000	-.61	.27	1.20	.12	.83	.20
Music Listening	-.20	.000	.35	.36	2.15	.02	1.79	.04
Religious Conviction	.08	.018	5.96	.00	7.76	.00	7.40	.00
Religious Salience	-.21	.000	.21	.42	2.00	.02	1.64	.05

Note. A one-tailed test was used to test whether the relationship between multi-item religiosity measures and deviance was significantly larger than the relationship between single-item religiosity measures and deviance.

than 4 of these single-item measures (church attendance, Bible reading, music listening, religious conviction).

Hypothesis 3: Type of Deviance

Part A

Hypothesis 3A proposed that religiosity would be more strongly related to victimless deviance, though still related to victim deviance. Results did not support this hypothesis (see Table 15). Though all three of the religiosity scales appeared to be more strongly related to victimless deviance than to victim deviance (for victim deviance,

Table 15

Second-Order Correlations of Religiosity Measures with Different Types of Deviance for Total Sample

	Victim Deviance	Victimless Deviance	Antiascetic Deviance	Secular Deviance
Single-Item Measure				
Religious Salience	-.17	-.22	-.23	-.18
Multi-Item Measures				
Ritualistic Participation	-.17	-.23	-.25	-.18
Relational Practice	-.27	-.30	-.31	-.27
Religiosity	-.24	-.30	-.31	-.25

Note. Values in cells represent Pearson's *r* correlations between variables after controlling for race and SES; all correlations are significant at $p < .001$

average $r = -.23$; for victimless deviance, average $r = -.28$), none of these differences were statistically significant. All religiosity measures were significantly related to both victim and victimless deviance.

Part B

Hypothesis 3B proposed that this same relationship (i.e., that religiosity would be more strongly related to victimless deviance while still being related to victim deviance) would be found for both male and female adolescents. Results suggested that this same pattern of association was found for both male and female adolescents (see Table 16). Though all three of the religiosity scales appeared to be more strongly associated with victimless deviance for both male (for victim deviance, average $r = -.21$; for victimless deviance, average $r = -.24$) and female (for victim deviance, average $r = -.21$; for

Table 16

Second-Order Correlations of Religiosity Measures with Different Types of Deviance by Sex

	Victim Deviance		Victimless Deviance		Antiascetic Deviance		Secular Deviance	
	M	F	M	F	M	F	M	F
Single-Item Measures								
Religious Salience	-.16**	-.16**	-.17**	-.26	-.18	-.28	-.14**	-.20
Multi-Item Measures								
Ritualistic Participation	-.15**	-.17**	-.18	-.27	-.20	-.30	-.14**	-.21
Relational Practice	-.25	-.24	-.28	-.29	-.29	-.31	-.25	-.25
Religiosity	-.22	-.21	-.25	-.32	-.27	-.34	-.22	-.24

Note. Values in cells represent Pearson's *r* correlations between variables after controlling for race and SES; all correlations are significant at $p < .001$ unless otherwise noted with ns (non-significant), * ($p < .05$), or ** ($p < .01$).

victimless deviance, average $r = -.29$) adolescents, none of these differences reached statistical significance based on Fisher's *r* to *z* transformations. Again, all religiosity scales were statistically related to both victim and victimless deviance for both groups.

Part C

Hypothesis 3C stated that this same relationship (i.e., that religiosity would be more strongly related to victimless deviance while still being related to victim deviance) would be found for both younger and older adolescents. Results suggested that this same pattern of association was found for both younger and older adolescents (see Table 17). Though all three of the religiosity scales appeared to be more strongly related to victimless deviance for both younger (for victim deviance, average $r = -.26$; for victimless

Table 17

Second-Order Correlations of Religiosity Measures with Different Types of Deviance by Age

	Victim Deviance		Victimless Deviance		Antiascetic Deviance		Secular Deviance	
	Y	O	Y	O	Y	O	Y	O
Single-Item Measures								
Religious Salience	-.21	-.13**	-.28	-.15**	-.31	-.16**	-.22	-.13*
Multi-Item Measures								
Ritualistic Participation	-.23	-.12*	-.30	-.17**	-.33	-.18	-.23	-.14**
Relational Practice	-.27	-.28	-.30	-.30	-.35	-.28	-.25	-.29
Religiosity	-.27	-.21	-.34	-.26	-.38	-.26	-.26	-.23

Note. Values in cells represent Pearson's *r* correlations between variables after controlling for race and SES; all correlations are significant at $p < .001$ unless otherwise noted with ns (non-significant), * ($p < .05$), or ** ($p < .01$).

deviance, average $r = -.31$) and older (for victim deviance, average $r = -.20$; for victimless deviance, average $r = -.24$) adolescents, Fisher's *r* to *z* tests indicated that none of these differences reached statistical significance. Again, all religiosity scales were statistically related to both victim and victimless deviance for both groups.

Part D

Hypothesis 3D stated that the measure of religious salience would only be related to victimless deviance for male adolescents. Results did not support this hypothesis (see Table 16). In fact, religious salience was related to victimless deviance for both male ($r = -.17$, $p = .00$) and female ($r = -.26$, $p = .00$) adolescents, and this association did not differ by sex based on Fisher's *r* to *z* transformations.

Part E

Hypothesis 3E proposed that both the religiosity scales and religious salience would be related to victim deviance only for female adolescents. Results did not support this hypothesis (see Table 16). Rather, it was found that all three of the religiosity scales were significantly related to victim deviance for both male and female adolescents (average r = -.21 for both groups), and religious salience was also significantly related to victim deviance in an equal manner for both groups (r = -.16 for both).

Part F

Hypothesis 3F stated that religiosity would be more strongly related to antiascetic deviance, though still not unrelated to secular deviance. Results did not support this hypothesis (see Table 15). Though all three of the religiosity scales appeared to be more strongly related to antiascetic deviance (average r = -.29) than to secular deviance (average r = -.23), none of these differences were statistically significant. All religiosity measures were significantly related to both antiascetic and secular deviance.

Part G

Hypothesis 3G proposed that this same relationship (i.e., that the religiosity measures would be more strongly related to antiascetic deviance than to secular deviance) would be found for both male and female adolescents. Results suggested that the same pattern of association found in the total sample was apparent for both male and female adolescents (see Table 16). Though all three of the religiosity scales appeared to be more strongly related to antiascetic deviance for both male (for antiascetic deviance, average r = -.25; for secular deviance, average r = -.20) and female (for antiascetic deviance,

average r = -.32; for secular deviance, average r = -.23) adolescents, none of these differences reached statistical significance. Again, all religiosity scales were statistically related to both antiascetic and secular deviance for both groups.

Part H

Hypothesis 3H stated that this same relationship (i.e., that the religiosity measures would be more strongly related to antiascetic deviance than to secular deviance) would also be found for both younger and older adolescents. Results suggested that the same pattern of association found in the total sample was apparent for both younger and older adolescents (see Table 17). Thus, though most of the religiosity scales appeared to be more strongly related to antiascetic than to secular deviance, none of these differences reached statistical significance based on r to z transformations. Again, all religiosity scales were statistically related to both antiascetic and secular deviance for both groups.

Hypothesis 4: Mediation

The most commonly utilized method of testing for mediation is Baron and Kenny's (1986) traditional regression approach. However, Baron and Kenny caution that the regression approach to testing mediation requires the assumption "that there be no measurement error in the mediator" (p. 1177). They further concede, however, that "the mediator . . . is likely to be measured with error" (p. 1177). Consequently, they recommend the use of the multiple indicator approach or latent-variable structure modeling to overcome these inherent weaknesses in the regression analytic approach. Several authors concur with both this caution and recommendation (Hoyle & Smith, 1994; Judd & Kenny, 1981; Kenny, Kashy, & Bolger, 1998). Thus, structural equation

Figure 10. Direct model, testing effect of religiosity on deviance with no intervening variable.

modeling offers a superior alternative for tests of mediation because of its ability to avoid problems of over- or underestimation (i.e., Type I and Type II error) by controlling for measurement error (Hoyle & Smith, 1994). Consequently, the current investigation utilized the SEM approach to testing mediation. When testing models using SEM, there is a wide variety of statistics that can be used to assess the adequacy of model fit. The most common methods (and, consequently, the ones utilized in the current investigation)

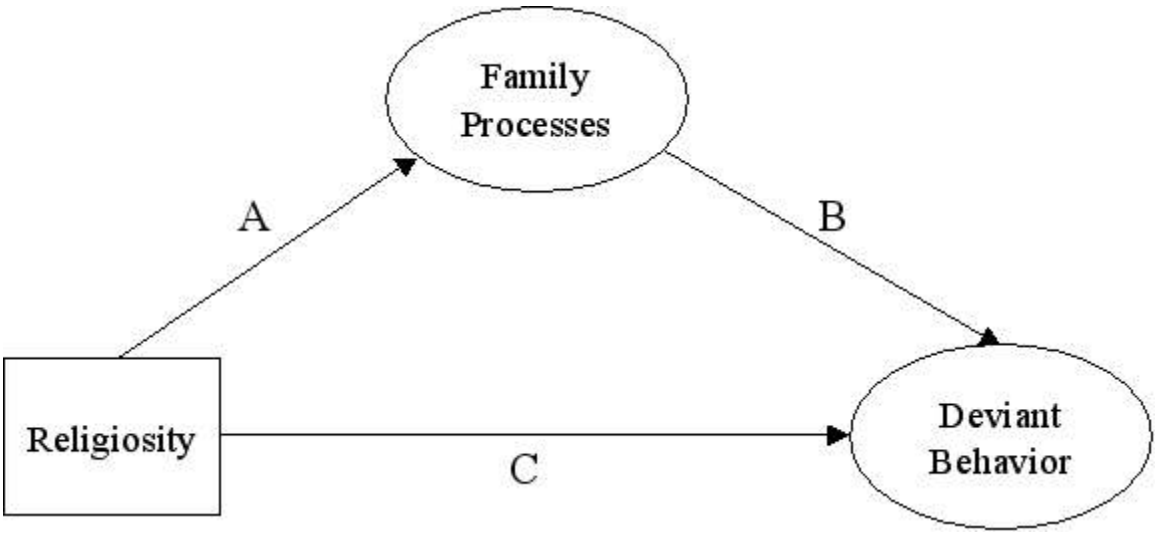

Figure 11. Overall model testing three key relationships (independent-mediator, mediator-dependent, independent-dependent) simultaneously.

include a Comparative Fit Index (CFI) > .90, a Root Mean Square Error of Approximation (RMSEA) < .05, and a non-significant chi-square.

Holmbeck (1997) outlines a very specific plan of analysis involving the use of SEM for testing mediated effects (see also Hoyle and Smith, 1994, who present a slightly different approach to SEM-based mediation testing).[7] First, the direct model (i.e., unmediated; the effect of the independent variable on the dependent variable without any mediating variable) should be tested (see Figure 10). If this model provides an adequate fit to the data, the analyses may proceed. Second, the overall model should be tested with all parameters free to be estimated (see Figure 11). At this point, not only must this model provide an adequate fit to the data, but also, in order to meet the statistical criteria for a test of mediation, all of the primary pathways (i.e., A, B, and C on Figure 11) must be significant. Third, when these criteria are met, the overall model should be tested with the independent-dependent pathway (i.e., C on Figure 11) constrained to zero. Finally, the difference between the chi-square statistics from the constrained and unconstrained models should be statistically tested. If the chi-square difference statistic is significant, this is an indication that there is no mediation. If, on the other hand, the chi-square statistic is nonsignificant, this is an indication that there is a mediation effect. In other words, if the effect of the independent variable on the dependent variable is being mediated, the addition of the C parameter to the model should

[7] Though Holmbeck (1997) specifies that a SEM test of mediation includes a latent predictor variable, the current study utilized a manifest predictor variable. This is not inconsistent with structural modeling (Hoyle & Smith, 1994), but represents a slight variation from Holmbeck's procedure.

Table 18

Parameter Estimates and Fit Indices for Direct Models of Religiosity and Deviant Behavior

	β	p	χ^2	CFI	RMSEA
Single-Item Measures					
Church Attendance	-.18	.000	39.3	.995	.046
Church Status	-.24	.000	40.3	.994	.047
Religious Involvement	-.22	.000	45.3	.993	.051
Bible Reading	-.11	.004	35.0	.995	.042
Praying	-.24	.000	39.2	.995	.046
Music Listening	-.17	.000	48.7	.993	.054
Religious Conviction	.08	.025	21.2	.998	.024
Religious Salience	-.20	.000	35.1	.995	.042
Multi-Item Measures					
Ritualistic Participation	-.20	.000	45.9	.993	.051
Relational Practice	-.27	.000	46.6	.992	.057
Religiosity	-.26	.000	56.5	.991	.059

Note. For all models, df = 14.

not significantly improve its fit. However, if the addition of the C parameter does significantly improve the fit of the model, this indicates that this effect (i.e., independent on dependent) is not being mediated.

