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Chapter 6

ADOLESCENT RELIGIOSITY AS A PROTECTIVE FACTOR FOR DELINQUENCY: REVIEW OF EVIDENCE AND A CONCEPTUAL FRAMEWORK FOR FUTURE RESEARCH

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ABSTRACT

The first section of this chapter reviews evidence showing that although greater religiosity has been associated with less involvement in delinquent and analogous behaviors, the mechanisms and processes through which religiosity is linked to delinquent behavior are not well understood. In the second section of the chapter, a conceptual framework and theory for studying the religion-delinquency association will be presented. The framework adapts and builds on Gottfredson and Hirschi’s (1990) General Theory of Crime. The third section of the chapter presents results of the initial study guided by the framework. Data are drawn from a longitudinal study of development during the transition from middle childhood to adolescence. Participants (n = 181) completed standard self-report assessments. Results provide initial evidence that the link between religiosity and delinquent behavior problems can be explained by the reduced opportunities and dispositions to engage in delinquent behavior more common among highly religious than less highly religious adolescents.

INTRODUCTION

Greater religiosity has been associated with less delinquency and risk-taking behavior (Wallace and Williams, 1997). However, the mechanisms and processes through which religiosity is linked to delinquency and risk-taking behavior (i.e., alcohol, tobacco and drug
use; delinquency; risky sexual behavior; risky driving) are not well understood (Cotton, Zebracki, Rosenthal, Tsevat, and Drotar, 2006; Miller and Thoresen, 2003; Wallace and Williams, 1997). In the first section of this chapter we will review available evidence pertaining to whether greater adolescent religiosity is associated with lower levels of delinquent and risk-taking behavior. We will focus on delinquency and risk-taking behavior because research in this area is quite sparse and because delinquency and risk-taking behavior are correlated and assumed (by the primary theoretical perspective guiding our work) to be influenced by similar processes. In the second section of the chapter, a conceptual framework and theory for studying the religion-delinquency association will be presented. The framework adapts and builds on Gottfredson and Hirschi’s (1990) General Theory of Crime (GTC) to propose that delinquency and risk-taking behavior in middle to late adolescence is the product of risk-taking dispositions and risk-taking opportunities. The third section of the chapter will present an initial test of the theorized processes and pathways. The final section of the chapter will discuss findings from the initial test and offer directions for future work.

Based on survey data, 95% of married couples and parents in the U.S. report a religious affiliation (Mahoney, Pargament, Tarakeshwar, and Swank, 2001), and about 60% say religion is “important” or “very important” to them (McCullough, Hoyt, Larson, Koenig, and Thoresen, 2000). For “a substantial minority,” religion is reportedly “the single most important influence in [life]” (Miller and Thoresen, 2003, p. 25). Conversely, only 2% of Americans say they do not believe in God (Sherkat and Ellison, 1999). Even given the tendency of U.S. survey respondents to over-report their religious participation, religious beliefs and activities continue to be reported as salient (Christiano, 2000; Dollahite, Marks, and Goodman, 2004). If the cumulative research on religion is taken at face value, religion does not directly influence about 10% of the population, matters little to another 20-30%, is important to another 40%, and is “most important” to 10-20%. These data, however, are drawn from adult samples. The Handbook of Religion and Health (Koenig, McCullough, and Larson, 2001) examines more than 1,200 studies and 400 reviews, but only about 5% of the accumulated work specifically addresses adolescents. A recent interest in the interface between religion/spirituality and adolescent development is manifested by two multi-authored handbooks (Roehlkepartain, King, Wagener, and Benson, 2005; Yust, Johnson, Sasso, and Roehlkepartain, 2006). However, neither volume presents primary research—the editors’ and authors’ aims are conceptual, thereby seeking to lay a foundation for future research in this nascent area.

Perhaps the landmark research in the domain of adolescent religiosity is Smith’s (2005) book-length, mixed-method study with a sample of more than 3,000 U.S. youth. Smith reports that 8% of American youth are devoted (attend services weekly or more), 27% are regulars (2-3 services a month), 17% are sporadic (a few times a year), 12% are disengaged (not religious), and 37% of the sample were categorized as “other/mixed” (p. 220). In addition to providing a useful typology, Smith (2005) offers two overarching conclusions that are directly relevant to this chapter: (a) “highly religious teenagers appear to be doing much better in life than less religious teenagers” (p. 263); and (b) “a modest amount of religion…does not appear to make a consistent difference in the lives of U.S teenagers…only the more serious religious teens” seem to benefit (p. 233).

