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ABSTRACT

THE RELATIONSHIP BETWEEN PARENTAL AND ADOLESCENT  
RELIGIOSITY FACTORS AND ADOLESCENT SEXUAL  
RISK-TAKING AMONG OLDER ADOLESCENTS  
IN THE ANGLOPHONE/LATIN CARIBBEAN

by

Karen Christoffel Flowers

Co-Chairs: Duane McBride and Jerome Thayer

ABSTRACT OF GRADUATE STUDENT RESEARCH

Dissertation

Andrews University

School of Education

Title: THE RELATIONSHIP BETWEEN PARENTAL AND ADOLESCENT RELIGIOSITY FACTORS AND ADOLESCENT SEXUAL RISK-TAKING AMONG OLDER ADOLESCENTS IN THE ANGLOPHONE/LATIN CARIBBEAN

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Name and degree of faculty co-chairs: Duane McBride, Ph.D., Jerome Thayer, Ph.D.

Date completed: April 2013

Problem

Sexually active youth across the Anglophone/Latin Caribbean have been identified as among the most-at-risk for HIV infection. Studies conducted in the United States have identified parental and religiosity factors associated with adolescent sexual risk-taking, but these relationships remain largely unexplored in the Caribbean region.

Method

This cross-sectional study, based on survey data generated by the Seventh-day Adventist Caribbean Youth Survey, investigated the relationship between parental and adolescent religiosity factors and sexual at-risk behaviors reported by adolescents ages

16-18 years attending Seventh-day Adventist Church-operated secondary schools across the region. Pearson correlations and multiple regression analyses were used to assess the significance and strength of these factors as predictors of adolescent sexual risk-taking, alone and together as a set of predictors. Predetermined criteria for statistical significance and explanatory power were used to evaluate the usefulness of each predictor in prediction model-building for specific sexual at-risk behaviors.

## Results

Five predictors achieved statistical significance in relation to one or more sexual at-risk behaviors and met established levels of predictive strength required for inclusion in a prediction model. Parental monitoring was the most consistent overall predictor of adolescent sexual risk-taking, and parental disapproval of adolescent sex the strongest, contributing 22% to explained variance in a prediction model for recent sexual partnering. The increased presence of all these predictors was consistently related to reduced levels of sexual risk-taking. The other five predictors investigated did not demonstrate sufficient explanatory power to be considered useful as model components.

The prediction model for number of sexual partners in the last three months, comprised of parental disapproval of adolescent sex, parental monitoring, and importance ascribed to religion, was the strongest, explaining 39% of the variance. The prediction model for sexual experience, comprised of parental disapproval of adolescent sex, parental monitoring, and SDA Church affiliation, explained 25% of the variance. The model for predicting lifetime number of sexual partners, explaining 17% of the variance, included parental disapproval of adolescent sex, parental monitoring, and father

connectedness. The prediction model for timing of sexual debut explained 6% of the variance and was comprised of father connectedness and parental monitoring.

### Conclusions

Study findings are consistent with conclusions of other researchers that parental and adolescent religiosity factors are important predictors of adolescent sexual risk-taking in the Caribbean region. The prediction models developed here provide focus for efforts toward better protecting youth from life-altering consequences associated with adolescent sexual risk-taking. The predominance of parental monitoring and parental disapproval of adolescent sex as significant predictors across the spectrum of sexual at-risk behaviors suggests that appropriate behavioral control and the conveyance of life-affirming sexual values constitute essential parental skills. Study findings also draw attention to the importance of father connectedness, even as the region moves toward more positive engagement of fathers with their children. The unique contributions of both SDA Church affiliation and importance ascribed to religion suggest value in further investigation into the relationship between adolescent religiosity and sexual risk-taking.

Culturally sensitive programs and resources are needed to equip parents as primary agents in the sexual socialization of youth. Such programs should concentrate on enhancing father connectedness and developing skills for effective monitoring, communication of life-affirming sexual values, and the spiritual nurture of adolescents. Longitudinal studies to determine causality, studies utilizing more sophisticated measures to further test the relationship between adolescent religiosity and sexual at-risk behavior, and studies exploring the etiology of adolescent condom use constitute priorities for future research.

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A Dissertation

Presented in Partial Fulfillment  
of the Requirements for the Degree  
Doctor of Philosophy

by

Karen Christoffel Flowers

April 2013

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Date approved

To my family who have endured to the end and whose belief in me  
and unconditional support and encouragement  
have undergirded my every success.

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## LIST OF ABBREVIATIONS

AIDS	Acquired Immunodeficiency Syndrome
Add Health	National Longitudinal Study of Adolescent Health
CDC	Centers for Disease Control and Prevention
CIA	Central Intelligence Agency
CYHS	Caribbean Youth Health Survey
HIV	Human Immunodeficiency Virus
IAD	Inter-American Division of the General Conference of Seventh-day Adventists
IRB	Institutional Review Board
PAHO	Pan American Health Organization
PST	Primary Socialization Theory
RQ	Research Question
SDA Church	Seventh-day Adventist Church
SDACYS	Seventh-day Adventist Caribbean Youth Survey
STD	Sexually Transmitted Disease
STI	Sexually Transmitted Infection
UNAIDS	Joint United Nations Programme on HIV/AIDS
WHO	World Health Organization
YRBS	Youth Risk Behavior Survey

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## CHAPTER 1

### INTRODUCTION

#### **Overview of the Problem, Purpose, and Presentation of Present Research**

Youth across all ethnic and social strata—our children and their cohort, the bearers of our family, faith, and cultural traditions and values into the future—are confronted during adolescence with critical decisions about their sexuality. Among these is the weighty decision to engage or not to engage in sexual behaviors that put them at risk for sexually transmitted infections (STIs), including the human immunodeficiency virus (HIV), as well as other life-altering consequences (Blum & Mmari, 2004; Halcón et al., 2003; Inciardi, Syvertsen, & Surratt, 2005; Kirby, 2007; Kirby, Lepore, & Ryan, 2005; Meschke, Bartholomae, & Zentall, 2000; B. C. Miller, 1998; Mmari & Blum, 2009; Ross, Dick, & Ferguson, 2006). Although parents and other adults may wish they had the power to directly control the decisions of young people in this regard, they do not.

Globally, the negative consequences associated with “sexually transmitted infections (STIs), including HIV/AIDS, threaten the health of people in the second decade of life more than any other age group” (Bearinger, Sieving, Ferguson, & Sharma, 2007, p. 1220). Over the last 20 years, 50% of all new HIV infections were estimated to have occurred among youth ages 15-24 years (Blum & Nelson-Mmari, 2004, p. 407).

More specific to this study, infection with HIV constitutes a very real threat to adolescent health and well-being in the Caribbean Basin (Blum & Nelson-Mmari, 2004; Ohene, Ireland, & Blum, 2004). The Joint United Nations Programme on HIV/AIDS (UNAIDS) continues to mark the Caribbean as “the second most affected region in the world after sub-Saharan Africa” (UNAIDS, 2007a, p. 2). Despite some successes toward the stabilization—even reduction—of HIV infection levels and AIDS-related deaths in heavily affected countries (UNAIDS, 2006, p. 38), “HIV is well anchored in the region” (Calleja et al., 2002, p. 38).<sup>1</sup>

Regional data provided in the comprehensive report *Health in the Americas 2007* identified AIDS as “among the five leading causes of death for youths” (Pan American Health Organization [PAHO], 2007, p. 167). In 2007, it was estimated that among Caribbean youth ages 15-24 years, 1.6% of females and 0.7% of males were HIV-positive (PAHO, 2007, p. 170; see also Dixon-Mueller, 2009; Inciardi et al., 2005). Blum and Nelson-Mmari (2004) reported that “at least 2% of young women were infected in the Bahamas, Dominican Republic, Guyana, and Haiti” (p. 407). Such estimates are likely conservative because the prevalence of HIV infection within this population is “still largely invisible” (Blum & Nelson-Mmari, 2004, p. 407), given the fact that the virus can be carried for years before manifesting itself (Norman & Uche, 2002).

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<sup>1</sup> Inciardi et al. (2005) summarized the three levels of HIV epidemics as defined by WHO, “all . . . [of which] are occurring simultaneously throughout the [Caribbean] region” (p. S15): Generalized: “HIV is firmly entrenched in the general population with infection levels consistently over 1% among pregnant women in both urban and rural locations” (p. S15). Concentrated: “HIV prevalence consistently reaches or exceeds 5% in any sub-population at higher risk of infection, including drug injectors, sex workers, and MSM [Men who have Sex with Men], but does not exceed 1% among pregnant women in urban areas” (p. S15). Low-level: “Relatively little HIV is measured in any group, and the level of infection does not consistently exceed 5% in any high-risk subpopulation” (p. S15).

Clearly, if adolescents are to be protected from the high costs associated with risky sexual behaviors, it will be important to understand and be able “to affect the factors that influence teens’ sexual decisions and behavior” (Kirby, 2007, p. 53). Although many studies have investigated the antecedents of adolescent sexual risk-taking in the United States (Kirby et al., 2005), relatively few studies of this nature have been conducted in the Caribbean region (Blum et al., 2003). Further, it is as yet not clear whether the factors identified as associated with risky sexual behavior among youth in the United States operate similarly in the Caribbean cultural milieu (Hutchinson et al., 2007; Mmari & Blum, 2009, p. 351).

In brief, this study responds to this foundational problem by exploring selected family-context and adolescent religiosity factors associated with lower incidence of sexual risk-taking among youth in studies conducted in the United States, to determine whether they operate similarly among adolescents in the Anglophone/Latin Caribbean and, more specifically, among adolescents attending Seventh-day Adventist Church (SDA Church)-operated schools across the region. A correlational research design was employed, using Pearson correlations and multiple regression analyses as means for assessing the value of parental and adolescent religiosity predictor variables as potential components in parsimonious prediction models for six adolescent sexual behavioral outcomes associated with HIV infection. A more complete description of the problem, research design, statements of study purpose and significance, as well as the theoretical framework upon which this study rests follows in the remainder of this chapter. Chapter 2 provides an overview of relevant literature. Chapters 3 and 4 detail the methodology and study results, while Chapter 5 provides an overall summary and discussion of the most

important findings as well as recommendations for parents, teachers, church and community leaders, and future researchers.

## **Understanding the Problem**

### **Sexual Risk Behaviors**

In a comprehensive review of risk and protective factors impacting adolescent health in the developing world, Mmari and Blum (2009) reported that “of all the factors that were examined in relation to HIV and STIs, those that were related to sexual risk behaviours were by far the strongest and most significant” (p. 359). Measurable behavior change toward safer sexual practices among youth—“including increased condom use, fewer partners and delayed sexual debut” (UNAIDS, 2006, p. 9)—was a primary factor associated with decreases in national rates of HIV infection in the few countries that have managed such a positive outcome (Bearinger et al., 2007, p. 1220; see also Gregson et al., 2006; Stoneburner & Low-Beer, 2004; UNAIDS, 2004). However, the incidence of Caribbean youth reporting sexual experience, early sexual initiation, multiple sexual partners, as well as the inconsistent use of condoms is of mounting concern (Blum et al., 2003; Halcón et al., 2003, Maharaj, Nunes, & Renwick, 2009; Ohene et al., 2004). This concern is only heightened by the fact that many of the existing findings have emerged from data gathered from school-based samples. Responses from youth who attend school are likely to paint the “most optimistic picture” of adolescent sexual risk-taking in a given population (Halcón, Beuhring, & Blum, 2000, p. 4; see also Nugent, 2006).

## **Sexual Experience**

Among the 15,695 nationally representative students ages 10-18 years responding to the Caribbean Youth Health Survey (CYHS)—a regional survey conducted across approximately half of the Anglophone countries in the Caribbean Basin—34.1% of respondents (51.9% of males and 22.2% of females) reported having had sexual intercourse (Halcón et al., 2003, p. 1855). Precise comparisons of studies conducted in the various regional nations are made difficult by differences in sampling design. However, overall, a review of studies specific to various adolescent populations within individual Caribbean countries indicated even higher proportions of youth with a history of sexual intercourse than were found in the regional study (Centers for Disease Control and Prevention, n.d.; Friedman, McFarlane, & Morris, 1999; Kotchick, Dorsey, Miller, & Forehand, 1999; McBride et al., 2005; Stallworth et al., 2004).

## **Early Sexual Initiation**

Global statistics indicate that nearly everywhere sexual activity for both males and females begins in late adolescence, somewhere between the ages of 15 and 19 (Wellings et al., 2006, p. 1709). However, for a sizeable proportion of Caribbean adolescents, sexual debut occurs much earlier (Halcón et al., 2000, p. 14; cf. Ohene et al., 2004; Schutt-Aine & Maddaleno, 2003). Ohene, Ireland, and Blum (2005) defined early sexual initiation as beginning sexual intercourse at or before age 13 (p. 93). Among adolescents participating in the CYHS in the English-speaking Caribbean, the majority of both males (82.4%) and females (52.0%) initiated sexual activity before the age of 13 (Ohene et al., 2005, p. 94). More than half of sexually experienced males (54.8%) and nearly one quarter of sexually experienced females (23.5%) indicated they were less than

10 years of age when they had sexual intercourse for the first time (Halcón et al., 2003, p. 1855).

The results of some studies conducted in the various Caribbean nations were in keeping with regional findings among Anglophones with regard to age at first intercourse (Kempadoo & Dunn, 2001; Westhoff, McDermott, & Holcomb, 1996). Other studies specific to individual national populations painted only a slightly brighter picture overall, indicating average age of adolescent sexual debut somewhere between 13 and 14 years of age (Allen et al., 2000; Friedman et al., 1999; Holschneider & Alexander, 2003; Kurtz, Douglas, & Lugo, 2005; Norman & Uche, 2002; Smikle, Dowe, Hylton-Kong, Williams, & Baum, 2000; Stallworth et al., 2004; Wyatt, Durvasula, Guthrie, LeFranc, & Forge, 1999). One notable exception was a self-reported mean age at first intercourse of 15.9 years for Jamaican females ages 15-24 (Friedman et al., 1999, p. 39).

A number of researchers working in areas such as the Caribbean where the prevalence of HIV is high have observed that early sexual initiation is positively associated with other sexual behaviors also known to put persons at significant risk for HIV infection (Inciardi et al., 2005; Mmari & Blum, 2009; Pettifor, O'Brien, MacPhail, Miller, & Rees, 2009; Pettifor, van der Straten, Dunbar, Shiboski, & Padian, 2004; UNAIDS, 2007b). Wellings et al. (2006) observed, for example, that early sexual intercourse has been associated with a reduced likelihood of protection against infection and an increase in lifetime number of sexual partners (pp. 1708-1709). It is also widely recognized that girls who debut sexually at an early age are among the most vulnerable, due to biological, social, and cultural factors often beyond their control (Mmari & Blum, 2009, pp. 358-359; see also Blum & Nelson-Mmari, 2004; Dixon-Mueller, 2009;

National Research Council and Institute of Medicine, 2005). Ohene et al. (2004) thus projected that initiation of sexual activity at an early age specifically predicts for a worsening HIV-infection problem in the Caribbean region (p. 177; see also Inciardi et al., 2005).

### **Multiple Partners**

Mmari and Blum (2009) identified the lifetime number of sexual partners as a powerful individual-level predictor of HIV infection (see also Bearinger et al., 2007; Cleland & Ali, 2006; Stoneburner & Low-Beer, 2004). In their investigation of risk factors impacting the reproductive health of adolescents in developing countries, the results of five out of seven studies reviewed indicated that “as the number of partners increase so too does the risk for both HIV and STIs” (Mmari & Blum, 2009, p. 360).

Overall, among adolescents participating in the CYHS conducted across English-speaking Caribbean countries, nearly half (49.2%) of respondents indicated they had had one or two sexual partners in their lifetimes, and one in five (20.9%) said they had had three to four partners. Nearly one-quarter (23.9%) reported having had six or more partners altogether at the time of the survey (Halcón et al., 2000, p. 14).

In-country studies revealed considerable variability among Caribbean adolescents with regard to total number of sexual partners in their lifetime. Several studies reported disturbing lifetime numbers of sexual partners among sexually experienced adolescents. In St. Maarten, for example, McBride et al. (2005) found that a school-based sample of adolescents ages 14-18 reported having had, on average, 5.5 sexual partners since initiating sexual intercourse (p. S49). Westhoff et al. (1996) indicated that 37.6% of



sexually experienced youth participating in their study of adolescents in rural Hanover, Dominican Republic, have had four or more partners lifetime (p. 110).

It has been hypothesized that overlapping sexual partnerships allow STIs, including HIV, to spread more rapidly (Wellings et al., 2006, p. 1714; see also UNAIDS Reference Group on Estimates, Modelling, and Projections, 2010). A measure of the number of sexual partners in the last three months is not considered adequate to determine concurrency in sexual partnerships (UNAIDS Reference Group on Estimates, Modelling, and Projections, 2010). However, it seems logical to conclude that multiple partners within a brief time frame may indicate higher levels of HIV risk than do multiple partners across a lifetime. McBride et al. (2005) found that the average number of sexual partners in the last three months reported by sexually experienced adolescents on St. Maarten was two (p. S49). In the Dominican Republic, Westhoff et al. (1996) indicated that 16% of adolescents who had ever had sexual intercourse had had multiple partners in the last three months (p. 110).

### **Inconsistent Condom Use**

The National Research Council and Institute of Medicine (2005) marked unprotected sex as “one of the riskiest behaviors that young people can undertake, particularly in settings in which HIV/AIDS is widespread” (p. 5). Subsequently, Mmari and Blum (2009), in their review of risk and protective factors that affect the reproductive health of young people in developing countries, found evidence that “condom use, particularly consistent condom use, is a key protective factor for HIV and STIs” (p. 359; see also Singh, Wulf, Samara, & Cuca, 2000; Wellings et al., 2006). Dehne and Riedner (2005) concluded, however, that condom use among sexually active adolescents—despite

increases in most regions, including the Caribbean—is still insufficient to “contain the spread of STIs significantly” (p. 12; see also Bearinger et al., 2007; National Research Council and Institute of Medicine, 2005).

Among the respondents to the CYHS who indicated a history of sexual intercourse, just slightly over half said they had used a condom the last time they had intercourse (Halcón et al., 2003, p. 1855). In-country studies, on the other hand, revealed more variability in Caribbean adolescent use of condoms than was found regarding any other risky sexual behavior investigated in this study. For example, studies of young adolescents ages 12-15 recruited from 10 metro-San Juan public schools in Puerto Rico (Vélez-Pastrana, González-Rodríguez, & Borges-Hernández, 2005, p. 785) and further analyses of data from the 1997 Jamaica Reproductive Health Survey (Norman & Uche, 2002, p. 128) both reported higher percentages of adolescents who used a condom at last sex than was reported regionally among Anglophone adolescents (Halcón et al., 2003). At the same time, the results of other in-country studies reinforced the concerns raised by region-wide data. Only 10.8% of sexually experienced adolescents in the St. Maarten study (McBride et al., 2005), for example, indicated they always used a condom (p. S49). In Jamaica, national statistics indicated that 39.3% of females and 66.4% males ages 15-19 used condoms at last intercourse (Friedman et al., 1999, pp. 53-54), whereas a study of adolescents who were patients at a clinic treating STIs reported that a mere 4% of respondents were consistent in their use of condoms, and 35% reported they never used them (Smikle et al., 2000, p. 327).

## Urgent Need to Identify Risk and Protective Factors

Whereas UNAIDS and WHO have jointly announced very promising results from the largest clinical trial of an HIV vaccine (UNAIDS, 2009), raising hopes high that a safe and effective preventive vaccine may be on the horizon, they indicated that much work is left to be done before such a vaccine might be available to those who need it most. Clearly, the urgency surrounding the identification of risk and protective factors influencing adolescent choice to engage in health-compromising sexual behaviors is warranted, particularly in regions where HIV/AIDS is prevalent (Blum & Mmari, 2004; Inciardi et al., 2005; Mmari & Blum, 2009; Norman & Uche, 2002).

### **An Ecological Approach**

Over more than a decade, a shift has occurred in the industrialized world in the search for the etiological roots of adolescent risky sexual behaviors (Blum, McNeely, & Nonnemaker, 2002, p. 28; Mmari & Blum, 2009). It has been recognized that adolescents are whole and complex persons whose behavior is shaped by many contexts, both internal and external (Blum & Mmari, 2004, p. 29; see also Bronfenbrenner, 1979, 1986; Dahl, 2004; DiClemente, Salazar, & Crosby, 2007; Dixon-Mueller, 2009; Siebenbruner, Zimmer-Gembeck, & Egeland, 2007; Steinberg, 2004, 2007). Building on the work of Jessor (1992), Blum et al. (2002) identified six domains impacting adolescent health, namely, “individual, family, peers, school, immediate social environment, and macro-level environments” (p. 30).

## **Significance of Family**

Primary investigators for the National Longitudinal Study of Adolescent Health (Add Health), a large study assessing the health and well-being of over 90,000 American adolescents in the mid-90s, reported findings indicating that “of the constellation of forces that influence adolescent health-risk behavior, the most fundamental are the social contexts in which adolescents are embedded” (Resnick et al., 1997, p. 823; see also Blum, Beuhring, Shew, et al., 2000). The Add Health research team viewed adolescents through the lens of an ecological systems model, which saw “the adolescent as developing within the context of family, peers, school, community, and culture” (Blum, Beuhring, & Rinehart, 2000, p. 22). From this perspective, it was generally understood that “the closer the context is to the teenager, the more directly it influences his or her health-related attitudes and behavior” (p. 22). This is consistent with Kirby et al.’s (2005) observation that in studies where both wider community factors and family factors have been included in multivariate analyses, “the family factors . . . appeared to be more important than the community factors” (p. 7).

Thus, while acknowledging “the interplay of environmental factors, familial factors, and individual characteristics” (Resnick et al., 1997, p. 824), Add Health researchers emphasized the salience of the family context and parents in particular. Resnick et al.’s initial report indicated that “with notable consistency across the domains of risk, the role of parents and family in shaping the health of adolescents is evident” (p. 830). In a further report of Add Health findings, Blum, Beuhring, and Rinehart (2000) marked closeness to parents and family, as well as parental involvement and personal/psychological availability in the lives of their adolescent children, as important

protective factors with regard to a wide variety of behaviors that put the health and well-being of adolescents at risk. Ultimately, these researchers concluded that “what happens within the family” (p. 38) is a critical determinant of adolescent health.

Since at least the 1960s, the family has been marked by researchers as a primary ecological context in the socialization of healthy, competent children and adolescents (for a historical overview, see Darling & Steinberg, 1993; see also Baumrind, 1975, 1991a, 1991b, 1991c, 1998, 2005; Berger, 2008; Maccoby & Martin, 1983; Oetting & Donnermeyer, 1998; Whitbeck, 1999). This pivotal role includes the shaping of adolescent sexual attitudes and behaviors and the protection of youth from health-compromising consequences associated with sexual risk-taking (Blum, Beuhring, & Rinehart, 2000; Resnick et al., 1997).

Many studies have shown that family—and particularly parenting—factors were important predictors of a wide spectrum of adolescent at-risk behaviors (for example, see Barnes & Farrell, 1992; Barnes, Hoffman, Welte, Farrell, & Dintcheff, 2006; Barnes, Reifman, Farrell, & Dintcheff, 2000; Baumrind, 1991b; Blum et al., 2002; Blum et al., 2003; Blum & Rinehart, 1997; Resnick et al., 1997). A variety of family/parental characteristics and relational processes have also been demonstrated to be specifically associated with risky *sexual* behaviors among youth (for reviews see Bersamin et al., 2008; Buhi & Goodson, 2007; DiClemente et al., 2007; Dittus, Miller, Kotchik, & Forehand, 2004; Kirby et al., 2005; Meschke, Bartholomae, et al., 2000; B. C. Miller, 1998, 2002; Mmari & Blum, 2009). As K. S. Miller, Forehand, and Kotchick (1999) concluded:

Findings suggest that the family plays an important role in adolescent sexual behavior and risk due to sexual behavior. . . . We propose that parents are the most

powerful socializing agents in the lives of young teens. Parents are in a unique and powerful position to shape young people's attitudes and behaviors and to socialize them to become sexually healthy adults. (p. 96)

Having completed a review of "risk and protective factors affecting adolescent reproductive health in developing countries" (p. 355), Mmari and Blum (2009) marked the family "as the central environment within which young people develop" (p. 355) and reminded their readers that as such, "the family can be a source of either risk or protection" (p. 355). Specific to the Caribbean context, Schutt-Aine and Maddaleno (2003) concluded that "family, including extended family, is probably the most important factor contributing to adolescent health and development" (p. 36; see also Blum et al., 2003; Kotchick et al., 1999; Roopnarine, Evans, & Pant, 2011; D. Smith et al., 2003). Professionals with expertise in the arena of HIV prevention have thus identified the family as "a logical and appropriate level for HIV prevention interventions for adolescents" (Kelly, 1995, p. 351; see also Baptiste, Voisin, Smithgall, Da Costa Martinez, & Henderson, 2007; DiClemente et al., 2007; Kirby et al., 2005; Lescano, Brown, Raffaelli, & Lima, 2009; Pequegnat & Szapocznik, 2000).

In 2005, Kirby et al. conducted a comprehensive review of studies that met rigorous research criteria, were published in the United States between 1990 and 2004, and investigated risk and protective factors impacting sexual risk-taking among America's adolescents. This review yielded more than 400 different factors related to adolescent risky sexual behaviors. (For additional, less comprehensive reviews, see also Bersamin et al., 2008; Buhi & Goodson, 2007; DiClemente et al., 2007; Dittus et al., 2004; B. C. Miller, 1998, 2002.)

From the factors identified, Kirby et al. (2005) created a summary of factors “that have the strongest and most consistent evidence of significantly affecting teen sexual behavior” (p. 6). Multivariate analyses led these researchers to conclude that among the environmental factors under review, “family . . . factors appeared to be more important than the community factors” (p. 7). The fact that these factors are dynamic rather than static, that is, they can be changed in an effort to reduce risk/enhance protection, makes the investigation of these factors more likely to be important to the development of effective prevention/intervention programs. In brief, Kirby et al. reported:

1. Adolescents who live in a two-parent family, particularly with both biological parents, are less likely to initiate sexual intercourse, have multiple partners, and be inconsistent in the use of condoms (Kirby et al., 2005, p. 8).

2. Youth who feel connected to their parents and experience their support are less likely to engage in sexual intercourse at an early age (Kirby et al., 2005, p. 8).

3. Appropriate parental monitoring and supervision are associated with fewer sexual partners among sexually active teens (Kirby et al., 2005, p. 8).