Part A

Hypothesis 4A suggested that family processes would mediate the relationships between all of the single-item religiosity measures and deviant behavior. Results did not

Table 19

Parameter Estimates for Overall Models Involving Tests of Mediating Role for Family Processes Between Individual Religiosity Items and Deviant Behavior

	Parental Closeness			Parental Support			Parental Monitoring			Parental Communication			Parental Conflict			Parental Peer Approval		
	R→F	R→D	F→D	R→F	R→D	F→D	R→F	R→D	F→D	R→F	R→D	F→D	R→F	R→D	F→D	R→F	R→D	F→D
Church Attendance	.29	-.04	-.50	.16	-.12	-.39	.26	-.03	-.57	.24	-.10	-.31	-.17	-.11	.41	.25	-.08	-.38
	(.00)	(.30)	(.00)	(.00)	(.00)	(.00)	(.00)	(.42)	(.00)	(.00)	(.01)	(.00)	(.00)	(.00)	(.00)	(.00)	(.02)	(.00)
Church Status	.31	-.09	-.48	.23	-.15	-.37	.26	-.09	-.55	.21	-.17	-.29	-.21	-.15	.40	.24	-.15	-.36
	(.00)	(.02)	(.00)	(.00)	(.00)	(.00)	(.00)	(.02)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)
Religious Involvement	.26	-.10	-.48	.19	-.15	-.38	.28	-.07	-.56	.26	-.14	-.30	-.18	-.15	.41	.23	-.14	-.37
	(.00)	(.01)	(.00)	(.00)	(.00)	(.00)	(.00)	(.10)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)
Bible Reading	.22	-.01	-.51	.16	-.04	-.40	.22	-.03	-.58	.25	-.02	-.33	-.14	-.05	.43	.18	-.03	-.36
	(.00)	(.07)	(.00)	(.00)	(.25)	(.00)	(.00)	(.51)	(.00)	(.00)	(.62)	(.00)	(.01)	(.23)	(.00)	(.00)	(.39)	(.00)
Praying	.34	-.07	-.49	.23	-.15	-.37	.24	-.11	-.56	.30	-.14	-.29	-.12	-.19	.41	.29	-.13	-.36
	(.00)	(.07)	(.00)	(.00)	(.00)	(.00)	(.00)	(.01)	(.00)	(.00)	(.00)	(.00)	(.02)	(.00)	(.00)	(.00)	(.00)	(.00)
Music Listening	.22	-.06	-.50	.07	-.15	-.40	.28	-.01	-.58	.23	-.10	-.32	-.07	-.14	-.42	.21	-.09	-.38
	(.00)	(.10)	(.00)	(.11)	(.00)	(.00)	(.00)	(.85)	(.00)	(.00)	(.01)	(.00)	(.18)	(.00)	(.00)	(.00)	(.02)	(.00)
Religious Conviction	-.03	.07	-.50	-.06	.06	-.40	-.10	.03	-.58	-.07	.06	-.32	.02	.08	.43	-.06	.06	-.40
	(.47)	(.06)	(.00)	(.16)	(.11)	(.00)	(.04)	(.49)	(.00)	(.08)	(.09)	(.00)	(.66)	(.04)	(.00)	(.14)	(.10)	(.00)
Religious Salience	.26	-.07	-.49	.15	-.14	-.39	.25	-.05	-.57	.28	-.10	-.31	-.14	-.14	.41	.20	-.12	-.38
	(.00)	(.08)	(.00)	(.00)	(.00)	(.00)	(.00)	(.21)	(.00)	(.00)	(.01)	(.00)	(.01)	(.00)	(.00)	(.00)	(.00)	(.00)

Note. For all models, df = 27. For each cell, top number is β (standardized coefficient) and bottom number is p value. R→F = pathway from religiosity item to family processes scale; R→D = pathway from religiosity item to deviance scale; F→D = pathway from family processes scale to deviance scale.

Table 20

Model Statistics for Overall Models Involving Tests of Mediating Role for Family Processes Between Individual Religiosity Items and Deviant Behavior

	Parental Closeness			Parental Support			Parental Monitoring			Parental Communication			Parental Conflict			Parental Peer Approval		
	χ^2	CFI	RMSEA	χ^2	CFI	RMSEA	χ^2	CFI	RMSEA	χ^2	CFI	RMSEA	χ^2	CFI	RMSEA	χ^2	CFI	RMSEA
Church Attendance	76.3	.990	.046	57.8	.994	.036	65.6	.992	.041	66.8	.992	.041	58.4	.993	.037	85.4	.988	.050
Church Status	78.1	.990	.047	57.8	.994	.036	68.4	.992	.042	64.5	.992	.040	60.0	.993	.038	87.6	.988	.051
Religious Involvement	81.5	.989	.048	62.7	.993	.039	71.2	.991	.044	70.6	.991	.043	67.1	.992	.041	93.9	.987	.054
Bible Reading	73.7	.991	.045	53.9	.995	.034	61.8	.993	.039	57.9	.994	.036	53.8	.994	.034	83.7	.989	.049
Praying	77.8	.990	.047	56.4	.994	.036	66.6	.992	.041	65.2	.992	.040	58.1	.994	.037	85.7	.988	.050
Music Listening	88.0	.988	.051	68.0	.992	.042	73.9	.991	.045	74.4	.991	.045	67.6	.992	.042	96.7	.986	.055
Religious Conviction	59.2	.993	.037	40.2	.997	.024	51.1	.995	.032	44.1	.997	.027	41.8	.997	.025	74.1	.991	.045
Religious Salience	73.8	.991	.045	54.0	.995	.034	62.6	.993	.039	60.9	.993	.038	54.2	.994	.034	84.6	.989	.050

Note. For all models, $df = 27$. All chi-square statistics are significant at $p < .001$. CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation.

Table 21

Fit Statistics in Comparisons Between Overall Models with Constrained and Unconstrained Pathway Between Single-Item Religiosity Measures and Deviance

		Parental Closeness			Parental Support			Parental Monitoring			Parental Communication			Parental Conflict			Parental Peer Approval		
		C/M	U/N	$\Delta\chi^2$	C/M	U/N	$\Delta\chi^2$	C/M	U/N	$\Delta\chi^2$	C/M	U/N	$\Delta\chi^2$	C/M	U/N	$\Delta\chi^2$	C/M	U/N	$\Delta\chi^2$
Church Attendance	β				-.119	-.183					-.103	-.183		-.113	-.183		-.084	-.183	
	χ^2				68.0	57.8	10.2**				73.9	66.8	7.1**	66.6	58.4	8.2**	90.3	85.4	4.9*
Church Status	β	-.091	-.238		-.153	-.238		-.094	-.238		-.172	-.238		-.154	-.238		-.148	-.238	
	χ^2	83.2	78.1	5.1*	74.0	57.8	16.2***	73.9	68.4	5.5*	85.0	64.5	20.5***	74.3	60.0	14.3***	102.8	87.6	15.2***
Religious Involvement	β	-.096	-.223		-.150	-.223					-.142	-.223		-.152	-.223		-.136	-.223	
	χ^2	87.5	81.5	6.0*	78.8	62.7	16.1***				84.2	70.6	13.6***	81.5	67.1	14.4***	106.9	93.9	13.0***
Bible Reading	β																		
	χ^2																		
Praying	β				-.153	-.239		-.105	-.239		-.143	-.239		-.189	-.239		-.128	-.239	
	χ^2				72.7	56.4	16.3***	73.5	66.6	6.9**	78.2	65.2	13.0***	81.6	58.1	23.5***	96.5	85.7	10.8**
Music Listening	β										-.096	-.174					-.088	-.174	
	χ^2										80.6	74.4	6.2*				102.1	96.7	5.4*
Religious Conviction	β																		
	χ^2																		
Religious Salience	β				-.139	-.197					-.102	-.197		-.139	-.197		-.121	-.197	
	χ^2				67.3	54.0	13.3***				67.4	60.9	6.5*	66.4	54.2	12.2***	94.7	84.6	10.1**

Note. Holmbeck (1997) indicates that standardized parameter estimates (β) for the models with and without the mediating variable should be reported; they are presented here in conjunction with the chi-square statistics from the constrained and unconstrained models; C/M = constrained/mediator present; U/N = unconstrained/no mediator present; for the constrained model, *df* = 28, while for the unconstrained model, *df* = 27; the chi-square critical values at 1 df are *3.84 (*p* = .05), **6.64 (*p* = .01), ***10.83 (*p* = .001); empty cells represent relationships that did not meet the statistical criteria for a test of mediation.

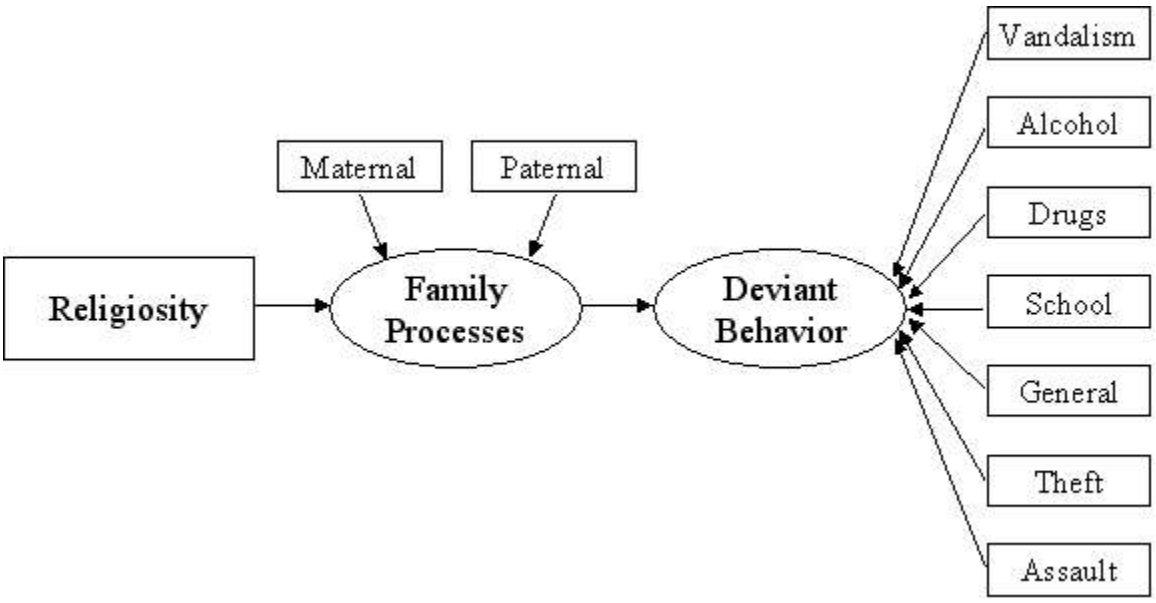

Figure 12. Actual structural model tested.

support this hypothesis (see Tables 18, 19, 20, and 21). Following Holmbeck's (1997) procedure, the first step was to test the direct models. Results indicated that models for all 8 of the single-item religiosity measures provided a good fit to the data (Table 18; all pathways significant, all CFI's > .99, RMSEA's ranging from .024 to .054). Thus, the first of Holmbeck's criteria was met.

The next step was to test the overall model fits. Results indicated that all of these mediation models fit the data very well (see Table 20). Though the chi-square statistics in both the direct and overall model analyses were all significant at the $p < .001$ level (theoretically indicating poor model fit), this was to be expected since chi-square is extremely sample sensitive and always inflated in larger samples (Bentler & Bonett, 1980; Loehlin, 1992; Marsh, Balla, & McDonald, 1988; Marsh & Hocevar, 1985). The

fact that the lowest CFI was .986 and all but 7 of the RMSEA's were less than .05 (highest, .054) was good evidence that these models explained the data in an acceptable manner. Thus, the first part of the second of Holmbeck's criteria was met.

The second part of the second of Holmbeck's criteria required that all model pathways be statistically significant. Since there were six family processes measures tested with eight religiosity items, there were a total of 48 sets of pathways (3 pathways in each set: A, B, and C on Figure 11) that needed to be statistically significant. Of these 48, 22 did not meet the criteria for mediation; that is, at least one of these pathways was nonsignificant (see Table 19). Therefore, the remaining 26 models met all the criteria for mediation and could be tested for such.

The next step involved completing analyses that constrained the predictor-criterion (i.e., C on Figure 11) pathway to zero. Of these 26 models of potential mediation, the chi-square difference statistic in all 26 was statistically significant and thus indicated no mediation effect (see Table 21). Thus, in all 26 of the potentially mediated models, not one was mediated by family processes. More specifically, in all 26 of these models, the religiosity items maintained a significant relationship with deviance that was not attenuated by any of the family processes variables.

Part B

Hypothesis 4B predicted that the relationship between the ritualistic participation scale and deviance would be mediated by family processes. Results did not support this hypothesis (see Tables 18, 22, 23, and 24). The direct model involving the effect of ritualistic participation on deviance in the absence of any intervening variable (see Table

18) showed good fit (χ^2 = 45.9; CFI = .993; RMSEA = .051) and the parameter of importance was statistically significant (β = -.20, p = .000). Tests of the overall models including the family processes variables (see Table 23) also showed good fit to the data (χ^2 range = 63.5-93.2; CFI range = .987-.993; RMSEA range = .040-.053). Of the 6 sets of pathways, two (parental closeness and parental monitoring) did not meet the criteria for mediation (see Table 22). Of the remaining models of potential mediation, the chi-square difference statistic in all 4 was statistically significant and thus indicated no mediation effect (see Table 24).

Part C

Hypothesis 4C proposed that the relationship between the relational practice scale and deviance would not be mediated by family processes. This hypothesis was supported (see Tables 18, 22, 23, and 24). The direct model involving the effect of relational practice on deviance in the absence of any intervening variable (see Table 18) showed good fit (χ^2 = 46.6; CFI = .992; RMSEA = .057) and the parameter of importance was statistically significant (β = -.27, p = .000). Tests of the overall models including the family processes variables (see Table 23) also showed good fit to the data (χ^2 range = 70.5-100.8; CFI range = .986-.991; RMSEA range = .043-.056). All 6 sets of pathways met the criteria for mediation (see Table 22), and the chi-square difference statistic in all 6 was statistically significant (see Table 24) and thus indicated no mediation effect.