Wallace and Williams (1997) propose that religiosity is a neglected and understudied influence on adolescent delinquency and risk-taking behavior. They note that: (a) there is little communication between scholars who study religion and scholars who study
adolescents; (b) research on adolescent religiosity rarely addresses risk-taking behaviors; (c) research on adolescent risk-taking has largely ignored evidence of a relation between religion and health; and (d) when studies of adolescent risk-taking have included religion, religion or religiosity is typically viewed as a control or nuisance variable. Following this preamble, Wallace and Williams (1997) proceed to review a handful of studies documenting evidence that religion (operationalized in numerous ways) is associated with reduced risk-taking behavior in two broad areas: (a) alcohol, tobacco, and other drug use; and (b) sexual behavior. There is a “moderate but significant” negative relationship between religiosity and substance use. With respect to sexual behavior, Wallace and Williams (1997) conclude that the literature suggests that “highly religious adolescents initiate sex later, have fewer sexual partners, and have sex less often that their less religious peers” (p. 452). A meta analysis of 19 studies (and 79 effects) testing the effect of religion on crime in adult samples (Baier and Wright, 2001) reached a similar conclusion that religious beliefs and behaviors have a moderate deterrent effect on criminal behavior with a mean effect size of \( r = -.12 \). Similar conclusions have been reached in reviews of literature linking religiosity and adult mental health and adjustment (Donelson, 1999; Levin and Chatters, 1998).

In the eleven years since Wallace and Williams’ review, evidence of a potential protective effect of religiosity on a wide range of adolescent risk taking behaviors has continued to accumulate. Consider the following examples. In a large-scale, national study (Sinha, Cnaan, and Gelles, 2007), greater religiosity among 11 to 18 year olds was associated with less smoking, alcohol use, truancy, sexual activity, marijuana use, and depression. Analyses of the National Longitudinal Survey of Youth (Hardy and Raffaelli, 2003), show that religiosity among 15-18 year olds was associated with a lower likelihood of first sexual intercourse over a two year period but that the initiation of sexual intercourse was not related to change in religiosity. In another study, religiosity was associated with less substance use and also buffered the negative impact of life stress on increased substance use from grades 7 to 10 (Wills, Yaeger, and Sandy, 2003). Religious beliefs and behaviors also were associated with less alcohol use and abuse in a sample of inner city African American adolescents (Goggin, Murray, Malcarne, Brown, and Wallston, 2007), and greater religiosity among 14-19 year olds was linked to less alcohol use and problem drinking (Brown, Parks, Zimmerman, and Phillips, 2001).

Despite the continued accumulation of evidence that greater adolescent religiosity is associated with less negative risk-taking behavior, little progress has been made toward understanding why and how religiosity is linked to less risk-taking behavior. In the sections that follow we present a heuristic model of why and how religiosity may inhibit adolescent involvement in delinquency and risk-taking behavior. In developing the model we draw from and seek to integrate research from the sociology of religion, adolescent development, and criminality/deviance literatures.

**CONCEPTUAL MODEL**

In their GTC, Gottfredson and Hirschi (1990) theorize that crime will take place if people are given the opportunity to commit a crime when they are prone to take advantage of the opportunity. Gottfredson and Hirschi (1990) proposed that their GTC was applicable to
criminal behavior and analogous acts. Risk-taking behavior is consistent with the range of analogous acts discussed by Gottfredson and Hirschi. Thus, we extend the GTC framework to risk-taking behavior in adolescence and propose that adolescents will engage in delinquent and risk-taking behavior when they have opportunities to take risks combined with a disposition to engage in risk-taking behavior. Furthermore, we elaborate on the GTC to incorporate religiosity as an external influence on the propensity-opportunity-risk-taking process (and in doing so elaborate on Gottfredson and Hirshi’s hypothesis that the link between religion and crime is spurious due to shared associations with low self-control). The conceptual model is shown in Figure 1. Delinquent and risk-taking behavior is hypothesized to be predicted by dispositions (path A), opportunities (path B), and the interaction between dispositions and opportunities (path C). Adolescent religiosity is hypothesized to be associated with dispositions (path D) and opportunities (path E) and to moderate associations between dispositions and risk-taking behavior (path F) and between opportunities and risk-taking behavior (path G). The sections that follow present each of the four key concepts (risk-taking behavior, religiosity, dispositions, and opportunities) and discuss potential indicators of each concept. We also review research documenting associations consistent with the proposed model.

Figure 1. Adapting the General Theory of Crime to Study Religiosity.

Risk-Taking Behavior in Adolescence

In elaborating on the model, we will focus on four types of risk-taking behavior: substance use (alcohol, tobacco, and drugs), delinquency, risky sexual behavior, and risky driving behavior. These behaviors were selected because they are relatively common during middle to late adolescence, yet they qualify as risk-taking behaviors because involvement in these behaviors contribute to the leading causes of death in the middle to late adolescence age group (Biglan, Brennan, Foster, and Holder, 2005). Adolescent involvement in many of these risk-taking behaviors is formally discouraged by society broadly and by parents and religious organizations in particular, although not all of the behaviors are discouraged to the same
extent. These risk-taking behaviors are consistent with the “analogous behaviors” presumed to be explained by the GTC. The pattern of associations is expected to be generally consistent across the range of behaviors, in part because risk-taking behaviors are expected to be intercorrelated, and may, according to GTC, share a common cause (Biglan et al., 2005; Feldstein and Miller, 2006; Gottfredson and Hirschi, 1990).