4. If parents convey disapproval of adolescent sexual activity, their teens are less likely to be sexually experienced. On the other hand, if parents affirm the use of contraception by adolescents who choose to be sexually active, the likelihood is greater their teens will use contraception when engaging in sexual intercourse (Kirby et al., 2005, p. 8).

5. Parental communication of their personal values and beliefs about sexuality may also, under some circumstances, result in reduced participation in risky sexual behaviors (Kirby et al., 2005, p. 8).

This salience of parents and family in the sexual socialization of youth, as affirmed by many researchers, undergirds the major exploratory focus of the present study.

### **Significance of Adolescent Religiosity**

Religious institutions are authoritative sources for belief systems and norms that generally encourage prosocial behaviors and discourage deviant behavior. They affirm parental authority and provide important support in their parenting efforts to form close attachments and convey life-affirming values (Butler, 2006; Freier & Morgan, 2006; Rostosky, Wilcox, Comer Wright, & Randall, 2004). Perhaps most important during the adolescent years, involvement in religious organizations facilitates peer-cluster associations with youth less apt to be involved in deviance, even as they provide “mutual reinforcement of prosocial attitudes, beliefs, and behaviors” (Oetting, Donnermeyer, & Deffenbacher, 1998, p. 1645).

By and large, adolescent religiosity is considered to positively influence the socialization of adolescents in general (for a review, see Regnerus, 2003), and their sexual behaviors in particular (Bearman & Brückner, 2001; Francis, 2007; Haglund & Fehring, 2010; Regnerus, Smith, & Fritsch, 2003; Resnick et al., 1997; Rostosky, Regnerus, & Comer Wright, 2003; Rostosky et al., 2004; Sinha, Cnaan, & Gelles, 2007; Weinbender & Rossignol, 1996; Whitehead, Wilcox, & Rostosky, 2001). Regnerus (2003) states his belief unequivocally that “unlike the generally modest relationship between religion and other risk behaviors, the influence of religion on sexual behavior is considered to be quite strong. Most competent research reinforces this conclusion” (p. 33). It is not surprising, then, that “connection to faith communities” (Kirby et al., 2005,



p. 11) was included in Kirby et al.'s list of most important individual-level factors related to adolescent sexual risk-taking. In sum, Kirby et al. reported that

teens who describe themselves as more religious, who attend religious services more frequently, and who have a stronger religious affiliation are less likely to initiate sex. . . . These associations are particularly strong if the teens are involved with faith communities with conservative values about sexual behavior. (p. 11)

It is also particularly relevant that more recent research suggests that “close parent-child relationships and higher levels of parental monitoring may amplify the protective effect of religious involvement on adolescent sexual behavior” (Burdette, 2007, p. vii).

These findings are important to the present investigation of adolescent sexual risk-taking within the context of parochial secondary schools operated by the SDA Church in the Caribbean region. However, considerable impetus is given to this study by recent reviewers' lament that “while field growth is evident, there is still no cohesive ‘scholarship’ in religion and reproductive health” (Gaydos, Smith, Hogue, & Blevins, 2010, p. 473).

### **Statement of the Problem**

SDA Church leaders and educators who collaborated with the research team conducting this study shared the urgency of the wider circle of professionals and community leaders concerned about the risky sexual behaviors of Caribbean adolescents and the life-altering consequences associated with them. They took seriously their place in the network of persons responsible for the care and nurture of the youth within their sphere. These religious leaders and educators upheld the core biblical teachings and values identified by the SDA Church regarding human sexuality (see Flowers & Flowers,

2004) and perceived it to be their duty to support parents in conveying these values to their children (see Flowers & Flowers, 1997, 2004).

Presently, however, Caribbean SDA Church leaders and educators are considerably handicapped in carrying out their responsibilities. As we have seen, studies of Caribbean young people in general reveal a youth population at significant risk for HIV infection, largely as a result of the high overall incidence of STIs in the region and of risky sexual behaviors among adolescents. As HIV infection knows no ethnic, cultural, religious, or socioeconomic boundaries, the concern of SDA Church leaders responsible for youth development and family life education in this region was heightened by their realization that the research base necessary for the development of effective ministry and educational strategies to better strengthen protective factors and reduce risk was inadequate.

Kirby et al.'s (2005) summary of "potentially important risk and protective factors" (p. 27) found to be associated with adolescent sexual risk-taking in the United States provides a basis for further research in other world regions. However, many researchers concur that factors researched elsewhere may vary in their influence "depending on the social milieu in which the family is embedded" (Darling & Steinberg, 1993, p. 487; cf. Baumrind, 1972, 1983, 1989; Blum et al., 2002, Freier & Morgan, 2006; Mmari & Blum, 2009; Oetting & Donnermeyer, 1998; Pequegnat et al., 2001; Seidman, Mosher, & Aral, 1994). As summarized earlier, the particular problem that this study proposes to address arises from the fact that in the Caribbean region in general, "it is still unclear as to whether similar types of factors operate in the same manner for increasing or diminishing adolescents' risks to such outcomes" (Mmari & Blum, 2009, p. 351; see

also Hutchinson et al., 2007). The same is true for the specific religious subcultural context under investigation in this study.

One reason this lack of clarity exists is that the preponderance of research in developing countries, including the Caribbean nations, has “focused on individual factors as key explanatory variables for a host of sexual health risk outcomes” (Mmari & Blum, 2009, p. 360). Consequently,

even though international evidence suggests that the contexts in which adolescents live influence their sexual risk taking behaviours . . . , relatively few studies have explored environmental factors. If our understanding of adolescent sexual reproductive health risk and protective factors are to expand, there is need for social psychologists, developmentalists, and social epidemiologists to join demographers in teasing out the environmental and contextual factors that influence behavior. (p. 362)

Although studies were found that offer support for the assertion of Blum et al. (2003) that “many of the factors associated with lower rates of participation in risk behaviors in the United States are the same in the Caribbean” (p. 460), relatively few studies were found that investigated the relationships of family-context factors and adolescent religion to adolescent sexual at-risk behaviors in the Caribbean (see, for example, Blum et al., 2003; Blum & Ireland, 2004; Halcón et al., 2000; Kotchik et al., 1999; Lerand, Ireland, & Blum, 2004; McBride et al., 2005; Stallworth et al., 2004; Vélez-Pastrana et al., 2005; Wyatt et al., 1999; for a recent review, see also Maharaj et al., 2009). Furthermore, very few were found that explored such relationships in the religious subcultural context of families whose adolescents were enrolled in SDA Church-operated parochial schools (see Dudley, 1992; Lee & Rice, 1995; Strahan, 1994; Weinbender & Rossignol, 1996). None were found that investigated these variables in this particular context in the Caribbean region. (Reviews of these culture- and subculture-specific studies are included in the review of literature in Chapter 2.)

### **Purpose of the Study**

The study population consists of adolescents, ages 16-18 years, attending SDA Church-operated secondary schools in the Caribbean region. The purpose of this study was to examine relationships among selected family-context variables (related to adolescent perceptions of parental connectedness, parental behavioral control, and parental attitudes regarding adolescent sexual behavior), along with one individual-level factor (adolescent religiosity), and six adolescent sexual behaviors associated with the risk of HIV infection (sexual experience, age of sexual initiation, number of sexual partners lifetime/last three months, frequency of condom use, and use of condoms at last sex). Selected social and family demographics, individual adolescent characteristics, as well as friends' attitudes regarding adolescent sex were used as statistical controls.

### **Significance of the Study**

The current study will contribute to the knowledge base regarding relationships that may exist in the Caribbean region among selected family-context factors, as well as adolescent religiosity, and six sexual risk-taking behaviors known to be associated with increased risk for infection with HIV. The factors under investigation for their potential relationships with adolescent sexual risk behaviors in the Caribbean have been identified as significantly related to adolescent sexual risk-taking in studies conducted primarily in the United States. This study will contribute to an understanding of the generalizability of these findings in an international context. Specifically, this study will test whether the identified family-context factors, as well as adolescent religiosity, relate similarly to risky sexual behaviors among adolescents attending SDA Church-operated schools across the Caribbean. In the process, this study will establish an empirical baseline for

understanding the nature and extent of participation in risky sexual behaviors among adolescents in the particular religious subcultural setting under investigation. This research will also provide a significant addition to the available research base undergirding the development of an effective ministry and educational responses to the problems associated with adolescent sexual risk-taking, particularly in regions where HIV infection is prevalent.

### **Theoretical Framework**

Primary Socialization Theory (PST) formed the basic theoretical framework for this research. This study does not purport to test PST per se. Rather, as intended by its original proponents, PST provided a useful “organizing framework for understanding the potential nature of risk and protective factors [related to deviant adolescent behaviors including sexual risk-taking], and for placing them in a hierarchy of importance and potency” (Oetting, 1999, pp. 970-971).

Building on social learning theory (Bandura, 1977), PST’s foundational theorem asserts that both normative and deviant social behaviors are learned, largely through interaction with primary socialization agents (Oetting & Donnermeyer, 1998, p. 998). Socialization begins in infancy and extends beyond adolescence (Oetting & Donnermeyer, 1998, p. 998; see also Whitbeck, 1999). PST contends that in most societies, “the family, the school, and peer clusters” (Oetting, Donnermeyer, Trimble, & Beauvais, 1998, p. 2084) are the primary socialization agents charged with responsibility for the transmission of culturally accepted attitudes, beliefs, and behaviors to the next generation.

At its best, socialization involves the communication of prosocial norms and the reinforcement of these life-affirming attitudes, beliefs, and behaviors in children and youth through the use of age-appropriate rewards and sanctions (Oetting & Donnermeyer, 1998, p. 998). Family and school are usually sources of both prosocial norms and tough sanctions against behaviors considered deviant by the culture (Oetting & Donnermeyer, 1998, pp. 1002, 1008). On the other hand, peer clusters are less reliable as sources of positive attitudes and behaviors and may well be sources of deviance (Oetting, Donnermeyer, Trimble, et al., 1998, p. 2079). Primary socialization theorists see peer clusters as rising to their “highest level of influence” (Oetting, 1999, p. 954) in adolescence; hence this transitional developmental stage is viewed as “a particularly crucial time, a time when the potential for learning deviant norms is at its highest level” (Oetting & Donnermeyer, 1998, p. 998).

Beyond family, school, and peer clusters, all other sources of attitudes, beliefs, and behaviors are considered to be secondary agents in the socialization process (Oetting & Donnermeyer, 1998, p. 1000). Secondary socialization sources—such as the media or neighborhood, for example—exert their influence indirectly.

While the primary socialization sources (family, school, and peer clusters) directly bond with the youth, directly communicate norms, and directly monitor, reinforce, and sanction verbal and behavioral expression of norms, secondary socialization sources only affect the individual because they either influence the primary socialization sources or the process of primary socialization. (Oetting & Donnermeyer, 1998, pp. 1000-1001)

Several important tenets of PST support the purpose of this study:

1. In virtually all cultures, the family is regarded as a major primary agent in the socialization of children and youth (Oetting & Donnermeyer, 1998, p. 1003).

2. The family's power to socialize children and youth who are likely to adopt prosocial norms and remain relatively unaffected by deviance is dependent on the formation of strong parent-child relational bonds *and* the use of those bonds to convey prosocial attitudes and behaviors (Oetting & Donnermeyer, 1998, p. 1002).

3. Religion exerts a significant influence in the socialization process (Oetting, 1999). Because religious institutions "generally reinforce prosocial behaviors and specifically sanction most forms of deviance" (Oetting, Donnermeyer, & Deffenbacher, 1998, p. 1646), it is expected that youth with strong ties to religious families will be less likely to be influenced by peer-clusters engaged in deviant behaviors (Oetting, Donnermeyer, & Deffenbacher, 1998, p. 1647; see also Oetting & Beauvais, 1987). Further, the more internalized religion is in the life of an individual, the more direct the effect of religion is likely to be on behavior (Oetting, 1999).

4. Individual-level personality traits and characteristics are indirectly related to adolescent deviant behavior "primarily because they influence the primary socialization process" (Oetting, Deffenbacher, & Donnermeyer, 1998, p. 1356), rather than because they exert a direct effect upon behavior itself.

### Family: The Primary Socialization Agent

#### **The Primacy of Family**

The PST model identifies family as among three primary socialization agents (alongside the school and peer clusters) that have been charged in most societies with conveying societal norms to the next generation (Oetting & Donnermeyer, 1998, p. 1002). Affirming the foundational position of family in society, primary socialization theorists state unequivocally that "in essentially all cultures, the family is a major primary

socialization source” (Oetting & Donnermeyer, 1998, p. 1003). Whitbeck (1999), however, questioned the PST model’s apparent equalization of the influential strength of family, school, and peer clusters in the socialization of children and youth. He suggested that the model “should be modified to emphasize that the family has the greatest influence” (Oetting, 1999, p. 955) in the socialization process. In response to this challenge, Oetting (1999) affirmed the general agreement of PST with Whitbeck’s position, clarifying the primary socialization theorists’ understanding that “developmentally, the family comes first [as virtually the single socialization agent in the life of a young child] and remains an important factor . . . until young adults establish independence or form nuclear families of their own” (Oetting, 1999, p. 955). Further, PST specifically marks the importance of the parent-child relationship in the socialization process (Oetting & Donnermeyer, 1998, pp. 1002-1003). Clearly PST validates the central focus of this study on relationships among selected parental factors and risky adolescent sexual behaviors.

### **The Importance of Family Relational Bonds**

PST also supports the specific selection of parental factors such as parental connectedness, parental behavioral control (rules and monitoring), and parental attitudes regarding adolescent sexual activity, as worthy of further investigation in relation to adolescent sexual risk-taking. According to PST, the family’s power to socialize children and youth, who are likely to adopt prosocial norms and be relatively unaffected by deviance, depends on the formation of strong parent-child relational bonds *and* the use of



these bonds to convey prosocial attitudes and behaviors (Oetting & Donnermeyer, 1998, p. 1002).

While peer clusters become major players in the socialization process during adolescence (Oetting, 1999, p. 954), primary socialization theorists emphasize that “the family and school are still important socialization sources, particularly for youth who have formed strong family and school bonds and are likely to be generally prosocial in their orientation” (Oetting, 1999, pp. 954-955). These bonds are “channels” through which life-affirming attitudes, beliefs, and behaviors may be transmitted (Oetting & Donnermeyer, 1998, p. 999) and protection against adolescent involvement in deviant behavior may be enhanced (Oetting, Donnermeyer, Trimble, et al., 1998). Oetting and Donnermeyer (1998) further explain that parents may use their strong connections with their children to transmit such norms by directly communicating acceptable attitudes and behaviors through, among other parental actions, the monitoring and supervision of adolescents and parental expression of strong negative attitudes toward deviant behavior (p. 1004; see also Oetting & Beauvais, 1987).

Strong connectedness to family and school throughout adolescence is expected by the theorists to promote healthy development throughout this transitional life stage. On the other hand, it is anticipated that weak bonds between adolescents and these primary socialization agents may set in motion “a cascade of further weakened bonds until the young person will ultimately only identify with peers” (Oetting, Donnermeyer, Trimble, et al., 1998, p. 2083). Such a failure of the primary socialization process results in increased risk for deviance as peer clusters are considered “a socialization source with a

higher probability of transmitting deviant norms” (Oetting & Donnermeyer, 1998, p. 999).

### The Role of Religion in Socialization

Oetting (1999) states that from his professional perspective “most of the people working in prevention and treatment believe in the benefits deriving from spiritual influence” (p. 960). However, the original proponents of PST recognize that “the treatment of religion in theoretical models has been somewhat confusing” (Oetting, Donnermeyer, & Deffenbacher, 1998, p. 1645).

While the conceptual framework of this study cannot confirm or reject PST’s conclusion that religion is a secondary socialization source as opposed to a primary one in religious subcultures, several aspects of the theory did contribute significantly to the development of the present research design regarding adolescent religiosity:

1. Religion is viewed as important to an understanding of the primary socialization process in general and the risk and protective factors associated with adolescent risk-taking in particular (Oetting, 1999).

2. By and large, religious institutions are considered to positively influence the primary socialization process in the religious subculture. They do so in several important ways. They are authoritative sources for belief systems and norms that “generally reinforce prosocial behavior and specifically sanction most forms of deviance” (Oetting, Donnermeyer, & Deffenbacher, 1998, p. 1646). They also affirm the role of parents and other primary socialization sources (Oetting, 1999) and can be an important source of support in these primary agents’ efforts to convey religious norms and proscriptions against deviant behavior to the young (Oetting, 1999; Oetting, Donnermeyer, &

Deffenbacher, 1998; Oetting, Donnermeyer, Trimble, et al., 1998). In addition, identification with religious organizations provides opportunity for the mutual reinforcement of prosocial attitudes, beliefs, and behaviors as well as the formation of ties with peer clusters less prone to deviant behavior (Oetting, Donnermeyer, & Deffenbacher, 1998, p. 1645).

3. PST differentiates among membership in a religious institution, “religious identification,” and “spirituality” (Oetting, 1999, p. 961). This specificity serves as a way of extending assessment of an individual’s religious commitment beyond qualitative self-reports of membership in a religious body to quantitative measures of religious involvement and experience. In my view, such differentiation is an indicator of the importance the theorists place on understanding the religion factor as it relates to deviant adolescent behaviors.

At the very least, in the minds of the primary socialization theorists, measures of religious identification and spirituality reveal progressively more about a person’s level of commitment to an organization, its teachings, and way of life than does a report of membership alone (Oetting, Donnermeyer, & Deffenbacher, 1998, p. 1646). It is of special import to this study that they also recognize a level of spiritual experience that may well have a direct effect on behavior. In their view, however, this “spirituality”—distinguished as it is by a high level of commitment to spiritual principles as well as their integration into a person’s daily life—is characteristic only of the most mature adults (Oetting, 1999, p. 965). For purposes of this study, I believe that the apparent existence of a level of religious experience that may exert a direct effect on behavior warrants an investigation into the relationship between adolescent religiosity and adolescent sexual

risk-taking. Thus, I view the inclusion of religion in the present study as a factor likely to be related to adolescent sexual risk-taking as compatible with PST. I see PST as also compatible with an investigation of varying levels of adolescent religious commitment for their potential direct effects on adolescent sexual risk-taking.

While the etiology of at-risk behavior in adolescence is far too complex to be understood in the context of a single theory (Berger, 2008; Blum et al., 2002; Dahl, 2004; Gerard & Buehler, 2004; Jessor, 1992; Kirby et al., 2005; Siebenbruner et al., 2007), PST has also been employed by other researchers and practitioners interested in preventing/reducing adolescent at-risk behaviors (Donohew, Clayton, Skinner, & Colon, 1999; Leukefeld & Leukefeld, 1999; Whitbeck, 1999).

### **Definitions of Terms**

A few terms need definition so they may be understood as they are used in the present study:

*Adolescence.* In Chapters 1 and 2 of this dissertation, this term is used to refer to young people within a broad age range of 10-24 years, depending on the sampling design used in various studies and reports under review. In reporting the methodology and results of the present study, adolescence refers specifically to a subset of this developmental age group who are between 16-18 years of age. The term adolescence is used interchangeably with “youth,” “the young,” “teenager,” and “young people.”

*Adolescents with SDA Church connections.* These adolescents are defined as associated with the SDA Church either by church affiliation or enrollment in an SDA Church-operated parochial school.

*Anglophone Caribbean.* Island nations affiliated with the Caribbean Epidemiology Center (CAREC) where English is the main language.

*Early sexual initiation.* Engaging in sexual intercourse before the age of 13 (Ohene et al., 2005, p. 93).

*Latin Caribbean.* Island territories/nations in the Caribbean Basin where Spanish is the main language.

*Parental approval of adolescent condom use.* Synonymous with adolescent perception of parental acceptance/support for condom use by sexually active adolescents (Kirby et al., 2005, p. 27).

*Protective factor.* Individual or contextual factors that may discourage behavior(s) that increase the likelihood an adolescent will experience negative health outcomes such as HIV infection or encourage behavior(s) that might prevent such consequences (Blum & Mmari, 2004, p. 1).

*Risk factor.* Individual or contextual factors that may encourage behavior(s) that increase the likelihood an adolescent will experience negative health outcomes such as HIV infection or discourage behavior(s) that might prevent such consequences (Blum & Mmari, 2004, p. 1).

*Sexual intercourse.* Sexual activity including oral, anal, and/or genital sex.

*Sexual risk-taking.* Used interchangeably with terms such as “at-risk sexual behaviors,” “risky sexual behaviors,” and “sexual risk behaviors” to refer to specific adolescent sexual behaviors associated with increased risk for STIs, including HIV infection—namely sexual experience, early sexual initiation, multiple partners, and the inconsistent use of condoms.

*Sexually experienced.* Adolescents who self-reported having had sexual intercourse are referred to as sexually experienced.

### **Delimitations**

The present study is based on unpublished data from the Seventh-day Adventist Caribbean Youth Survey (SDACYS) (for a description, see Chapter 3). Although this dataset is rich in its potential to contribute to the body of knowledge regarding a number of risk and protective factors that may be associated with a spectrum of risk behaviors among Caribbean adolescents, there are several delimitations to the present study:

1. This study does not incorporate available SDACYS data regarding the misuse of tobacco, alcohol, and other illegal drugs among Caribbean adolescents, despite the statistically significant relationships found among a spectrum of risky adolescent behaviors by other researchers of youth at-risk behavior in this region (Ohene et al., 2005). Time and financial limitations delimited this study to an exploration of the relationships among selected parental factors and adolescent religiosity and a single cluster of adolescent risky behaviors, namely, sexual at-risk behaviors associated with increased risk of HIV infection.

2. It is clear that in order to understand adolescent behavior, the multiple contexts that shaped it—both internal and external—must be considered (Blum & Mmari, 2004, p. 29). Further, strategies toward changing adolescent at-risk behavior “must be built on a framework that recognizes the links between . . . behavior and the broader contexts of family, community, society, and culture” (Halcón et al., 2003, p. 1856). However, time and financial considerations delimited the present study to an investigation of selected factors related to a single context, namely, the family.

3. Though the results of many studies regarding parent-adolescent communication on sexual topics are mixed in their findings (DiIorio, Pluhar, & Belcher, 2003), Kirby et al. (2005) did include “greater parent/child communication about sex and condoms or contraception especially before youth initiates sex” (p. 27) among the potentially important protective factors with regard to adolescent sexual risk behaviors. The present study, however, excludes parent-adolescent communication about sexual topics from the parental factors investigated for their potential power in predicting adolescent sexual risk-taking. This factor was eliminated from the conceptual framework for this study because the data available were not sufficiently specific as to the timing, content, or nature of the communication for further analysis of these data to contribute meaningfully to the current knowledge base (see Kotchick et al., 1999).

### **Limitations**

A number of limitations of the present study arise from the constraints of the SDACYS data set itself. These limitations must be considered when making generalizations to adolescents across the Caribbean region.

1. This study represents an initial analysis of the data collected in the SDACYS. As with all analyses of archival datasets, there was no opportunity for me as a researcher to alter either the questionnaire or the data collection process. It should be noted, however, that I participated in the early conceptual stages of the study and offered input on questionnaire development from my professional experience as an international family life educator in the SDA Church. This consultation was done, however, prior to my decision to make this study the focus of my dissertation and subsequent intensive investigation into measurement in this area of research.

2. The study is limited by the cross-sectional nature of the SDACYS dataset which “precludes direct causal inference” (Ohene et al., 2004, p. 182). While “causality is not important when using risk and protective factors to simply identify teens at greater risk of . . . STD” (Kirby et al., 2005, p. 2), it is important to the ultimate goal of creating effective strategies toward the prevention, or at least reduction, of adolescent sexual risk-taking. For determining causation, it will be necessary to rely on longitudinal research (Reyna & Farley, 2006, p. 34; see also Blum & Mmari, 2004). However, I would concur with those researchers who have concluded that while we wait for longitudinal data, the consequences of inaction are so great as to warrant action in the direction that available research and common sense leads (Blum & Mmari, 2004; Kirby et al., 2005; Mmari & Blum, 2009; cf. Reyna & Farley, 2006). It is on this basis that “effect” language is used on occasion in reference to predictor variables as they relate to adolescent sexual risk-taking.

3. The SDACYS sample was a school-based sample. The exclusion from the sample of adolescents not attending school is problematic because a number of researchers have reported that these youth are more likely to have a history of premarital sexual intercourse than are their school-attending peers (Dehne & Riedner, 2005; Mmari & Blum, 2009; Nugent, 2006). Consequently, as other researchers have observed, results are likely to portray the “most optimistic” view of adolescent sexual risk-taking in the population under study here (Halcón et al., 2003, p. 1856).

4. The SDACYS relied on adolescent self-reports, hence results could not be corroborated or contrasted with responses from other informants, such as parents. Despite efforts to assure participants of confidentiality, some may not have answered truthfully



because they did not trust those assurances. The disparity between male and female self-reports of sexual activity that has been noted by a number of researchers, suggesting over-reporting by male adolescents and under-reporting by their female peers (see, for example, Dehne & Riedner, 2005; Eggleston, Jackson, & Hardee, 1999; Holschneider & Alexander, 2003; Westhoff et al., 1996), must also be taken into account when interpreting results.

5. The SDACYS collected only data provided through written responses to a questionnaire. There were no interviews to probe a respondent's thoughts or to follow up interesting respondent comments that may have provided additional insights.

6. Though the SDACYS sample was representative of adolescents enrolled in SDA Church-operated secondary schools across the Caribbean region, students from Haiti had to be excluded from the sample after two attempts to collect data were preempted by political upheaval. Thus generalization of the findings to adolescents from the Francophone nations of the Caribbean is restricted.

7. The SDACYS was an exploratory survey designed to collect data on a wide range of adolescent demographics, behaviors, attitudes, and beliefs. Such survey data are insufficient to test "complex etiological theories examining the initiation and continuation of risk behaviors" (McBride et al., 2005, p. S52).

8. The absence of data regarding family religiosity precludes a contextual approach to the entire study. While adolescent religiosity may be a reflection of family faith, this cannot be safely assumed. Therefore, analyses of the relationships between adolescent religiosity and sexual risk-taking among study respondents are based on self-reports of three levels of personal religiosity. While such investigation is deemed useful

in and of itself, no conclusions can be drawn regarding the impact of family religiosity on adolescent sexual at-risk behaviors.

9. Permission was not granted for analysis of SDACYS data by country.

Consequently, country-specific findings are not available.

10. Due to a computer error in the production of the final questionnaire,

“Hispanic” was inadvertently deleted from the choices of ethnic groups provided.