Table 22

Parameter Estimates for Overall Models Involving Tests of Mediating Role for Family Processes Between Religiosity Scales and Deviant Behavior for Total Sample

	Parental Closeness			Parental Support			Parental Monitoring			Parental Communication			Parental Conflict			Parental Peer Approval		
	R→F	R→D	F→D	R→F	R→D	F→D	R→F	R→D	F→D	R→F	R→D	F→D	R→F	R→D	F→D	R→F	R→D	F→D
Ritualistic Participation	.33 (.00)	-.03 (.45)	-.50 (.00)	.20 (.00)	-.12 (.00)	-.38 (.00)	.31 (.00)	-.02 (.70)	-.57 (.00)	.33 (.00)	-.08 (.02)	-.31 (.00)	-.20 (.00)	-.11 (.00)	.41 (.00)	.27 (.00)	-.09 (.01)	-.38 (.00)
Relational Practice	.36 (.00)	-.12 (.00)	-.47 (.00)	.26 (.00)	-.19 (.00)	-.36 (.00)	.31 (.00)	-.12 (.00)	-.54 (.00)	.32 (.00)	-.19 (.00)	-.28 (.00)	-.20 (.00)	-.21 (.00)	.39 (.00)	.31 (.00)	-.18 (.00)	-.34 (.00)
Religiosity	.37 (.00)	-.08 (.04)	-.48 (.00)	.23 (.00)	-.18 (.00)	-.37 (.00)	.34 (.00)	-.07 (.09)	-.55 (.00)	.35 (.00)	-.16 (.00)	-.29 (.00)	-.20 (.00)	-.18 (.00)	.40 (.00)	.31 (.00)	-.15 (.00)	-.35 (.00)

Note. For all models, $df = 27$. For each cell, top number is β (standardized coefficient) and bottom number is p value. R→F = pathway from religiosity item to family processes scale; R→D = pathway from religiosity item to deviance scale; F→D = pathway from family processes scale to deviance scale.

Table 23

Model Statistics for Overall Models Involving Tests of Mediating Role for Family Processes Between Religiosity Scales and Deviant Behavior for Total Sample

	Parental Closeness			Parental Support			Parental Monitoring			Parental Communication			Parental Conflict			Parental Peer Approval		
	χ^2	CFI	RMSEA	χ^2	CFI	RMSEA	χ^2	CFI	RMSEA	χ^2	CFI	RMSEA	χ^2	CFI	RMSEA	χ^2	CFI	RMSEA
Ritualistic Participation	83.5	.989	.049	63.5	.993	.040	70.9	.991	.043	72.4	.991	.044	64.7	.992	.040	93.2	.987	.053
Relational Practice	90.7	.987	.052	70.5	.991	.043	79.7	.989	.048	80.8	.989	.048	73.8	.990	.045	100.8	.986	.056
Religiosity	94.3	.987	.054	73.7	.991	.045	80.6	.989	.048	83.7	.989	.049	75.5	.990	.046	103.1	.985	.057

Note. For all models, $df = 27$. All chi-square statistics are significant at $p < .001$. CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation.

Table 24

Fit Statistics in Comparisons Between Overall Models with Constrained and Unconstrained Pathway Between Religiosity Scales and Deviance for Total Sample

		Parental Closeness			Parental Support			Parental Monitoring			Parental Communication			Parental Conflict			Parental Peer Approval		
		C/M	U/N	$\Delta\chi^2$	C/M	U/N	$\Delta\chi^2$	C/M	U/N	$\Delta\chi^2$	C/M	U/N	$\Delta\chi^2$	C/M	U/N	$\Delta\chi^2$	C/M	U/N	$\Delta\chi^2$
Ritualistic Participation	β				-.119	-.195					-.088	-.195		-.114	-.195		-.093	-.195	
	χ^2				73.5	63.5	10.0**				77.2	72.4	4.8*	72.7	64.7	8.0**	99.1	93.2	5.9*
Relational Practice	β	-.084	-.268		-.192	-.268		-.120	-.268		-.193	-.268		-.208	-.268		-.177	-.268	
	χ^2	98.2	90.7	7.5**	95.6	70.5	25.1***	87.7	79.7	8.0**	104.5	80.8	23.7***	99.6	73.8	25.8***	121.6	100.8	20.8***
Religiosity	β	-.084	-.263		-.178	-.263					-.158	-.263		-.183	-.263		-.150	-.263	
	χ^2	98.2	94.3	3.9*	95.9	73.7	22.2***				99.1	83.7	15.4***	95.8	75.5	20.3***	118.1	103.1	15.0***

Note. Holmbeck (1997) indicates that standardized parameter estimates (β) for the models with and without the mediating variable should be reported; they are presented here in conjunction with the chi-square statistics from the constrained and unconstrained models; C/M = constrained/mediator present; U/N = unconstrained/no mediator present; for the constrained model, *df* = 28, while for the unconstrained model, *df* = 27; the chi-square critical values at 1 df are as follows: *3.84 (*p* = .05), **6.64 (*p* = .01), ***10.83 (*p* = .001); empty cells represent relationships that did not meet the statistical criteria for a test of mediation.

Part D

Hypothesis 4D stated that the relationship between the religiosity scale and deviance would not be mediated by family processes. This hypothesis was supported (see Tables 18, 22, 23, and 24). The direct model involving the effect of religiosity on deviance in the absence of any intervening variable (see Table 18) showed good fit (χ^2 = 56.5; CFI = .991; RMSEA = .059) and the parameter of importance was statistically significant (β = -.26, p = .000). Tests of the overall models including the family processes variables (see Table 23) also showed good fit to the data (χ^2 range = 73.7-103.1; CFI range = .985-.991; RMSEA range = .045-.057). Of the 6 sets of pathways, one (parental monitoring) did not meet the criteria for mediation (see Table 22). Of the remaining models of potential mediation, the chi-square difference statistic in all 5 was statistically significant (see Table 24) and thus indicated no mediation effect.

Part E

Hypothesis 4E suggested that this same pattern of mediation would be found for both male and female adolescents. In other words, this hypothesis tested the moderating role of sex for the structural model in which family processes mediated the effects of religiosity on deviance. This role of moderation was tested using a multiple-group SEM approach. Results supported the hypothesis that this pattern of mediation would not be moderated by sex (see Tables 25, 26, 27, and 28).

Several steps are involved in this analytical approach (Mounts, 2002; Parker et al., 1997). First, a fully variant model was estimated in order to generate path coefficients for each of the groups (e.g., male and female adolescents). Second, an omnibus test was

employed where all relationships were tested simultaneously for both groups (e.g., male and female adolescents) in order to assess whether the model was equivalent across the groups. In this omnibus test, all paths were held invariant across the groups. If the chi-square difference between the fully variant model and the fully invariant model was statistically significant, this was an indication of moderation, that is, that there were differences between the groups in the way the data fit the model. If such a significant difference was found, thus indicating a difference between the groups, then a third analytical step was necessary. In this third step, a series of univariate tests were conducted where each path was held invariant while the others were free to be estimated. This procedure was used to determine exactly which paths were moderated. Because the focus of these analyses was solely on the mediation of religiosity by family processes, only these pathways were examined for potential moderation effects in univariate follow-up analyses.

Results of the omnibus tests comparing the fully variant and fully invariant models of mediation by sex indicated that, even when all pathways in the model were constrained to equality for male and female adolescents, this model fit the data well, since all CFI's exceeded .99 and RMSEA's ranged from .018 to .026 (see Table 25). A pattern was found in these results where, for each of the three religiosity scales tested, the models involving the same four family processes scales were always found to be moderated by sex – closeness, monitoring, communication, and peer approval. Conversely, the models involving support and conflict never differed by sex. Because significant chi-square differences were found in four of the six models for all three of the religiosity scales, thus

Table 25

Fit Statistics in Comparisons Between Fully Variant and Fully Invariant Models by Sex

		Fully Variant Model				Fully Invariant Model				Change Statistics			
	Family Processes	χ^2	df	CFI	RMSEA	χ^2	df	CFI	RMSEA	$\Delta\chi^2$	Δdf	ΔCFI	ΔRMSEA
Ritualistic Participation	Closeness	308.12	135	.99	.022	320.99	138	.99	.023	12.87**	3	0.00	0.001
	Support	248.65	135	.99	.018	249.98	138	.99	.018	1.33	3	0.00	0.000
	Monitoring	273.91	135	.99	.020	282.13	138	.99	.020	8.22*	3	0.00	0.000
	Communication	263.51	135	.99	.019	271.99	138	.99	.019	8.48*	3	0.00	0.000
	Conflict	270.33	135	.99	.020	276.18	138	.99	.020	5.85	3	0.00	0.000
	Peer Approval	319.65	135	.99	.023	337.86	138	.99	.024	18.21***	3	0.00	0.001
Relational Practice	Closeness	331.62	135	.99	.024	346.54	138	.99	.024	14.92**	3	0.00	0.000
	Support	274.73	135	.99	.020	277.52	138	.99	.020	2.79	3	0.00	0.000
	Monitoring	305.21	135	.99	.022	314.82	138	.99	.022	9.61*	3	0.00	0.000
	Communication	293.71	135	.99	.021	302.51	138	.99	.021	8.80*	3	0.00	0.000
	Conflict	299.47	135	.99	.022	306.12	138	.99	.022	6.65	3	0.00	0.000
	Peer Approval	343.06	135	.99	.024	363.11	138	.99	.025	20.05***	3	0.00	0.001
Religiosity	Closeness	344.80	135	.99	.024	359.25	138	.99	.025	14.45**	3	0.00	0.001
	Support	284.76	135	.99	.021	287.06	138	.99	.021	2.3	3	0.00	0.000
	Monitoring	306.90	135	.99	.022	315.67	138	.99	.022	8.77*	3	0.00	0.000
	Communication	301.93	135	.99	.022	311.12	138	.99	.022	9.19*	3	0.00	0.000
	Conflict	307.67	135	.99	.022	314.10	138	.99	.022	6.43	3	0.00	0.000
	Peer Approval	352.52	135	.99	.025	372.24	138	.99	.026	19.72***	3	0.00	0.001

Note. The chi-square critical values at 3 df are as follows: *7.82 (p = .05), **11.35 (p = .01), and ***16.27 (p = .001).

indicating that there were differences in the way these models operated for male versus female adolescents, univariate tests were conducted in order to more accurately determine the specific sources of these differences.

Ritualistic Participation

Results of the univariate tests comparing the individual pathways by sex for the ritualistic participation set of models indicated that, when examined more closely, the differences in this model as indicated by the statistically significant chi-square difference

in the omnibus test were not attributable to the mediated pathway between religiosity and deviance (see Table 26). In the models including closeness ($\Delta\chi^2 = 10.38$, $p < .01$), communication ($\Delta\chi^2 = 5.62$, $p < .05$), and peer approval ($\Delta\chi^2 = 17.98$, $p < .001$), the difference between male and female adolescents was found in the pathway between the family processes measure and deviance. In the model including monitoring, the difference was found in the pathway between the religiosity and family processes measures ($\Delta\chi^2 = 4.13$, $p < .05$). Thus, none of these analyses provided evidence for a moderating effect by sex.

Relational Practice

Results of the univariate tests comparing the individual pathways by sex for the relational practice set of models indicated that, when examined more closely, the differences in this model as indicated by the statistically significant chi-square difference in the omnibus test were not attributable to the mediated pathway between religiosity and deviance (see Table 27). In all four of the models that yielded a significant chi-square difference statistic in the omnibus test (closeness, $\Delta\chi^2 = 11.20$, $p < .001$; monitoring, $\Delta\chi^2 = 4.25$, $p < .05$; communication, $\Delta\chi^2 = 4.57$, $p < .05$), and peer approval, $\Delta\chi^2 = 17.37$, $p < .001$), the difference between male and female adolescents was found in the pathway between the family processes measure and deviance. Thus, none of these analyses provided evidence for a moderating effect by sex.