**Conceptualizing Religiosity**

Many pre-1985 sociological studies measured religiosity with minimal breadth and depth and included only one or two indicators to conceptualize and represent religion or religiosity. Indeed, religion was frequently little more than a token variable, raising questions regarding the construct validity of religion as presented in many studies (Marks, 2005). In psychology, Miller and Thoresen (2003) similarly indicate that “measurement of spiritual/religious constructs…has usually been poor in quality” (p. 26). On one hand, these points lead a scholar to read social science research on religion with a healthy skepticism. On the other hand, it is noteworthy that the construct of religion has—in spite of frequently limited and simplistic measurement—been a statistically significant factor in a myriad of studies; a point that seems to indicate a salient connection between religion and individual outcomes, even if researchers often fail to satisfactorily measure, much less explain, the processes at work (Dollahite et al., 2004).

Many of the problems related to the inadequate measurement of religiosity stem from the inadequate conceptualization of religion. In this chapter we employ Marks’ (2005, 2006) three dimensional conceptualization of religion as being comprised of: (a) beliefs (personal, internal beliefs, framings, meanings, and perspectives; often including a sense of relationship with God); (b) practices (outward, observable expressions of faith such as prayer, scripture study, rituals, traditions, or less overtly sacred practice or abstinence that is religiously grounded); and (c) faith community (support, involvement, and relationships grounded in one's congregation or religious group). An adequate measure of religiosity should address each of these three dimensions at some level. Accordingly, in our framework we emphasize three components of religiosity: (a) frequency of religious participation (an indicator of the faith community dimension of religion); (b) personal importance of religion (a self report measure that reflects the beliefs dimension); and (c) religion proscriptions (an indicator based in the practices dimension, which includes abstinences that are faith-based; including the avoidance of alcohol, drugs, crime, and extramarital sex).

A final point regarding the conceptualization of religiosity in our study is that “most studies of religion and spirituality are cross-sectional and most measures assess religion and spirituality as stable, enduring constructs” (Hill and Pargament, 2003, p. 71). The implicit bias in this conceptualization is that religiosity is static—a bias that likely stems from the fact that most extant data are from relatively stable adult samples. Religiosity should be conceptualized in a more fluid way that allows for developmental changes and shifts through adolescence. We need to consider the possibility that religiosity can measurably increase or decrease over time and that any protective function of religion may increase or decrease over the course of adolescence.
Dispositions

Our conceptualization of dispositions includes both propensities and predilections to engage in risk-taking behavior. As such, our disposition conceptualization embraces research on both temperament/personality traits and belief/cognitive evaluations within the risk-taking literature. In our model, for example, a disposition to engage in risky behavior may have its origins in low self-control or in a belief that potential harm from engaging in risky behavior is minimal. In contrast to Gottfredson and Hirschi (1990), but consistent with the conclusions reached in Pratt and Cullen’s (2000) meta-analysis and those in Piquero and Tibbetts’ (1996) analyses, we propose that propensities and predilections are additive contributors to one’s disposition to engage in a particular behavior, particularly risk-taking behaviors that are relatively normative in the late adolescent population (see also Walker, Ainette, Wills, and Mendoza, 2007). However, we also anticipate that strong propensities are likely to be positively associated with predilections, such that individuals with low self-control or high sensation-seeking tendencies are more likely than those with a high self-control or low sensation-seeking tendencies to hold favorable opinions regarding risk-taking behavior (Piquero and Tibbetts, 1996).

In the psychological literature, temperament and personality traits are the most commonly studied propensities for risk-taking with impulsivity and sensation-seeking demonstrating reliable and consistent associations with a range of risk-taking behaviors. Zuckerman (1994) noted that sensation seeking is “a trait defined by the need for varied, novel, and complex sensations and experiences and willingness to take physical and social risks for the sake of such experiences” (Zuckerman, 1979, p. 10). Greater sensation-seeking has been linked to higher of levels of legal and illegal drug use (Crawford, Pentz, Chou, Li, and Dwyer, 2003; Zuckerman, 1983), delinquency (Newcomb and McGee, 1991; White, LaBouvie, and Bates, 1985), engagement in risky sexual behaviors (Arnett, 1990; Zuckerman, Tushup, and Finner, 1976), and dangerous driving (Arnett, 1991; Zuckerman and Neeb, 1980).