Consequently, I was unable to control for ethnicity as intended. It is worth noting,

however, that the limitation created by this error will not critically affect the findings of

this study, given the conclusion of Add Health researchers that “these demographic

factors [including ethnicity] do not predict youth health risk behaviors well” (Blum,

Beuhring, Shew, et al., 2000, p. 1883).

### **Summary**

There can be no doubt adolescents in the Caribbean Basin are at significant risk for HIV infection and other long- and short-term health problems associated with sexual risk-taking. However, the full extent of the risk for the study population is as yet not known. This study will establish important baselines, and it will extend present research beyond descriptive statistics.

As will be evident in Chapter 2, many research studies have attempted to identify the antecedents of adolescent sexual risk-taking. Various measures of the parent-adolescent relationship, parental behavioral control, and parental attitudes toward adolescent sexual behavior—along with certain measures of adolescent religiosity—have been significantly associated with at-risk sexual behavior among adolescents. However, there have been only a few studies conducted in the Caribbean region or among

adolescents associated with the SDA Church religious subculture. The present study addresses this problem. Within the framework of PST, this research will thus contribute to an understanding of the relationship of selected parental factors and adolescent religiosity to adolescent sexual risk-taking within the broad cultural context of adolescents in the Caribbean Basin, and more specifically, within the unique subcultural context of youth enrolled in parochial secondary schools operated there by the SDA Church.

## CHAPTER 2

### LITERATURE REVIEW

The following review of literature was undertaken to achieve a twofold purpose: (a) to determine that the present study is sufficiently unique to contribute to the body of knowledge on the relationships under investigation, and (b) to guide the refinement of a research-based conceptual framework for the present analyses of existing unpublished data from the Seventh-day Adventist Caribbean Youth Survey (SDACYS).

The sheer volume of studies accumulated over the last two decades that explore individual-level and contextual factors as they relate to adolescent sexual risk-taking is daunting. In 2005, however, Kirby et al. (2005) completed a comprehensive search of the literature for any and all factors found by investigators in the United States to be related to adolescent sexual risk behaviors. To be included in the Kirby et al. review, studies had to meet rigorous research criteria described in detail in the next section. While this review was prepared under the auspices of the National Campaign to Prevent Teen Pregnancy, the scope of the review included a broad spectrum of adolescent sexual at-risk behaviors with potential for life-altering consequences, including those specific to increased risk of HIV infection.

Following a brief description of Kirby et al.'s (2005) review process, the first major section of the literature review presented here summarizes the findings of all studies included in the Kirby et al. review that are relevant to my investigation of the

relationships among selected family-context/adolescent religiosity predictor variables and adolescent sexual risk-taking. This overview of research conducted in the United States is organized in four subsections which summarize studies relevant to the specific predictor variables under study here as they relate to adolescent sexual risk-taking. The first three subsections review studies related to the effects of specific family-context predictor variables—organized within three parental domain areas: the parent-adolescent relationship, parental behavioral control, and parental attitudes regarding adolescent sexual behavior. The last subsection summarizes studies included in the Kirby et al. review related to the effects of the three dimensions of adolescent religiosity also included in the conceptual framework for this study, namely, religious affiliation, attendance at religious services, and the importance personally ascribed to religion by adolescents. Within each of these subsections, studies are further organized by the groupings of adolescent sexual behavioral outcomes of relevance here: sexual experience/timing of sexual debut, number of sexual partners, and consistency of condom use.

The other two major sections of this literature review summarize studies conducted specifically in the Caribbean region and/or within the SDA Church religious context. These sections parallel the review of American studies in the preceding major section and are similarly organized. Where no studies with similar research designs to those conducted in the U.S. were found within the Caribbean and/or SDA Church contexts, those parts of the organizational matrix adapted from the work of Kirby et al. (2005) were simply omitted in these sections without further comment.

## **Building a Research Platform**

This section briefly describes the comprehensive work of Kirby et al. (2005) and how their work has contributed to the accomplishment of the two primary purposes of this literature review. First, their exhaustive work provides a framework for selecting the best empirical studies for review. Their review also assists in the building of a research platform upon which to base refinements in (a) the selection of predictor variables and (b) the conceptual framework which guides the analysis process. The work of Kirby et al. was selected as the research platform upon which to build primarily because of the rigorous criteria established for inclusion in their review. Studies were required, at a minimum, to:

1. “Examine the impact of factors on . . . initiation of sex, frequency of sex, number of partners, condom or other contraceptive use, pregnancy, childbearing, or sexually transmitted disease” (Kirby et al., 2005, p. 4)
2. “Be based on a sample of teenagers, roughly 18 years of age or younger” (Kirby et al., 2005, p. 4)
3. “Have a sample size of at least 100 for significant results and a sample of at least 200 for non-significant results” (Kirby et al., 2005, p. 4)
4. “Meet scientific criteria required for publication in professional peer reviewed research journals or other publications” (Kirby et al., 2005, p. 4)
5. “Be published between 1990 and 2004 inclusive” (Kirby et al., 2005, p. 4)
6. “Include multivariate analyses” (Kirby et al., 2005, p. 4).

Kirby et al.’s (2005) initial review identified more than 400 studies that met these criteria. These, in turn, yielded

more than 400 different factors that affect one or more of the five important risky sexual behaviors identified as putting adolescents at increased risk for HIV infection (initiation of sex, frequency of sex, use of condoms, use of other contraception, and number of partners), and/or . . . pregnancy, childbearing or STDs. (Kirby et al., 2005, p. 5)

Two broad categories of factors—previously identified as “risk factors” and “protective factors” (Compas, Hinden, & Gerhardt, 1995)—emerged from Kirby et al.’s (2005) comprehensive review (p. 2). Researchers have observed that risk and protective factors often represent mirror-like reflections of one another, in the sense that a given factor may be associated with risk for negative reproductive health consequences, while its opposite may be associated with protection from the same. As one might expect, a comparison between the risk and protective factors in an adolescent’s life can provide a general indicator for the likelihood of adolescent participation in sexual risk-taking (Blum et al., 2002; Kirby, 2001, 2007; Kirby et al., 2005; Resnick et al., 1997; Small & Luster, 1994). Altogether, the slate of risk and protective factors identified in Kirby et al.’s (2005) review formed a fairly comprehensive set of the variables related to adolescent risky sexual behaviors (p. 6; see also Kirby, 2007).

To reduce this vast list of 400 factors for practical purposes, Kirby et al. (2005) took their investigation one step further. In an effort to isolate factors “that have the strongest and most consistent evidence of significantly affecting teen sexual behavior” (p. 6), they applied the following additional research criteria:

1. “The overall pattern of results across studies indicating that a particular factor is a significant risk or protective factor for any particular behavior could not have occurred by chance” (Kirby et al., 2005, p. 6).

2. “Of the studies measuring impact of a factor on any behavior, at least two-thirds of the studies had to consistently show that a particular factor was a risk factor (or a protective factor) as opposed to being not significant or having significant results in the opposite direction” (Kirby et al., 2005, p. 6).

3. “There had to be at least 3 multivariate studies consistently supporting the conclusion that a particular factor was a risk (or protective) factor for the same behavior. At least one of these studies had to have a large sample size” (Kirby et al., 2005, p. 6).

4. “There had to be a reasonable chance that the factor had a causal impact on behavior that was not questioned by the results of multiple studies” (Kirby et al., 2005, p. 6).

A diverse array of both individual-level predictors (personal characteristics) and contextual predictors emerged from this additional effort by Kirby et al. (2005). Contextual predictors included characteristics of significant persons in their lives, characteristics that described their connections with these persons, and the general stability of the various contexts in which the adolescents live.

The cluster of *family-context* predictors examined in this study—related to adolescent perceptions of (a) parental connectedness, (b) parental behavioral control, and (c) parental attitudes regarding adolescent sexual behavior—was selected from Kirby et al.’s (2005) reduced list. In addition, two of the three measures of *adolescent religiosity* used here were also selected from their reduced list—(a) religious affiliation and (b) attendance at religious services.

One additional measure of adolescent religiosity explored in the present study—the importance an adolescent attaches to his or her religion—did not emerge from Kirby



et al.'s (2005) reduced list. However, this measure was included in the present research design as an indicator of a deeper, more internalized religiosity than may be suggested by affiliation with a religious organization or attendance at religious services. The inclusion of this measure is compatible with PST—the theoretical framework upon which the present research is based—which acknowledges a mature level of religiosity that may well exert a direct effect upon behavior (Oetting, 1999). In addition, this measure was associated with reduced adolescent sexual at-risk behavior in a number of studies that were included in the Kirby et al. (2005) review (see, for example, Collins et al., 2004; Davis & Friel, 2001; Lammers, Ireland, Resnick, & Blum, 2000; Nonnemaker, McNeely, & Blum, 2003; Resnick et al., 1997) and in more recent studies as well (see, for example, Haglund & Fehring, 2010; Sinha et al., 2007). Importance ascribed to religion was also associated with lower at-risk behavior in one study conducted among youth with SDA Church connections (Dudley, 1992).

### **Effects of Family-Context Factors and Adolescent Religiosity on Adolescent Sexual Risk-Taking: United States Studies**

As discussed earlier, all of the studies reviewed in this section were identified by Kirby et al. (2005) as important to understanding risk and protective factors affecting adolescent sexual risk-taking. Kirby et al.'s review was both comprehensive and exacting in its application of rigorous research criteria for inclusion. This review provided me with a sound research-based platform for the development of a conceptual framework to guide my analysis process. For the most part, these studies are briefly described once, usually the first time results are reported. Only statistically significant findings relevant to this study are included.

Some of the Kirby et al. (2005) studies relevant to the present research sampled adolescents both younger and older than the 16- to 18-year-old age group selected for this study. Although exact comparisons among studies cannot be made because of differences in sampling design, awareness of these variations may be important to understanding the results. Therefore, the studies that focused on younger adolescents (i.e., studies drawing their samples only from among youth 15 years of age or younger) are identified here. All studies not so designated have included youth at least 16 years of age or older.

A number of the studies included in the Kirby et al. (2005) review used the large database generated by the National Longitudinal Study of Adolescent Health (Add Health), selecting samples and data to fit their various research purposes. Consequently, a brief description of this large, seminal study is included at this point. Add Health, launched in the mid-90s, was the first nationally representative study of the “health status, risk behaviors, and social contexts” (Resnick et al., 1997, p. 831) of adolescents living in the United States. The researchers were particularly interested in investigating the effects of factors that were “amenable to prevention and intervention efforts” (Resnick et al., 1997, p. 825) in response to adolescent risk-taking. Respondents completing the in-school survey included more than 90,000 American adolescents in Grades 7-12. Over 20,000 of these adolescents were later interviewed in their homes, along with approximately 18,000 of their parents, mostly mothers (Blum, 2002; Data Sharing for Demographic Research, n.d.). Data collected during the in-home interview phase of the study provided researchers with “information on sensitive health-risk behaviors such as . . . sexual behavior, . . . in addition to detailed information on health

status, . . . family dynamic, peer networks, romantic relationships, decision-making, aspirations, and attitudes” (Resnick et al., 1997, p. 824).

#### Adolescent Perception of Parental Support/Connectedness

The preponderance of studies (17 of 20 studies) exploring the relationship between adolescent perception of parental support/connectedness and risky adolescent sexual behaviors found that parental support/connectedness was protective on adolescent involvement in one or more sexual at-risk behaviors. Although the specific measures clustered by Kirby et al. (2005) under parental support/connectedness varied, the construct was a broad indicator of the warmth, closeness, affection, “high quality interactions” (p. 16) and overall connectedness experienced by adolescents in relationship with their parent(s). It should be noted, however, that among these studies, six indicated a gender effect, another reported results dependent upon both gender and age, and yet another reported findings that varied by ethnicity.

#### **Relationship With Sexual Experience/ Timing of Sexual Debut**

In the studies investigating the effects of parental support/connectedness on adolescent sexual risk-taking, the sexual outcome variables most often investigated were adolescent sexual experience and early sexual initiation. In the preponderance of studies (14 of 17 studies) parental support/connectedness was associated either with sexual abstinence and/or delayed sexual initiation. In five of these studies, parental support/connectedness was found to be protective for both males and females. One study found the protective effect of parental support/connectedness for both males and females among younger adolescents. However, among older youth, the protective effects were

significant only among males. Eight studies found that higher levels of parental support/connectedness were positively related either to abstinence or delayed sexual initiation for girls only. (Of these, three study samples were exclusively female, while five studies reported a gender effect.) Only three studies investigating the association between parental support/connectedness and adolescent sexual experience and/or age of sexual debut failed to establish a statistically significant relationship (see Bearman & Brückner, 2001; Doljanac & Zimmerman, 1998; Upchurch, Aneshensel, Mudgal, & McNeely, 2001).

In the collage of studies reporting the protective effects of parental support/connectedness among both male and female adolescents in relation to sexual experience in general and early sexual debut in particular, two of the studies used data generated by the Add Health study. Parental support/connectedness was operationalized by the Add Health research team as “feelings of warmth, love, and caring from parents” (Resnick et al., 1997, p. 830). In their initial report based on a core sample of 12,118 adolescents, Resnick et al. described the results of the first series of in-home interviews. As hypothesized, a strong adolescent perception of connectedness with parents and family was positively associated with delayed initiation of sexual intercourse.

In another report based on findings from further analyses of Add Health data, Blum (2002) compared the results of two previous studies in which he participated as a member of the research team (McNeely et al., 2002; Sieving, McNeely, & Blum, 2000). These researchers investigated maternal support/connectedness as related to timing of sexual debut among a large sample of adolescents who self-reported sexual abstinence at the time of the initial Add Health in-home interview. Maternal support/connectedness

was operationalized in these studies as good mother-adolescent communication, a sense of closeness, warmth, care, and love, and overall satisfaction with the maternal relationship (Blum, 2002, p. 18). Blum observed that a greater adolescent sense of maternal support/connectedness was associated with reduced likelihood of initiating sexual intercourse in the 1-year interval between interviews for both boys and girls in Grades 8-9. Among students in Grades 10-11, however, mother-adolescent connectedness was associated with postponement of sexual debut only among males. Blum thus concluded that “the protective power of connectedness appears to be related to adolescents’ gender and age. . . . The protective effect of connectedness appears to diminish for older girls” (p. 18).

Beyond the large Add Health study, four independent studies reported a similar inverse relationship between parental support/connectedness and likelihood of adolescent sexual experience and/or age of sexual debut for both genders. For example, one study of 751 Black youths, ages 15-17 years, living in inner-city neighborhoods in Philadelphia County (Jaccard, Dittus, & Gordon, 1996), included measures of parental support/connectedness in an 11-item scale measuring overall adolescent perceptions of the quality of their relationships with their mothers. Results indicated that adolescents whose satisfaction levels with their maternal relationships were low were twice as likely to have initiated sexual intercourse as their counterparts who were highly satisfied with these relationships (Jaccard et al., 1996, p. 162). Findings were comparable in studies in which the adolescent sexual outcome variable was expanded to measure timing of sexual initiation (see Browning, Levanthal, & Brooks-Gunn, 2004; K. E. Miller, Sabo, Farrell, Barnes, & Melnick, 1998; C. A. Smith, 1997). In each of these studies, increased parental

support/connectedness predicted for later sexual debut. It should be noted, however, that the samples in the Browning et al. (2004) and C. A. Smith (1997) studies were restricted to adolescents 15 years of age or younger.

In studies with exclusively female samples (Bearman & Brückner, 1999; Moore & Chase-Lansdale, 2001; Rosenthal et al., 2001) findings were again consistent with those of other researchers. For example, Bearman and Brückner (1999) analyzed Add Health data provided by a sample of 5,070 girls who reported no sexual history at the time the in-school survey was administered. Results of multivariate analysis, using a “baseline model that incorporates all of the individual, socio-demographic, and family characteristic variables” (Bearman & Brückner, 1999, p. 20), identified adolescent-perceived closeness to parents as a strong predictor of delayed sexual initiation. In a study of younger adolescent girls randomly drawn from the client list of an adolescent medical clinic, Rosenthal et al. (2001) marked a similar delay in sexual initiation among female adolescents with higher scores on the Family Environment Scale (p. 530). In a study of 15-18-year-old females from high-poverty neighborhoods located on the south side of Chicago, M. R. Moore and Chase-Lansdale (2001) used a scale combining measures of parental support/connectedness and overall satisfaction with their maternal relationship. They reported that the more positive the relationship between mother and daughter, the less likely the adolescent had initiated sexual intercourse (p. 1152) or done so at an early age (p. 1155).

There were five studies exploring the effects of parental support/connectedness as related to adolescent sexual experience/debut that reported findings which varied purely along gender lines. In all five studies, the protective effect of parental

support/connectedness was statistically significant for girls, but not for boys. For example, a large study of 2,168 ethnically diverse adolescents in Grades 7, 9, and 11 from a mid-sized city in the Southwestern United States (Small & Luster, 1994) was of particular interest to me because the family factors explored closely paralleled those under investigation in the present study. Small and Luster found that a higher than average score on a scale of items related to parent-adolescent closeness and attachment was among the predictors of sexual abstinence for females. However, results were not statistically significant for males.

In another study marked earlier as of particular relevance here, Davis and Friel (2001) found a similar gender effect in further analyses of Add Health data, sampling all youths who completed the initial in-home interview. Adolescent perception of parental support/connectedness in this study was assessed using a five-point index that averaged responses indicating the “level of warmth, love, and communication in the mother-child relationship” (p. 674). Findings showed that “high quality maternal relations have a delaying effect on [first intercourse for] female adolescents only. Girls with low-quality relationships are 16% more likely to sexually debut earlier” (p. 676).

Another study, in which three predictor variables relevant to the present study were also explored, was based on data from the National Survey of Children—a nationally representative, longitudinal survey of households with children 7-11 years of age in 1976. From this database, B. C. Miller et al. (1997) identified a sample of 759 older adolescents, ages 18-22 years, who had completed all three waves of data collection ending in 1987. Using the most comprehensive multivariate model, adolescent perception of “closeness to mother” remained a statistically significant protective factor on age of

sexual initiation for female adolescents only. No significant relationship between these variables was found among their male peers.

Markham et al. (2003) found similarly among 976 high-risk students living in inner-city, low-income households in Houston, Texas, and attending alternative high schools.<sup>2</sup> In this case, the higher the female's perception of family connectedness, the lower their risk for sexual experience and the later their sexual debut. Again, results were not statistically significant for male adolescents. Likewise, Whitbeck, Hoyt, Miller, and Kao (1992) reported postponement of sexual initiation among female adolescents who reported experiencing parental support. In this stratified, random sample of adolescents, ages 13-18 years, who responded to a telephone survey in Iowa, lack of parental support was not significantly related to age of sexual initiation among male youth.

### **Relationship With Number of Sexual Partners**

Only three studies included in the Kirby et al. (2005) review explored the relationship between parental support/connectedness and the number of sexual partners reported by adolescents. K. E. Miller et al. (1998) conducted a longitudinal study of 611 youth between the ages of 15-18 years, living in a large metropolis in the northeastern United States. Findings included a statistically significant reduction in the lifetime number of sexual partners among adolescents reporting higher levels of family connectedness.

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<sup>2</sup> Youth attending alternative high schools have been found to engage in more sexual risk-taking than their counterparts attending traditional high schools in the city, thus placing them at higher risk for STI infection (Markham et al., 2003, p. 174).



Cleveland and Gibson (2004), in a study based on Add Health data using a scale that included connectedness measures, found a similar pattern. They reported that “the quality of mother-adolescent relationship was consistently associated with adolescents’ number of sexual partners” (p. 327). Specifically, fewer partners were consistently reported by adolescents perceiving their relationship with their mothers to be of high quality. The inverse relationship between these variables maintained statistical significance for both genders in multivariate models that also included neighborhood risk factors and a variety of demographic variables. Davis and Friel (2001), on the other hand, found no statistically significant relationship between parental support/connectedness and adolescent sexual partnering.

### **Relationship With Consistent Condom Use**

Half of the studies (2 of 4 studies) exploring the relationship between parental support/connectedness and the consistent use of condoms among youth with sexual experience found a statistically significant relationship. Markham et al. (2003) reported that the higher adolescents’ sense of connectedness with their families, the more likely they were to have used a condom during recent sexual intercourse. It should be noted, however, that this protective effect—while statistically significant for the total sample—was not statistically significant when tested separately by gender. Doljanac and Zimmerman (1998), on the other hand, found that in their sample of ninth-graders, parental support explained unique variance in consistency of condom use among Whites, but not among African-Americans. The two remaining studies found no significant relationship between adolescent perception of parental support/connectedness and consistent condom use (Crosby, Salazar, & DiClemente, 2004; Shafer & Boyer, 1991).

## Adolescent Perception of Parental Behavioral Control

In their review, Kirby et al. (2005) clustered studies investigating parental monitoring and parental strictness in rule enforcement under one category of predictor variables: parental monitoring/strictness. Overall, more than two-thirds of the studies (17 of 24 studies) identified monitoring/strictness as protective on one or more adolescent sexual risk behaviors. It is noteworthy that Romer et al. (1999) reported that monitoring continued to predict for lower incidence of adolescent sexual risk-taking even after controlling for type of parent-figure. Consequently, these researchers suggested that “it is the parental behavior itself and not the parental figure per se” that accounted for the protective effects observed (p. 1061).

Whereas the studies reviewed in this section accounted for Kirby et al.’s (2005) placement of parental monitoring/strictness on the list of family-context factors potentially important to understanding adolescent involvement in sexual risk behavior, the results of these same studies also highlight the complexity of adolescent sexual risk-taking. As will become apparent from this overview, for example, parental monitoring/strictness may vary in its effects by gender and other individual adolescent characteristics, as well as in its relationship to specific sexual risk behaviors. One study marked parental strictness in rule enforcement as a risk factor on adolescent sexual experience.

### **Relationship With Sexual Experience/ Timing of Sexual Debut**

Six of the 11 studies investigating the relationship between parental monitoring/strictness and adolescent sexual experience reported a positive relationship

between monitoring/strictness and sexual abstinence. As with parental support/connectedness, this construct was variously measured on a spectrum from parental monitoring of the company, whereabouts, and activities of their adolescents to direct supervision. The results of three large studies with differing sample designs provide good examples. In a study marked earlier as important for its exploration of several of the same family-context factors under investigation in my research, Small and Luster (1994) identified parental monitoring as “among the strongest predictors of sexual experience” (p. 185) for both male and female adolescents. Adolescents whose parents monitored them closely were less likely to report a history of sexual intercourse (Small & Luster, 1994, p. 189). Similarly, Collins et al. (2004), after conducting two waves of interviews 1 year apart with a national sample of 1,762 adolescents ages 12-17 years, reported an inverse relationship between parental monitoring and adolescent-reported sexual experience (p. 284). Likewise, a protective effect of parental monitoring on sexual experience was observed by Rai et al. (2003) among 1,478 primarily African American youth, ages 13-16 years, involved in several urban programs to assess/reduce risk in the eastern United States (p. 114).

Wilder and Watt (2002), in a further analysis of Add Health data, compared the effects of paternal and maternal supervision on adolescent sexual experience. The results of this study indicated that only supervision by the same-sex parent discouraged adolescents from initiating sexual intercourse (p. 504).

Two studies suggested that the protective effects of parental monitoring/strictness continue throughout adolescence. Cohen, Farley, Taylor, Martin, and Schuster’s (2002) study of 2,034 primarily Black, urban high-school students from one school district in the

South indicated a positive relationship between the amount of time young people were left without supervision and the proportion of adolescents reporting sexual experience (Cohen et al., 2002, p. e68). However, the researchers made special note of the fact that students from Grades 11-12 responded more readily to study recruitment efforts than their counterparts from Grades 9-10, likely because STI screening was offered in conjunction with the study (Cohen et al., 2002, p. e67). These findings were thus interpreted to suggest that the protective effect of parental monitoring continued throughout adolescence in relation to sexual experience.

These findings of Cohen et al. (2002) were consistent with those of Romer et al. (1999). In a study of a stratified cross-section of 355 African American youth ages 9-17 recruited from six public housing sites in a large American city, these researchers also found the lowest prevalence of sexual experience among adolescents monitored the most heavily (p. 1058). Because their study sampled a broad age range of adolescents from 9-17 years of age, however, they were also able to detect an inverse relationship between parental monitoring and “the rate of initiation as adolescents age” (Romer et al., 1999, p. 1060). That is to say, as monitoring increased, the rate of initiation slowed across the entire adolescent developmental period. These results suggested that “children in homes with parents or other guardians who continued to monitor their children’s social behavior throughout adolescence were less likely to initiate sex than children whose guardians either never monitored their behavior or discontinued monitoring as they aged” (p. 1060).

Forste and Haas (2002) reported very different findings at the conclusion of a study of 452 heterosexual males between the ages of 15 and 19 years. These youths were selected from a sample of nearly 2,000 adolescent males who participated in two waves

(1988 and 1990-1991) of the National Survey of Adolescent Males and indicated they had never had vaginal intercourse at the time the first questionnaire was administered. Contrary to expectations, adolescent males from families who enforced rules were more likely to initiate sexual activity within the following year (Forste & Haas, 2002, p. 187).

In two studies focused on younger adolescents (Borawski, Ievers-Landis, Lovegreen, & Trapl, 2003; East, 1996) and two that included older adolescents (Chewning et al., 2001; Stanton et al., 2002), parental monitoring was not significantly associated with adolescent sexual experience.

In the collage of studies investigating the effects of parental monitoring/strictness on adolescent sexual risk-taking, age of sexual initiation was the outcome variable explored most often. It should be noted, however, that half of these studies (six of 12 studies) yielded non-significant results (Baumer & South, 2001; Browning et al., 2004; Capaldi, Crosby, & Stoolmiller, 1996; Meschke, Zweig, Barber, & Eccles, 2000; K. S. Miller et al., 1999; K. S. Miller, Forehand, & Kotchick, 2000).

By contrast, Romer et al. (1999) reported parental monitoring to be associated with reduced chances for early sexual initiation (ages  $\leq 10$  years) (p. 1058). Rosenthal et al. (2001) also found a positive association between direct parental monitoring (supervision by an adult present in the home as opposed to awareness of adolescent whereabouts) and delayed sexual debut (p. 529).