Religiosity

Results of the univariate tests comparing the individual pathways by sex for the religiosity set of models indicated that, when examined more closely, the differences in

Table 26

Path Coefficients and Comparisons by Sex: Ritualistic Participation

Path	Total	Male	Female	Variant	Invariant	$\Delta\chi^2$
Ritualistic ➜ Closeness	.33(.000)	.24(.000)	.41(.000)	308.12	310.97	2.85
Ritualistic ➜ Deviance	-.03(.451)	-.02(.689)	-.07(.282)	308.12	308.18	0.06
Closeness ➜ Deviance	-.50(.000)	-.55(.000)	-.40(.000)	308.12	318.50	10.38**
Ritualistic ➜ Monitoring	.31(.000)	.18(.006)	.44(.000)	273.91	278.04	4.13*
Ritualistic ➜ Deviance	-.02(.704)	-.05(.329)	-.04(.623)	273.91	274.13	0.22
Monitoring ➜ Deviance	-.57(.000)	-.57(.000)	-.44(.001)	273.91	277.73	3.82
Ritualistic ➜ Communication	.33(.000)	.27(.000)	.38(.000)	263.51	266.46	2.95
Ritualistic ➜ Deviance	-.09(.024)	-.07(.200)	-.13(.022)	263.51	263.51	0.00
Communication ➜ Deviance	-.31(.000)	-.30(.000)	-.26(.000)	263.51	269.13	5.62*
Ritualistic ➜ Peer Approval	.27(.000)	.23(.000)	.28(.000)	319.65	319.87	0.22
Ritualistic ➜ Deviance	-.09(.012)	-.05(.374)	-.17(.002)	319.65	320.13	0.48
Peer Approval ➜ Deviance	-.38(.000)	-.45(.000)	-.23(.000)	319.65	337.63	17.98***

Note. The direct (unmediated) relationship between ritualistic participation and deviance was as follows: Total, -.20(.000); Male, -.15(.003); Female, -.23(.000). The first number in each cell is the standardized path coefficient while the second number (in parentheses) is the *p* value; the chi-square value indicated for each path represents the chi-square of the model when that particular path is held invariant for the male and female models. The change in chi-square value represents the difference between the chi-square of the fully variant model and the chi-square of the model when that particular path is held invariant. The chi-square critical values at 1 df (fully variant model df = 135; single path invariant model df = 136) are: *3.84 (p = .05), **6.64 (p = .01), and ***10.83 (p = .001).

this model, as indicated by the significant chi-square difference statistic in the omnibus test, were not attributable to the mediated pathway between religiosity and deviance (see Table 28). In the models including closeness ($\Delta\chi^2 = 10.70$, $p < .01$), communication ($\Delta\chi^2 = 5.09$, $p < .05$), and peer approval ($\Delta\chi^2 = 18.03$, $p < .001$), the difference between male and female adolescents was found in the pathway between the family processes

Table 27

Path Coefficients and Comparisons by Sex: Relational Practice

Path	Total	Male	Female	Variant	Invariant	$\Delta\chi^2$
Relational ➜ Closeness	.36(.000)	.32(.000)	.39(.000)	331.62	332.87	1.25
Relational ➜ Deviance	-.12(.004)	-.09(.095)	-.13(.029)	331.62	331.66	0.04
Closeness ➜ Deviance	-.47(.000)	-.53(.000)	-.37(.000)	331.62	342.82	11.20***
Relational ➜ Monitoring	.31(.000)	.21(.001)	.38(.000)	305.21	307.35	2.14
Relational ➜ Deviance	-.12(.003)	-.15(.000)	-.12(.066)	305.21	306.53	1.32
Monitoring ➜ Deviance	-.54(.000)	-.55(.004)	-.41(.001)	305.21	309.46	4.25*
Relational ➜ Communication	.32(.000)	.30(.000)	.32(.000)	293.71	295.31	1.60
Relational ➜ Deviance	-.19(.000)	-.18(.001)	-.20(.000)	293.71	294.66	0.95
Communication ➜ Deviance	-.28(.000)	-.26(.000)	-.24(.001)	293.71	298.28	4.57*
Relational ➜ Peer Approval	.31(.000)	.29(.000)	.30(.000)	343.06	343.30	0.24
Relational ➜ Deviance	-.18(.000)	-.14(.009)	-.21(.000)	343.06	343.11	0.05
Peer Approval ➜ Deviance	-.34(.000)	-.42(.000)	-.21(.001)	343.06	360.43	17.37***

Note. The direct (unmediated) relationship between relational practice and deviance was as follows: Total, -.29(.000); Male, -.26(.000); Female, -.28(.000). The first number in each cell is the standardized path coefficient while the second number (in parentheses) is the *p* value; the chi-square value indicated for each path represents the chi-square of the model when that particular path is held invariant for the male and female models. The change in chi-square value represents the difference between the chi-square of the fully variant model and the chi-square of the model when that particular path is held invariant. The chi-square critical values at 1 df (fully variant model df = 135; single path invariant model df = 136) are: *3.84 (p = .05), **6.64 (p = .01), and ***10.83 (p = .001).

measure and deviance. In the model involving monitoring, though the chi-square difference statistic from the omnibus test reached significance, the univariate tests revealed that no specific pairwise pathway could be identified as the source of this difference. Thus, none of these analyses provided evidence for a moderating effect by sex.

Table 28

Path Coefficients and Comparisons by Sex: Religiosity

Path	Total	Male	Female	Variant	Invariant	$\Delta\chi^2$
Religiosity ➜ Closeness	.37(.000)	.29(.000)	.43(.000)	344.80	346.88	2.08
Religiosity ➜ Deviance	-.08(.040)	-.07(.202)	-.11(.086)	344.80	344.82	0.02
Closeness ➜ Deviance	-.48(.000)	-.54(.000)	-.38(.000)	344.80	355.50	10.70**
Religiosity ➜ Monitoring	.34(.000)	.22(.001)	.45(.000)	306.90	309.52	2.62
Religiosity ➜ Deviance	-.07(.089)	-.10(.046)	-.09(.242)	306.90	307.63	0.73
Monitoring ➜ Deviance	-.55(.000)	-.56(.000)	-.42(.001)	306.90	310.69	3.79
Religiosity ➜ Communication	.35(.000)	.30(.000)	.38(.000)	301.93	304.35	2.42
Religiosity ➜ Deviance	-.16(.000)	-.14(.009)	-.18(.002)	301.93	302.37	0.44
Communication ➜ Deviance	-.29(.000)	-.27(.000)	-.24(.001)	301.93	307.02	5.09*
Religiosity ➜ Peer Approval	.31(.000)	.28(.000)	.32(.000)	352.52	352.68	0.16
Religiosity ➜ Deviance	-.15(.000)	-.10(.048)	-.21(.000)	352.52	352.59	0.07
Peer Approval ➜ Deviance	-.35(.000)	-.43(.000)	-.21(.001)	352.52	370.55	18.03***

Note. The direct (unmediated) relationship between religiosity and deviance was as follows: Total, -.26(.000); Male, -.23(.000); Female, -.27(.000). The first number in each cell is the standardized path coefficient while the second number (in parentheses) is the *p* value; the chi-square value indicated for each path represents the chi-square of the model when that particular path is held invariant for the male and female models. The change in chi-square value represents the difference between the chi-square of the fully variant model and the chi-square of the model when that particular path is held invariant. The chi-square critical values at 1 df (fully variant model df = 135; single path invariant model df = 136) are: *3.84 (p = .05), **6.64 (p = .01), and ***10.83 (p = .001).

Part F

Hypothesis 4F predicted that this same pattern of mediation would be found for both younger and older adolescents. In other words, this hypothesis tested the moderating role of age for the structural model in which family processes mediated the effects of religiosity on deviance. As with the tests involving sex, this role of moderation was tested

Table 29

Fit Statistics in Comparisons Between Fully Variant and Fully Invariant Models by Age

		Fully Variant Model				Fully Invariant Model				Change Statistics			
	Family Processes	χ^2	df	CFI	RMSEA	χ^2	df	CFI	RMSEA	$\Delta\chi^2$	Δdf	ΔCFI	ΔRMSEA
Ritualistic Participation	Closeness	308.12	135	.99	.022	312.52	138	.99	.022	4.4	3	0.00	0.000
	Support	248.65	135	.99	.018	253.66	138	.99	.018	5.01	3	0.00	0.000
	Monitoring	273.91	135	.99	.020	279.67	138	.99	.020	5.76	3	0.00	0.000
	Communication	263.51	135	.99	.019	269.12	138	.99	.019	5.61	3	0.00	0.000
	Conflict	270.33	135	.99	.020	287.49	138	.99	.020	17.16***	3	0.00	0.000
	Peer Approval	319.65	135	.99	.023	324.19	138	.99	.023	4.54	3	0.00	0.000
Relational Practice	Closeness	331.62	135	.99	.024	332.09	138	.99	.024	0.47	3	0.00	0.000
	Support	274.73	135	.99	.020	275.42	138	.99	.020	0.69	3	0.00	0.000
	Monitoring	305.21	135	.99	.022	309.97	138	.99	.022	4.76	3	0.00	0.000
	Communication	293.71	135	.99	.021	295.28	138	.99	.021	1.57	3	0.00	0.000
	Conflict	299.47	135	.99	.022	304.23	138	.99	.022	4.76	3	0.00	0.000
	Peer Approval	343.06	135	.99	.024	343.51	138	.99	.024	0.45	3	0.00	0.000
Religiosity	Closeness	344.80	135	.99	.024	346.56	138	.99	.024	1.76	3	0.00	0.000
	Support	284.76	135	.99	.021	286.24	138	.99	.021	1.48	3	0.00	0.000
	Monitoring	306.90	135	.99	.022	311.17	138	.99	.022	4.27	3	0.00	0.000
	Communication	301.93	135	.99	.022	304.30	138	.99	.022	2.37	3	0.00	0.000
	Conflict	307.67	135	.99	.022	316.47	138	.99	.022	8.80*	3	0.00	0.000
	Peer Approval	352.52	135	.99	.025	354.31	138	.99	.025	1.79	3	0.00	0.000

Note. The chi-square critical values at 3 df are: *7.82 (p = .05), **11.35 (p = .01), and ***16.27 (p = .001).

using a multiple-group SEM approach. Results generally supported the hypothesis (see Tables 29, 30, and 31).

Results of the omnibus tests comparing the fully variant and fully invariant models of mediation by age indicated that, even when all pathways in the model were constrained to equality for younger and older adolescents, this model fit the data well, with all CFI's equal to .99 and RMSEA's ranging from .018 to .025 (see Table 29). In the sets of models involving both the ritualistic participation measure and the religiosity measure, a significant chi-square difference between the fully variant and fully invariant models was found for only one of the six (conflict; for ritualistic participation, $\Delta\chi^2 = 17.16$, $p < .001$; for religiosity, $\Delta\chi^2 = 8.80$, $p < .05$). In the set of models involving the relational practice measure, none exhibited a statistically significant difference by age group.

Ritualistic Participation

Results of the univariate tests comparing the individual pathways by age groups for the model including ritualistic participation and parental conflict indicated that, when examined more closely, the differences in this model were not attributable to the mediated pathway between religiosity and deviance (see Table 30). Rather, it was the pathway between ritualistic participation and conflict that was found to vary between the age groups ($\Delta\chi^2 = 15.72$, $p < .001$). Thus, none of these analyses provided evidence for a moderating effect by age group.

Religiosity

Results of the univariate tests comparing the individual pathways by age groups for the model including religiosity and parental conflict indicated that, when examined more closely, the differences in this model were not attributable to the mediated pathway between religiosity and deviance (see Table 31). Rather, it was the pathway between

Table 30

Path Coefficients and Comparisons by Age: Ritualistic Participation

Path	Total	Male	Female	Variant	Invariant	$\Delta\chi^2$
Ritualistic ➜ Conflict	-.20(.000)	-.36(.000)	-.04(.580)	270.33	286.05	15.72***
Ritualistic ➜ Deviance	-.11(.003)	-.11(.062)	-.12(.027)	270.33	270.33	0.00
Conflict ➜ Deviance	.41(.000)	.40(.000)	.45(.000)	270.33	271.90	1.57

Note. The direct (unmediated) relationship between ritualistic participation and deviance was as follows: Total, -.20(.000); Younger, -.26(.000); Older, -.14(.007). The first number in each cell is the standardized path coefficient while the second number (in parentheses) is the *p* value; the chi-square value indicated for each path represents the chi-square of the model when that particular path is held invariant for the younger and older adolescent models. The change in chi-square value represents the difference between the chi-square of the fully variant model and the chi-square of the model when that particular path is held invariant. The chi-square critical values at 1 df (fully variant model df = 135; single path invariant model df = 136) are: *3.84 (*p* = .05), **6.64 (*p* = .01), and ***10.83 (*p* = .001).

Table 31

Path Coefficients and Comparisons by Age: Religiosity

Path	Total	Male	Female	Variant	Invariant	$\Delta\chi^2$
Religiosity ➜ Conflict	-.20(.000)	-.31(.000)	-.12(.142)	307.67	315.44	7.77**
Religiosity ➜ Deviance	-.18(.000)	-.16(.003)	-.19(.001)	307.67	307.68	0.01
Conflict ➜ Deviance	.40(.000)	.38(.000)	.43(.000)	307.67	309.29	1.62

Note. The direct (unmediated) relationship between religiosity and deviance was as follows: Total, -.26(.000); Younger, -.29(.000); Older, -.24(.000). The first number in each cell is the standardized path coefficient while the second number (in parentheses) is the *p* value; the chi-square value indicated for each path represents the chi-square of the model when that particular path is held invariant for the younger and older adolescent models. The change in chi-square value represents the difference between the chi-square of the fully variant model and the chi-square of the model when that particular path is held invariant. The chi-square critical values at 1 df (fully variant model df = 135; single path invariant model df = 136) are: *3.84 (*p* = .05), **6.64 (*p* = .01), and ***10.83 (*p* = .001).

ritualistic participation and conflict that was found to vary between the age groups ($\Delta\chi^2 = 7.77$, $p < .01$). Thus, none of these analyses provided evidence for a moderating effect by age group.

Part G

The following 3 hypotheses (4G, 4H, 4I) were somewhat peripheral to the central focus of this section and add very little to the results concerning mediation. Hypothesis 4G proposed that the mediating role of family processes between religiosity and deviance would be clarified as that of partial mediation, involving both direct and indirect pathways to deviance. This hypothesis was largely supported (see Table 32). When parameter estimates were examined (see Table 22), results indicated that both the direct (religiosity-deviance) and indirect (religiosity-family processes-deviance) pathways were significant. In tests including the ritualistic participation scale, 2 of the 6 direct pathways were nonsignificant (parental closeness, $\beta = -.03$, $p = .45$; parental monitoring, $\beta = -.02$, $p = .70$), and in tests including the religiosity scale, 1 of the 6 direct pathways was nonsignificant (parental monitoring, $\beta = -.07$, $p = .09$). Tests including the relational practice scale, however, indicated that all 6 of the direct and indirect pathways were statistically significant. For the sake of completeness, direct, indirect, and total effects for the total sample and by sex and age groups are presented in Table 32.