In the sociological and criminology literatures, studies have focused on low self-control. Gottfredson and Hirschi (1990) propose that low self-control is the primary propensity for crime and that self-control is primarily influenced by parental socialization efforts in the first decade of life. Self-control is broadly conceptualized in GTC as comprised of six characteristics: risk seeking, preference for physical activities, non-verbal communication, shortsightedness, volatile temper, and impulsivity. Numerous studies have shown that this conceptualization of self-control is related to engaging in criminal acts (Pratt and Cullen, 2000), illicit and licit substance use (e.g., Arneklev, Grasmick, Tittle, and Bursik, 1993; Vaszonyi, Pickering, Junger, and Hessing, 2001; Wood, Pfefferbaum, and Arneklev, 1993), risky sexual behavior (Jones and Quisenberry, 2004), and risky driving (Jones and Quisenberry, 2004; Hartos, Eitel, Haynie, and Simons-Morton, 2000). A meta-analysis indicated that the effect size for the association between self-control and criminal behavior among adults is about \( r = .25 \) whereas the effect size for the association between self-control and analogous risk-taking behaviors is about \( r = .35 \) (Pratt and Cullen, 2000). Although the GTC conceptualization of self-control incorporates risk-seeking, some have proposed that self-control and sensation-seeking tendencies are two different pathways to problem behavior (Wills, Sandy, and Yaeger, 2000), or that sensation-seeking is the most predictive characteristic of self control (Arneklev et al., 1993). Therefore, we have included both self-control and sensation-seeking in our propensity conceptualization.
Consistent with our conceptualization of predilections, the rational choice framework (Cornish and Clarke, 1986; Nagin and Paternoster, 1993) emphasizes situational inducements and impediments to criminal behavior, most notably the perceived cost or harm of engaging in specific acts. The rational choice framework also emphasizes adolescent’s personal moral beliefs regarding whether involvement in a particular behavior is wrong under the assumption that such beliefs impede criminal behavior. Although Gottfredson and Hirschi (1990) are critical of the rational choice perspective, Piquero and Tibbetts (1996) present a model that integrates the GTC and rational choice perspectives. In their test of the integrated model, rational choice variables (i.e., perceived sanctions, pleasure, and situational shame) mediated much of the association between self-control and intentions (measured using hypothetical vignettes) to shoplift and drive drunk. In a similar study, Schoepfer and Piquero (2006) found that moral beliefs regarding how wrong the potential action was moderated the link between self-control and intentions to steal and fight such that low-self control was associated with greater intentions to steal and fight when moral beliefs were low, but self-control was not associated with intentions to steal and fight when moral beliefs were high. Furthermore, Evans, Cullen, Burton, Dunaway, and Benson (1997) found that moral beliefs and self-control were additive predictors of deviant behavior. Likewise, Arnett (1990) found that propensities (i.e., sensation seeking) and predilections (i.e., perceived risk) were additively related to having sex without contraception in a sample of 145 adolescent females.

Another perspective on predilections comes from social perception theory, which focuses on the perceptions or prototypes that people hold of individuals who engage in certain behaviors (Gibbons and Gerrard, 1995). Having a favorable prototype of individuals who engage in risk-taking behavior is considered a risk factor for engaging in the behavior yourself. Research on drug use and sexual behavior has linked favorable prototypes to risk taking behavior (Blanton, VandenEijnden, Buunk, Gibbons, Gerard, and Bakker, 2001; Gibbons and Gerard, 1995; Gibbons, Gerard, Boney-McCoy, 1995). More positive prototype perceptions have been found to predict increased substance use and sexual behavior among adolescents even when controlling for self-control (Wills, Gibbons, Gerrard, Murry, and Brody, 2003; see also Pratt and Cullen, 2000). Perceived benefits, risks, moral beliefs, and prototype perceptions are included in the model as risk taking predilections. In general, greater religiosity is expected to be negatively associated with dispositions and predilections, but sub-components of religiosity are expected to be linked to specific measures of dispositions and predilections (e.g., more frequent attendance is expected to be linked to self-control whereas proscriptions are expected to be more strongly linked to perceived costs and prototype perceptions). Previous research has demonstrated that dispositions and predilections can mediate between contextual experiences (e.g., parenting) and problem behavior (Curry and Youngblade, 2006; Simons, Simons, Chen, Brody, and Lin, 2007).

**Opportunities**

Although Gottfredson and Hirschi (1990) propose that criminal acts are most likely to occur when an individual with low self-control is presented with an opportunity to commit a crime, they argue that opportunities for crime are everywhere but devote little attention to opportunities in their theorizing. Moreover, researchers testing GTC have devoted much more attention to studying the link between self-control and criminality than to studying
opportunities (Pratt and Cullen, 2000), and tests of GTC using naturally occurring variation in opportunities are limited (e.g., Jones and Quisenberry, 2004). However, the adolescent development literature has identified several individual-level variables that can be conceptualized as expanding or limiting risk-taking opportunities for adolescents (LaGrange and Silverman, 1999). Therefore, we have relied heavily on the adolescent development literature to identify potential variables to index risk-taking opportunity.

Unlike adults, adolescents are expected to be supervised and disciplined by their parents or other adults (e.g., teachers). In addition, it is our assumption that most adolescent risk-taking behavior, particularly negative risk-taking behavior, takes place outside of adult supervision, and often, in the presence of peers. Lack of adult supervision has often been found to be associated with child and adolescent misbehavior (e.g., Cohen, Farley, Taylor, Martin, and Schuster, 2002). Therefore, the amount of time adolescents spend outside of adult supervision could serve as an index of opportunity, with adolescents spending more time unsupervised having more opportunity to engage in risk-taking behavior.

Along similar lines, parental monitoring and rule-setting have been identified as forms of distal supervision (Laird, Criss, Pettit, Bates, and Dodge, in press) and are consistent predictors of adolescent risk-taking behavior (see Dishion and McMahon, 1998; Crouter and Head, 2002). Monitoring is conceptualized as a dyadic process through which parents can track the behavior of adolescents when they are not being directly supervised by adults. Recent data provide strong evidence that adolescents play a large role in determining the amount and accuracy of the information that parents obtain regarding the adolescent’s whereabouts and activities (Stattin and Kerr, 2000; Laird, Criss, Pettit, Bates, and Dodge, 2008). A lack of parental knowledge predicts increases in risk-taking behavior (Laird, Pettit, Bates, and Dodge, 2003a; 2003b) and high levels of knowledge moderate peer relationship and personal risk factors, including genetic risks (Dick, Viken, Purcell, Kaprio, Pulkinen, and Rose, 2007; Laird et al., 2008). Adolescents are expected to engage in less risk taking behavior when they have informed parents. Informed parents may more effectively limit risk-taking opportunities than less informed parents. Additionally, adolescents who opt to keep their parents informed may be less likely to engage in risk-taking behavior.