Four studies found the relationship between parental monitoring/strictness and age of sexual initiation to depend on other factors. A gender effect was reported by K. A. Moore, Morrison, and Gleib (1995), using data from the longitudinal National Survey of Children begun in 1976 with a sample of 2,301 children ages 7-11 years, and concluded

in 1987 with approximately half the original sample at 18-22 years of age. Results indicated that a “lack of parental supervision . . . predicted a heightened risk of early intercourse” for females only (K. A. Moore et al., 1995, p. 222). A similar gender effect was observed by C. A. Smith (1997) among seventh- and eighth-graders randomly selected from public school rosters in a city in the eastern United States. Females who perceived themselves to be “weakly supervised” by their parents (C. A. Smith, 1997, p. 339) were more likely to engage in sexual intercourse before the age of 15. In a further analysis of Add Health data, Wilder and Watt (2002) also reported the protective effects of high levels of maternal supervision among female adolescents (p. 504). Findings in each of these studies were not statistically significant for males.

Ethnicity was the factor that differentiated adolescent groups in a large nationally representative sample of 15-19-year-old males who had never been married or institutionalized (Ku, Sonenstein, & Pleck, 1993). Whereas stricter family rules predicted for delayed sexual initiation for non-Blacks, the results for Black adolescents were not statistically significant (Ku et al., 1993, p. 692). Blum, Beuhring, and Rinehart (2000) noted that “the substantial . . . racial/ethnic differences in the prevalence of health-risk behaviors . . . suggest that risk and protective factors may differ among culturally distinct groups” (p. 22).

### **Relationship With Number of Sexual Partners**

Among the six studies that explored parental monitoring/strictness as it related to the number of sexual partners reported by adolescents, four indicated an overall inverse relationship between the two variables. One additional study found similarly, but reported

a gender effect. Baumer and South (2001) was the only study to report no significant relationship between parental monitoring/strictness and the sexual partnering of adolescents.

In two studies of particular interest here because the sample included adolescents from the Caribbean region, K. S. Miller et al. (1999, 2000) reported the results of interviews with 907 adolescents and their mothers/mother-figures who participated in the 1997 Family Adolescent Risk Behavior and Communication Study. Responses of Black and Hispanic adolescents enrolled in Grades 9-11 in high schools located in New York City; Montgomery, Alabama; and San Juan, Puerto Rico, revealed parental monitoring to be a consistent predictor for fewer lifetime sexual partners in all three locations.

Cohen et al.'s (2002) findings were comparable. Investigators reported that "every 10 hours per week of unsupervised time was associated with 0.25 additional lifetime sex partners for boys and 0.07 additional partners for girls" (Cohen et al., 2002, p. e70), highlighting the fact that the relative protective strength of parental monitoring in terms of number of lifetime sexual partners was more than three times as great for adolescent males as it was for females (p. e70). It should be remembered that older adolescents were more likely to respond to recruitment efforts for Cohen et al.'s study than were younger adolescents. Thus the researchers suggested that the protective effect of parental monitoring continued across adolescence with regard to lifetime number of partners, just as it did in relation to sexual experience.

Donenberg, Wilson, Emerson, and Bryant (2002) reported on the responses of a restricted sample of 169 ethnically diverse urban youth, ages 12-20 years, receiving outpatient mental health services in Chicago. They also found a positive association

between adolescent perceptions of greater parental monitoring and fewer partners within the last 3 months (Donenberg et al., 2002, p. 148).

In a school-based study of 200 Black, middle-class males between the ages of 11 and 19 years, Jemmott and Jemmott (1992) found a positive association between adolescent perception of maternal strictness and fewer coital partners. The influence of father strictness, though shown to be protective in zero-order correlations, lost its statistical significance in multiple regression analyses (Jemmott & Jemmott, 1992, p. 201).

### **Relationship With Consistent Condom Use**

Of the nine studies reviewed here, fewer than half (4 of 9 studies) showed parental monitoring/strictness to be protective with regard to consistent condom use. In two of these, both studies of younger adolescents, the protective effect of parental monitoring/strictness, as evidenced by consistent condom use, was found only among males (Borawski et al., 2003) and White adolescents (Doljanac & Zimmerman, 1998). No significant results were reported in five studies that tested the relationship between parental monitoring/strictness and consistent condom use (Jemmott & Jemmott, 1992; Ku et al., 1993; K. S. Miller et al., 2000; Rai et al., 2003; Romer et al., 1999).

Stanton et al. (2002) reported on a longitudinal study of urban African American youth, ages 9-15 years at intervention, who were followed for 4 years as part of an effort to evaluate the effectiveness of a program to reduce sexual at-risk behaviors. Bivariate analysis results indicated that adolescent “perceptions of high levels of parental monitoring were predictive of higher rates of condom use at 12, 18, and 36 months”



(Stanton et al., 2002, p. 540). In multivariate analyses, however, the protective effects of parental monitoring were statistically significant only “through the first 18 months of follow-up” (Stanton et al., 2002, p. 544).

K. S. Miller et al. (1999, 2000) conducted two separate analyses of data collected as part of the 1997 Family Adolescent Risk Behavior and Communication study. In the 1999 study, these researchers found parental monitoring to be significantly related to greater consistency in condom use among adolescents overall, including the San Juan subsample (K. S. Miller et al., 1999, p. 95). In the 2000 study, findings indicated no significant relationship between parental monitoring and consistent condom use. The explanation for this apparent contradiction lies in the differences in statistical analyses performed on the data in the two separate studies.<sup>3</sup>

#### Adolescent Perception of Parental Attitudes Regarding Adolescent Sexual Behavior

#### **Parental Disapproval of Adolescent Sexual Intercourse**

Among studies exploring the relationship between parental disapproval of adolescent sexual intercourse and the at-risk sexual behaviors presently under study, the vast majority (16 of 18 studies) found such parental disapproval to be protective on one

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<sup>3</sup> In the 1999 hierarchical regression analysis, parental monitoring was entered in the third block with other family process variables, after controlling for demographic and structural variables in the first two blocks (K. S. Miller et al., 1999, p. 93). In this analysis, adolescent perception of parental monitoring was found to be positively associated with an increase in the “percentage of time condoms were used” (K. S. Miller et al., 1999, p. 95) both overall and in the San Juan sample. On the other hand, in the 2000 multisystem approach to analyses, “multiple regressions were initially conducted *within* the self, family, and extrafamilial systems for each of the four outcome measures. Only variables that were significant ( $p < .05$ ) in these regressions were retained in the combined multisystem analyses” (K. S. Miller et al., 2000, p. 323). Parental monitoring as it related to condom use was eliminated as statistically non-significant in this preliminary analysis process and hence excluded from the multisystem analyses.

or more sexual at-risk behaviors. Four of these studies, however, found interaction along gender or ethnic lines. Only two studies found no significant relationship between parental disapproval of youth engagement in sexual intercourse and any of the risky sexual behaviors reported by adolescents.

#### Relationship with sexual experience/ timing of sexual debut

More than half of the studies (10 of 18 studies) exploring the effects of parental disapproval of adolescent sexual intercourse in relation to sexual debut found such disapproval to be protective on adolescent sexual experience and/or initiation at an early age for both males and females. Two studies reported a gender effect, with parental disapproval protective on either sexual experience or timing of sexual debut for females but not for males. The effect of parental disapproval of adolescent sex was dependent upon both gender and ethnicity in one study and upon ethnicity alone in another. Four studies reported no significant relationship between these variables (Collins et al., 2004; Meier, 2003; K. S. Miller et al., 1999, 2000).

Among the studies reporting non-significant results, it is noteworthy that although K. S. Miller et al. (1999) did not investigate the relationship between maternal disapproval of adolescent sex and sexual experience among adolescents per se, they did find that such maternal disapproval was inversely associated with frequency of coitus. The relationship between these two variables was statistically significant across all three subsamples of high-school students (Montgomery, Alabama; New York City; and San Juan, Puerto Rico). It is of particular interest here that the strongest protective effect of maternal disapproval of adolescent sex on frequency of adolescent coitus was found

among the San Juan, Puerto Rico, subsample (K. S. Miller et al., 1999, p. 95). Maternal disapproval of adolescent sexual intercourse was not, however, significantly related to timing of sexual debut. Such findings affirm the complexity of adolescent sexual behavior and suggest that the effects of other family context factors may also vary depending on the outcome variable being investigated (K. S. Miller et al., 1999, p. 95).

A number of studies reporting a protective effect of parental disapproval of adolescent sex on sexual experience/timing of sexual debut drew on Add Health data for their findings. Resnick et al. (1997) identified parental disapproval of adolescent sexual intercourse as a significant piece in the constellation of family-context factors associated with the delay of adolescent sexual debut (p. 830). Bearman & Brückner (2001) reported similar results for White, Asian, and Hispanic youth. Further, in these ethnic groups, adolescent perception of parental disapproval of their engagement in sexual intercourse decreased the risk an adolescent would become sexually experienced “by 20% for each unit change on the 5-point scale” (Bearman and Brückner, 2001, p. 883) measuring ascending levels of perceived disapproval. These protective effects also remained strong throughout adolescence (see also Blum, 2002). Such disapproval, however, was not similarly protective on transition to first intercourse for Black adolescents.

Blum (2002) and three additional teams of researchers using the Add Health database reported findings specific to maternal disapproval of adolescent sexual involvement. In all four studies, as maternal disapproval increased, adolescent reports of sexual experience (Davis & Friel, 2001; Halpern, Joyner, Udry, & Suchindran, 2000) or early sexual initiation (Blum, 2002; Dittus & Jaccard, 2000) decreased. Davis and Friel (2001) noted that the “pattern of effect” (p. 678) of maternal disapproval of adolescent

sex on timing of sexual debut was much the same whether researchers tested the protective strength of maternal disapproval of adolescent sexual intercourse in general or specific maternal disapproval of their teenage son or daughter engaging in sexual intercourse with a “special friend” (p. 678). Dittus and Jaccard (2000) highlighted the strength of the protection offered. “The predicted odds of engaging in sex were 6.3 times higher when perceived [maternal] disapproval was low as opposed to high” (p. 273). Blum (2002) observed the importance of parents clearly communicating their strong disapproval, as “mothers’ report of strong disapproval appears to have an effect [on timing of sexual debut] only when teens accurately perceive their disapproval” (p. 16) and adolescents overall tend to underestimate the strength of their parents’ negative attitudes toward adolescent sexual intercourse (p. 16).

Two additional studies indicated that the effects of parental disapproval of adolescent sex on sexual experience/postponement of first intercourse were restricted only to female respondents. For example, McNeely et al. (2002), reporting findings from a subsample drawn from the larger Add Health database, found permissive maternal attitudes regarding adolescent sex to be associated with early sexual initiation among females, but not males. Similarly, in a longitudinal study of 174 younger adolescents living with their single separated/divorced mothers in Iowa, Whitbeck, Simons, and Kao (1994) reported maternal permissive attitudes to have “a weak direct effect” (p. 618) on sexual experience among daughters, but not sons. Daughters who perceived their mothers to be accepting in their attitudes regarding adolescent sex were more likely to be sexually experienced.

Blum, Beuhring, and Rinehart (2000) found interaction in the effects of parental disapproval of adolescent sex across both ethnic and gender lines. While such disapproval was protective on sexual experience for Black and Hispanic females, the effect was not significant for White females (p. 33). No significant relationship was found between maternal disapproval of adolescent engagement in sexual intercourse and sexual experience among male respondents.

In their study of a large sample of urban adolescents enrolled in seventh, ninth, and 11<sup>th</sup> grades in a city in the southwestern United States, Small and Luster (1994) were perhaps the first to investigate the relationship between parental values regarding adolescent sexual intercourse and their teenagers' history of sexual experience. As expected, "permissive parental values regarding adolescent sexual behavior emerged as a strong risk factor for both males and females. . . . Adolescents who perceived their parents as accepting of premarital adolescent sexual intercourse were more likely to be sexually experienced" (p. 189).

Several studies conducted in the northeastern United States also found a "negative association between perceived maternal disapproval of premarital sex and initiation of sexual intercourse" (Jaccard et al., 1996, p. 162; see also Dittus, Jaccard, & Gordon, 1999). For example, among African-American adolescents living in Philadelphia County, Jaccard et al. reported that the chances that adolescents would engage in sexual intercourse were doubled among youth whose maternal level of disapproval with regard to their sexual intercourse was low as compared to high (p. 162). In another study also conducted in Philadelphia, "parental pressure against teen sexuality" (Widmer, 1997, p. 932) was strongly associated in multivariate analysis with sexual abstinence among

youth. Sampling eighth-graders from a county in Upstate New York, Little and Rankin (2001) also reported that “how parents would feel about learning that the teen was having sex emerged as a very strong predictor [of sexual experience] overall, and as a significant predictor for boys and girls separately” (p. 725). Again, parental disapproval was associated with reduced incidence of sexual experience among early adolescents.

#### Relationship with number of sexual partners

Of the three studies that explored the effect of parental disapproval of adolescent sexual intercourse in relation to the number of sexual partners reported by adolescents, two studies conducted by K. S. Miller et al. (1999, 2000) both found mothers’ reports of their disapproval of adolescent sex to be protective on lifetime number of partners among adolescent respondents. As noted earlier, these studies are particularly significant here because the samples included subsamples of public high-school students, ages 14-16 years, from San Juan, Puerto Rico. Of particular interest is the fact that K. S. Miller et al. (1999) reported that maternal attitudes about adolescent sexual behavior were “more strongly related to . . . number of sex partners for the *San Juan* sample” (p. 96), than for the two subsamples from Montgomery, Alabama, and New York City. By contrast, Davis and Friel (2001), in a further analysis of Add Health data, found no significant relationship between parental disapproval of adolescent sexual intercourse and adolescent sexual partnering.

#### Relationship with consistent condom use

K. S. Miller et al.’s studies (1999, 2000) were the only ones that explored the effects of parental attitudes regarding adolescent sexual activity on consistent condom

use among youth. In both cases, researchers used maternal attitudes as reported by mothers as the predictor variable. Neither of these studies found a significant relationship between maternal disapproval of adolescent sex and consistent condom use.

### **Parental Approval of Adolescent Condom Use**

Less than half of the studies (3 of 8 studies) reported a significant relationship between parental approval of adolescent use of contraception, including condoms, and adolescent sexual risk-taking. Two reported the effect of parental approval of adolescent condom use to be protective on consistency of condom use, whereas one study reported such approval to be a risk factor with regard to age of sexual initiation.

#### Relationship with sexual experience/ timing of sexual debut

Resnick et al. (1997), reporting on the findings of the Add Health study, included parental support for adolescent use of contraception in general as among the risk factors associated with early sexual initiation (p. 830). Jimenez, Potts, and Jimenez (2002), however, found no significant relationship between this predictor variable and adolescent timing of sexual debut.

#### Relationship with number of sexual partners

No studies were included in the Kirby et al. (2005) review that investigated the relationship between parental approval of adolescent condom use and adolescent sexual partnering.

## Relationship with consistent condom use

Kalichman et al. (2002) investigated the relationship between approval of condom use by parents and/or other important persons and adolescent self-reports of acts of unprotected sex. Reporting on the results of their study of 271 adolescents assigned to a court-ordered substance abuse treatment program, these researchers indicated that parental/important person support for condom use predicted for fewer acts of unprotected sex among adolescents (Kalichman et al., 2002, p. 333). Laraque, McLean, Brown-Peterside, Ashton, and Diamond (1997) found a similar positive association between parental support for adolescent use of birth control and more consistent condom use among youth (pp. 324-325). Their study reported on the responses of 557 youth enrolled in a hospital-based program designed to reduce teen pregnancy. Dittus and Jaccard (2000), however, made the interesting observation that

the more the adolescent saw the mother as approving of the use of birth control, the greater was the tendency to underestimate maternal opposition to the adolescent's engaging in sex. These data suggest that parents who convey messages about the importance of using birth control (or who are perceived to convey such messages) run the risk of the adolescent misinterpreting the message to imply greater approval of his or her engaging in sexual intercourse. (p. 277; see also Blum, 2002)

Four additional studies explored the relationship between support for contraception by parents/important persons in the lives of adolescents and consistent use of condoms among youth, but results did not achieve statistical significance in multivariate analyses (Levin & Robertson, 2002; Longmore, Manning, Giordano, & Rudolph, 2003; Shafii, Stovel, Davis, & Holmes, 2004; Wilson, Kastrinakis, D'Angelo, & Getson, 1994).



## Adolescent Religiosity

Kirby et al.'s (2005) collection of studies exploring the relationship between adolescent religiosity and adolescent sexual risk-taking indicated that researchers in the United States have explored similar dimensions to those under investigation in the present study: (a) religious affiliation, (b) attendance at religious services, and (c) the importance adolescents ascribe to religion in their lives. For the purposes of this literature review, the studies have been clustered under these three categories. Those studies that used multiple-item scales as overall measures of adolescent religiosity have been included in the third section which is focused on studies that investigated the predictive power of the importance adolescents ascribed to religion on risky adolescent sexual behaviors. Nearly all of these scales included attendance at religious services and one or more indicators of greater religiosity.

### **Religious Affiliation**

Religious affiliation is defined here as the church adolescents say they attend. With regard to religious affiliation, Kirby et al. (2005) made a distinction between studies exploring adolescent identification with mainstream religious organizations and studies investigating their association with conservative religious denominations. Kirby et al. classified the SDA Church as a conservative denomination and included one study of youth attending SDA Church-operated secondary schools in North America (Weinbender & Rossignol, 1996) in their review. With the exception of the Weinbender and Rossignol study, the findings from studies exploring adolescent affiliation with both mainstream and conservative religious groups are summarized here. Kirby et al.'s (2005) classification of the various religious denominations is used to make appropriate

distinctions. A review of Weinbender and Rossignol's (1996) research is included later in this chapter in the section: Effects of Family-Context Factors and Adolescent Religiosity on Adolescent Sexual Risk-Taking: Studies Among Youth with Adventist Connections.

Nearly two-thirds of the studies (seven of 11 studies) found affiliation with a religious denomination to be protective on one or more risky adolescent sexual behaviors. One study found some risk associated with such connections, whereas five others found interaction along gender, ethnic, and/or denominational lines. Three reported no significant findings with regard to relationships between adolescent religious affiliations and sexual risk-taking.

#### Relationship with sexual experience/ timing of sexual debut

Abma and Sonenstein (2002) used data from two large national surveys of never-married teenagers, ages 15-19 years, to investigate the effects of religious affiliation on sexual experience. Male data were derived from the National Survey of Adolescent Males and female data from the National Survey of Family Growth. Findings indicated that the proportion of adolescents who reported a history of sexual intercourse was lower among youth with religious affiliations than among those reporting no ties with a religious organization (p. 10).

The results of Wilder and Watt's (2002) study, based on Add Health data, were less consistent. They reported that the protective effects of religious affiliation on sexual experience were statistically significant for female adolescents associated with the Catholic Church (as compared with females attending mainstream Protestant/other churches) and male respondents reporting a spectrum of religious affiliations (Wilder &

Watt, 2002, p. 501). Brewster (1994), using data provided by female respondents to the 1982 cycle of the National Survey of Family Growth, also reported mixed results. She found affiliation with mainstream religious denominations to be protective in terms of sexual experience among Black females. However, similar religious ties were statistically unrelated to sexual experience among White females (p. 419).

Studies testing the effect of affiliation with a conservative religious denomination on adolescent sexual experience also produced mixed results. One study comparing sexual experience among Mormon and non-Mormon adolescents, for example, found that adolescents associated with the Mormon faith were less likely to be sexually experienced (B. C. Miller, Christensen, & Olson, 1987, pp. 105-106). On the other hand, L. Miller and Gur (2002), using Add Health data for female respondents, ages 12-21 years, found no significant relationship between affiliation with conservative denominations and sexual experience (p. 404).

Overall, the majority of studies investigating the effects of religious affiliation on risky adolescent sexual behaviors (four of six studies) found religious affiliation to be positively associated with delayed sexual debut. For example, Blum and Rinehart (1997), in an early report of Add Health findings, marked the protective effects of religious affiliation on age of sexual debut among both male and female youth (p. 30). Data from two gender-specific national longitudinal surveys of American adolescent males and females revealed that adolescents with religious affiliations were less likely to have a history of sexual intercourse before the age of 15 than were their counterparts with no religious affiliations (Abma & Sonenstein, 2002, p. 11). On the other hand, in an all-male

sample, Ku et al. (1993) found no significant relationship between adolescent religious affiliation with any denomination and the timing of sexual initiation (p. 687).

The inconsistent results of several more studies contribute further to the evidence that the relationship between religious affiliation and early sexual initiation is complex. Bearman and Brückner (1999), for example, found that among their all-female sample, girls who affiliated with the Catholic Church and conservative Protestant denominations were more likely to postpone sexual intercourse than were girls in their cohort with ties to mainstream Protestant churches (p. 21). On the other hand, Rosenbaum and Kandel (1990), in a study of 17-18-year-old males and females responding to the 1982 National Longitudinal Study, found upbringing in a religiously conservative family to be a risk factor associated with early sexual debut among males, though not among females (p. 793). Wilder and Watt's (2002) findings varied along both gender and denominational lines. Although both male and female adolescents affiliated with Protestant denominations were less likely to initiate before the age of 15, association with the Catholic Church delayed sexual initiation only for females (p. 503).

#### Relationship with number of sexual partners

Only two studies explored the relationship between religious affiliation and the number of sexual partners reported by sexually active adolescents. The results were mixed. For example, Ku, Sonenstein, and Pleck (1992), analyzing data from the 1988 National Survey of Adolescent Males (ages 15-19 years) found that fewer sexual partners in the last 12 months were reported by male youth who considered themselves "born-again" Christians and/or were affiliated with evangelical Protestant churches (Ku et al., 1992, p. 103). However, no significant relationship was found between youth affiliation

with mainstream Christian denominations and the sexual partnering of these adolescent males during the same period. L. Miller and Gur (2002), by contrast, found no relationship between a conservative religious affiliation and the number of sexual partners in the last year reported by their all-female sample (p. 404).

#### Relationship with consistent condom use

Both studies that explored the relationship between religious affiliation and consistent condom use among adolescents were conducted by the Ku, Sonenstein, and Pleck research team and used the 1988 National Survey of Adolescent Males data for their analyses. In the more recent study, Ku et al. (1992) reported a protective effect of mainstream religious affiliation on consistency of condom use among the male respondents (p. 103). Contrary to expectations, however, results indicated no significant relationship between conservative religious affiliation and consistent condom use among adolescent males in an earlier study (Pleck, Sonenstein, & Ku, 1991, p. 740). The apparent incongruence in findings can at least partially be understood in the light of the “inclusion of attitudinal variables in the [earlier] model” (p. 744).

#### **Attendance at Religious Services**

Eight of 17 studies found attendance at religious services to be unequivocally protective in relation to one or more of the adolescent sexual behavioral outcomes under study here. By contrast, one study found church attendance to be a risk factor among younger Cuban, Puerto Rican, and other Spanish males. Five studies found that results varied along gender and/or ethnic lines. Three additional studies found no significant

relationship between church attendance and any of the adolescent sexual at-risk behaviors under study here.

#### Relationship with sexual experience/ timing of sexual debut

Three of the four studies that specifically explored the relationship between frequency of adolescent attendance at religious services and sexual experience found this dimension of adolescent religiosity to be protective on sexual experience. For example, from their analysis of Add Health data, Nonnemaker et al. (2003) reported the protective effect of what they called “public religiosity” (p. 2051)—a composite measure of frequent attendance at religious services and youth activities—on adolescent sexual experience. Similar results were reported by Abma and Sonenstein (2002) among adolescents who attended church once a week or more (p. 10). Billy, Brewster, and Grady (1994) also reported a positive relationship between attendance at religious services and sexual abstinence (p. 396) in a study of female adolescents, ages 15-19 years, using data from the National Survey of Family Growth. By contrast, L. Miller and Gur (2002), also in a study of female adolescents, found no relationship between attendance at religious services/youth activities and a history of sexual intercourse among respondents (p. 404).

With regard to the effects of attendance at religious services on timing of sexual debut, most of the studies (10 of 12 studies) found a positive association between the two variables for at least some, if not all, adolescent respondents. For example, in one study, adolescents who attended more frequently were less likely to initiate sexual intercourse before the age of 15 than were youth who attended less frequently (Abma & Sonenstein, 2002, p. 11). Baumer and South (2001) marked church attendance as a “significant

predictor across all multivariate models” for delayed sexual debut (p. 548). These findings were based on responses of more than 1,000 older adolescents participating in the National Survey of Children, a “population based survey” (p. 543) that included youth often missed in school-based surveys. In yet another study drawing on the Add Health database, Halpern et al. (2000) reported postponement of sexual initiation among youth who attended religious services weekly (p. 222).

Two additional nationally representative studies with all-female samples found similar protective effects of religious attendance on age of sexual initiation. Hogan, Sun, and Cornwell (2000) reported on data from three cohorts of adolescent females, ages 15-19 years, who participated in the National Survey of Family Growth administered by the National Center for Health Statistics of the Centers for Disease Control between 1985 and 1995. Rich and Kim (2002) reported findings from data collected between 1979-1984 as part of the National Longitudinal Survey of Youth, using the responses of an analysis sample of females ages 14-16 years at the time the survey began in 1979. Hogan et al. found that “regular church attendance at 14 years of age was associated with an approximately 29% lower rate of initiation of sexual activities” (p. 1423) between the ages of 12 and 19 years. Likewise, Rich and Kim reported that the likelihood of sexual initiation before the age of 20 was significantly reduced for female youth who attended religious services frequently (p. 130).

Four studies investigating the effects of attendance on timing of sexual debut reported interaction in their findings, for the most part along gender and/or ethnic lines. General trends for both gender and ethnicity were difficult to identify, but attendance at religious services appeared to be less protective among Black males than for any other

gender-ethnic combination (Day, 1992; Haurin & Mott, 1990; Ku et al., 1993; Rosenbaum & Kandel, 1990). In each of the studies cited above, the effects of religious attendance on timing of sexual debut among Black males were not statistically significant. Findings also suggested that religious attendance may be protective among female adolescents to a greater extent than among males (Day, 1992; Haurin & Mott, 1990; Rosenbaum & Kandel, 1990). Surprisingly, one study found religious attendance to be a risk factor on sexual experience for one group of younger adolescents, namely younger Latino males (Day, 1992, p. 757).

Perhaps the most unique finding came from data gathered in the 1979-1992 National Longitudinal Survey of Youth. With regard to the relationship between attendance and adolescent timing of first intercourse, researchers reported that attendance at religious services where peer friends were present was significantly protective on age of sexual initiation, while attendance alone, without peer friends, had no significant effect on whether or not respondents engaged in sexual intercourse by age 14 (Mott, Fondell, Hu, Kowaleski-Jones, & Menaghan, 1996, p. 18).

Two additional studies reported no significant relationship between adolescent attendance at religious services and the timing of sexual initiation (Benson & Torpy, 1995; Forste & Haas, 2002).