Part H

Hypothesis 4H stated that statistically significant direct and indirect pathways would be equally present for both male and female adolescents. In essence, this was a test of moderation (very similar to Hypothesis 4E) that examined whether the pattern of

parameter estimates within the mediation models would be invariant by sex. However, unlike Hypothesis 4E, the focus of this analysis was not only on a single parameter of interest (e.g., the religiosity-deviance parameter), but rather on the totality of relationships among the measures of importance (i.e., religiosity, family processes, deviance). Consequently, using the same multi-group omnibus test to compare fully variant and fully invariant models of mediation (see Tables 25, 26, 27, and 28), this hypothesis was not confirmed. Of 16 total mediation models tested, 12 yielded significant chi-square difference statistics (the same 4 models – closeness, monitoring, communication, peer approval – in all 3 religiosity scale sets), thus indicating that these models were not invariant by sex, but rather, that the patterns of association within each model were different for male and female adolescents.

Part I

Similar to Hypothesis 4H, Hypothesis 4I stated that statistically significant direct and indirect pathways would be equally present for both younger and older adolescents. Again, the question was similar to (but not the same as) Hypothesis 4F, that is, is the pattern of parameter estimates within the mediation models invariant by age group? Using the same multi-group omnibus test, this hypothesis was largely confirmed (see Tables 29, 30, and 31). Of 16 total mediation models tested, 14 did not yield significant chi-square difference statistics, thus indicating that almost all of the models were invariant by age group. For 2 of the models (the conflict model in both the ritualistic participation and religiosity sets), a significant chi-square difference statistic was found that indicated that these 2 models were not invariant by age group.

Table 32

Direct, Indirect, and Total Effects of Religiosity Scales on Family Processes Scales in Fully Variant Model by Sex, Age, and for Total Sample

		Sex						Age								
		Male			Female			Younger			Older			Total		
		D	I	T	D	I	T	D	I	T	D	I	T	D	I	T
Ritualistic Participation	Closeness	-.021	-.130	-.151	-.067	-.164	-.231	-.093	-.160	-.252	.029	-.167	-.139	-.030	-.163	-.194
	Support	-.078	-.074	-.152	-.152	-.080	-.232	-.141	-.112	-.253	-.089	-.051	-.141	-.119	-.076	-.195
	Monitoring	-.050	-.101	-.151	-.037	-.196	-.232	-.044	-.207	-.251	.022	-.157	-.135	-.016	-.175	-.191
	Communication	-.068	-.080	-.148	-.132	-.098	-.230	-.176	-.075	-.251	.000	-.137	-.137	-.088	-.102	-.190
	Conflict	-.025	-.126	-.151	-.157	-.075	-.232	-.111	-.143	-.254	-.121	-.020	-.141	-.114	-.081	-.196
	Peer Approval	-.046	-.104	-.150	-.167	-.064	-.231	-.157	-.093	-.250	-.031	-.109	-.140	-.093	-.100	-.193
Relational Practice	Closeness	-.091	-.168	-.259	-.132	-.146	-.278	-.108	-.158	-.266	-.120	-.185	-.305	-.116	-.169	-.285
	Support	-.170	-.088	-.259	-.171	-.106	-.278	-.154	-.112	-.266	-.216	-.091	-.307	-.192	-.094	-.286
	Monitoring	-.147	-.113	-.260	-.123	-.157	-.280	-.108	-.161	-.269	-.134	-.168	-.302	-.120	-.165	-.285
	Communication	-.178	-.078	-.256	-.196	-.079	-.275	-.192	-.070	-.263	-.198	-.195	-.303	-.193	-.088	-.281
	Conflict	-.149	-.111	-.260	-.187	-.090	-.277	-.160	-.107	-.267	-.237	-.070	-.307	-.208	-.079	-.287
	Peer Approval	-.138	-.120	-.258	-.212	-.063	-.275	-.166	-.095	-.262	-.181	-.126	-.307	-.177	-.106	-.283
Religiosity	Closeness	-.069	-.157	-.226	-.109	-.164	-.273	-.112	-.170	-.282	-.053	-.187	-.240	-.084	-.176	-.260
	Support	-.146	-.080	-.226	-.181	-.093	-.274	-.177	-.108	-.285	-.166	-.076	-.241	-.178	-.085	-.263
	Monitoring	-.103	-.123	-.226	-.086	-.189	-.275	-.078	-.207	-.285	-.056	-.179	-.235	-.072	-.188	-.260
	Communication	-.141	-.082	-.223	-.181	-.091	-.272	-.201	-.079	-.280	-.111	-.126	-.237	-.158	-.099	-.257
	Conflict	-.102	-.105	-.226	-.194	-.079	-.273	-.164	-.120	-.285	-.190	-.052	-.242	-.183	-.080	-.263
	Peer Approval	-.104	-.121	-.224	-.207	-.065	-.273	-.182	-.098	-.280	-.113	-.128	-.241	-.150	-.110	-.260

Note. Numbers in this table have been transcribed directly from the AMOS tabular output and may reflect rounding error in that the direct and indirect effects may not add up exactly to equal the total effect.

Hypothesis 5: Moderation

Part A

Hypothesis 5A predicted that religiosity would moderate the relationship between family processes and deviant behavior. In order to test this hypothesis, a median split was used to create a categorical variable with two levels representing low and high levels of religiosity. Because the relational practice variable was formulated as a representation of the best conceptual approach to the measurement of religiosity, the standardized, residualized (i.e., after controlling for race and SES) relational practice variable was used to create these religiosity groups. Next, a multi-group omnibus test was completed, comparing fully variant (i.e., all parameters free to vary) and fully invariant (i.e., parameter between family processes and deviance constrained to equality for religious groups) models of the moderating relationship of religiosity between each family processes variable and deviance (see Table 33). Results of these analyses did not support the hypothesis. For all six family processes variables, the chi-square difference statistic was not significant. This was an indication that the relationship between family processes and deviance was not moderated by religiosity groups.

Part B

Hypothesis 5B proposed that this same pattern of moderation (i.e., religiosity moderating the relationship between family processes and deviant behavior) would be found for both male and female adolescents. A multi-group omnibus test conducted separately for male and female adolescents was used to test this hypothesis. Results suggested that the same pattern found in the total sample was also apparent for both male

Table 33

Moderation of Family Processes by Religiosity: Path Coefficients and Comparisons

Path	Total	Low	High	Variant χ^2	Invariant χ^2	$\Delta\chi^2$	p
Parental Closeness ➜ Deviance	-.51(.000)	-.45(.000)	-.44(.000)	439.49	440.52	1.03	.31
Parental Support ➜ Deviance	-.41(.000)	-.37(.000)	-.39(.000)	328.07	329.37	1.29	.26
Parental Monitoring ➜ Deviance	-.58(.000)	-.58(.000)	-.48(.000)	397.71	400.14	2.43	.12
Parental Communication ➜ Deviance	-.32(.000)	-.32(.001)	-.22(.045)	321.47	324.03	2.56	.11
Parental Conflict ➜ Deviance	.43(.000)	.39(.000)	.40(.000)	342.82	345.53	2.71	.10
Parental Peer Approval ➜ Deviance	-.40(.000)	-.33(.000)	-.42(.000)	453.09	453.20	0.10	.75

Note. The first number in each cell is the standardized path coefficient while the second number (in parentheses) is the *p* value; the variant chi-square value indicated for each path represents the chi-square of the fully variant model while the invariant chi-square value represents the chi-square of the fully invariant model, i.e., when the path is held invariant for the low and high religiosity groups. The change in chi-square value represents the difference between the variant chi-square and the invariant chi-square. The chi-square critical values at 1 df (fully variant model df = 220; single path invariant model df = 221) are: *3.84 (p = .05), **6.64 (p = .01), and ***10.83 (p = .001).

and female adolescents (see Table 34). Among female adolescents, none of the model parameters were significantly different across the two groups. For male adolescents, 5 of the 6 chi-square difference statistics did not reach statistical significance. However, a statistically significant difference (fully variant χ^2 = 321.47; male invariant χ^2 = 325.61; $\Delta\chi^2$ = 4.14; p = .04) was found between low religiosity male adolescents (β = -.35, p = .00) and high religiosity male adolescents (β = -.16, p = .35) for parental communication.

Part C

Hypothesis 5C stated that this same pattern of moderation would be found for both younger and older adolescents. A multi-group omnibus test conducted separately for younger and older adolescents was used to test this hypothesis. Results suggested that the same pattern found in the total sample was also apparent for both younger and older

Table 34

Moderation of Family Processes by Sex and Religiosity: Path Coefficients and Comparisons

			Males					Females				
Path	Total	Variant χ^2	Low	High	Invariant χ^2	$\Delta\chi^2$	p	Low	High	Invariant χ^2	$\Delta\chi^2$	p
Parental Closeness ➜ Deviance	-.51(.000)	439.49	-.49(.000)	-.53(.000)	439.57	0.07	.79	-.36(.062)	-.35(.001)	439.56	0.07	.79
Parental Support ➜ Deviance	-.41(.000)	328.07	-.38(.000)	-.35(.007)	329.94	1.87	.17	-.40(.000)	-.44(.000)	328.59	0.52	.47
Parental Monitoring ➜ Deviance	-.58(.000)	397.71	-.61(.000)	-.50(.000)	397.86	0.15	.70	-.41(.024)	-.33(.071)	400.13	2.41	.12
Parental Communication ➜ Deviance	-.32(.000)	321.47	-.35(.000)	-.16(.353)	325.61	4.14	.04	-.23(.242)	-.23(.051)	321.48	0.01	.93
Parental Conflict ➜ Deviance	.43(.000)	342.82	.46(.000)	.49(.011)	343.99	1.17	.28	.41(.037)	.46(.000)	343.75	0.93	.33
Parental Peer Approval ➜ Deviance	-.40(.000)	453.09	-.42(.000)	-.44(.000)	454.13	1.04	.31	-.15(.203)	-.38(.000)	454.49	1.39	.24

Note. The first number in each cell is the standardized path coefficient while the second number (in parentheses) is the *p* value; the variant chi-square value indicated for each path represents the chi-square of the fully variant model while the invariant chi-square value represents the chi-square of the fully invariant model, i.e., when the path is held invariant across all 4 groups (low religious males, low religious females, high religious males, high religious females). The change in chi-square value represents the difference between the variant chi-square and the invariant chi-square. The chi-square critical values at 1 df (fully variant model df = 220; single path invariant model df = 221) are: *3.84 (p = .05), **6.64 (p = .01), and ***10.83 (p = .001).

adolescents (see Table 35). Among both younger and older adolescents, religiosity was not found to moderate the relationship between family processes and deviant behavior since, based on the chi-square difference statistics, none of the model parameters differed between the low and high religiosity groups.

Table 35

Moderation of Family Processes by Age and Religiosity: Path Coefficients and Comparisons

			Younger					Older				
Path	Total	Variant χ^2	Low	High	Invariant χ^2	$\Delta\chi^2$	p	Low	High	Invariant χ^2	$\Delta\chi^2$	p
Parental Closeness ➜ Deviance	-.51(.000)	439.49	-.49(.003)	-.36(.011)	442.07	2.58	.11	-.43(.000)	-.53(.000)	434.68	0.19	.67
Parental Support ➜ Deviance	-.41(.000)	328.07	-.44(.000)	-.41(.000)	330.38	2.31	.13	-.32(.005)	-.38(.002)	328.10	0.03	.86
Parental Monitoring ➜ Deviance	-.58(.000)	397.71	-.68(.004)	-.53(.001)	401.19	3.48	.06	-.54(.000)	-.45(.000)	397.92	0.21	.65
Parental Communication ➜ Deviance	-.32(.000)	321.47	-.40(.030)	-.15(.450)	325.29	3.82	.05	-.26(.024)	-.30(.030)	321.50	0.03	.87
Parental Conflict ➜ Deviance	.43(.000)	342.82	.43(.004)	.42(.005)	344.62	1.81	.18	.39(.011)	.40(.014)	343.89	1.07	.30
Parental Peer Approval ➜ Deviance	-.40(.000)	453.09	-.35(.001)	-.35(.004)	454.32	1.23	.27	-.33(.001)	-.48(.000)	453.48	0.39	.54

Note. The first number in each cell is the standardized path coefficient while the second number (in parentheses) is the *p* value; the variant chi-square value indicated for each path represents the chi-square of the fully variant model while the invariant chi-square value represents the chi-square of the fully invariant model, i.e., when the path is held invariant across all 4 groups (low religious younger, low religious older, high religious younger, high religious older). The change in chi-square value represents the difference between the variant chi-square and the invariant chi-square. The chi-square critical values at 1 df (fully variant model df = 220; single path invariant model df = 221) are: *3.84 (p = .05), **6.64 (p = .01), and ***10.83 (p = .001).

CHAPTER 5: DISCUSSION

By focusing on several distinct issues in the debate concerning whether religiosity has a meaningful negative relationship to deviant behavior, the current study represents an important next step for research in this area. It has clarified that there is a moderate yet consistent bivariate relationship between religiosity and deviance and that this relationship is not attenuated by other important control factors nor does this relationship appear to differ by sex or age group. In addition, the importance of the development and use of multi-item measures of religiosity has been highlighted. Furthermore, the current findings reaffirm religiosity as an important protective factor against most, if not all, types of deviant behavior (not just some, e.g., antiascetic). Finally, the current study provides information regarding the interplay between family processes and religiosity in the deterrence of deviant behavior among adolescents by testing models involving mediation, moderation, and combination.