Parental rules and prohibitions are thought to provide adolescents with behavioral guidance in their parents’ absence. Clear rules and prohibitions, when followed by adolescents, also can function to limit risk-taking opportunities (Beck, Harts, and Simons-Morton, 2006; Guilamo-Ramos, Jaccard, Dittus, and Bouris, 2006; Wight, Williamson, and Henderson, 2006). Thus, three family-level variables (i.e., unsupervised time, poorly informed parents, and limited rules and restrictions) are included in the model as indicators of greater risk-taking opportunities. LaGrange and Silverman’s (1999) results support this conceptualization of opportunities. Specifically, variables consistent with our conceptualization of unsupervised time, poorly informed parents, and limited rules were found to interact with measures of self-control to predict general delinquency, property offenses, violent offenses, and drug offenses. Other studies also have found that the association between self-control and antisocial behavior was attenuated by parenting (Jones, Cauffman, and Piquero, 2007; Wight, Caspi, Moffitt, and Silva, 2001). Conceptualizing parenting during adolescence as an influence on opportunities may help to explain why parenting continues to be associated with delinquent behavior when controlling for self-control (e.g., Burt, Simons, and Simons, 2006).
Gottfredson and Hirschi (1990) downplay the role of other individuals as influences on crime and criminality by arguing that: (a) most crimes are committed by a single individual; (b) individuals who commit crimes with others also commit crimes alone; and (c) the propensity to commit crimes and the propensity to affiliate with other like-minded individuals have a shared cause (i.e., low self-control). However, compared to adults, adolescents are more likely to engage in risk-taking behavior with or when surrounded by peers (Dishion, Andrews, and Crosby, 1995; Simpson, 1996; Udry, 1998; Warr, 1996; Zimring, 1998). Numerous studies have documented strong and consistent associations between adolescents’ misbehavior and the misbehavior of their peers (Elliot and Menard, 1996; Pratt and Cullen, 2000; War, 2002). Moreover, Pratt and Cullen’s (2000) meta-analysis indicated that deviant peer associations and low self-control are additive predictors of crime and analogous behaviors. While research indicates that much of the link between adolescent and peer behavior can be considered a selection effect, wherein risk-taking adolescents form friendships with risk-taking peers; affiliations and friendships with risk-taking peers are likely to provide more risk-taking opportunities than affiliations and friendships with risk-averse peers (Evans et al., 1997; Thornberry, Lizotte, Kron, Farnworth, and Jang, 1994). Wight et al., (2001) found that antisocial peers interact with self-control so that low-self control is most strongly associated with criminal behavior among individuals with antisocial friends. Goodnight, Bates, Newman, Dodge, and Pettit (2006) also found that impulsivity interacted with antisocial friends to predict increases in externalizing behavior problems. Likewise, Slater (2003) found that peer pressure was more strongly associated with marijuana use among individuals high in sensation seeking than low in sensation seeking. Data from these three studies show a pattern consistent with our proposed model and suggest that risk-taking peers may interact with propensities to increase risk-taking behavior.

Religiosity and the Propensity-Opportunity Theory of Risk-Taking Behavior

Previous research on religiosity and risk-taking behavior conducted in the propensity-opportunity framework during adolescence is very limited. Only a few studies have tested specific hypotheses from our proposed model, and tests that have been conducted are largely limited to main effects using cross-sectional data. Walker, Ainette, Wills, and Mendoza (2007) found that religiosity was linked to substance use through both self-control and tolerance for deviance (which, in turn was linked to substance use through friends’ substance use). Wills et al. (2003) found that low self-control predicted substance use and sexual behavior through social-cognitive constructs and peer relations. However, the impact of religion on substance use and sexual behavior was not mediated through self-control or peer relationships. No tests of moderation were included in their analyses. Yanovitsky (2005) found that low religiosity, high sensation-seeking, low parental monitoring, and deviant peer affiliations were additive predictors of the intention to use marijuana. Interactions among these factors were not tested. These three studies attest to the potential of the propensity-opportunity framework as an aid to understanding how and why greater religiosity protects adolescents from risk-taking behavior. However, the studies test a limited set of hypotheses and rely on cross-sectional data.
RESEARCH QUESTIONS AND ANALYSES GUIDED BY THE MODEL

The next section of this chapter will illustrate how our conceptual model can be used to frame and attempt to answer questions about how and why adolescent religiosity may be negatively associated with delinquent and risk-taking behavior. From the conceptual model we selected four hypotheses to test using data from an ongoing longitudinal study of parent-adolescent relationships. Specifically, we hypothesize that adolescent participants’ reports of greater religiosity will be associated with fewer behavior problems and less delinquent behavior. Furthermore, greater religiosity is hypothesized to be associated with fewer opportunities to misbehave (i.e., less time unsupervised by adults and less antisocial behavior by friends) and a decreased propensity to misbehave (i.e., greater self control). In addition, we hypothesize that fewer opportunities to misbehave and a greater propensity to avoid misbehavior will mediate the association between religiosity and behavior problems and delinquent behavior.