#### Relationship with number of sexual partners

Research on the relationship between attendance at religious services and the number of sexual partners reported by adolescents also produced inconclusive results. L. Miller and Gur (2002), with an all-female sample, found fewer sexual partners in the last year among the adolescent girls who were frequent attendees at religious services (p.



403). Abma and Sonenstein (2002) reported that female adolescents who attended religious services even once a month were less likely to have had six or more sexual partners across their lifetimes (p. 19). However, the significant protective effect of religious attendance on lifetime number of partners did not hold for their male peers (p. 19). Baumer and South (2001) reported no significant relationship between attendance at religious services and adolescent sexual partnering (p. 548).

#### Relationship with consistent condom use

Only three studies explored the effects of religious attendance on the consistency of condom use among adolescents (Abma & Sonenstein, 2002; Ku et al., 1993; Reitman et al., 1996). None of these studies reported a significant relationship between attendance at religious services and consistent condom use among adolescents.

#### **Importance of Religion**

In this section, a distinction will be made between (a) studies that tested the power of importance of religion/frequency of prayer as a predictor of risky adolescent sexual behaviors and (b) studies that explored the relationship between a variety of expanded measures for adolescent religiosity (nearly all of which include attendance at religious services and one or more additional measure[s] of adolescent religious involvement) and adolescent sexual risk-taking. It is noteworthy, however, that overall, indicators of greater importance ascribed to religion by adolescents were positively associated with a reduction in adolescent sexual risk-taking. Sixteen of 22 studies reviewed found greater importance to be protective on one or more adolescent sexual at-risk behaviors, at least among some, if not all, respondents. Of these, three studies reported a gender effect and

two an ethnic effect. Five studies found no significant relationship between importance of religion and any of the sexual at-risk behaviors explored in this study.

#### Relationship with sexual experience/ timing of sexual debut

Five of seven studies exploring the effects of importance of religion in the lives of adolescents on sexual experience found adolescent reports that religion was important to them to be protective. Wilder and Watt (2002), for example, found that adolescents who reported that religion was very important to them were less likely to have a history of sexual intercourse (p. 501). Nonnemaker et al. (2003) found a similar positive relationship between greater importance placed on religion by adolescents participating in the Add Health study and sexual abstinence (p. 2052). B. C. Miller and Bingham (1989), in a nationally representative study of female adolescents ages 15-19 years, also reported importance ascribed to religion to be “a strong negative influence on female adolescent intercourse experience” (p. 504). Two additional studies found a significant inverse relationship between higher levels of religiosity reported by adolescents and adolescent history of sexual intercourse (Lowenstein & Furstenberg, 1991; Vesely et al., 2004). Vesely et al. (2004) investigated this relationship in a study of 1,253 racially diverse adolescents from a random selection of urban households located in two cities in the Midwestern United States. Lowenstein and Furstenberg based their findings on a random sample of 1,032 adolescent females, ages 14-18 years, in the course of evaluating a family-planning initiative.

In a test of the relationship between adolescent self-reports of importance of religion and sexual experience among males, Ku et al. (1998) used data from three

“nationally representative household surveys” (Ku et al., 1998, p. 256). Although sexual experience was not found to be significantly related to the importance these male adolescents placed on religion in multivariate analyses, they did find that “more religious respondents were significantly more likely than less religious respondents to have had recent sexual activity” (p. 259). Unexpectedly, however, the results of further multivariate analyses caused Ku et al. (1998) to suggest that

while a person with greater religiosity is, in general, more likely to have conservative attitudes and less likely to have had recent sex, the analyses suggest that if we compare religious and nonreligious youths who are matched for attitudes, religious respondents are more likely to have had sex. (p. 259)

L. Miller and Gur (2002) also reported finding no significant relationship between the importance adolescents placed on religion and sexual experience for their all-female sample (p. 404).

All of the studies (five of five studies) that focused specifically on the association between the importance adolescents attached to religion and timing of first intercourse found that greater importance placed on religion was positively associated with later sexual debut for most adolescents (Blum & Rinehart, 1997; Collins et al., 2004; Davis & Friel, 2001; Resnick et al., 1997). Only the study conducted by Wilder and Watt (2002) reported a gender effect. Results indicated that, whereas adolescent males who considered religion very important were less likely to initiate sexual intercourse before the age of 15 years, this relationship was not significant among female adolescents (p. 503).

Not surprisingly, there was more variability in the findings of studies that used a variety of measures of adolescent religiosity to test the effect of this variable on the timing of first intercourse among adolescents. Consistent with the findings of many

studies previously cited, Lammers et al. (2000), Hardy and Raffaelli (2003), as well as McCree, Wingood, DiClemente, Davies, and Harrington (2003) found greater religiosity to be associated with postponement of sexual intercourse. Lammers et al. (2000), using data gathered from a representative sample of over 12,000 youth across Minnesota, reported “a strong association between religiosity and delay in sexual intercourse for both males and females” (p. 46). With similar results, Hardy and Raffaelli (2003) based their report on data from the National Longitudinal Survey of Youth, using for analysis a sample of 303 ethnically diverse adolescents between the ages of 15-16 years. McCree et al. (2003) studied 522 African American, primarily Baptist, female adolescents recruited for a prevention program in neighborhoods where youth were considered at high risk for infection with STIs/HIV.

Several additional studies were inconclusive as to the effects of religiosity on the timing of sexual debut because of significant interaction along gender and ethnic lines. Meier (2003), for example, using Add Health data, found religiosity to be protective on timing of first sexual intercourse for adolescent females but not for males (p. 1044) (see also B. C. Miller et al., 1997). Bearman and Brückner (2001) also reported interaction, but along ethnic lines; higher levels of religiosity were protective on timing of sexual initiation among Black adolescents, but not among non-Blacks (p. 883).

Three additional studies indicated no significant relationship between religiosity and timing of sexual debut (Bingham, Miller, & Adams, 1990; K. S. Miller et al., 2000; Vesely et al., 2004). K. S. Miller et al.’s (2000) finding is of particular import here, as part of their sample was drawn from a public high school in San Juan, Puerto Rico.

## Relationship with number of sexual partners

All three studies specifically exploring the relationship between the importance adolescents attached to religion and the number of sexual partners they reported found importance of religion to be protective, for the most part, on adolescent sexual partnering. Davis and Friel (2001), for example, found that greater importance ascribed to religion by the adolescent predicted for fewer sexual partners in total (p. 678). L. Miller and Gur (2002) found the same inverse relationship between the importance the girls in their all-female sample attributed to religion in their lives and the number of sexual partners they reported having had in the last year (p. 403). Sonenstein, Pleck, and Ku (1992), on the other hand, found an ethnic effect in their investigation of the power of importance ascribed to religion in predicting the adolescent sexual partnering of adolescent males. Sonenstein et al. used the 1988 National Survey of Adolescent Males as the source of their data. Analyses of the responses of single adolescent males between the ages of 15-19 years found that greater importance ascribed to religion was protective on number of sexual partners in the last year among Black males. However, the relationship between these variables among non-Black males was not significant (p. 20).

Two studies reported no significant relationship between adolescent religiosity measures and the number of sexual partners reported by respondents (K. S. Miller et al., 2000; Vesely et al., 2004). Again, it is worth noting that the findings of K. S. Miller et al. (2000) are of special interest here as their sample included adolescents from the Caribbean region.

## Relationship with consistent condom use

Importance of religion was not found to be positively associated with the consistent use of condoms by adolescents per se (Marsiglio, 1993; Pleck et al., 1991; Wilder & Watt, 2002). The results of K. S. Miller et al.'s (2000) study (which included adolescents from San Juan, Puerto Rico) also failed to establish a significant relationship between adolescent religiosity and consistent condom use among high-school respondents. Religiosity, in this case, was measured using attendance at religious services plus the importance adolescents attached to religion. It is noteworthy, however, that Sonenstein et al. (1992) did find adolescent religiosity to predict for less unprotected sex among their Black male respondents, though results were not significant for non-Black adolescent males. Unprotected sex was operationalized in this study as acts of sexual intercourse without the use of either condoms or the pill as protection against premarital pregnancy.

### **Effects of Family-Context Factors and Adolescent Religiosity on Adolescent Sexual Risk-Taking: Caribbean Studies**

The effects of various family-context and individual-level variables, for example, adolescent religiosity, that have been identified as potentially important predictors of adolescent sexual risk-taking in the United States have only begun to be explored in the Caribbean region. As will become evident, there is still much to be done in terms of establishing culture-specific baselines and monitoring trends with regard to the sexual risk-taking of Caribbean adolescents. Even more remains to be explored regarding the antecedents to the risky sexual behaviors that are associated with HIV infection.

The vast majority of studies located in the present literature search related to the risky sexual behaviors of Caribbean adolescents provided country-specific descriptive statistics. (See, for example, Allen et al., 2000; Baptiste et al., 2007; Crawford & McGrowder, 2008; Dorjgochoo et al., 2009; Eggleston et al., 1999; Figueroa, Ward, Walters, Ashley, & Wilks, 2005; Friedman et al., 1999; Halcón et al., 2003; Halperin, de Moya, Pérez-Then, Pappas, & Garcia Calleja, 2009; Holschneider & Alexander, 2003; Kurtz et al., 2005; Kurz, Johnson-Welch, Le Franc, & Hamilton, 1995; Modeste, Hopp Marshak, & Green, 1997-1998; Norman & Uche, 2002; O'Toole, McConkey, Casson, Goetz-Goldberg, & Yazdani, 2007; Smikle et al., 2000; Westhoff et al., 1996.) These studies have been important to documenting “what is” with regard to the level of involvement of Caribbean adolescents in specific sexual at-risk behaviors associated with HIV infection, both in the regional context and country by country. They continue to be important in monitoring regional and national trends. To a large degree, such studies contributed to the problem statement in Chapter 1. It is not the purpose of this literature review to further review these descriptive studies. Pertinent data, especially from Caribbean countries where the SDACYS was conducted, may provide descriptive statistics for comparison with findings from the present study. (See Chapter 5.)

As regional and national baselines quantifying sexual at-risk behaviors among Caribbean youth have been established, it has become increasingly important to move, in the words of Whitaker, Miller, and Clark (2000), “beyond did they or didn't they” (p. 111) to a better understanding of the factors associated with risky sexual behaviors among adolescents in their unique cultural domains. Relatively few studies were found

that contributed toward this knowledge base. Overall, however, the studies that were located corroborated Blum et al.'s (2003) early observation that

many of the factors associated with lower rates of participation in risk behaviors in the United States are the same in the Caribbean. This similarity is not surprising, in that many of the factors identified relate to the establishment of human bonds. (p. 460)

This section is thus focused on Caribbean studies that explored relationships between the particular family-context/adolescent religiosity factors, which were selected for investigation here from among those identified as potentially important by Kirby et al. (2005), and the sexual at-risk behaviors in which Caribbean adolescents are engaged. These studies contribute “emerging answers” (Kirby, 2001, 2007) to the overarching research question explored in this study: Do selected family-context and adolescent religiosity variables—previously identified as protective on adolescent sexual risk-taking in the United States—operate similarly in the Caribbean context? The present study was designed to extend this emerging understanding.

#### Adolescent Perception of Parental Support/Connectedness

##### **Relationship With Sexual Experience/ Timing of Sexual Debut**

Several Caribbean studies reported a protective effect of parental support/connectedness on adolescent sexual experience and/or timing of sexual initiation. Four of these studies drew on the database for the Caribbean Youth Health Survey (CYHS) for their analysis samples (see Blum et al., 2003; Blum & Ireland, 2004; Halcón et al., 2000; Lerand et al., 2004). The CYHS is “the largest, most comprehensive study of Caribbean youth to date” (Lerand et al., 2004, p. 142). A sample of 15,965 youth attending school in nine of the 19 Anglophone countries in the Caribbean region



participated in the study.<sup>4</sup> Classrooms were selected randomly for participation, so as to “identify representative national samples of young people ages 10 to 18 years” (Blum et al., 2003, p. 456). Because considerable variation in population size existed between countries, subsample sizes were further adjusted to achieve “better overall regional representation” (Blum et al., 2003, p. 456). The study investigated the relationships of nine predictor variables and five outcome variables related to adolescent health, including the effects of parent/family connectedness on adolescent sexual experience and timing of sexual debut.

In the analyses of CYHS data conducted by the various researchers, Halcón et al. (2000) was the first to report that adolescent perception of connectedness to family was a significant predictor of reduced likelihood of sexual experience among youth 15 years old and younger. However, connectedness was not a significant predictor of sexual abstinence among older adolescents ages 16-18 years (p. 15). Blum and Ireland (2004) reported similarly, noting that while adolescent perception of school connectedness was the strongest predictor of reduced risk-taking among adolescents overall, family connectedness also had a significant protective effect across a spectrum of adolescent at-risk behaviors investigated, including sexual experience.

Stallworth et al. (2004) reported a gender effect. Data for this study were provided by 788 high-school students, 13 to 19 years of age, from the rural sector of Hanover, Jamaica. In multivariate analysis, in which all other predictors were controlled, Stallworth et al. found that among female adolescents, greater paternal love was

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<sup>4</sup> Within the Caribbean Community and Common Market (CARICOM) member states, the nine countries that chose to participate in the CYHS were: Antigua, Bahamas, Barbados, British Virgin Islands,

significantly related to reduced likelihood of sexual experience. The relationship was not significant, however, for their male counterparts (p. 174). Interestingly, male respondents to this study indicated a greater overall sense that they were loved by both their mothers and their fathers than did female respondents. These findings were generally consistent with focus-group discussions with out-of-school adolescents in this same rural setting (D. Smith et al., 2003). In this context, adolescent females stated their belief that “a relationship exists between parental love and a female’s decision” to have sex (p. 45), whereas males “linked lack of parental love to problem behavior” in general (p. 45). No differentiation was made in this study between maternal and paternal love.

With regard to early sexual debut, Blum et al. (2003), drawing on CYHS data, reported that “connectedness to parents was strongly protective among teenagers younger than 16 years” (p. 459). Vélez-Pastrana et al. (2005) found similarly among 425 younger adolescents, ages 12-16 years, recruited from the public school system in the metropolitan San Juan, Puerto Rico. It should be noted, however, that in this study, among several parental support/connectedness measures included in the final model, the one that was significantly associated with later sexual debut was related to adolescent reports that they discussed their problems with parents/family members (p. 786).

Lerand et al. (2004), also using the CYHS dataset for their analyses, reported a gender effect among sexually experienced youth in relation to the association of adolescent perception of family connectedness and early sexual debut. Female adolescents who felt connected to their families were less likely to engage in sexual

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Dominica, Grenada, Guyana, Jamaica, and St. Lucia (Halcón et al. 2000, p. 2; see also Blum & Ireland, 2004).

intercourse at an early age. Among males in their cohort, however, no significant protective effect of family connectedness on timing of sexual debut was found.

### **Relationship With Consistent Condom Use**

In the only Caribbean study found investigating the relationship between parent-adolescent connectedness and adolescent reports of condom use, Lerand et al. (2004) found that family connectedness was associated with “increased condom use” (p. 143) among sexually active male respondents to the CYHS. Among sexually active female participants, however, results were not significant.

### **Adolescent Perception of the Quality of the Parent-Adolescent Relationship**

Because so few Caribbean studies testing the relationship between parental connectedness and the sexual behavioral outcomes of interest in this study were found, reviews of two related studies that provide insights into the relationship between the overall quality of the parent-adolescent relationship and adolescent sexual risk-taking are also included here. It is noteworthy that Dorjgochoo et al. (2009) reported a statistically significant relationship between the quality of parental-adolescent/young adult relationships and HIV infection status among over 3,000 youth voluntarily seeking counseling at a clinic in Port-au-Prince, Haiti, in 2005-2006. Young people who perceived their relationships with their parents to be “good” were significantly less likely to be HIV positive. These results were compatible with those of McBride et al. (2005) as reported below in the only Caribbean study found to explore the associations between adolescent satisfaction with their relationships with their parents and their participation in risky sexual behaviors.

### **Relationship With Sexual Experience/ Timing of Sexual Debut**

Reporting on a study of 1,078 adolescents, ages 14-18 years, attending middle/secondary schools on St. Maarten, McBride et al. (2005) indicated that “overall, . . . a ‘great’ relationship with both parents, as perceived by the student, was associated with a lower rate of behaviours that have been shown to be associated with HIV infection” (p. S51). With reference to adolescent sexual experience in particular, students who had a great relationship with their parents were “at least 1.59 times more likely to not . . . have sex” (McBride et al., 2005, p. S52) than were their counterparts who perceived their relationships with their parents to be of lesser quality. It should be noted, however, that when the effects of parent-adolescent relationship quality on adolescent sexual experience were tested individually for mother or father, statistical significance was lost.

### **Relationship With Number of Sexual Partners**

McBride et al.’s (2005) findings further indicated that “while all sexually active respondents with a ‘great’ relationship with both parents had fewer lifetime sex partners than those without those relationships, only a ‘great’ relationship with mother was statistically significantly related to fewer lifetime sex partners” (McBride et al., 2005, p. S51). Unexpectedly, a *greater* number of sexual partners in the last 3 months was reported among adolescents also indicating high-quality relationships with their fathers than were reported by youth who did not have such relationships (p. S51).

## **Relationship With Consistent Condom Use**

McBride et al. (2005) found no statistically significant relationship between the quality of parent-adolescent relationships and the consistent use of condoms among youth (p. S51).

### **Adolescent Perception of Parental Behavioral Control**

All of the Caribbean studies located that explored the relationship between parental behavioral control and adolescent sexual at-risk behaviors found parental monitoring to be protective on sexual experience/timing of sexual debut. For example, Stallworth (2002), in a study of 702 younger Cuban adolescents ages 12-15 years, reported increased parental monitoring as positively associated with sexual abstinence overall (p. 52). When analyses were conducted separately by gender, however, statistical significance for this relationship was maintained only for girls (p. 62). In a related study also reported by Stallworth (2002), among 337 fifteen-year-olds from Cuba and Jamaica, higher parental monitoring was again found to be protective on sexual experience for Cuban girls only (p. 72).

From the responses of a sample of Puerto Rican adolescents that included 16-year-olds and younger, Vélez-Pastrana et al. (2005) also found that parental supervision was positively associated with delayed sexual initiation (p. 785).

Specifically, the quality of parent supervision was related to sexual behavior. In situations where parents know their children's whereabouts, know what they are doing, and spend time with them after school, it is less likely that these youths will be sexually active. (p. 788)

In another study using data collected in three public high schools in the United States and one from San Juan, Puerto Rico, Forehand, Miller, Dutra, and Chance (1997)

reported that “in hierarchical regression, only monitoring was a significant predictor of adolescent deviance” (p. 1039), that is, higher adolescent perception of parental monitoring was associated with less deviant behavior. Furthermore, the “San Juan adolescents reported higher scores for . . . [parental monitoring] and lower scores for deviance” (p. 1040) than the American youth. It should be noted here that Forehand et al. included sexual activity in the overall measure of deviant behavior used in this study. As Weinbender and Rossignol (1996) observed, “Adolescent sexual activity, while not a deviant behavior, frequently is included in this group” (p. 279).

#### Adolescent Perception of Parental Disapproval of Adolescent Sexual Intercourse

No Caribbean studies were found that investigated the relationship between parental disapproval of adolescent sexual intercourse and adolescent sexual experience/timing of sexual debut, number of sexual partners, or consistent condom use. In one general study found, Kotchick et al. (1999) did investigate the relationship between *maternal* attitudes regarding adolescent sexual activity and sexual risk-taking among 14- to 16-year-old students living with a single mother and enrolled in three public high schools in the United States and one in San Juan, Puerto Rico. In the San Juan sample, “a more conservative maternal attitude toward adolescent sexual behavior was associated with less adolescent sexual risk-taking” (p. 99). It is noteworthy that these researchers also found results to be “identical . . . in hierarchical regression . . . using adolescent and mother’s reports [of maternal attitudes] separately” (p. 99).

## Adolescent Religiosity

### **Attendance at Religious Services**

Relationship with sexual experience/  
timing of sexual debut

All of the studies located which found adolescent attendance at religious services to be protective on sexual experience drew on the CYHS database for their analyses (Blum et al., 2003; Blum & Ireland, 2004; Halcón et al., 2000). In all three studies, youth who attended religious services regularly were less likely to have a history of sexual intercourse. Both Blum et al. (2003) and Halcón et al. (2000) reported, however, that this finding was statistically significant only for adolescents 13 years of age or older. Blum and Ireland also noted that “religious attendance had the weakest single effect on reported sexual initiation” (p. 496).

### **Importance of Religion**

Relationship with sexual experience/  
timing of sexual debut

Halcón et al. (2000) found “religious beliefs” (p. 15) among younger adolescents (15 years of age and younger) responding to the CYHS to be protective on sexual experience. Unfortunately, the researchers did not detail how the construct “religious beliefs” was operationalized in the CYHS. Wyatt et al. (1999), on the other hand, found no significant relationship between adolescent religiosity and timing of sexual debut among Jamaican females.

## **Effects of Family-Context Factors and Adolescent Religiosity on Adolescent Sexual Risk-Taking: Studies Among Youth With Adventist Connections**

Nine studies were found based on data provided by adolescents with SDA Church connections. The samples for two of these studies included adolescents from the Caribbean region (Gray, 1994; Modeste et al., 1997-1998). These research efforts provided early windows on the sexual risk-taking among adolescents with SDA Church connections in the Caribbean context. They also offered limited insight into the potential importance of the family-context/adolescent religiosity factors under study here in predicting adolescent sexual at-risk behaviors in this region. These studies exploring the effects of relevant family-context predictor variables and adolescent religiosity on sexual risk-taking among youths with SDA Church connections are briefly described here to avoid repetition in my synopsis of statistically significant findings, which follows.

Dudley (1992) highlights results from the Valuegenesis study, a major study conducted among more than 16,000 youth, parents, pastors, teachers, and school administrators affiliated with the SDA Church (p. 13). At the time, Dudley considered this study “probably the most important piece of research on church youth ever conducted by any religious body in North America” (p. 12). Specifically, Dudley reported on the responses of an SDA Church-operated school-based sample of 10,641 students enrolled in Grades 6-12 and a church-based sample of 457 students from the same cohort, but not enrolled in SDA Church-operated schools (p. 303). One of the broad primary purposes of Valuegenesis was “to provide a picture of the value systems of Adventist youth . . . and to determine what factors in Adventist homes, schools, and churches nurture the values and faith that we cherish in our young people” (Dudley,



1992, pp. 12-13). Among those core values is premarital sexual abstinence (Dudley, 1992, p. 49; see also Flowers & Flowers, 2004; Gray, 1994; Hopkins, 1996; Lee & Rice, 1995).

Weinbender and Rossignol's (1996) study focused specifically on the relationship between adolescent affiliation with the SDA Church and the timing of adolescent transition to sexual intercourse. These researchers also drew on data from the North American Valuegenesis study. The analysis sample used for their study consisted of 8,321 students who were enrolled in 58 Adventist-operated secondary schools across North America and identified themselves as affiliated with the SDA Church.

Lee and Rice (1995) responded to a request by the Department of Family Ministries at the World Headquarters of the SDA Church to review Valuegenesis data for the purpose of producing a "portrait of the Adventist family." Their student analysis sample was restricted to students in Grades 6-12 who were affiliated with the SDA Church. This report included an exploration of the relationships among various family-context predictor variables and adolescent sexual experience.

Strahan (1994) reported results from the Valuegenesis study conducted by the SDA Church in the South Pacific, a study patterned somewhat after the North American Valuegenesis study described above. The South Pacific study sample consisted of 1,047 youth ages 11-18 affiliated with a random sample of local SDA Church congregations across Australia and New Zealand. Of particular interest here is Strahan's exploration of the relationship between parental support/connectedness and adolescent at-risk behaviors.

Ludescher's (1992) unpublished doctoral research was conducted among 488 adolescents enrolled in Grades 9-12 in secondary schools operated by the SDA Church in

the state of California. These students were selected randomly from a cluster sample of 225 local SDA Church congregations. The study was designed to assess respondents' "AIDs-related knowledge, attitudes, and behaviors; some of their family-, church-, and school-related determinants; and social desirability response tendency" (Ludescher, 1992, Abstract).

Hopkins (1996; see also Hopkins, Hopp, Hopp Marshak, Neish, & Rhoads, 1998) expanded the geographical spread of Ludescher's (1992) study to include 1,748 adolescents attending 69 SDA Church-operated 4-year secondary schools across the United States and Canada. In part, the purpose of this study was to assess the "HIV/AIDS related behaviors of substance use and sexual intercourse before marriage and the determinants of these two risk behaviors" within the study population (Hopkins, 1996, p. 5).

Gray (1994) surveyed a similar adolescent population using a "purposeful sample" (p. 58) of 1,292 adolescents attending eight non-boarding academies (high schools) operated by the SDA Church in three different regions of the United States and the U.S. Virgin Islands. This unpublished study assessed "the HIV/AIDS-related beliefs, HIV/AIDS-related knowledge, and HIV/AIDS-related behaviors of adolescents according to gender, grade level, ethnicity, geographical location, and religious affiliation" (Gray, 1994, Abstract). Modeste et al. (1997-1998) initiated the "first known research on AIDS to be conducted in parochial and specifically SDA schools in the Caribbean" (p. 375) among 729 adolescents between the ages of 12 and 19 years in the island nation of Trinidad and Tobago. This research focused primarily on adolescent *intentions* to participate in risky behaviors that put them at risk for HIV infection, as opposed to

adolescent *participation* in these behaviors per se. Though this makes their research less relevant to the present study, their pioneering efforts in the Caribbean region provided a very minimal baseline.

### Sexual Risk-Taking Among Adolescents With SDA Church Connections

#### **Sexual Experience**

In the most recent study located investigating the sexual experience of adolescents with SDA Church connections published in North America, Hopkins et al. (1998) reported that, overall, 16.3% of adolescents attending participating SDA Church-operated high schools across North America self-reported sexual experience (p. 142). Ludescher (1992), in an earlier investigation of the sexual behaviors of a comparable population of adolescents in California, had reported that 18.7% of the students surveyed had engaged in heterosexual intercourse (p. 82). Gray (1994), in her unpublished dissertation, reported findings from her analyses of data provided by a similar cohort of high-school students from Adventist schools operated in the United States and its territories (including 32 students from the U.S. Virgin Islands) (p. 71), and found that 22.7% of respondents reported having had at least one sexual partner (p. 84). By contrast, a study of youth attending Adventist high schools in Trinidad and Tobago (Modeste et al., 1997-1998) suggested a much higher proportion of youth may be engaged in sexual intercourse. In this study, Modeste et al. reported that only 54% of students believed themselves not to be at risk for HIV infection because they were sexually abstinent (p. 385).