Does religiosity matter?

The fact that religiosity has a consistent, though moderate, negative relationship with adolescent deviant behavior, as found in several recent studies (e.g., Baier & Wright, 2001; Johnson et al., 2000), was confirmed again in this study. When using multi-item scales, the relationship between religiosity and deviance, after partialling out the effects of race and SES, was r = -.31 (r = -.28 after also including sex and age as controls). Thus,

religiosity explains approximately 8%-9% of the variability in deviance. One of the important debates in this area of the literature has been whether or not the deterrent effect of religiosity on deviance is important and independent, or whether it can be accounted for by other socially constructive or protective factors. Several contingency explanations have been offered, such as Stark, Kent, and Doyle's (1982; see also Stark & Bainbridge, 1996; Tittle & Welch, 1983) idea that religiosity is only important in the social context of a moral community or Benda and Corwyn's (1997; see also Cochran et al., 1994) contention that the effect of religiosity is shown to be spurious when other social control measures are involved. However, evidence continues to mount indicating that religiosity should be viewed as having a consistently important negative impact on deviant behavior among adolescents. In addition to the current study as well as meta-analyses such as Baier and Wright (2001) and Johnson et al. (2000), a recent examination by Smith and Faris (2002) of the nationally representative data from the *Monitoring the Future* study showed that religious twelfth-grade students were less likely to participate in any number of deviant activities, such as substance abuse, risky behavior, crime and violence, and school problems (see also Johnson et al., 2001). Thus, the cumulative evidence suggests that religiosity has a consistent negative relationship with adolescent deviant behavior that is not accounted for by race, SES, sex, age, or family processes.

What is the role of sex?

The literature concerning religiosity and deviance has not been clear at all on the role of sex. It is known that adolescent girls report themselves to be more religious than boys. For instance, Smith, Faris, Denton, and Regnerus (2003), in a recent summary of

Monitoring the Future and *AddHealth* data, found that more adolescent girls than boys say their faith is very important to them while more adolescent boys than girls say that their faith is not important to them. Similarly, they found that more girls than boys pray daily and more boys than girls never pray. The more important question is, because adolescent girls report being more religious, does that religious faith somehow strengthen their resistance to deviant behavior more so than for boys? As a matter of fact, in previous literature, there has been only a very slight indication of the opposite, that perhaps the deterrent effect of religiosity is stronger for male than female adolescents (e.g., Baier & Wright, 2001). In this case, the logic may be that, since religious faith is not typically as important to adolescent boys as it is to girls, when boys do have faith, it provides a stronger deterrent to deviant behavior than for girls, who may take their faith for granted.

The current findings did not support either of these conclusions. Results provided evidence for the idea that the manner in which religiosity was related to deviance was invariant by sex. That is, measures of religiosity did not have a stronger relationship with deviant behavior for boys than for girls or vice versa, but rather, seemed equally important for both as a potential protective factor against deviant behavior.

Recently, Regnerus (2003) has made an interesting finding that increases in parental religiosity are actually associated with significant increases in delinquency for adolescent boys while, for girls, the opposite is true, namely that increases in parental religiosity yield significant decreases in delinquent behavior. Based on these findings, Regnerus concludes that, for adolescent girls, religiosity in one's parents is "largely protective" while, for adolescent boys, "parents' religiosity . . . appears to backfire"

(p. 200). A subsequent study by Pearce and Haynie (2004) clarifies this issue through findings which indicate that, when parent and child report being "religiously different" (i.e., religious parent, non-religious child), deviant behavior is much more likely from the adolescent child.

These findings may or may not have bearing on the current study. On the one hand, the current study focuses on the simple relationship between an adolescent's individual declaration of religiosity and the consistency of their behavioral outcomes associated with that declaration. In this sense, the religiosity of the parent has no bearing; whether or not their parent is religious does not matter, but rather, what matters is their own religiosity. On the other hand, the current study does make an attempt to expand the literature in the area of the interaction between religiosity and family processes in the deterrence of deviance. In this sense, this new line of research bears heavily, though it is outside the framework of the current investigation. In essence, what Regnerus (2003) and Pearce and Haynie (2004) have found is that the intergenerational religiosity dynamic may be a viable dimension of family processes. Citing evidence from Rossi and Rossi (1990) and Pearce and Axinn (1998), they make a case for the fact that family religiosity is a process, like any other of the family processes, that plays a role in family functioning.

What is the role of age?

The role of age in the religiosity-deviance literature has been similarly unclear. Though Benda and Toombs (2000) found some indication that older age may be related to stronger deterrent effects for religiosity, this was only an interaction effect (more church attendance coupled with older age) and only for those older than 24 years of age or older.

The current findings provide support for the idea that the effect of religiosity on deviance does not vary by age group. Evidence from Smith et al.'s (2003) examination of nationally representative data sets suggests that, though there are some trends indicating a decline of religiosity with age (e.g., frequency of prayer, percentage of those calling themselves "born again"), these differences do not seem as important as the trend toward stability. This is more in line with the current results that seem to indicate that the effect of religiosity on deviance does not change with age, at least during the adolescent years. Evidently, according to these findings, religious faith did not have a stronger relationship with deviance for older adolescents than for younger adolescents or vice versa. Thus, perhaps when a young person makes a personal commitment to religious faith and practice, a lifestyle involving less deviant behavior may typically accompany such a commitment, whether they are male or female, younger or older.

What is the role of measurement?

Recent work in the area of youth religiosity confirms that more emphasis is being placed on the importance of methodology in this area of research (Denton & Smith, 2001). One particular area that has recently received significant attention is the use of single-item versus multi-item measures (Johnson et al., 2000). Most of the earlier research on religiosity and deviance relied on single-item measures, such as church attendance (e.g., Stark, 1969). However, it is commonly understood that, whenever possible, the use of a multi-item scale provides a much more reliable and robust measure of religious behavior (Smith et al., 2003). The current findings support this idea. Three multi-item scales were tested in the current study, utilizing various conceptually-guided

configurations of the same six religiosity items. Results indicated that the relational practice scale had a stronger relationship with deviant behavior than most of the single-item measures, including church attendance. However, attempting to prove the advantage of one particular measure over another was not a central focus of the current study. Rather, the limited analyses in this area were intended only to provide impetus for future research in a direction away from single-item measures and toward multi-item measures by providing a helpful illustration of a possible approach to such. Along that line, it should be noted that the relational practice scale, including just 3 items focusing on personal rather than formal manifestations of religious faith and practice, achieved a consistently strong negative relationship with deviant behavior, the size of which was significantly larger than that involving any of the single-item measures in the study. In addition, the scale was found to be internally consistent. To achieve an alpha reliability of .75 using only 3 items is notable; however, there also seems to be room for improvement since an even better reliability would decrease attenuation, and consequently, increase the strength of association between predictor and outcome measures. Thus, these findings could be viewed as a "step in the right direction." The development of a more extensive and/or comprehensive religiosity scale that would exhibit even greater reliability and that may also demonstrate greater predictive strength in the area of adolescent deviance would be a next logical next step for research in this area. One approach may be to add content-valid items to the scale in order to more broadly assess the construct of relational religiosity. Another approach could involve the formulation of a multidimensional measure that includes known dimensions or aspects of religiosity that were not assessed

in the current study. For example, Smith has proposed that there may be 3 dimensions to religiosity – moral order, learned competencies, social and organizational ties – and that each of these dimensions may have 3 sub-dimensions. On the other hand, it is also possible that the current study approached the limits of how much variability religiosity can explain in adolescent deviance. Only future work which tests this question more extensively with larger scales and measures that are more broadly constructed will be able to address and answer this question.

For many years, researchers have struggled to determine and develop the best way to measure religiosity. Part of the problem is that religiosity itself can be conceptualized very differently, depending on one's perspective or agenda. Because of this, there is no lack of measures of "religiosity" (see Hill & Hood, 1999, for a comprehensive compilation of measures of religion and spirituality), but there is still no consensus on the best way to measure religiosity when attempting to test its relationship to adolescent deviant behavior. The current results suggest that the most effective means of capturing this relationship may be to focus on specific behaviors that exhibit a sincere lifestyle expression of faith (e.g., church status, religious involvement, prayer) rather than mere formal or ritualistic behaviors (e.g., church attendance) or even claims of spirituality or belief (e.g., religious salience).

Does religiosity deter all types of deviance or only some?

Some research on the effects of religiosity on deviance has suggested that religiosity has a differential effect depending on the type of deviance seeking to be explained. For instance, there has been some evidence to support the notion that

religiosity will be more strongly related to forms of deviance that do not involve victims but rather are mostly self-destructive (e.g., substance abuse; Albrecht et al., 1977; Chadwick & Top, 1993). Jensen and Erickson (1979) proposed that the reason for this may be that certain deviant behaviors (e.g., violence) are considered harmful by society at large while other more "mild" forms of deviance (e.g., alcohol use) are more vehemently condemned only by churches in their moral teaching. Thus, they labeled this distinction antiascetic (referring to the more "mild" forms of deviance condemned more loudly by churches than society) versus secular (referring to the more "severe" forms of deviance condemned equally by churches and society).

Results from the current study did not provide support for this line of research. In fact, results indicated that there were no differences in the magnitude of the relationship between religiosity and various types of deviance (i.e., victim/nonvictim, secular/antiascetic). Rather, the current findings suggested that religious faith was negatively associated with all types of deviance, no matter how they were categorized. In addition, the findings emphasized that this effect was true regardless of sex or age group. So, for both male and female adolescents as well as for both younger and older adolescents, more religiosity was found to be significantly related to less deviant behavior of all types.

This finding is an important addition to a growing body of literature that indicates that religiosity is a robust social protective factor that should not be compartmentalized in its range of impact. Research has found that religiosity is a key factor in adolescent health promotion since it is positively associated with health-enhancing behaviors (Jessor,

Turbin, & Costa, 1998) and negatively associated with health-compromising behaviors (Wallace & Forman, 1998), including early initiation of sexual activity, number of sexual partners, and teenage pregnancy (Lammers, Ireland, Resnick, & Blum, 2000; Murry, 1994; Thornton & Camburn, 1989; Whitehead, Wilcox, & Rostosky, 2001) as well as with suicidal ideation and attempts (Donahue, 1995). Furthermore, research suggests that religious youth and their families report greater overall satisfaction with their lives and more involvement with their families (Varon & Riley, 1999), more effective coping strategies (Shortz & Worthington, 1994), and lower levels of depression and hopelessness (Wright, Frost, & Wisecarver, 1993) than those who are non-religious. Evidently, based on this wide range of impact, religiosity should be viewed as an important protective factor, to be considered along with other important protective factors in the endeavor to identify strategies that work to decrease adolescent deviance. Thus, according to the current study, religiosity is not only important for the deterrence of more mild forms of deviance, but has relevance to deviance in all its forms.

Do family processes mediate the effect of religiosity on deviance?

The importance of family processes in the prediction of adolescent deviant behavior is well established (Cernkovich & Giordano, 1987, 1992; Gorman-Smith, Tolan, & Henry, 2000; Lipsey & Derzon, 1998; Zhang & Messner, 1995). In particular, parental closeness and monitoring have been found to be consistent predictors of deviance. The strength of family processes in this relationship has led some to propose that the effect of religiosity on deviance is unimportant when family processes are considered simultaneously. Benda and Toombs (2000) found that, when certain family processes

(e.g., attachment to mother and father) were added to a regression equation in a block, the effect of their single-item measure of religiosity (church attendance) was attenuated. In the current study, utilizing six family processes measures and eight single-item religiosity measures, the findings indicated that the effect of religiosity on deviance was never mediated, whether measured with single items or scales.

These results indicated that not all single-item measures of religiosity are equal. In other words, it is important to note that, not only are multi-item measures of religiosity more highly associated with deviance than single-item measures, but certain single-item measures seem to be more highly associated with deviance than others. Consequently, the validity of research findings that have declared negligible the impact of religiosity on deviance by utilizing a single-item measure (e.g., church attendance) may be reevaluated on the basis of this understanding. Unfortunately, such research, characterized by Smith (2003b) as reductionistic thinking, has oversimplified the importance of religiosity in adolescent development. Recently, Smith (2003b) has chastised social scientists who practice such reductionism through

> claims that what on the surface appears to be religious phenomena are in fact revealed by serious analyses to *really* only be about other things quite unrelated to religion. Thus, what appears to be divine or spiritual or transcendent or pious or sacred are *really only* about social class, race, gender, ethnicity, nationalism, solidarity, social control, and so on. . . . this general tendency toward such reductionism and many (though not all) of the specific cases of analytical reductionism are intellectually parochial and simplistic. (p. 19)

The current findings provide evidence that religiosity is an important social control construct in the etiology of adolescent deviant behavior. They illustrate that the effects of religiosity do not seem to be diminished by other important protective factors. Thus, while some single-item measures of religiosity, such as church attendance, will almost certainly be attenuated by other important social control measures, such as family processes (though this was not the case in the current study), this type of evidence should not be used to attempt to prove that religiosity is unimportant, since other single-item measures (not to mention multi-item scales) will maintain an important relationship with deviance, even in the presence of such variables. Consequently, researchers who intend to study religiosity should carefully select single items with greater robustness (e.g., church status) or utilize more reliable multi-item measures in order to assess the full complexity of religiosity.