Participants and Procedures

Data were drawn from a longitudinal study of development during the transition from middle childhood to adolescence. Participants (N=181) range in age from 12 to 15 years old. Fifty percent of participants are European American and 44% are African American. Approximately half of the participants are male and 75% live in a two parent home. Participants’ parents reported a median yearly income between $40,000 and $60,000 with 12.6% earning less than $20,000, and 36.8% earning greater than $80,000.

Measures

Measures were derived from questionnaires verbally administered during a visit to the participants’ homes. Our religiosity measure focused on the three dimensions of religiosity emphasized by our conceptual model; beliefs (“How important is religion to you in your daily life?”), practices (“How often do you pray?”), and community (“How often do you attend religious services?”). Response options were presented as four or five point scales. A religiosity composite score was calculated as the mean response to the three items after standardizing responses to adjust for scaling differences ($\alpha = .74$).

Measures of unsupervised time and antisocial peer involvement served as indices of opportunities to engage in delinquent behavior. To assess unsupervised time, participants reported how often (from “never” to “everyday”) they spend time in activities outside of adult supervision using items newly developed for this study. Participants responded to seven items (e.g., “How often do you stay at home when no adult is there? How often do you hang out around the neighborhood with no adult around?”). A composite unsupervised time score was computed as the mean of the seven items ($\alpha = .73$).

Antisocial peer involvement was assessed using items adapted from Dishion, Patterson, Stoolmiller, and Skinner (1991). Participants reported how often (from “never” to “all the time”) their friends engaged in mildly antisocial behavior using 10 items (e.g., “Do your
friends get into fights with other kids, do your friends use bad language, do your friends get into trouble at school?”). A composite antisocial peer involvement score was computed as the mean of the 10 items (\( \alpha = .75 \)).

A measure of self-control served as an index of adolescents’ propensity to avoid misbehavior. Self-control was assessed using the Low Self-Control Scale (LSC; Grasmick, Tittle, Bursik, and Arneklev, 1993). The Low Self-Control Scale is comprised of six sub-scales tapping the dimensions of self control that Gottfredson and Hirschi (1990) argued were most relevant to crime and delinquency. The six sub-scales are labeled impulsiveness (e.g., “I often act on the spur of the moment”), simple tasks (e.g., “I frequently try to avoid tasks that I know will be difficult”), risk-seeking (e.g., “Sometimes I feel I will take a risk just for the fun of it”), physical activities (e.g., “I almost always feel better when I am on the move than when I am sitting and thinking”), self-centeredness (e.g., “I try to look out for myself first, even if it makes things difficult for other people”), and control-temper (e.g., “Often, when I am angry at people, I feel more like hurting them than talking to them about why I am angry.”). Participants indicated how much they agreed (from “strongly disagree” to “strongly agree”) with each of the 24 items. A composite self-control score was computed as the mean of 24 items (\( \alpha = .88 \)) after items were reverse coded so that higher scores indicate greater self control.

The Problem Behavior Frequency Scale (Farrell, Kung, White, and Valois, 2000) was used to assess behavior problems. The Problem Behavior Frequency Scale is a 32 item assessment comprised of five sub-scales labeled rule breaking (e.g., “broke a rule at home”), physical aggression (e.g., “hit or slap another kid”), non-physical aggression (e.g., “insult someone’s family”), delinquency (e.g., “steal from someone”), and drug use (e.g., “smoke cigarettes”). Participants reported the frequency (from “0 times” to “7 or more times”) of their involvement in each behavior over the past month. A composite behavior problems score was computed as the mean of the 26 non-delinquency items (\( \alpha = .92 \)) and a separate delinquency score was computed as the mean of the six delinquency items (\( \alpha = .82 \)).

**ANALYSES AND RESULTS**

The analyses that follow were conducted to test four hypotheses. Our first hypothesis was that greater religiosity will be associated with fewer behavior problems and less delinquent behavior. Bivariate correlations were computed to test the association between religiosity and behavior problems and between religiosity and delinquent behavior. Results support our first hypothesis. Adolescents reporting greater religiosity also report fewer behavior problems (\( r = -.19, p = .01 \)) and less delinquent behavior (\( r = -.16, p = .04 \)).

Our second hypothesis was that greater religiosity will be associated with fewer opportunities to misbehave. As a reminder, opportunities to misbehave were operationalized as unsupervised time and antisocial peer involvement. Bivariate correlations were computed to test the associations between religiosity and unsupervised time and between religiosity and antisocial peer involvement. Results support our second hypothesis. Adolescents reporting greater religiosity also report less unsupervised time (\( r = -.16, p = .04 \)) and less antisocial peer involvement (\( r = -.40, p < .001 \)).
Our third hypothesis was that greater religiosity will be associated with a stronger propensity to avoid misbehavior. A stronger propensity to avoid misbehavior was operationalized as greater self control. A bivariate correlation was computed to test the association between religiosity and self control. Results support our third hypothesis. Adolescents reporting greater religiosity also report greater self control ($r = .22$, $p = .005$).