Dudley (1992), reporting on responses from the large North American Valuegenesis study sample, indicated that 15% of students affiliated with the SDA Church in Grades 9 and 10, as compared with 26% in Grades 11 and 12, had a history of

sexual intercourse (p. 50). Strahan (1994), on the other hand, indicated reports of sexual experience among only 9.5% of Adventist adolescents surveyed in Australia/New Zealand in conjunction with the South Pacific Valuegenesis study (pp. 2-3).

With regard to sexual experience, Hopkins et al. (1998) reported gender differences. More males than females reported having had sexual intercourse (18.2% and 14.6%, respectively) (Hopkins et al., 1998, p. 142). Gray (1994) also found significant gender differences in this regard, with 26.1% of males reporting a history of sexual intercourse, as compared to 19.6% of females (p. 97). Ludescher (1992), on the other hand, found no significant differences between adolescent males and females with regard to sexual experience (p. 224).

### **Timing of Sexual Debut**

Hopkins et al. (1998) reported the overall median age at which adolescents initiated sexual intercourse as 15 years of age for both males and females (p. 142). Similarly, among the respondents to Gray's (1994) survey, "the most frequently reported age of first sexual intercourse was 15-16 years old" (p. 84). However, more males (16.18%) than females (9.78%) reported sexual debut at 14 years of age or younger (p. 97). Whereas 12% of Ludescher's (1992) sample were less than 13 years of age at first intercourse, 26.4% were sexually experienced by the time they had reached the age of 17.

### **Number of Sexual Partners**

Hopkins et al. (1998) reported that among sexually experienced adolescents responding to their study, "the median number of sexual partners was two" (p. 142). Among a similar population, Ludescher (1992) indicated that nearly half of sexually experienced adolescents had had one heterosexual partner in their lifetime (p. 82). Gray

(1994) found that among adolescents with a history of sexual intercourse (22.7%, overall), one partner was reported by 8.2% of respondents, two partners by 3.5%, three partners by 2.4%, and four or more by 5.3% (p. 84). Gray also noted that double the number of males as females indicated their lifetime number of sexual partners was four or more (p. 96).

### **Consistent Use of Condoms**

Reporting on their most recent sexual experience, 52.7% of sexually active adolescents surveyed by Hopkins et al. (1998) said they had used a condom (p. 142). Gray (1994), on the other hand, found that “less than 10% of the sexually active students reported ‘Always’ using a condom during sexual intercourse” (p. 162).

### **Adolescent Perception of Parental Support/Connectedness**

Dudley (1992) reported that approximately three-fourths of the students responding to the North American Valuegenesis study who were affiliated with the SDA Church indicated that they have a good relationship with their parents and that their parents say “I love you” often. Eighty percent said that their parents offer help and support when needed (pp. 30-31). When these and other measures of family dynamics were combined into a “Family Climate Scale,” a moderate negative correlation was found between this scale and an At-Risk Index, which combined student reports of engagement in several risky behaviors including sexual intercourse (Dudley, 1992, p. 194). Dudley defined correlations between .20 and .30 as “moderate” in strength (pp. 68-69). In bivariate analyses, a moderate negative correlation was also specifically reported between adolescent perception of family warmth and supportiveness and the At-Risk Index

(Dudley, 1992, pp. 264-265). In multivariate analyses, using a model that incorporated strong family predictors identified in bivariate analyses, adolescent perception of family warmth and supportiveness remained a significant predictor of fewer adolescent at-risk behaviors. However, when “the significant predictors from the family, congregation, and school models obtained by multiple regression were all entered into a grand model to see which variables still retained unique power to predict avoidance of at-risk behaviors” (Dudley, 1992, p. 266), adolescent perception of family warmth and supportiveness lost significance as a predictor of lower incidence of at-risk behavior among adolescents in Grades 9-12.

Lee and Rice (1995), also drawing on North American Valuegenesis data, explored the relationships among family warmth and the individual items used to construct the combined index of adolescent at-risk behaviors used by Dudley (1992). They reported a low negative correlation ( $r = -.11$ ) between family warmth and a history of sexual intercourse among students affiliated with the SDA Church (p. 5). Ludescher (1992) also reported a small protective effect on sexual experience among adolescents who perceived their parents and families as happy, loving, supportive, and getting along well together (pp. 190-191).

In the South Pacific Valuegenesis study (Strahan, 1994), the quality of the parent-adolescent relationship was operationalized as “a product of parents’ capacity for warmth and affection, and for fostering independence” (p. 94). Findings indicated that “the quality of parenting . . . [was] conspicuously absent in predicting at-risk behaviour [including sexual intercourse]” (p. 58) among Adventist adolescents. Strahan reported one exception to these general findings, however, among fathers and sons. “The two male

groups who reported their fathers as high on the care scale were significantly less likely to participate in at-risk behavior than the two low paternal care groups” (p. 61).

### Adolescent Perception of Parental Behavioral Control

Among students responding to the North American Valuegenesis study who were affiliated with the SDA Church, Dudley (1992) reported that 84% considered rules about “having sex only in marriage” (p. 157) to be strictly enforced in their families. With regard to parental monitoring, three-fourths of students affiliated with the SDA Church also responded that their parents inquired about where they were going and who they would be with “at least most of the time” (p. 197).

In multivariate analyses, using a family model which incorporated significant family predictor variables identified in bivariate analyses, “perceptions of the family as warm and supportive” and “family enforcement of Adventist standards” (Dudley, 1992, p. 265) were both significant predictors of fewer at-risk behaviors among adolescents in Grades 9-12 who were affiliated with the SDA Church. However, in the grand model—which included “significant predictors from the family, congregation, and school models” (Dudley, 1992, p. 266)—“family enforcement of Adventist standards” was the only parental factor found to have unique explanatory power with regard to at-risk behaviors among adolescents in Grades 9-12 who were affiliated with the SDA Church.

Not surprisingly, Lee and Rice’s (1995) results were compatible with findings reported by Dudley (1992). They reported a low negative correlation ( $r = - .15$ ) between parental enforcement of the sexual standard reserving sexual intercourse for married couples and a history of sexual intercourse among students affiliated with the SDA Church (p. 62). In addition, their findings indicated that 75% of students affiliated with

the SDA Church reported that their parents also monitor their whereabouts and companions and “communicate that consequences occur when rules are broken” (p. 69, see also p. 76). Students with higher levels of parental monitoring also reported lower incidence of risky behaviors ( $r = -.06$ ) (p. 69; see also p. 77).

It is also important to note that Lee and Rice (1995) reported a combined protective effect of “family warmth and limit-setting” (p. 37) on sexual experience. Multivariate analyses were performed to determine “how family warmth and limits [family rules] interact in their relationship with an outcome variable” (pp. 36-37), for example, sexual experience. Results indicated that among students affiliated with the SDA Church,

both warmth and limits went with lowered rates of intercourse. As warmth went from low to high there was an average 48% decrease in sexual intercourse. As limits went from low to high the drop was an average of 43%. Going from low warmth and low limits to high warmth and high limits netted a 72% drop. (Lee & Rice, 1995, p. 52)

In reporting a small significant protective effect of standard enforcement in the family context on AIDS-risk behaviors, Ludescher (1992) suggested that it was adolescent perception of warmth in the family setting that may account for a more positive adolescent response to standard enforcement in the home than in the church and school where congregations/teachers were rated low in warmth and respect for students. Perhaps, Ludescher proposed, “the issue is not standard enforcement itself but the way it is done. Rules taught in a loving and accepting way have more impact than rules taught in a less accepting environment” (p. 261).



## Adolescent Religiosity

For the most part, adolescent religiosity was found to be protective on involvement in adolescent risk-taking, including sexual at-risk behaviors.

### **Religious Affiliation**

#### Relationship with sexual experience/ timing of sexual debut

Two out of three studies that were located investigating the relationship between religious affiliation and sexual experience/timing of sexual debut found affiliation with the SDA Church to be protective. Hopkins (1996) indicated that the proportion of students who affiliated with the SDA Church and reported having had sexual intercourse was significantly lower than that of students who were not so affiliated (14.6% and 37.1%, respectively) (p. 58). Gray (1994) found an even greater difference with regard to sexual experience between similar groups. In her study, 20.4% of SDA Church-affiliated students self-reported sexual experience, as compared to 56.9% of students not affiliated with the SDA Church (p. 140). Ludescher (1992), on the other hand, found no significant relationship between student membership in the SDA Church and sexual experience (p. 210).

With regard to timing of sexual debut, Gray (1994) also reported a positive association between affiliation with the SDA Church and delay of sexual debut:

Almost three times as many non-SDA students (12.39%) compared to SDA students (4.84%) reported initial sexual activity at 12 years of age or younger. Initial sexual activity at ages 13-14 was reported by 6.48% SDA students and 16.81% non-SDA students. Initial sexual activity at ages 15-16 was reported by 7.17% SDA versus 14.16% of non-SDA students, and initial sexual activity at 17 years and older was reported by 1.9% SDA and 3.54% non-SDA students. (p. 140)

#### Relationship with number of sexual partners

Again, with regard to the effects of religious affiliation with the SDA Church on adolescent sexual partnering, Gray (1994) found such affiliation to be protective. Results indicated “three times as many non-SDA students (22.81%) compared to SDA students (7.24%) reported having had four or more sexual partners in their life” (pp. 139-140). When asked about their sexual partnering in the last year, “approximately four times as many non-SDA students (16.67%) as compared to SDA students (4.23%) reported having had four or more sexual partners” (p. 140).

#### Relationship with consistent condom use

With regard to condom use, however, affiliation with the SDA Church was not found to be protective. Gray (1994) indicated that “almost twice as many non-SDA students (15.93%) compared to SDA students (8.28%) reported always using a condom” during intercourse, and “more than three times the percentage of non-SDA students (15.04%) compared to SDA students (4.48%) reported sometimes using a condom” (p. 141).

### **Importance of Religion**

Overall, importance of religion was protective on sexual risk-taking in the lives of adolescents with SDA Church connections. It should be noted that, again, differences in study measures made direct comparisons difficult.

#### Relationship with sexual experience/ timing of sexual debut

Dudley (1992) reported that approximately half of the respondents to the North American Valuegenesis study who indicated an affiliation with the SDA Church said

that religion was “either the most important or a very important influence in their lives” (p. 21), whereas a mere 2% said it was unimportant. In addition, over half of youth affiliated with the SDA Church reported that they prayed once or more a day (p. 22). Dudley found a moderate negative correlation between the importance adolescents placed on religion and their score on an index of adolescent at-risk behaviors, which included having had sexual intercourse (Dudley, 1992, pp. 264-265).

Weinbender and Rossignol (1996) was included in Kirby et al.’s (2005) cluster of studies exploring the effects of affiliation with a conservative denomination on adolescent sexual risk-taking, a categorization with which these researchers concurred. They reported a positive association between greater religiosity, which included both adolescent affiliation with the SDA Church and involvement in church-related activities, and delayed sexual initiation for adolescents enrolled in Grades 10-12. However, for adolescents in Grade 9, greater religiosity was associated with later sexual debut only among females. Surprisingly, greater religiosity was found to be associated with a slightly increased risk for early sexual initiation among ninth-grade males.

#### Relationship with consistent condom use

Contrary to his expectations, Ludescher (1992) reported that among sexually experienced respondents, those who ascribed importance to their religious faith used condoms about as frequently as their peers who did not indicate religious faith was of importance to them. Ludescher had hypothesized that adolescents giving importance to religious faith would have reported less frequent use of condoms.

## Summary

This chapter has reviewed a purposeful selection of research studies exploring relationships among selected family-context/adolescent religiosity predictor variables and adolescent sexual at-risk behaviors. The comprehensive, rigorous work of Kirby et al. (2005) provided a framework for selecting the best empirical United States studies for review. Once this selection was completed, an attempt was made to critically analyze the findings of each study for their contribution to the conceptual framework proposed in the current study. This review of literature also served to refine the selection of predictor variables for the present study and the proposed conceptual framework that would guide the analysis process. The literature search also located a number of pertinent studies conducted in the Caribbean region and among youth with SDA Church connections. These were also included in this review for their contribution to an understanding of (a) adolescent sexual risk-taking among Caribbean adolescents and youth with SDA Church connections and (b) the findings of other researchers seeking to better understand the antecedents of such behavior in these cultural/subcultural contexts.

## CHAPTER 3

### METHODOLOGY

The data analyzed in this dissertation were drawn from the database generated by the Seventh-day Adventist Caribbean Youth Survey (SDACYS). At the outset of this chapter, I will briefly describe this larger study. The remainder of this chapter will focus on the conceptual framework for the present study and particularly the methodologies used to explore the family-context and adolescent religiosity factors being investigated here as they relate to adolescent sexual risk-taking. Specific research questions will be identified and the analytical methods applied to seek answers to them will be described. Results will be reported in Chapter 4.

#### **The Seventh-day Adventist Caribbean Youth Survey**

The SDACYS was a cross-sectional exploration of the prevalence and antecedents of a spectrum of at-risk behaviors with serious health-compromising consequences, including HIV infection, among Caribbean adolescents with SDA Church connections. The SDACYS was conducted as part of a research project at the Institute for Prevention of Addictions at Andrews University and supported by the Winifred L. Stephens Foundation. Dr. Kiti Freier-Randall, then professor of pediatrics and public health at Loma Linda University, was the Principal Investigator on the project, heading a collaborative team that brought together the expertise of academic researchers, regional

educators, and public health/family practitioners. The primary regional collaborator was Carlos Archbold, then Education Director for the Inter-American Division of the General Conference of Seventh-day Adventists (IAD). North American-based collaborators included researchers/consultants from Andrews University, Loma Linda University, and the Department of Family Ministries at the World Headquarters of the Seventh-day Adventist Church.

### SDACYS Sample

Respondents to the SDACYS were secondary students between the ages of 14 and 18 years enrolled in SDA Church-operated schools in the Caribbean region under the general supervision of the IAD. At the time of SDACYS data collection between April 2005 and April 2006, the SDA Church's network of schools across the Caribbean region was superintended by six administrative entities known as "union missions" or "union conferences," often abbreviated in Church parlance as "missions" or "unions," depending on the level of organization achieved (General Conference Corporation of Seventh-day Adventists, 2006). The jurisdictional boundaries of these missions/unions within the IAD were drawn primarily along geographical and official language lines. Two missions superintended the schools operated by the SDA Church in the Francophone areas of the Caribbean Basin: the Haitian Union Mission (Haiti) and the French Antilles-Guiana Union Mission (Guadeloupe, Martinique, and French Guiana). The Puerto Rican Union Conference (Puerto Rico) and the Dominican Union Mission (Dominican Republic) supervised educational operations for schools in the Latin Caribbean. Two additional unions provided oversight for schools in the Anglophone Caribbean: the West Indies Union Conference (Bahamas and Jamaica) and the Caribbean Union Conference (United

States Virgin Islands, Barbuda, Antigua, Dominica, St. Lucia, Barbados, Grenada, and Trinidad and Tobago).

In order to arrive at a sample that was both manageable in size and representative in nature, the collaborative research team made an initial selection of schools from across these six missions/unions. These selections were based on the availability of an adolescent student population deemed representative of their peer cohort throughout the Anglophone, Francophone, and Latin Caribbean regions where SDA Church-operated schools were located. This resulted in the identification of a total of 62 secondary schools with a total of 10,057 students between the ages of 14 and 18 years enrolled: Haiti (7 schools), Dominican Republic (17 schools), Guadeloupe/Martinique (3 schools), Puerto Rico (13 schools), Caribbean islands (13 schools), and Bahamas/Jamaica (9 schools).

Because differences might exist between adolescents enrolled in large, primarily urban, schools and small schools generally located in rural settings (Inciardi et al., 2005, p. S17), each school was also categorized as either “large” or “small.” Large schools ( $N=41$ ) were defined as schools with 100 or more students enrolled. Small schools ( $N=21$ ) had fewer than 100 students. To ensure proportional representation, an online randomizing software program was used to draw a smaller sample of schools in both categories from among the schools initially selected. The resulting sample of schools included 13 large and 7 small schools. All youth between the ages of 14-18 years attending these schools (2,684 from large schools, 447 from small schools, for a total of 3,131 adolescents within the established age parameters) were eligible for participation in the SDACYS. These students represented approximately one-third (31%) of the adolescents enrolled in SDA Church-operated schools across the Caribbean region.

Regrettably, despite numerous attempts, persistent political unrest in Haiti prevented data collection at the selected Francophone sites. Suitable alternate schools were not available. This unfortunate circumstance reduced the eligible number of respondents by nearly one-half, and as a result, the Francophone Caribbean was not represented in the SDACYS study. Among the remaining 1,625 adolescents eligible for participation in the SDACYS by virtue of enrollment in one of the secondary schools where data were collected, 1,330 adolescents were included in the final sample.

### Survey Instrument

A survey instrument (see Appendices A and B) was developed for the SDACYS based on theory, previous experience and expertise among the research team members, and items and scales tested and utilized by other researchers investigating adolescent at-risk behaviors. As then Co-director of Family Ministries at the World Headquarters of the SDA Church, I served as a consultant to the research team in the development of this instrument, specifically with regard to those measures related to the parental and adolescent religiosity factors explored here.

The 106-item survey instrument included social and family demographic measures as well as other individual-level items descriptive of adolescent respondents and their peers. Additional items were included as measures of the prevalence of adolescent involvement in a broad spectrum of health-compromising behaviors. These measures were included for the purpose of establishing regional adolescent behavioral baselines as well as exploring possible antecedents to these at-risk behaviors in the Caribbean setting.



The parental and adolescent religiosity factors investigated in the present study were included in the SDACYS questionnaire because they had been identified by researchers, primarily in the United States, as potentially important to understanding the antecedents of adolescent sexual risk-taking. This reliance on studies conducted in the United States was necessary because reviews of developing country and regional literature revealed a paucity of research exploring the effects of parental/adolescent religiosity factors on the sexual behaviors of adolescents immersed in the youth culture of the Caribbean Basin, and particularly in the religious subcultural context of adolescents enrolled in secondary schools operated by the SDA Church across the region (see Chapter 2).

Three national survey instruments were the primary sources for specific measures. Items were drawn from the National Adolescent Student Health Survey to assess attitudes and normative beliefs about high-risk behaviors. Items from the Centers for Disease Control and Prevention's (CDC) Youth Risk Behavior Survey (YRBS) were used to measure the prevalence of adolescent at-risk behaviors. Items were also utilized with permission from the longitudinal Family and Adolescent Study (Barnes & Farrell, 1992; Barnes et al., 2000) to quantify the parental connectedness and behavioral control variables under investigation here as potential predictor variables. Items assessing the three levels of adolescent religiosity were selected on the basis of common usage among researchers investigating the effects of religiosity on adolescent at-risk behaviors (Kirby et al., 2005).

Various response options to questionnaire items were developed to include circling the letter corresponding to the appropriate response, circling all the responses

that apply, supplying requested information, and rating items on a Likert scale. Examples were provided as appropriate. In addition, persons administering the survey were trained to respond to respondents' questions for clarification.

The survey instrument (see Appendices A and B) was initially developed in English and translated into French and Spanish. As an additional precaution, these translations were also back-translated into English to check for accuracy and minimize the potential for misinterpretation by respondents. In order to ensure the cultural sensitivity of the instrument, regional Education Department directors reviewed the questionnaire for use in their particular cultural settings. The principal collaborator from the Education Department of the IAD, as well his counterparts in union/mission offices across the Caribbean region, played a key role in editing final versions of the questionnaire and in resolving translation issues.

## Protocols and Procedures

### **Institutional Review Board Approval**

The SDACYS study had the full approval of both the Loma Linda University and Andrews University Institutional Review Boards (IRB). Appropriate protocols were followed to ensure the maintenance of the highest ethical standards in all procedures.

### **Training of Research Assistants**

In advance of data collection, a training session was conducted in January 2003 by the SDACYS principal investigator and the principal IAD collaborator. Present for the training were volunteer research assistants from each area represented in the sample who would implement study procedures in their respective domains. During the instructional

period, these volunteers were trained to implement procedural tasks such as securing informed parental consent and student assent, protecting respondent confidentiality, implementing the alternate activity for non-participants, and debriefing procedures. As an additional measure to protect the anonymity of the respondents, care was taken to make certain that the research assistants in any given venue were not known to the participants. A refresher on methodology was sent to all research volunteers in March 2005, followed by either a visit or phone conversation with the principal IAD collaborator.

### **Parental Consent**

Members of the research team based in the United States recommended the generally accepted protocol of active informed parental consent for students between the ages of 14 and 17 years. However, regional collaborators were in agreement that in the Caribbean cultural milieu, to ask for active parental consent for these students would be to introduce a procedure totally foreign to common practice (cf. Ohene et al., 2004, 2005). They believed that asking parents to provide such written consent would more than likely cause undue alarm that could potentially jeopardize student participation in the study. At the very least, they concurred that such a procedure would be likely to introduce significant sampling bias. As a compromise measure, study collaborators sought and received IRB approval to implement a passive informed consent procedure that IAD representatives felt would be more acceptable in this cultural setting. By doing so, local representatives believed the integrity of the study would be protected and researchers would be better able to estimate the prevalence of adolescent risk-taking and the relationships between study variables in this study population.

In order to implement this passive consent procedure, students between the ages of 14 and 17 years were asked to take a consent letter in the appropriate language home to their parents approximately 3 days prior to survey administration in their particular school. These letters described the nature, purpose, and significance of the study. Parents were asked to sign and return the letter only if they did *not* wish for their child to participate in the survey. Contact information was provided for a study representative, specifically the Education Director for the mission/union supervising schools in that region, in case parents had questions or wished to express concerns.

### **Student Assent**

Since 18-year-olds are considered adults in the Caribbean region, no attempt was made to acquire parental consent for their participation in the study. On the day of the survey administration, these students were provided with an informed consent form that explained the various aspects of the SDACYS and asked them to give their personal written assent.

On the day of survey administration, underage students (14-17 years of age) whose parents did not object to their participation were also given a student assent form to indicate their personal willingness to volunteer for this study. To minimize any pressure to participate and/or stigmatization for not participating among the adolescents, all students met in their regular classrooms during the administration of the questionnaire. Those students who were not participating, either because their parents objected or by personal choice, were given a packet, similar in appearance to the survey packet, which contained word puzzles for them to work while participants completed the survey instrument.

At the time of survey administration, respondents were encouraged to answer survey questions honestly and reminded of measures in place to protect their anonymity. No personal identifiers were included in the survey, and participants were informed that no measures would ever be taken to identify them individually, regardless of their responses. In order to protect school anonymity within and between regions throughout data processing and analysis procedures, students were instructed not to indicate the name of the school they attended on their surveys. Rather, students were asked to write the code number provided for their school on their questionnaires. Students were also informed that they were free to skip any questions that made them feel uncomfortable. At the end of the questionnaire, respondents were given a debriefing form designed to reduce any anxiety or discomfort aroused by the sensitive nature of the survey questions. In addition, participating students were given a contact number for a resource person they could call for assistance if questions or concerns later arose.

All questionnaires were then forwarded to the office of the principal investigator at Loma Linda University for data entry purposes. After data entry was completed, original questionnaires, all returned parental forms indicating non-consent, and all student assent forms were placed in a locked cabinet. In accordance with Loma Linda University IRB policy, questionnaires were kept for 5 years.

### **Overview of Conceptual Framework**

As described above, the data utilized in the present study were drawn from the larger database generated by the SDACYS. In addition to social and family demographics, the SDACYS database provided this study with cross-sectional data on adolescent perceptions with regard to a number of parental factors as well as self-reports

of personal religiosity. The SDACYS also provided data on adolescent attitudes and levels of participation with respect to specific sexual behavioral outcomes associated with HIV infection.

The present study was conducted to explore the relationships between a set of parental and adolescent religiosity predictor variables, alone and together as a set of all predictors, and six adolescent sexual behavioral outcomes. The strengths of these relationships were also investigated after removing the effects of selected control variables presumed to be causal in their effects on adolescent sexual risk-taking. (See Table 1.) A culminating research objective of this investigation was to identify potentially valuable predictor variables, which were then used in the development of parsimonious models, wherever possible, for predicting each of the adolescent sexual behavioral outcomes in the Caribbean region.

#### Predictor Variables

The parental variables, under investigation here for their usefulness as predictors of specific adolescent sexual behavioral outcomes, were measures of adolescent perception in three areas of parent-adolescent interface: (a) parental connectedness, (b) parental behavioral control, and (c) parental attitudes toward adolescent engagement in sexual intercourse and use of condoms by sexually active youth. Three evidences of expanding personal adolescent religiosity—religious affiliation, attendance at religious services, and personal importance ascribed to religion—were also examined for their relationships to the same sexual behavioral outcomes.

Table 1

*Conceptual Framework: Predictors, Control Variables, Adolescent Sexual Behavioral Outcomes*

	Predictors	Control Variables	Adolescent Sexual Behavioral Outcomes
	Adolescent perception of parent-adolescent connectedness Mother connectedness Father connectedness	Parent education Family structure Substance misuse by live-in parent Friends' attitudes regarding adolescent sex	Sexual experience History of sexual intercourse
110	Adolescent perception of parental behavioral control Parental monitoring Parental rules		Timing of sexual debut Age at first intercourse
	Adolescent perception of parental attitudes regarding adolescent sexual behavior Parental disapproval of adolescent sex Parental approval of adolescent condom use		Number of sexual partners Lifetime Last three months
	Adolescent religiosity Religious affiliation SDA Church affiliation No religious affiliation Attendance at religious services Importance ascribed to religion		Use of condoms Frequency of condom use Use of condom at last sex

### Outcome Variables

Six specific adolescent sexual behaviors, selected for their association with HIV infection, served as outcome variables in this study: (a) sexual experience, (b) age of sexual initiation, (c) lifetime number of sexual partners, (d) number of sexual partners in the last three months, (e) frequency of condom use, and (f) use of condoms at last sex.

### Control Variables

Control variables were selected from three general areas presumed to have a causal relationship with the sexual behavioral outcome variables of interest: social demographics, family demographics, and peer attitudes. Parents' education was used as a proxy for socioeconomic level. Family factors whose effects were removed in this study included family structure and live-in parent(s)' misuse of alcohol and/or drugs. Friends' attitudes regarding adolescent sex constituted the best available proxy for peer involvement in sexual risk-taking. It was assumed that by controlling for these variables, the effects of the predictor variables on adolescent sexual risk-taking could be observed with greater reliability.