Indeed, results such as those in the current study give credence to the conceptualization of religiosity as a multidimensional construct. In other words, there is more to being "religious" than just going to church. There are numerous young people who attend church "religiously," yet they do not consistently live by the morals to which they are so frequently exposed during those church gatherings. They may attend church because their parents force them to do so (see Smith, 2003a, for evidence of parental expectations on adolescents' church participation) or for the purpose of developing social networks (i.e., all of their friends go and they use it as a time to socialize). There may even be those who attend church because they are "supposed to" based on cultural/societal, familial, or theological expectations, yet they are disillusioned with what

they view as inauthentic institutional religion (Beaudoin, 2000; Zoba, 1999) or simply bored by what they see as an adult-dominated societal structure that does not relate to the needs of young people (Rabey, 2001). In these far from uncommon scenarios, the young person's presence at church may have very little impact on their life choices. Though they hear a considerable amount of moral teaching that, if applied, would benefit their life by curbing their participation in deviant behaviors, they choose to ignore the teaching and participate in the deviance anyway. Thus, there are some who, when asked as part of a research study, may indicate frequent church attendance, but their lifestyle patterns and decisions may not reflect any morally different behavior. Consequently, research based on church attendance as a measure of religiosity may, not surprisingly, find little relationship between ritualistic attendance at church services and deviant behavior.

The multidimensional nature of religiosity has been recently advocated by Smith (2003b) in his attempt to theorize the effect of religiosity on adolescents. In this article, Smith attempts to identify the specific means by which religiosity may positively affect adolescents. This attempt is grounded in sociological theory and presents a multidimensional conceptualization of religiosity as a cluster of nine "distinct but connected and potentially mutually reinforcing factors" that "cluster as groups of three beneath three larger conceptual dimensions of social influence" (p. 19). This represents an important advance in the study of religiosity. Identification of the multidimensional nature of religiosity and utilization of these dimensions in its measurement is an essential ingredient in future research. It is possible that doing so may enable researchers not only to understand the multilevel importance of religiosity as an influence on adolescent

behavior but also to identify an even broader, more extensive range of impact, thus reinforcing the notion that religiosity is important in the deterrence of all forms of deviance, not just some.

Results regarding the mediation of the multi-item religiosity measures by family processes revealed that relational practice, rather than religiosity, provided the most robust measure of religious behavior (i.e., was attenuated the least often), while ritualistic participation, as hypothesized, was not as robust. These findings provide great insight into the measurement of religiosity. More specifically, they support the concept that there are at least two very different ways to approach the measurement of religiosity in research studies. The first focuses on behaviors or beliefs that indicate a formal commitment to a set of ritualistic behaviors that have little or nothing to do with actual morality in life, while the second focuses on behaviors or beliefs that result from a perceived relational encounter with a supernatural being precipitating the development of a set of internally motivated beliefs and practices. Measures utilizing the first approach (ritualistic participation) are not as strongly related to deviance as those utilizing the second (relational practice), though they are not unrelated. This may be an indication that the presence of high levels of ritualism provides inconclusive information regarding a young person's participation in deviant behavior. That is, this approach to measurement may be inherently incomplete and incapable of presenting a well-rounded portrait of a religious person. More specifically, both ritualistically religious and relationally religious young people will exhibit high levels of ritualistic religiosity (e.g., church attendance, reading books of spiritual teachings, etc.); therefore, the variable is confounded by the presence of

both young people who apply their faith to daily life and those who do not. However, the measurement approach that emphasizes the relational element of religiosity may offer a more narrow focus, thus screening out any who may desire to appear religious without ever altering their lifestyle.

Does religiosity moderate the effect of family processes on deviance?

In assessing the interplay of religiosity and family processes in their relationship with deviance, a next logical question may be this: Do religious families somehow differ in the way family processes affect adolescent deviant behavior for them? Results from the current study indicate the answer to that question is evidently, no they do not. In other words, these findings reveal that the manner in which family processes influence deviant behavior does not differ for religious versus nonreligious families. This same pattern was found to be mostly true when examined by sex and age group, thus indicating that family processes deter deviance in a similar manner regardless of level of religiosity, sex, or age. The only discovery in these findings was that, among male adolescents, parental communication had a stronger relationship with deviance for those exhibiting low levels of religiosity than among those exhibiting high levels of religiosity.

This may be explained by the fact that religious families may rely more heavily on parental edict than persuasion (see, for instance, Bartkowski & Wilcox, 2000, who study "parental yelling" among Protestant families) and may more frequently expect immediate compliance to parental demands (Danso et al., 1997). Since religious families are known to more frequently use corporal punishment (Ellison et al., 1996a, 1996b; Gershoff et al., 1999; Xu, Tung, & Dunaway, 2000) and since use of corporal punishment is strongly

related to parental expectations for immediate child behavioral compliance (Gershoff, 2002; Roberts & Powers, 1990), it may be that, in religious families, children are more frequently expected to obey without discussion or to do what the parents say without questioning, even if what they are saying is inconsistent with their own behavior (Alain, 1989). If this is the case, then religious parents may grow lazy in the application of communication skills to situations involving the adolescent's opportunity to be involved in deviant behavior, choosing to issue edicts with the expectation of immediate and unquestioning obedience rather than to discuss with the adolescent the nature of the dilemma and all possible solutions, resulting in a mutually acceptable decision for the best possible course of action. This approach to problem-solving may make the parent-adolescent communication process less important in the deterrence of deviant behavior. In other words, having good parent-adolescent communication may make no difference in the choice to be involved in deviant behavior for boys in these type of homes.

The idea that parents would unilaterally expect compliance to nondeviant behavior from their adolescents is viewed ambivalently by those who value individuality. In fact, parents who do so are often viewed as "psychologically controlling" (e.g., Barber, 2002). However, it is important to remember that adolescents are not always developmentally or cognitively capable of making the best choices autonomously. Parents must sometimes direct behavior in an attempt, not just to achieve short-term behavioral conformity, but long-term dispositional compliance (the internalization of general norms of compliance to authority; Baumrind, 1983; Baumrind, Larzelere, & Cowan, 2002). For instance, Bates, Pettit, Dodge, and Ridge (1998) have found that high levels of parental

control are associated with better behavior for children exhibiting a difficult temperamental disposition (see also Kochanska, 1993, 1995, 1997). Thus, the current findings may reflect a more balanced perspective which seeks to acknowledge that one of the strengths of authoritative parenting is its insistence on behavioral conformity, sometimes even without communication between parent and teen. In other words, authoritative parents may utilize a balance of education and edict which includes making every reasonable attempt to help the adolescent understand the importance of a certain course of action or choice of behavior. However, when such attempts fail, such parents still stand strong in their assertion that the adolescent will not be allowed to engage in some activity or behavior deemed dangerous or inappropriate.

Weaknesses of the Current Study

Like so many other empirical studies, the current study utilized a convenience sample and, consequently, suffers from lack of random selection and representativeness; therefore, its findings may not be generalizable to the population of adolescents.

In addition, the data were collected using only one assessment methodology, namely self-report. The inherent weakness of self-report data is that it represents a single informant's responses to a single survey instrument at a single point in time. This may result in inflated intercorrelations among the measures since it is a basic human tendency to want to be internally consistent when asked to respond to a number of very similar items in one sitting and, unfortunately, survey-takers tend to self-correct or self-censor their answers in order to meet their personal criterion of consistency. Thus, the data in the

current study were somewhat tainted by the fact that they were gleaned through self-report and no other method (i.e., multi-method assessment) was used to corroborate them.

It may also be a matter of concern that these data were collected in the southeastern portion of the United States, a region that is often called "The Bible Belt." Research on religiosity and deviance has documented effects using data from this region (e.g., Georgia; Higgins & Albrecht, 1977) when no effects were documented using the same study methodology in other regions of the country (e.g., California; Burkett & White, 1974; Hirschi & Stark, 1969). This has led some to hypothesize that religiosity only deters deviance in regional areas where religiosity is more culturally prominent (the "religious ecology" theory; see Stark, Kent, & Doyle, 1982). Thus, it is possible that the current findings are accordingly geographically limited and can not be generalized outside the southern region of the United States.

Unfortunately, very few studies in the area of religiosity and deviance have been conducted longitudinally. This is a weakness in the literature as a whole. Consequently, this lack of longitudinal data prevents researchers from obtaining thorough documentation that religiosity has any true causal impact on adolescents' behavior. An extensive probe of the impact of all types of religiosity on all types of behavioral outcomes, while simultaneously observing family processes and numerous other social control factors, over time would be an invaluable addition to the field.

The current investigation used race and SES as controls. Consequently, though the influence of these variables was effectively partialled out, this study has not contributed knowledge concerning the role these demographic variables may play in the interaction

between religiosity, family processes, and deviant behavior among adolescents. It may be that the observed effects may differ by race or SES. Since variations in demographic status are often the source of intense developmental scrutiny, the present study fell short in this regard.

Future Directions for Research

Based on the aforementioned weaknesses, it is a given that future research should seek to utilize large, randomly-selected, nationally-representative samples from all geographic regions of the country and longitudinal designs to more effectively study this area. In addition, future research could be improved in several specific ways. First, considerable effort should be exerted in the development of a stronger multi-item measure of religiosity. Such a measure is long overdue. Smith's (2003b) multidimensional theoretical conception of the sociological influence of religiosity on adolescents' behavior may be a good starting point. A multi-item measure could be developed that would thoroughly test this conceptualization, and doing so should be viewed as an important next step, since further research in this area utilizing different measures (i.e., more broadly-construed and/or comprehensive measures) may be able to document potentially different effects than those found in this study and other previous work.

Second, though the current findings did much to clarify the role of sex and age in the relationship between religiosity and family processes in the deterrence of deviance, further replication and expansion is required for more complete clarification. If such future investigation uncovers, as the current investigation did, similarity rather than

difference in developmental process, this will be an important addition to a growing literature with similar emphasis. If, however, developmental differences are uncovered, it will be important to determine who differs in what way and how those differences should be managed. It is important to note that developmental similarity is no less interesting than developmental difference. Both are equally consequential for application in prevention and intervention efforts.

Third, in the spirit of the asset-building approach advocated by the Search Institute, future research should seek to more thoroughly examine the patterns of interaction between religiosity and family processes when combined. If, as the current findings suggest, religiosity and family processes combined can significantly impact the levels of deviant behavior in adolescents, then not only should the effect size of such a change be determined, but also the mechanisms that contribute to the most effective combination of the two should be enumerated.

Fourth, Regnerus' (2003) and Pearce and Haynie's (2004) intriguing idea that religiosity may be viewed as a family process should be explored. If, as they propose, religiosity may be viewed as a fluid behavioral characteristic of a family system that affects family functioning, it may be interesting to study it as such. In other words, is it feasible to view religiosity (or "spirituality") as a process that is universally important in the functioning of every family? It would certainly be interesting and beneficial to pursue the answer to this question.

Finally, future research in this area should extend beyond the borders of the United States. Comparative social science research utilizing international data sets is

challenging and, consequently, less common. However, to explore whether the relationship between religiosity, family processes, and deviance is invariant cross-culturally would be a fascinating endeavor.

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APPENDICES

APPENDIX A: ADOLESCENT FAMILY PROCESSES SCALE (AFP)

Scale	Item
Closeness[a] (Maternal, α = .84; Paternal, α = .89)	1. My mother/father often asks about what I am doing in school. 2. My mother/father gives me the right amount of affection. 3. One of the worst things that could happen to me would be to find out that I let my mother/father down. 4. My mother/father is usually proud of me when I finish something at which I've worked hard. 5. My mother/father trusts me. 6. I am closer to my mother/father than are a lot of kids my age.
Support[a] (Maternal, α = .84; Paternal, α = .82)	7. My mother/father sometimes puts me down in front of other people. 8. Sometimes my mother/father won't listen to me or my opinions. 9. My mother/father sometimes gives me the feeling that I'm not living up to her/his expectations. 10. My mother/father seems to wish I were a different type of person.
Monitoring[a] (Maternal, α = .79; Paternal, α = .89)	11. My mother/father wants to know who I am with when I go out with friends or on a date. 12. In my free time away from home, my mother/father knows who I'm with and where I am. 13. My mother/father wants me to tell her/him where I am if I don't come home right after school. 14. When I am not at home, my mother/father knows my whereabouts.
Communication[b] (Maternal, α = .85; Paternal, α = .89)	15. How often do you talk to your mother/father about things that are important to you? 16. How often do you talk to your mother/father about major personal decisions? 17. How often do you talk with your mother/father about problems you have at school? 18. How often do you talk with your mother/father about your job plans for the future? 19. How often do you talk with your mother/father about how well you get along with your teachers?

Conflict[b]	20. How often do you have disagreements or arguments with your mother/father?
(Maternal, α = .85; Paternal, α = .86)	21. How often do you purposely not talk to your mother/father because you are mad at her/him? 22. How often do you get angry at your mother/father?
Peer Approval[b]	23. How often does your mother/father approve of your friends?
(Maternal, α = .83; Paternal, α = .87)	24. How often does your mother/father approve of your boyfriend/girlfriend? 25. How often does your mother/father like when you go out with your friends?

Note. [a] Possible responses: 1 = strongly disagree, 2 = disagree, 3 = neither disagree nor agree, 4 = agree, 5 = strongly agree; [b] Possible responses: 1 = never, 2 = occasionally, 3 = sometimes, 4 = often, 5 = very often.