Our fourth hypothesis was that the association between religiosity and behavior problems will be mediated through opportunities (unsupervised time and antisocial peer involvement) and propensity (self control). Data were analyzed using multiple regression to determine whether the four criteria for mediation proposed by Baron and Kenny (1986) were satisfied. Baron and Kenny’s (1986) first criterion is that there must be a significant association between the independent variable and the dependent variable. The results from the first hypothesis test demonstrate that the data met this criterion. As noted above, greater religiosity is significantly associated with less behavior problems and less delinquent behavior.

Baron and Kenny’s (1986) second criterion is that there must be a significant association between the independent variable and the mediating variable. The results from the second and third hypothesis tests demonstrate that the data met the second criterion. As noted above, greater religiosity is significantly associated with less unsupervised time, less antisocial peer involvement, and more self-control. Baron and Kenny’s (1986) third criterion is that there must be a significant association between the mediating variable and the dependent variable. Six multiple regression analyses were conducted to determine whether the data met the third criterion. Behavior problems and delinquent behavior were regressed on unsupervised time, antisocial peer involvement, and self control separately. Results from our analyses demonstrate that the data met the third criterion. Less unsupervised time is associated with fewer behavior problems ($\beta = .46$, $p < .001$) and less delinquent behavior ($\beta = .31$, $p < .001$). Additionally, less antisocial peer involvement is associated with fewer behavior problems ($\beta = .51$, $p < .001$) and less delinquent behavior ($\beta = .42$, $p < .001$). Finally, greater self control is associated with fewer behavior problems ($\beta = -.56$, $p < .001$) and less delinquent behavior ($\beta = -.39$, $p < .001$).

Baron and Kenny’s (1986) fourth criteria for mediation is that the association between the independent variable and the dependent variable becomes non-significant after controlling for the mediating variable. In order to test the fourth criteria, behavior problems and delinquent behavior were regressed on religiosity and each of the potential mediators, separately. First, a series of multiple regressions were computed to test whether opportunity mediates the association between religiosity and behavior problems. Controlling for unsupervised time, religiosity is no longer significantly associated with behavior problems ($\beta = -.13$, $p = .08$) or delinquent behavior ($\beta = -.12$, $p = .72$). Controlling for antisocial peer involvement, religiosity is no longer significantly associated with behavior problems ($\beta = .03$, $p > .72$) or delinquent behavior ($\beta = .01$, $p = .99$). Results from the multiple regression analyses indicate that our measures of opportunity fully mediate the association between religiosity and behavior problems according to Baron and Kenny’s (1986) criteria.

Next, a series of multiple regression analyses were computed to test whether our measure of propensity mediates the association between religiosity and behavior problems. Controlling for self control, religiosity is no longer significantly associated with behavior problems ($\beta = -.07$, $p = .30$) or delinquent behavior ($\beta = -.07$, $p = .31$). Results from the multiple regression analyses indicate that self control fully mediates the association between religiosity and behavior problems according to Baron and Kenny’s (1986) criteria.
When using the method proposed by Baron and Kenny (1986), a weak association between an independent variable and a dependent variable can become non-significant when the indirect effects are small. Also, Baron and Kenny’s (1986) method does not provide an index of the size or strength of the indirect effects. A stronger test for mediation is to test the significance of indirect effects. Path models were specified to test the indirect effects of the association between religiosity and behavior problems through opportunities and propensities. This approach allows us to use bootstrapping to estimate the size and significance of the indirect effects, as the standard errors for product terms may have unusual distributions (MacKinnon, Fairchild, and Fritz, 2007; McCartney, Burchinal, and Bub, 2006).

The results from the tests of indirect effects provide further evidence supporting our fourth hypothesis that opportunities and propensity mediate the association between religiosity and behavior problems. The standardized indirect effects and standard errors can be found in Table 1. The indirect effects from religiosity to behavior problems and delinquent behavior through unsupervised time, antisocial peer involvement, and self control are all significant.

Table 1. Indirect Effects of Religiosity on Behavior Problems and Delinquent Behavior

<table>
<thead>
<tr>
<th>Mediator</th>
<th>Behavior Problems</th>
<th>Delinquent Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Indirect Effect</td>
<td>Standard Error</td>
</tr>
<tr>
<td>Unsupervised Time</td>
<td>-.066*</td>
<td>.036</td>
</tr>
<tr>
<td>Antisocial Peer Involvement</td>
<td>-.217**</td>
<td>.050</td>
</tr>
<tr>
<td>Self Control</td>
<td>-.118**</td>
<td>.044</td>
</tr>
</tbody>
</table>

Significance of indirect effects computed using bias-corrected bootstrapped standard errors. Standardized estimates, *p < .05, **p < .01.

**CONCLUSION**

The study presented in this chapter aimed to replicate previous research establishing religiosity as a protective factor for adolescent delinquency and risk-taking and to demonstrate the utility of a new theoretical framework for understanding why and how religiosity may be protective. Results indicate that delinquent behavior and behavior problems more generally, were less frequent among adolescents reporting more personal religiosity as compared to adolescents reporting less religiosity. As anticipated, the link between religiosity and delinquent behavior was mediated by indicators of opportunity and dispositions providing general support of both Gottfredson and Hirschi’s (1990) GTC and our adaptation and expansion of the GTC to study religiosity.