As further explained below, virtually all tests for interaction by gender, age, and language group yielded non-significant results. Consequently, it was deemed unnecessary to take further analytical steps to remove the effects of these demographic factors or to create individual models for predicting adolescent sexual risk-taking by gender, age, and/or language group.



## Statistical Procedures

The present study employed a correlational design—using Pearson correlations, standard multiple regression, and hierarchical regression, in turn—to explore the relationships of interest. These statistical procedures also provided the basis for identifying the best variables from the set of all predictors for use in the development of parsimonious models for predicting adolescent sexual risk-taking where possible. The analytical procedures utilized in this study are explained in detail below as research questions, and the methodologies used to investigate them are described.

## Present Study Sample

Before selecting the study sample to be used here, descriptive analyses were employed to check the entire SDACYS dataset for missing and/or incongruous data and outliers. Suitable corrective measures were employed both at the outset and throughout the analysis process. For example, original questionnaires were referenced to correct errors in data entry. Notation was made where data provided by a given respondent was either incongruous or contained outliers with potential to skew results. During the analysis process, repeated checks were made and steps taken to remove cases as necessary for particular analyses where such incongruities/outliers might affect the reliability of results. Careful decisions were made regarding the handling of missing data in order to enhance reliability of results. In addition, two major modifications that were also important to reliability of findings were made to the original SDACYS sample at the outset.

### Exclusion of Adolescents Reporting Forced First Sex

From the outset, it seemed obvious that present study findings could be useful in predicting adolescent sexual behavioral outcomes and/or implementing ministry interventions to prevent/reduce at-risk sexual behaviors only if sexually experienced respondents had made the decision to initiate sexual intercourse by their own free will. For adolescents who reported that their first sexual intercourse was forced ( $N=69$ ), any apparent associations between the parental/adolescent religiosity predictor variables and adolescent sexual behavioral outcomes could not be easily interpreted. Thus the exclusion of these 69 SDACYS respondents from the present study sample seemed critical to the reliability of study findings. At the same time, it seems important to acknowledge the unfortunate truth that the sexual exploitation of adolescents is of major concern in the Caribbean region (Lerand et al., 2004, p. 143; see also Halcón et al., 2003; Maharaj et al., 2009). The investigation of this problem and its relationship to adolescent sexual risk-taking, however, must be left to future researchers.

### Selection for Adolescents Ages 16-18 Years

It was also clear from the outset that reliable results were predicated upon attaining the most accurate picture of the sexual behaviors of the study population that could be constructed from the data provided by the SDACYS. To achieve this clear representation required a close look at the patterns of sexual initiation across the full age range surveyed by the SDACYS. These patterns revealed that, as anticipated, some 14- and 15-year-old respondents had already debuted sexually at the time of data collection. However, closer observation indicated that some younger adolescents who were still sexually abstinent at the time of data collection would likely initiate sexual intercourse

before the age of 18 years. More specifically, the patterns of sexual initiation among SDACYS respondents indicated that the majority of young people likely to be sexually experienced by the age of 18 years would have engaged in sexual intercourse by 16 years of age.<sup>5</sup> Consequently, the decision was made to limit the present study sample to 16-18-year-olds. This decision resulted in the elimination from the final sample of all of the respondents to the SDACYS in the 14-15-year age bracket ( $N=518$ ).

After making these necessary adjustments to the SDACYS sample, the 596 remaining adolescents between the ages of 16 and 18 years, enrolled in selected SDA Church-operated schools across the Anglophone and Latin Caribbean, constituted the present study sample.

### **Measures**

In preparation for the development of measures for the predictors, controls, and adolescent sexual behavioral outcomes included in the conceptual framework for this study, all questionnaire items under consideration as single-item measures/potential scale

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<sup>5</sup> After the removal of youth whose first sex was forced, 272 sexually experienced adolescents remained who provided their age at first sexual intercourse. Of these, only 32 (11.8%) were 14 years of age; 62 (22.8%) were 15-year-olds. A closer look at the patterns of sexual initiation across the full age range surveyed by the SDACYS, however, demonstrated that a number of 14- and 15-year-old respondents who were virgins at the time of data collection would likely become sexually experienced by the age of 18 years. Data indicated that 61% of adolescents who were sexually experienced by the age of 18 years initiated sexual intercourse after turning 14 years of age. Somewhat fewer (47%) sexually debuted after turning 15 years of age. Less than half this proportion (21%) engaged in first intercourse after turning 16 years of age, and a mere 5.1% of youth who were sexually experienced by age 18 were 17 years of age at first sex. Among SDACYS respondents, there were no sexually experienced youth who reported sexual initiation in their 18<sup>th</sup> year. It thus seemed evident that the majority of young people likely to be sexually experienced by the age of 18 years would have engaged in sexual intercourse by 16 years of age. By eliminating the 14- to 15-year olds from the present study sample and basing analyses on the responses of older adolescents, the exploration of the effects of the parental and adolescent religiosity variables on the sexual behavioral outcomes under study here could be based on the best representation the SDACYS could provide of sexual risk-taking among Caribbean adolescents enrolled in SDA Church schools.

components were coded so that increased presence of the factor was indicated by higher variable values.

### Predictor Variables

As an initial step in the refinement of specific measures for each of the predictors of adolescent sexual risk-taking, lists were compiled of logically related items from the SDACYS questionnaire associated with adolescent perception of parental connectedness, parental behavioral control, parental attitudes regarding adolescent engagement in sexual intercourse/use of condoms, and adolescent religiosity. For purposes of data reduction, factor analyses were then employed to explore the distinct factors within each of these sets of logically related items with eigenvalues greater than 1.000. Where factor analysis grouped several items as measures of a common factor(s), the results of this analysis were used to select the best items for inclusion in a parsimonious scale for quantifying each factor identified. Appropriate scales were then created for use in the present study. Where necessary, care was taken to mathematically equalize the range width, that is, the number of possible response options, for all items included in a given scale.

The following general criteria guided the selection of items for inclusion in a given scale from among those items clustered by factor analyses as related to a distinct factor:

1. The item must fit the unifying theme emerging from the cluster of items included in the factor.
2. The inclusion of the item must not negatively impact the scale reliability (as indicated by a reduction in Cronbach's alpha).

3. As a general rule, the factor loading for a given item, that is, its correlation with the factor suggested by the computer, should be .500 or above. An item with a factor loading of less than .500 might be included in a scale, but only if it fit the unifying theme of the factor well and did not negatively impact scale reliability.

In addition to the selection of scale component items, the number of items from a given scale, which a respondent must answer in order to be included in analyses using that variable, was also established for each scale. As all scales developed for the present study were relatively small (fewer than 10 items), every effort was made to optimize both the proportion of scale component items answered by respondents and the number of cases available for analyses using the scale in question. It is, however, generally understood that the higher the item intercorrelations within the scale and the more similar the content and mean scores among items, the less likely it is that respondent omission of one item from a small scale would seriously compromise scale reliability. This general rule was also taken into consideration as requirements were established.

### **Parental Connectedness**

Factor analysis suggested two distinct factors within the collage of SDACYS items logically related to parental connectedness, that is, two factors with eigenvalues greater than 1.000. These were named for their unifying themes: mother connectedness and father connectedness. Component items for two corresponding scales were then selected based on the criteria outlined above. Scales were created for both factors after recoding two comparable items measuring adolescent perception of the overall quality of their relationships with each parent to mathematically equalize the range width of these items with that of other scale components.

### Mother connectedness scale

A five-item scale was created as a measure of adolescent perception of connectedness with mother. Component scale items, with response choices ranging on a 4-point Likert scale from “never” to “often,” included: (a) “How often does your mother/stepmother praise or encourage you?” (b) “How often do you and your mother/stepmother do something together that you both enjoy, like playing sports and games or going somewhere or doing something together?” (c) “How often does your mother/stepmother express love for you by saying she loves you or giving you a hug, kiss, pat on the back?” (d) “How often do you ask your mother/stepmother for advice or guidance? One additional item included in the scale measured adolescent perception of the overall quality of their relationship with their mother. Responses on this item ranged from “not good” to “great” on a 3-point Likert scale, which were adjusted mathematically to a 4-point scale to equalize range width with the majority of scale items. Factor loadings for all items included were greater than .750, and scale reliability was strong (Cronbach’s alpha = .845). Based on the previously outlined criteria, those respondents who answered four of the five items comprising the scale were included in study analyses, increasing the number of cases available from 532 to 579 (a net gain of 47).

### Father connectedness scale

An equivalent five-item scale was created as a measure for father connectedness using parallel items related to adolescent perception of father connectedness. Factor loadings for all scale components were greater than .700, and scale reliability was strong (Cronbach’s alpha=.836). Again, answers on four of the five items included in the scale

qualified a respondent for inclusion in study analyses utilizing this scale, increasing the number of cases available for analyses from 448 to 565 (a net gain of 117).

### **Parental Behavioral Control**

Factor analysis of logically related items regarding parental behavioral control yielded four distinct factors with eigenvalues above 1.000. However, clear themes did not emerge from the items grouped in three of the four factors suggested by the computer primarily related to parental rules. I therefore instructed the computer to cluster the items into two- and three-factor configurations in search of the most satisfying factors upon which to base study measures. After exploring these options, two scales were created from the results of a two-factor analysis, which made a clear distinction between items related to parental monitoring and items pertaining to parental rules. As before, scale component selection was made according to the predetermined criteria described at the beginning of the “Measures” section of this chapter. Respondents were required to answer all items on both the parental rules and parental monitoring scales. Even at this level of mandatory response, few cases were excluded from analyses because of missing data.

#### **Parental rules scale**

A nine-item scale was created as a measure of adolescent perception of parental rules. For eight of the nine items, factor loadings were greater than the generally established threshold for scale inclusion of .500. One additional item suggested by factor analysis as a measure of parental rules—“My parents/guardians have definite rules about time for being in at night”—was also included in the scale, though the factor loading for

this item was only .433. The inclusion of this item in the scale was based on its good fit with the theme of the construct and the reduction in scale reliability associated with its deletion. With all nine items included, Cronbach's  $\alpha=.756$ . Items included in the scale called for a dichotomous "no"/"yes" response to a series of statements about parental rules, such as, "My parents have definite rules against going around with certain girls/boys." Additional items elicited adolescent perception about the absence/presence of parental rules regarding such things as television and video games, homework, household chores, dress, dating, and eating dinner with the family. Responses were required on all 9 items because the net gain of usable cases was not greatly enhanced by a reduction in the requirement.

#### Parental monitoring scale

A three-item scale was created from items suggested by the computer as measures of a distinct factor sharing the common theme of parental monitoring. Component items elicited responses on a 5-point Likert scale ranging from "never" to "always" in response to a sequence of statements regarding adolescent perception of parental expectations. Statements included: "I am expected to tell my parents/guardians where I am going after school and when I go out on evenings and weekends," and "I am expected to let my parents/guardians know if I am going to be home late or change my plans." One item pressed beyond youth assessment of parental expectations to measure actual adolescent behavioral response to perceived parental monitoring: "I tell my parents/guardians where I am really going after school and when I go out on weekends." Factor loadings for all items included in this scale were greater than .800 and scale reliability was strong (Cronbach's  $\alpha=.817$ ).



## **Parental Attitudes Regarding Adolescent Sex and Use of Condoms**

Factor analysis suggested that adolescent perception of parental attitudes regarding adolescent sex and use of condoms represented two distinct factors. Despite the fact that adolescent responses were elicited separately for the attitudes of mother and father, factor analysis did not suggest that maternal and paternal attitudes regarding adolescent sex or use of condoms represented separate factors. Consequently, items were selected and scales formed according to the criteria previously described for two scales: parental disapproval of adolescent sex and parental approval of adolescent use of condoms, that is, acceptance/support for condom use among sexually active youth. Both of these scales were named for their unifying theme, with the contrasting directionality indicated in the scale names representing my assumptions regarding the kinds of parental attitudes expected to be protective against adolescent sexual risk-taking.

### **Parental disapproval of adolescent sex scale**

An eight-item scale was developed from available questionnaire items related to adolescent perception of parental attitudes regarding adolescent engagement in sexual intercourse. Items were a series of statements of parental belief, eliciting responses on a 5-point scale ranging from “strongly agree” to “strongly disagree.” For example, one statement read: “My mother/father believe that it is OK for people my age to have sex.” Other such statements included “My mother/father believe that it is OK for people my age to have sex with someone they have dated for a long time” or “do not know very well.” Youth were also asked to indicate their level of agreement with the statement “My mother/father believe that the use of condoms to prevent pregnancy or infections makes it

okay for people my age to have sex.” Factor loadings for all items included in the scale were greater than .650, and scale reliability was strong (Cronbach’s alpha=.916). Seven out of eight questions answered was set as the threshold for the inclusion of a respondent in analyses using this scale. This level of response was considered adequate because items were closely related in content and the means for all items were comparable. Requiring adolescents to answer only seven questions resulted in an increase in cases available for analyses from 486 to 500 (a net gain of 14).

#### Parental approval of adolescent condom use scale

A two-item scale was created as a measure of parental approval of adolescent condom use. Response options ranged on a scale from 1 to 5, with “1” representing strong disagreement and “5” strong agreement, with regard to two comparable statements: “My father [mother] believes that people my age should use condoms if they have sex.” Factor loadings were high for adolescent perception of both mother and father acceptance/support for condom use among adolescents who are sexually active (.935 and .930 respectively), and scale reliability was strong (Cronbach’s alpha=.902). Answers to both items were required for respondents to be included in analyses using this scale.

#### **Adolescent Religiosity**

Three individual-level measures of adolescent religiosity commonly employed by other researchers in the literature reviewed were included in the SDACYS questionnaire: religious affiliation, attendance at religious services, and importance ascribed to religion. Although factor analysis including attendance at religious services and importance

ascribed to religion identified only one factor, it was decided on the basis of PST and the literature to analyze the three religiosity measures individually.

#### Religious affiliation

Adolescents were given a number of options from which to choose in response to the question “Which church do you attend?” for example, SDA, Catholic, other Protestant, none. Space was also provided for write-in responses. Answers were coded into three categories: (a) SDA Christian, (b) non-SDA Christian, and (c) no religious affiliation. Because differentiating between the strength of (a) affiliation with the SDA Church (as opposed to other/no religious affiliations) and (b) the absence of religious affiliation (as opposed to affiliation with a Christian denomination) as predictors of adolescent sexual risk-taking were of primary interest, two dummy variables were created which allowed me to easily distinguish between the relationships of each of these predictors and the adolescent sexual behavioral outcomes under study.

#### Attendance at religious services

Adolescents were asked to indicate on a 4-point Likert scale how often they attended religious services. Options ranged from “never” to “once a week or more.”

#### Importance ascribed to religion

In response to the question “How important is religion in your life?” youth indicated their personal assessments along a 4-point Likert scale from “not important” to “very important.”

## Outcome Variables: Adolescent Sexual Behaviors

The outcome variables under study here were adolescent sexual behaviors associated with HIV infection: sexual experience, timing of sexual debut, lifetime number of sexual partners, number of sexual partners in last three months, frequency of condom use, and use of a condom at last sex. The specific behavioral expressions of these variables associated with elevated risk of contracting the virus are: a history of sexual intercourse, early sexual initiation, multiple partners (across life and in the last three months), and inconsistent condom use (infrequent use and not used at last sex) (see Chapter 1). As with predictor/control variables, outcome variables were coded so that increased presence of the variable was indicated by higher variable values. For example, the scale of responses for “lifetime number of sexual partners” was coded so that “1” represented “one partner,” while “4” represented “six or more partners.” It should be noted that in some cases an increased presence of the variable paralleled an *increased* risk of HIV infection as, for example, in the case of lifetime number of sexual partners. In the case of “age of sexual initiation,” on the other hand, an increase in variable value, that is, increase in age of initiation, represented delayed sexual initiation and thus a *decreased* risk of HIV infection.

### **Sexual Experience**

Adolescent sexual experience was measured by a single item: “Have you ever had sexual intercourse?” Response options were a simple “no” or “yes.” Sexual intercourse was defined as oral, anal, and/or genital sex. A variable value of “1” represented sexual abstinence on the part of the adolescent, whereas “2” represented a history of sexual intercourse.

### **Timing of Sexual Debut**

Another single item asked respondents to put the appropriate number in the blank provided: “I was \_\_\_ years old when I had sexual intercourse for the first time.” This variable was recoded to exclude cases reporting sexual initiation before the age of 8 years. I considered reports of sexual intercourse before this age to represent something other than a personal decision to engage in sexual activity. Ascending ages from 8-17 years represented extending adolescent postponement of sexual initiation.

### **Number of Sexual Partners**

Adolescent responses to items related to number of sexual partners formed the basis for two separate sexual behavioral outcome variables: (a) lifetime number of sexual partners, and (b) number of sexual partners in last three months. Separate items solicited a specific number in response to two questions: “During your life, how many people have you had sexual intercourse with?” and “During the past three months, with how many people have you had sexual intercourse?” Responses for both sexual partnering items were later recoded on a 4-point scale ranging from “one partner” to “six or more partners,” indicating increasing exposure to multiple partners and hence levels of risk for HIV infection.

### **Use of Condoms**

Adolescent responses to items related to use of condoms formed the basis for two discrete sexual behavioral outcome variables: (a) frequency of condom use, and (b) condom use at last sex. Responses to the item measuring frequency of condom use represented increasing levels of risk. Possible answers to the question: “How often do

you use condoms when you have sex?” were on a 4-point scale, ranging from “never” to “always.” With respect to condom use at last sex, respondents were asked to answer “no” or “yes” to the question: “Did you or your partner use a condom the last time you had sexual intercourse?” A variable value of “1,” in this instance, represented lack of condom use at last sex, while a “2” represented the use of a condom at last intercourse.

### Control Variables

Because the etiology of adolescent sexual at-risk behavior is complex, data were gathered in the SDACYS database for a number of factors identified by Kirby et al. (2005) as potentially important antecedents to adolescent sexual risk-taking in addition to those under primary investigation here. Consequently, many possible antecedents might have been included in this study as control variables. The process for the selection of controls described below was established with a view toward allowing the predictor variables under study to demonstrate the full extent of their explanatory power with regard to the variance observed in sexual risk-taking among Caribbean adolescents.

Initially, control variables under consideration were sorted into two categories: variables presumed to be “causal,” and variables not assumed to be “causal” in their effects on the adolescent sexual behavioral outcomes under study. Potential control variables from both categories were then further evaluated and the final set of controls selected based on several considerations. First, all variables included in the final set of controls were judged to be very different in kind from the predictor variables, that is, to measure constructs dissimilar to the predictor variable(s). Another mark of an acceptable control variable was the likelihood that it existed prior to the predictor variables. On the

other hand, if the potential control variable was considered likely to have been caused by a predictor variable(s) or a third factor affecting both, it was removed from consideration.

### **Control Variables Presumed to Be “Causal” in Their Effect on Outcome Variables**

As a further step in selecting control variables from among the potential factors presumed to be “causal” in their effects on adolescent sexual at-risk behavior but not under study here as a predictor variable, Pearson correlations were used to determine the strength of statistically significant relationships between predictor variables and each “causal” control under consideration. I was interested in retaining controls that were correlated at low to moderate levels with the predictor variables under investigation, as it was important to remove the effects of these variables in order to allow the predictor variables to demonstrate their unique explanatory power as regards observed variance in adolescent sexual behavioral outcomes. I was also anxious to safeguard against inadvertently removing effects rightfully associated with the predictor variables by controlling for variables that were highly correlated with the predictors. The results of the Pearson correlation analyses did not result in the elimination of any potential controls because of high correlation with the predictor variables. On the other hand, controls retained, with one exception, were correlated at low to moderate levels ( $< .400$ ) with one or more of the predictors. The one exception—“friends’ approval of adolescent sex”—was included in the final set of control variables, despite a correlation with the predictor “parental disapproval of adolescent sex,” which was slightly stronger than the moderate-range characteristic of other selected study controls (Pearson  $r = -.420$ ). The decision was made to retain this control variable because it was a factor consistently associated with

adolescent at-risk sexual behaviors and the best proxy available in the SDACYS dataset for peer engagement in risky sexual behaviors (Kirby et al., 2005).

As a further precaution against inadvertently removing some of the effects of the predictor variables through the use of control variables that were highly correlated with the predictors, regression analyses were used to determine the tolerance coefficients associated with the set of potential control variables in relation to each of the predictor variables. Tolerance coefficients were all in the generally acceptable range ( $> .300$ ), with most greater than  $.700$ . For the final set of controls selected, tolerance coefficients were all greater than  $.850$ .

Four control variables meeting the above criteria were included in the final set of factors controlled for in this study. These controls were entered in the first block in multiple regression analyses as appropriate to remove the effects of these variables.

1. *Highest level of education attained by live-in parent.* The level of education achieved by parents is commonly used as a proxy for family socioeconomic status. Data were available in the SDACYS dataset for the levels of education completed by both mother and father. Response options were on a 4-point scale from “not finished high school” to “gone to graduate school.” For analysis purposes, responses were coded to measure the highest educational level achieved by either live-in parent.

2. *Family structure.* Several options were available to respondents on the SDACYS questionnaire in terms of describing their family structure. The vast majority of respondents indicated that they (a) lived with both biological parents in the same home, (b) lived in a one-parent home with their mother, or (c) lived with their mother and stepfather. Because the introduction of a stepparent into the home may change family



dynamics unpredictably, two dummy variables were created for analysis purposes that were designed to control for family structure: (a) Lives with both biological parents, and (b) Lives with single mother.

3. *Misuse of alcohol/drugs by a live-in parent.* Adolescents were asked to indicate who, among father, mother, and/or stepparent, had ever or currently had a drinking and/or drug problem. A parental substance misuse index was created reflecting the absence or presence of parental misuse of substances, defined here as a respondent report of a past/present drinking and/or drug problem on the part of any live-in parent. The dummy variable was used as a study control to remove the effects of parental substance misuse while exploring relationships between predictor variables and adolescent sexual behavioral outcomes.

4. *Friends' approval of adolescent sex scale.* The literature indicated peer approval and/or engagement in sexual activity to be strong predictors of youth sexual at-risk behaviors. Items on the SDACYS questionnaire soliciting adolescent perceptions of their friends' attitudes toward adolescent sex provided the best indicator available as to the actual sexual behaviors of the respondents' friends. From the collage of items related to peer attitudes regarding adolescent sex, factor analysis suggested a single factor. A three-item scale was created from among these items. Items included friends' attitudes regarding adolescent sex in general, as well as sex with partners the adolescent had either dated a long time or did not know well. Adolescent responses were registered on a 5-point Likert scale from strong disagreement with the statements such as "My friends believe that it is OK for people my age to have sex" to strong agreement. Factor loadings

for these items were all greater than .800, and scale reliability was strong (Cronbach's alpha=.874). Respondents were required to answer all three items included in the scale.

### **Control Variables Presumed to Be “Non-causal” in Their Effect on Outcome Variables**

Three control variables also under consideration were assumed likely to be non-causal in their effects on the outcome variables: (a) gender, (b) age, and (c) main language, a common means of organizing the populations of the Caribbean islands given the complexities of ethnicity in this region. To control for the effects of these factors, interaction variables were created by multiplying each non-causal control variable in turn by each predictor variable. Hierarchical regression was then used to examine the increases in  $r^2$  associated with each interaction variable, in addition to the predictor variables and control variables together. With the alpha level set at .05, only eight significant relationships out of a possible 180 were found (approximately 4%)—less than the proportion one might expect to occur by chance. In addition, among the relationships that were statistically significant, the  $r^2$  changes were relatively low (most were between .01 and .04, and none was greater than .06). Thus it was deemed unnecessary to take further analytical steps to remove the effects of these demographic controls. Overall consistency with regard to the handling of interaction variables in the study design was also maintained.

### **Research Questions**

The five research questions addressed in this study arose out of the overarching problem identified in Chapter 1, namely the paucity of studies exploring relationships

between certain family context and adolescent religiosity factors and sexual risk-taking among Caribbean youth, and specifically within the religious subcultural context of families with adolescents enrolled in SDA Church-operated schools across the region. The conceptual framework for the study directed a quest for answers to these questions through an investigation of the relationships between predictor variables—identified by North American researchers as potentially important—and six adolescent sexual behavioral outcomes, with and without controls. As described in the previous section, the parental predictors included adolescent perceptions of (a) parental connectedness, (b) parental behavioral control (operationalized as parental rules and parental monitoring), and (c) parental attitudes regarding adolescent sexual behavior (operationalized as parental disapproval of adolescent sex and parental approval of adolescent condom use). Adolescent religiosity predictors included (a) religious affiliation, (b) attendance at religious services, and (c) personal importance ascribed to religion. Sexual experience, age of sexual initiation, lifetime number of partners, number of partners in the last three months, frequency of condom use, and use of condoms at last sex comprised the set of adolescent sexual behavioral outcomes to be investigated in relation to these predictors.

Specifically, the research questions investigated in the present study were:

1. Is there a relationship between each of the parental and adolescent religiosity predictor variables alone and each of the adolescent sexual behavioral outcomes?
2. Is there a relationship between the set of parental and adolescent religiosity predictor variables together and each of the adolescent sexual behavioral outcomes?

3. Is there a relationship between each of the parental and adolescent religiosity predictor variables alone, when controlled for selected social/family demographic and peer attitude variables together, and each of the adolescent sexual behavioral outcomes?

4. Is there a relationship between the set of parental and adolescent religiosity predictor variables together, when controlled for selected social/family demographic and peer attitude variables together, and each of the adolescent sexual behavioral outcomes?

5. Can a parsimonious model, useful for predicting each of the adolescent sexual behavioral outcomes, be developed from among the parental and adolescent religiosity predictor variables?

The various analysis processes and procedures used to explore answers to the research questions investigated here are described below.

### **Analysis Process**

All analyses for the present study were conducted using the software program SPSS 17.0. In order for present study results to be considered statistically significant, the probability that any given finding occurred by chance had to be less than 5% ( $p < .05$ ). This alpha level was set for all analyses because I saw little reason for concern should a correlation that occurred by chance be affirmed as real. I saw minimal concern for such a Type I error as a religious educator because the parent education likely to grow out of significant results is not particularly costly and would likely have positive benefits for both parents and adolescents, whether or not it was highly effective in identifying at-risk youth or significantly lowering the incidence of adolescent sexual at-risk behaviors. In fact, were such parent education to help even a few adolescents to make life-affirming

choices about their sexuality, I would consider this research effort and its implementation to have yielded high dividends.