APPENDIX B: RELIGIOSITY ITEMS AND SCALES

Item	Responses
Church Attendance: "How often do you attend the regularly scheduled services of a church (not including weddings, funerals, baptisms, or any other special occasions of a religious nature)?"	1 = practically never 2 = only on holidays or holy days 3 = only occasionally 4 = once a week 5 = more than once a week
Church Status: "What is your current status in relation to church?"	1 = no association with church 2 = attending non-member 3 = non-attending member 4 = attending member
Religious Involvement: "What is your current level of involvement with a church or religious organization?"	1 = I never participate 2 = I rarely participate 3 = I occasionally participate 4 = I frequently participate 5 = I am a paid staff member
Bible Reading: "How often do you read the Bible or any other book of religious faith?"	1 = never 2 = infrequently 3 = sometimes 4 = quite a bit 5 = every day
Praying: "How often do you pray?"	1 = never 2 = infrequently 3 = sometimes 4 = quite a bit 5 = every day
Music Listening: "How often do you listen to Christian music (e.g., Steven Curtis Chapman, Michael W. Smith, DC Talk, Petra, Glad, Twila Paris, etc.) for personal pleasure?"	1 = never 2 = infrequently 3 = sometimes 4 = quite a bit 5 = every day

Religious Conviction: "Occasionally I find it necessary to compromise my religious beliefs in order to protect my social and economic well-being."	1 = strongly disagree 2 = disagree 3 = agree 4 = strongly agree
Religious Salience: "I try hard to carry my religion over into all my other dealings in life."	1 = strongly disagree 2 = disagree 3 = agree 4 = strongly agree
Ritualistic Participation (α = .71)	Church Attendance Bible Reading Religious Salience
Relational Practice (α = .75)	Church Status Religious Involvement Praying
Religiosity (α = .86)	Church Attendance Church Status Religious Involvement Bible Reading Praying Music Listening Religious Salience

APPENDIX C: NORMATIVE DEVIANCE SCALE (NDS)

Scale	Items
Vandalism (α = .89)	1. Smashed bottles on the street, school grounds, or other areas? 2. Intentionally damaged or destroyed property belonging to your parents or other family members (brothers or sisters)? 3. Intentionally damaged or destroyed property belonging to a school, college, or university? 4. Intentionally damaged or destroyed other property (signs, windows, mailboxes, parking meter, etc.) that did not belong to you? 5. Intentionally damaged or destroyed property belonging to your employer or at your workplace? 6. Slashed or in any way damaged seats on a bus, in a movie theater, or something at another public place? 7. Written graffiti on a bus, on school walls, on rest room walls, or on anything else in a public place? 8. Committed acts of vandalism when coming or going to a football game or other sports event?
Alcohol Use (α = .89)	9. Consumed hard liquor (e.g. tequila, whiskey, vodka, or gin) before you were 21? 10. Consumed alcoholic beverages (e.g. beer, wine, or wine coolers) before you were 21? 11. Got drunk (intentionally) just for the fun of it (at any age)? 12. Got drunk just to fit in and be part of the crowd (at any age)? 13. Lied about your age to buy alcohol before you turned 21? 14. Had an older brother/sister or friend buy alcohol for you? 15. Bought alcohol for a brother/sister or friend?

Drug Use (α = .92)	16. Used tobacco products regularly (e.g., cigarettes, chew, snuff, etc.)?
	17. Used "soft" drugs such as marijuana (grass, pot)?
	18. Used "hard" drugs such as crack, cocaine, or heroin?
	19. Gone to school when you were drunk or high on drugs?
	20. Gone to work when you were drunk or high on drugs?
	21. Gone to a concert when you were drunk or high on drugs?
	22. Gone to a club/dance/party when you were drunk or high on drugs?
	23. Gone to a club/dance/party to get drunk or high on drugs?
	24. Sold any drugs such as marijuana (grass, pot), cocaine, or heroin?
School misconduct (α = .86)	25. Cheated on school/college/university tests (e.g., cheat sheet, copy from neighbor, etc.)?
	26. Been sent out of a classroom because of "bad" behavior (e.g. inappropriate behaviors, cheating etc.)?
	27. Been suspended or expelled from school/college/university?
	28. Stayed away from school/classes when your parent(s) thought you were there?
	29. Intentionally missed classes over a number of days for "no reason," just for fun (e.g., there was no family emergency)?
	30. Been in trouble at school so that your parents received a phone call about it?
	31. Skipped school/work (pretending you are ill)?
General Deviance (α = .88)	32. Intentionally disobeyed a stop sign or a red traffic light while driving a vehicle?
	33. Been on someone else's property when you knew you were not supposed to be there?
	34. Failed to return extra change that you knew a cashier gave you by mistake?
	35. Tried to deceive a cashier to your advantage (e.g. flash a larger bill and give a smaller one)?
	36. Let the air out of the tires of a car or bike?
	37. Lied about your age to get into a nightclub/bar?
	38. Made nuisance/obscene telephone calls?
	39. Avoided paying for something (e.g. movies, bus or subway rides, food, etc.)?
	40. Used fake money or other things in a candy, coke, or stamp machine?
	41. Shaken/hit a parked car just to turn on the car's alarm?

	42. Stayed out all night without informing your parents about your whereabouts?
Theft (α = .87)	43. Stolen, taken, or tried to take something from a family member or relative (e.g. personal items, money, etc.)?
	44. Stolen, taken, or tried to take something worth $10 or less (e.g. newspaper, pack of gum, mail, money, etc.)?
	45. Stolen, taken, or tried to take something worth between $10 and $100 (e.g. shirt, watch, cologne, video game cartridge, shoes, money, etc.)?
	46. Stolen, taken, or tried to take something worth more than $100 (e.g. leather jacket, car stereo, bike, money, etc.)?
	47. Stolen, taken, or tried to take something that belonged to "the public" (e.g. street signs, construction signs, etc.)?
	48. Stolen or tried to steal a motor vehicle (e.g., car or motorcycle)?
	49. Bought, sold, or held stolen goods or tried to do any of these things?
Assault (α = .82)	50. Hit or threatened to hit a person?
	51. Hit or threatened to hit your parent(s)?
	52. Hit or threatened to hit other students/peers or people?
	53. Used force or threatened to beat someone up if they didn't give you money or something else you wanted?
	54. Been involved in gang fights or other gang activities?
	55. Beaten someone up so badly they required medical attention?

Note. Items were prefaced with the leader, “Have you ever . . .” and had 5 possible responses: 1 = no/never, 2 = once/one time, 3 = 2-3 times, 4 = 4-6 times, 5 = 6 or more times.

APPENDIX D: RELIGIOSITY CORRELATION MATRIX

	A	B	C	D	E	F	G	H	I	J
(B) Church Status	.782									
(C) Church Involvement	.642	.633								
(D) Bible Reading	.463	.377	.432							
(E) Praying	.489	.458	.443	.579						
(F) Christian Music Listening	.402	.334	.406	.492	.448					
(G) Religious Beliefs	.023ns	.079*	.026ns	-.087*	.003ns	-.062ns				
(H) Religious Salience	.465	.456	.477	.453	.503	.383	.110**			
(I) Ritualistic Participation	.840	.690	.650	.797	.647	.526	.011ns	.760		
(J) Relational Practice	.769	.833	.825	.572	.803	.486	.039ns	.576	.801	
(K) Total Religiosity	.823	.775	.767	.728	.763	.665	.010ns	.695	.938	.934

Note. All correlations were significant at $p < .001$, unless otherwise specified as follows: ns = non-significant, * $p < .05$, ** $p < .01$; using pairwise deletion, *n*'s ranged from 761-790.

APPENDIX E: FAMILY PROCESSES CORRELATION MATRIX

	A	B	C	D	E	F	G	H	I	J	K
Maternal											
(B) Support	.506										
(C) Monitoring	.407	.106**									
(D) Communication	.616	.371	.335								
(E) Conflict	-.454	-.512	-.103**	-.266							
(F) Peer Approval	.546	.413	.254	.490	-.319						
Paternal											
(G) Closeness	.411	.216	.280	.341	-.160	.317					
(H) Support	.312	.467	.179	.258	-.315	.284	.426				
(I) Monitoring	.196	.068ns	.355	.210	-.102**	.173	.478	.057ns			
(J) Communication	.295	.186	.158	.525	-.139	.290	.642	.307	.397		
(K) Conflict	-.155	-.182	-.118**	-.082*	.321	-.136	-.329	-.528	-.001ns	-.161	
(L) Peer Approval	.306	.235	.202	.291	-.136	.535	.559	.353	.252	.487	-.172

Note. All correlations were significant at $p < .001$, unless otherwise specified as follows: ns = non-significant, * $p < .05$, ** $p < .01$; using pairwise deletion, *n*'s ranged from 795-833.

APPENDIX F: DEVIANCE CORRELATION MATRIX

	A	B	C	D	E	F	G	H	I	J	K
(B) Alcohol Use	.540										
(C) Drug Use	.627	.792									
(D) School Misconduct	.682	.662	.706								
(E) General Deviance	.775	.634	.701	.763							
(F) Theft	.718	.525	.635	.677	.776						
(G) Assault	.637	.433	.518	.601	.649	.708					
(H) Total Deviance	.841	.809	.875	.868	.905	.831	.732				
(I) Victim Deviance	.731	.520	.619	.689	.771	.927	.922	.842			
(J) Nonvictim Deviance	.730	.889	.912	.877	.856	.725	.610	.972	.721		
(K) Antiascetic Deviance	.615	.951	.942	.721	.704	.611	.499	.888	.599	.951	
(L) Secular Deviance	.876	.650	.734	.870	.912	.883	.816	.961	.917	.880	.729

Note. All correlations were significant at $p < .001$, unless otherwise specified as follows: ns = non-significant, * $p < .05$, ** $p < .01$; using pairwise deletion, *n*'s ranged from 819-836.

APPENDIX G: FAMILY PROCESSES AND RELIGIOSITY CORRELATION MATRIX

	Church Attendance	Church Status	Church Involvement	Bible Reading	Praying	Music Listening	Religious Conviction	Religious Salience	Ritualistic Participation	Relational Practice	Religiosity
Maternal											
Closeness	.203	.223	.179	.135	.207	.133	-.013ns	.187	.244	.227	.252
Support	.119**	.153	.116**	.087*	.136	.025ns	-.043ns	.087*	.171	.127	.147
Monitoring	.198	.207	.209	.164	.173	.206	-.063ns	.177	.236	.229	.258
Communication	.190	.181	.213	.209	.251	.179	-.061ns	.233	.268	.260	.282
Conflict	-.090*	-.105**	-.072*	-.075*	-.063ns	-.039ns	-.008ns	-.081*	-.101**	-.112**	-.109**
Peer Approval	.174	.155	.144	.120**	.191	.140	-.072*	.121**	.202	.177	.207
Paternal											
Closeness	.167	.164	.160	.158	.232	.162	-.040ns	.154	.224	.203	.230
Support	.105**	.155	.146	.123**	.166	.065ns	-.051ns	.121**	.187	.146	.168
Monitoring	.107**	.083*	.123**	.100**	.109**	.138	-.076*	.137	.123	.141**	.151
Communication	.189	.144	.181	.172	.211	.188	-.055ns	.199	.218	.236	.243
Conflict	-.102**	-.132	-.132	-.083*	-.069ns	-.037ns	.041ns	-.080*	-.130**	-.114	-.121**
Peer Approval	.195	.195	.196	.148	.237	.174	-.024ns	.164	.251	.211	.248

Note. All correlations were significant at $p < .001$, unless otherwise specified as follows: ns = non-significant, * $p < .05$, ** $p < .01$; using pairwise deletion, *n*'s ranged from 743-781.

APPENDIX H: FAMILY PROCESSES AND DEVIANCE CORRELATION MATRIX

	Vandalism	Alcohol Use	Drug Use	School Misconduct	General Deviance	Theft	Assault	Total Deviance	Victim Deviance	Non-Victim Deviance	Secular Deviance	Antiascetic Deviance
Maternal												
Closeness	-.356	-.197	-.250	-.286	-.307	-.319	-.311	-.329	-.338	-.288	-.235	-.354
Support	-.251	-.172	-.200	-.208	-.243	-.251	-.225	-.256	-.257	-.229	-.196	-.265
Monitoring	-.374	-.346	-.384	-.333	-.379	-.350	-.323	-.413	-.361	-.406	-.384	-.393
Communication	-.260	-.211	-.239	-.260	-.259	-.249	-.223	-.277	-.256	-.272	-.237	-.275
Conflict	.263	.200	.190	.229	.231	.229	.225	.246	.248	.238	.206	.255
Peer Approval	-.309	-.130	-.239	-.239	-.253	-.238	-.244	-.264	-.261	-.238	-.192	-.282
Paternal												
Closeness	-.276	-.213	-.236	-.260	-.225	-.273	-.260	-.295	-.284	-.263	-.236	-.301
Support	-.254	-.189	-.254	-.239	-.237	-.254	-.244	-.273	-.266	-.258	-.232	-.274
Monitoring	-.240	-.245	-.218	-.236	-.265	-.232	-.168	-.277	-.210	-.271	-.245	-.264
Communication	-.164	-.165	-.157	-.210	-.151	-.165	-.100**	-.194	-.140	-.193	-.170	-.187
Conflict	.217	.153	.150	.179	.199	.166	.196	.217	.193	.191	.160	.227
Peer Approval	-.270	-.206	-.264	-.237	-.224	-.251	-.210	-.289	-.247	-.262	-.247	-.281

Note. All correlations were significant at $p < .001$, unless otherwise specified as follows: ns = non-significant, * $p < .05$, ** $p < .01$; using pairwise deletion, *n*'s ranged from 791-827.