Drawing on our adaptation of Gottfredson and Hirschi’s (1990) GTC, our model proposes that delinquent behavior in adolescence results from risk-taking opportunities combined with a risk-taking disposition. In the expansion of the general model, religion is specified as a protective factor that limits risk-taking opportunities and reinforces a propensity to avoid risk-taking. Two theorized pathways linking religiosity to delinquent behavior were tested and support was found for both pathways. In terms of risk-taking opportunities,
adolescents reporting greater religiosity also report less unsupervised time and less antisocial peer involvement. Unsupervised time and antisocial peer involvement fully mediated the association between religiosity and delinquent behavior. Thus, results provide evidence that one pathway from religiosity to delinquent behavior is through adolescents’ lack of risk-taking opportunities. In terms of risk-taking dispositions, adolescents reporting greater religiosity also report greater self-control and self-control fully mediated the association between religiosity and delinquent behavior. Thus, results provide evidence that a second pathway linking religiosity to behavior problems and delinquent behavior is through adolescents’ greater propensity to avoid risk-taking behaviors. Self-control is the primary propensity discussed by Gottfredson and Hirschi (1990) and results from this study indicate that low self-control is linked to greater delinquency and with less religiosity as anticipated.

Strengths of the current study include a theory-based measure of religiosity and a conceptual model for testing the paths linking religiosity and delinquent behavior in adolescence. However, enthusiasm for conclusions reached in the current study should be restrained due to a number of study limitations. Religiosity was measured based on Marks’ (2005, 2006) three dimensional theory of religiosity which captures an individual’s religious beliefs, practices, and community. The set of three items tapping each of the dimensions was internally consistent and associated with opportunities, propensities, and delinquency as anticipated. However, while the three item scale is an improvement over previous operationalizations of religiosity, the concept remains weakly operationalized and a broader set of items assessing each dimension more comprehensively is necessary to significantly enhance our understanding of the link between religion and delinquency.

In the current study, unsupervised time and antisocial peer involvement served as indicators of opportunity restrictions. The conceptual model provided in this chapter specifies additional indicators of opportunity restrictions that may also link religiosity and risk-taking behavior. While this chapter provides preliminary support of this conceptualization and hypothesized pathway, future studies should consider additional indicators of opportunity restrictions. Likewise, self-control served as the indicator of dispositions for risk-taking. The conceptual model described in this chapter identifies additional factors that may serve as propensities and predilections for risk-taking that may also be influenced by religiosity. Future studies should consider these additional dispositions to determine whether findings from this study represent a general process or whether findings are unique to self-control.

As with many studies conducted in the GTC framework, the current study focused exclusively on main effects linking dispositions, opportunities, and delinquency. While explicit tests of mediation are an improvement over previous studies, key moderation hypotheses remain to be tested. Whereas the current study showed that greater religiosity is linked to weaker dispositions and fewer opportunities, it will be important to determine whether religiosity protects adolescents with stronger risk-taking dispositions and more opportunities from engaging in delinquent behavior. To the extent that the effects of religiosity are primarily mediated through dispositions or opportunities, associations between religion and delinquency may be primarily indirect or spurious (as hypothesized by Gottfredson and Hirschi, 1990), and any causal or protective role of religion remains in doubt. However, evidence that religiosity moderates associations between risk factors and delinquent behavior, would shift the emphasis toward religiosity serving as an important ameliorative factor for delinquent behavior and indicate that the link between religion and delinquency deserves more attention.
Finally, the current study is cross-sectional like most of the studies in this area. Longitudinal studies are needed to better understand the potentially complex interplay among religion, delinquency, dispositions, and opportunities. It may be that religion is a protective factor and that religion inoculates adolescents from developing predilections and propensities that would lead to greater risk-taking behavior. However, it is as equally conceivable that there are considerable selection effects whereby the individuals least predisposed to engage in risk-taking behavior remain or increase their religious involvement and commitment during adolescence whereas those more predisposed to take risks decrease their religious involvement. In other words, it is possible that the same characteristics that dispose one to take risks also discourage involvement in religious institutions that limit or prohibit risk-taking behavior. Longitudinal data are required to map the common developmental pathways and to determine whether religion is a prospective protective factor or whether selection effects account for a large portion of any apparent protective effects of religion.

In sum, this chapter makes the case that there is compelling evidence that justifies further study of religion as a protective and potential ameliorating factor for delinquent behavior and a range of analogous adolescent health risk-taking behaviors. Drawing on Gottfredson and Hirschi’s (1990) GTC, a conceptual framework that provides guidance and a roadmap for future work in the area is presented. Cross-sectional data were presented to illustrate the utility of the framework and to demonstrate how key constructs can be operationalized and how hypothesized associations can be tested. Results provide general support for two pathways drawn from the broader conceptual framework. Conclusions identify a range of new directions and research questions that could be addressed using the conceptual framework to contribute to a richer understanding of the link between religion and delinquency.

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