### Investigation of Research Question 1

The first research question (RQ1) explored in this study was: Is there a relationship between each of the parental and adolescent religiosity predictor variables alone and each of the adolescent sexual behavioral outcomes? Pearson correlations were calculated to test whether such relationships did indeed exist. With regard to missing data, the decision was made to use the pairwise option offered by SPSS, that is, to retain cases for correlational analysis wherever values were present for both variables, removing cases only in the event the specific value needed for a correlation was missing. Whereas the limitations of this option were understood, this decision seemed prudent as, on average, one-third of cases were lost when the listwise option of handling missing data (removal of cases whenever a value is missing for any variable included in the analysis) was used.

A correlation matrix was created to display (a) both negative and positive correlations between each of the predictor variables alone and each of the adolescent sexual behavioral outcomes and (b) the probability the correlation occurred by chance ( $p$  value). Because the pairwise option was used, the number of cases from which each correlation was derived was also shown. Among statistically significant results, correlations less than .200 were considered “weak.” Correlations between .200 and .399 were considered “moderate,” and correlations of .400 and above were considered “strong.”

## Investigation of Research Question 2

The second research question (RQ2) explored in this study was: Is there a relationship between the set of parental and adolescent religiosity predictor variables together and each of the adolescent sexual behavioral outcomes? Standard multiple regression was used to explore the relationships between all the parental and adolescent religiosity predictor variables together (as a set of all predictors) and each adolescent sexual behavioral outcome. This sequence of analyses was performed to determine how well the predictor variables in this study performed as a group in terms of predicting each of the adolescent sexual behavioral outcomes under study here. The results of these analyses also indicated the explanatory power of each predictor variable, that is, the proportion of explained variance attributable to each predictor, when controlled for all the other predictors.

In the analyses for RQ2, important decisions again had to be made regarding the handling of missing data. In the investigation of the effects of the set of all predictor variables on adolescent sexual experience, all respondents who answered the item regarding their sexual history were available for analysis. Consequently, the available number of cases was sufficient to allow for the most preferable means of handling missing data in terms of the reliability of the findings, that is, the exclusion of all cases for which data were missing on any variable (listwise option). On the other hand, analyses exploring the effects of the set of all predictors on the other outcome variables, that is, age of sexual initiation, number of partners lifetime/last three months, frequency of condom use, and condom use at last sex, were based solely on data provided by those respondents who were sexually experienced at the time of data collection. This resulted in

a greatly reduced number of cases available for analyses (see Table 2). For this reason, I elected to substitute the mean for missing predictor variable data for all RQ2 analyses based on reduced numbers of available cases. Mean substitution for missing predictor variable data also seemed prudent, given the relatively large number of predictor variables and the generally accepted rule that for every variable included in analysis, data for a minimum of 10 cases should be available. It was understood that such substitution of the mean for missing predictor variable data likely depressed the true explanatory power of these variables. However, this statistical procedure was implemented in all situations where the number of available cases was seriously limited by the nature of the outcome variable, in favor of an expected increase in the reliability of the findings due to the increased number of cases available for analyses.

### Investigation of Research Question 3

The third research question (RQ3) investigated in this study was: Is there a relationship between each of the parental and adolescent religiosity predictor variables alone, when controlled for selected social/family demographic and peer attitude variables together, and each of the adolescent sexual behavioral outcomes? Hierarchical regression analyses were used to explore the above relationships for each outcome variable, entering all the control variables together in the first block and each predictor variable, in turn, into the second block for each analysis.

For RQ3, the number of cases was sufficient to support the number of variables included in each analysis with mean substitution employed only for the control variables.

Table 2

*Number of Missing Values for Each Predictor/Control Variable*

Variables	Number of Missing Values
Predictor Variables	
Mother connectedness	17
Father connectedness	31
Parental rules	14
Parental monitoring	18
Parental disapproval of adolescent sex	96
Parental approval of adolescent condom use	91
SDA Church affiliation	18
No religious affiliation	18
Attendance at religious services	8
Importance ascribed to religion	22
Control Variables	
Lives with both biological parents	137
Lives with single mother	137
Highest level of education attained by live-in parent	128
Misuse of alcohol/drugs by live-in parent	82
Friends' approval of adolescent sex	80



The data provided in Table 2 indicate the basis for this decision. It is apparent that, overall, substituting the mean for missing control variable data increased the number of cases available for analysis by over 40%. This mean substitution for control variables allowed for a more accurate picture of the effects of each predictor variable on each outcome variable by increasing the number of cases available, while at the same time using only the data actually provided by respondents for predictor/outcome variables.

#### Investigation of Research Question 4

The fourth research question (RQ4) investigated here was: Is there a relationship between the set of parental and adolescent religiosity predictor variables together, when controlled for selected social/family demographic and peer attitude variables together, and each of the adolescent sexual behavioral outcomes? Hierarchical regression was used to explore the above relationships for each outcome variable in turn, entering all the control variables together in the first block and all predictor variables together into the second block for each analysis.

As with RQ2, the number of variables included in each hierarchical regression analysis investigating RQ4 necessitated careful decision-making regarding the handling of missing data. Mean substitution for control variables was again employed in all RQ4 analyses to increase the number of cases available. However, as described above in the discussion of RQ2, the decision regarding how to handle missing data for the predictor variables varied by number of cases available for analyses by virtue of the nature of the outcome variable. As in the analyses for RQ2, sufficient cases were available for an investigation of the relationship between the set of all predictors and adolescent sexual experience, even with the effects of control variables removed, to allow for the exclusion

of respondents where data were missing for any of the predictor variables and/or the sexual experience outcome variable. In analyses related to all other outcome variables, however, mean substitution was again necessitated for predictor variables, as the number of cases available for these analyses was reduced drastically to include only those adolescents who were sexually experienced at the time of data collection (see Table 2).

### Investigation of Research Question 5

The culminating research question in this study (RQ5) was “Can a parsimonious model, useful for predicting each of the adolescent sexual behavioral outcomes, be developed from among the parental and adolescent religiosity predictor variables?” By design, these models would include relatively small numbers of predictor variables, all of which make meaningful contributions to the strength of the models, based on established statistical criteria.

### **Overview of Model Construction Process**

At the outset, the selection of predictor variables for study here was based on the major tenets of Primary Socialization Theory and a review of the literature. Because of the complex etiology of adolescent sexual risk-taking, it was assumed that no single predictor would be adequate to explain the variance in participation in risky sexual behaviors observed in the study population. It was hypothesized, however, that the predictor variables—identified as important antecedents to adolescent sexual risk-taking primarily in North American studies—would also provide good predictor variable components for the development of prediction models for sexual at-risk behaviors among Caribbean youth. Due to the paucity of research testing the relationships between these

predictor variables and adolescent sexual risk-taking in the cultural/subcultural context from which the study sample was drawn, however, the findings of the present explorations of RQs 1-4 were used as a basis for further evaluation of their usefulness in the models to be developed here for use in the Caribbean region.

With this in mind, the investigation of RQ5 began with a review of the statistical significance and unique explanatory power of each predictor variable as variously tested for each outcome variable in RQs 1-4. Supplementary statistical analyses (forward and backward stepwise regression, as described below) were also employed that could offer additional guidance in the selection of component variables for the models and an indication of how many variables might be needed in a given model. Ultimately, models were judged individually for their usefulness in identifying at-risk youth and/or developing effective educational/ministry interventions to prevent/lower the prevalence of risky sexual behaviors among Caribbean adolescents.

### **Selection of Variable Components**

It was understood that the various statistical processes used in RQs 1-4 each had some limitations in their capacity to fully describe the relationships between the various predictor variables and each outcome variable. Consequently, the predictor variables being considered for inclusion in the final models were evaluated in light of (a) their compatibility with PST and the literature, (b) the results of analyses investigating RQs 1-4, and (c) their performance in the prospective model under consideration itself. Forward and backward stepwise regression analyses were used as an additional means of verifying that no valuable predictors had been missed in the process and as an indicator of the number of variables needed to predict a given outcome.

Three non-negotiable criteria were established for variable inclusion in a final predictor model:

1. The variable must be theoretically sound, that is, in keeping with Primary Socialization Theory and the literature.

2. The predictor variable must have been found to be a good predictor alone (i.e., the predictor variable must have been identified as significantly correlated with the outcome variable associated with the model under construction, as demonstrated by a statistically significant Pearson correlation). Whether or not a variable met this criterion was determined by the results of the investigation of RQ1.

3. The variable must have been found to be a good predictor in the model under construction (i.e., the variable must be associated with a minimum  $r^2$  change of .020 and a significance level of  $F$  change  $< .10$ ). Whether or not a variable met this criterion was determined by the results of the investigation of RQ5.

Three additional negotiable criteria were applied to variables under consideration for inclusion in a final model. Ideally, variables included in a final model would meet all these requirements as well. However, for purposes of this study, it was decided that in order to be included in any of the final models for predicting adolescent at-risk sexual behaviors, variables should meet at least one of these three negotiable criteria.

4. A variable should have been a good predictor in multiple regression analyses when controlled for other predictor variables; that is, the variable should make a unique contribution to the  $R^2$  of the set of all predictors, in addition to other predictor variables under investigation. Whether or not a predictor variable met this criterion was determined by the results of standard multiple regression employed in the investigation of RQ2.

5. A variable should have been a good predictor alone, after removing the effects of selected control variables presumed to be “causal” in their relationships to the outcome variables (i.e., the variable should be associated with a minimum  $r^2$  change of .020 and a significance level of  $F$  change  $< .10$ , in addition to controls). Whether or not a predictor variable met this requirement was determined by the results of hierarchical regression analyses conducted in the exploration of RQ3.

6. A variable should have been a good predictor within the set of all predictors, after removing the effects of the selected “causal” controls (i.e., the variable should still contribute independently to the  $R^2$  of the set of all predictors, in addition to the contributions of the other predictors in the set and the controls). Whether or not a predictor variable met this requirement was determined by the results of hierarchical regression analyses indicating the strength of each predictor under these circumstances (RQ4).

Forward and backward stepwise regression were used as (a) a supplementary means of identifying the best variables the analyses could suggest for constructing a model to predict each of the adolescent sexual behavioral outcomes, and (b) general indicators of the number of variables likely to be needed in each model. In the forward stepwise regression analyses, .10 was designated as the maximum probability value that could be associated with any variable to be included in the various computer-suggested models. For backward stepwise, the probability value for variable inclusion was set at .01. Probability values on the high/low ends of generally accepted levels were intentionally selected for forward/backward stepwise analyses in order to (a) allow the computer to identify a wider range of potentially important variables and (b) minimize

the risk of overlooking a variable(s) that might make a helpful contribution to the predictive power of a model or its usefulness in developing an effective ministry response.

It is generally understood that neither forward nor backward stepwise analyses necessarily present the researcher with the best prediction models. Consequently, as an additional means of evaluating the models suggested by the two processes, the results of both the forward and backward stepwise analyses were compared. If both forward and backward stepwise suggested the same model for predicting a given outcome, the component predictors were deemed worthy of further consideration.

Component variables in the models suggested by forward/backward stepwise were also examined for conflicting signs and/or large differences in size between zero-order and part correlations. In cases where the correlation between a predictor variable alone and a given outcome variable (zero-order correlation) carried a different sign and/or was much larger/smaller than the unique contribution of the predictor variable to the  $R^2$  of the set of all predictors, in addition to the contribution of other predictor variables included in the set (part correlation), the model would receive no further consideration. It should be noted, however, that no problems of this nature were observed among any of the models suggested by forward/backward stepwise evaluated here.

As a final step in the model construction process, any remaining additional variable(s) which met the established non-negotiable criteria but had not yet been evaluated were considered. Such a variable was first examined to determine how close it came to meeting the negotiable statistical criteria. If it came close to meeting one or more of these standards, and there were other compelling theoretical and/or practical reasons to

include it, the variable was then included in a multiple regression model to test its effect on the adjusted  $R^2$ . If the predictive power of the model was not significantly reduced by the inclusion of such a variable, even as the variable enhanced the value of the model in other ways, it would be included.

### **Final Model Selection**

Final prediction models were developed for only those adolescent sexual behavioral outcomes where (a) suitable predictor variables meeting the criteria outlined above could be identified, and (b) a model including these variables provided sufficient predictive power to justify the research efforts required to use it.

### **Summary**

In this chapter I have outlined in considerable detail the processes and statistical procedures employed in this study to investigate the five stated research questions. In Chapter 4, the results of the various statistical procedures will be reported for each research question in turn.

## CHAPTER 4

### RESULTS

In this chapter I will first describe the study sample statistically. Unless otherwise indicated, percentages are based on the number of respondents reporting. I will then present a brief overview of the conceptual framework that guided this study and the five research questions explored here. A report of the findings follows. Only statistically significant results will be discussed. As explained in Chapter 3, the threshold for significance, that is, the acceptable probability for a significant finding to have occurred by chance, was set at  $p < .05$ .

#### **Sample**

Although it is not the primary purpose of this study to provide descriptive statistics, considerable detail is reported both here and in Chapter 5 as study findings do establish an important baseline for the monitoring of trends. For purposes of the present study, however, descriptive differences by age, gender, and language groups are not reported as the relationships between the set of parental and adolescent religiosity predictors and the adolescent sexual at-risk behaviors investigated here did not vary significantly along age, gender, or language lines. However, where statistically significant differences were found between the two subgroups of adolescents with SDA Church affiliation and with other/no religious affiliation, these differences are reported in



the sample description in the present chapter and discussed in Chapter 5 as these differences will be of particular interest to the SDACYS regional collaborators. As appropriate, *t* tests and Chi Squared Tests of Independence were used to test the statistical significance of differences between the two religious affiliation groups.

### Age, Gender, and Cultural Demographics

Across the 16-18-year-old age range selected for the present study, the analysis sample was comprised of 311 sixteen-year-olds (52.2%), 213 seventeen-year-olds (35.7%), and 72 eighteen-year-olds (12.1%), for a total of 596 cases ( $N=596$ ). These adolescents represented a nearly equal distribution of males (50.1%) and females (49.9%).

As demonstrated in Table 3, the analysis sample for the present study included adolescents from seven Caribbean nations and the Commonwealth of Puerto Rico. Using *The World Factbook* (2011) issued by the United States Central Intelligence Agency (CIA) as the determinant of the national language for each country<sup>6</sup> where data were collected, it is evident that respondents were almost equally distributed across Anglophone (49.0%) and Latin (51.0%) nations in the Caribbean Basin. The proportions of adolescents reporting English (50.3%) and Spanish (49.7%) as their main languages largely reflected this national language divide. As noted in Chapter 3, it is regrettable that no adolescents from the region's Francophone nations were included in the sample.

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<sup>6</sup>It should be noted that for convenience, Puerto Rico is sometimes referenced as a Caribbean "nation" among others included in the sample, though of course, Puerto Rico is not a sovereign nation but rather an organized territory of the United States.

Table 3

*Sample Distribution Across Caribbean Region*

Island Group	<i>N</i>	%
Anglophone Islands		
Bahamas	93	15.6
Dominica	32	5.4
Grenada	40	6.7
Jamaica	108	18.1
St. Lucia	8	1.3
Trinidad	11	1.8
Spanish-speaking Islands		
Dominican Republic	85	14.3
Puerto Rico	219	36.7

## Family Context

Findings with regard to the family context variables included in the present study are summarized in Tables 4 and 5. Relevant socioeconomic demographics for the study sample, that is, family structure, parent education, and live-in parent substance misuse, are presented in Table 4. Adolescent perceptions of parental connectedness, behavioral control, and attitudes on adolescent sexual behaviors are detailed in Table 5.

### **Family Structure**

More than half (56.2%) of the respondents lived at home with both of their biological parents. A few adolescents (5.6%) reported living with each of their biological parents part-time in separate homes. Another 20.4% lived with a biological single mother, whereas 12.6% resided with their biological mother and stepfather. Small percentages of youth lived with a biological single father (2.5%) or in a household with their biological father and stepmother (2.5%). (See Table 4.)

### **Parent Education**

Although a total of 16.0% of respondents indicated that the highest level of education achieved by an in-home parent was something short of a high-school completion, another 28.2% indicated the highest level of parental education to be a high-school diploma. An additional 34.4% of respondents reported a live-in parent who had “gone to college,” and 21.4% indicated at least one resident parent had “gone to graduate school.” (See Table 4.)

Table 4

*Adolescent Family Contexts: Percentages for Religious Affiliation Subgroups With Significant Differences in Family Structure, Parent Education, and Live-in Parent Substance Misuse*

Family Context Measures	Religious Affiliation		Total
	SDA Church	Other/None	
<b>Family Structure</b>			
Live with biological parents			56.2
Live part-time with biological parents in separate homes			5.6
Live with single mother			20.4
Live with single father			2.5
Live with mother/stepfather			12.6
Live with father/stepmother			2.5
<b>Parent Education<sup>a</sup></b>			
Not finished high school			16.0
Finished high school			28.2
Gone to college			34.4
Gone to graduate school			21.4
Live-in Parent Substance Misuse <sup>b</sup>			21.6

<sup>a</sup>Percentage based on the one parent per household with the highest academic achievement.

<sup>b</sup>Percentage of adolescents reporting parents with present/past problems with alcohol/drugs.

## **Parental Misuse of Alcohol and Drugs**

In describing the kind of in-home risk environment created by the parent(s) with whom respondents resided (see Lerand et al., 2004, p. 143), the majority of adolescents (78.4%) reported that their live-in parent(s) did not misuse alcohol and/or drugs either presently or in the past. However, 21.6% of respondents indicated that the parent(s) with whom they lived had had in the past, or currently had, a problem with drugs and/or alcohol. (See Table 4.)

## **Adolescent Perception of Parental Connectedness**

Reports indicated that, overall, the adolescents responding to the SDACYS perceived moderate to strong levels of connectedness with both mothers and fathers ( $M=3.125$  and  $M=2.648$ , respectively, on mother/father connectedness scales where “1.000” indicated the lowest level of connectedness to mother/father and “4.000” indicated the highest level). (See Table 5.)

## **Adolescent Perception of Parental Behavioral Control**

### Parental rules

The mean score on the parental rules scale—indicating the degree to which adolescents perceived definite parental rules associated with their participation in family life, relationships with peers, school work, and activities—was also in the moderate range ( $M=1.418$  on a dichotomous scale where a “1.000” represented adolescent perception of the total absence of parental rules and “2.000” marked adolescent perception of established parental rules across all areas indicated). (See Table 5.)

Table 5

*Adolescent Family Contexts: Means for Religious Affiliation Subgroups With Significant Differences in Perceptions of Parental Connectedness, Behavioral Control, and Attitudes on Adolescent Sexual Behaviors*

Family Context Measures	Religious Affiliation		Total
	SDA Church	Other/None	
Parental Connectedness <sup>a</sup>			
Mother connectedness			3.125
Father connectedness			2.648
Parental Behavioral Control			
Parental rules <sup>b</sup>			1.418
Parental monitoring <sup>c</sup>			4.268
Parental Attitudes Regarding Adolescent Sexual Behavior			
Parental disapproval of adolescent sex <sup>d,e</sup>	4.426	4.099	4.273
Parental approval of adolescent condom use <sup>f</sup>			3.763

<sup>a</sup>Means on a 4-point scale where "4.000" indicates highest level of adolescent perception of connectedness with mother/father.

<sup>b</sup>Means on a dichotomous scale where "1.000" represents adolescent perception of the absence of parental rules and "2.000" a perception of established rules across a range of areas.

<sup>c</sup>Means on a 5-point scale where "5.000" represents the highest level of youth-perceived parental monitoring.

<sup>d</sup>Means on a 5-point scale where "5.000" indicates the strongest sense of parental disapproval of adolescent sex.

<sup>e</sup>Statistically significant difference between religious affiliation groups ( $p=.000$ ).

<sup>f</sup>Means on a 5-point scale where "5.000" represents the strongest sense of parental support for condom use by sexually active youth.

## Parental monitoring

Respondents, on average, perceived a high degree of parental expectation with regard to adolescents providing their parents with accurate and timely information concerning their whereabouts and activities ( $M=4.268$  on a 5-point scale where “1.000” represented the lowest level and “5.000” represented the highest level of youth-perceived parental monitoring). (See Table 5.)

## **Adolescent Perception of Parental Attitudes Regarding Adolescent Sexual Behavior**

With respect to parental attitudes regarding adolescent sexual behavior, it is important to note that the scale employed to measure parents’ attitudes regarding adolescent sex was coded so that higher scores reflected higher levels of parental *disapproval*, while the scale used to mark parents’ attitudes regarding the use of condoms by sexually active youth was coded so that higher scores indicated higher levels of parental *approval*. In this case, parental predictor variables were coded so that increasing levels of predictor presence were anticipated to predict for lower adolescent at-risk behavior, and hence offer some protection from HIV infection.

## Parental disapproval of adolescent sex

Overall, Caribbean adolescents participating in the present study reported strong perceptions of parental disapproval of adolescent engagement in sexual intercourse ( $M=4.273$  on a 5-point scale,” where “1.000” indicated a clear adolescent sense of parental approval and “5.000” indicated a very strong sense of parental disapproval). (See Table 5.) A  $t$ test indicated a statistically significant difference ( $p=.000$ ), however,

between youth affiliated with the SDA Church affiliation reported and youth with other/no religious affiliation. SDA Church-affiliated adolescents indicated somewhat stronger parental disapproval of adolescent sex ( $M=4.426$ ) than did their peers with other/no religious affiliations ( $M=4.099$ ).

#### Parental approval of condom use by sexually active adolescents

Adolescents in the present sample also indicated a keen sense of parental approval of adolescent condom use among sexually active adolescents ( $M=3.763$  on a 5-point scale where “1.000” indicated a clear sense of parental disapproval, and “5.000” a very strong sense of parental approval). (See Table 5.)

#### Peer Context

One peer context variable—friend approval of adolescent sex—was included among the controls in this study as both permissive attitudes regarding adolescent sex and sexual activity among respondents’ friends were identified by Kirby et al. (2005) as strongly associated with adolescent sexual at-risk behavior. On a 5-point scale where “1.000” represents strong friend disapproval of adolescent engagement in sexual intercourse and “5.000” indicates strong friend approval of adolescent sexual activity, respondents indicated moderate friend approval of adolescent sex ( $M=3.027$ ).

#### Adolescent Religiosity

Table 6 details the responses of study participants regarding their personal religiosity.



Table 6

*Adolescent Religiosity: Percentages for Religious Affiliation Subgroups, Overall, and With Significant Differences in Attendance at Religious Services and Importance Ascribed to Religion*

Adolescent Religiosity Measures	Religious Affiliation		Total
	SDA Church	Other/None	
<b>Religious Affiliation</b>			
SDA Church affiliation			56.1
Other/no religious affiliation			43.9
<b>Attendance at Religious Services<sup>a</sup></b>			
Never	25.7	16.7	21.3
Rarely	13.8	40.5	26.2
Once or twice per month	11.3	17.9	14.4
Once per week or more	49.2	25.0	38.1
<b>Importance Ascribed to Religion<sup>b</sup></b>			
Not important	1.3	2.1	1.9
A little important	4.7	10.3	7.3
Pretty important	19.9	25.5	23.0
Very important	74.1	62.1	67.8

<sup>a</sup>Statistically significant differences between religious affiliation groups ( $p=.000$ ).

<sup>b</sup>Statistically significant differences between religious affiliation groups ( $p=.010$ ).

### **Religious Affiliation**

The vast majority of study participants (90.5%) identified themselves as affiliated with a Christian church, with slightly over half of the respondents (56.1%) indicating affiliation with the SDA Church. Only 9.5% reported other/no religious affiliations. (See Table 6.)

### **Attendance at Religious Services**

There was considerably more variability among study respondents with regard to regularity of church attendance. Overall, more than one-third of the adolescents (38.1%) were regular churchgoers, that is, attended religious services “once per week or more.” Another 14.4% said they went to church “once or twice a month.” However, nearly one-half of the adolescents (47.5%) said they “never” or “rarely” attended religious services. (See Table 6.) A Chi Squared Test of Independence revealed a statistically significant difference between SDA Church-affiliated respondents and youth with other/no religious affiliation,  $X^2(3, n=571) = 70.213, p=.000$ . Twice as many SDA Church-affiliated youth (49.2%) were weekly churchgoers, as compared with 25.0% of youth with other/no religious affiliation. In a similar pattern, nearly one-third fewer youth with SDA Church affiliation said they never/rarely attended (39.5%), as compared with 57.2% of youth with other/no religious affiliation.

### **Importance Ascribed to Religion**

With regard to adolescent reports of the importance they personally ascribed to religion, over two-thirds of respondents (67.8%), overall, indicated that religion was “very important” in their lives, with an additional 23.0% reporting that it was “pretty

important.” Only 9.2% said religion was either “not important” or only “a little important” to them personally. (See Table 6.) Again, a Chi Squared Test of Independence found a significant relationship between religious affiliation subgroups,  $X^2(3, n=560) = 11.318, p=.010$ . Whereas 94.0% of adolescents affiliated with the SDA Church reported religion to be pretty/very important to them, somewhat fewer (87.6%) reported the same among youth with other/no religious affiliation. On the other hand, more than twice as many youth with other/no religious affiliation reported that religion was of little or no importance to them (12.4%) than reported the same among SDA Church-affiliated adolescents (6.0%).

### Sexual Risk-Taking

The sexual behavior reported by present study respondents is summarized in Table 7. Percentages reported for sexual experience are proportions of the total number of adolescents responding to the question “Have you ever had sexual intercourse?” Percentages reported for all other sexual behaviors are proportions of adolescents admitting to a history of sexual intercourse.

### Sexual Experience

Among present study participants overall, well over half of the adolescents who disclosed their sexual history (60.8%) indicated that they were sexually abstinent, while 39.2% admitted to having had sexual intercourse. (See Table 7.) A significant relationship was found, however, between religious affiliation subgroups,  $X^2(1, n=486) = 17.598, p=.000$ ). Whereas among SDA Church-affiliated adolescents, 30.8% reported a

Table 7

*Adolescent Sexual Behaviors: Percentages for Religious Affiliation Subgroups With Significant Differences in Sexual Experience, Timing of Sexual Debut, Number of Sexual Partners, and Consistency of Condom Use*

Sexual Behavior	Religious Affiliation		Total
	SDA Church	Other/None	
Sexual Experience <sup>a, b</sup>	30.8	49.5	39.2
Age of Sexual Initiation <sup>c</sup>			
>10			6.1
10-13			23.2
14-15			38.7
≥16			32.0
Number of Sexual Partners			
Lifetime <sup>c</sup>			
1			36.6
2			18.3
3 to 5			21.7
≥6			23.4
Last three months <sup>c</sup>			
0			32.4
1			43.3
2			9.7
3 to 5			3.8
≥6			10.8
Consistency of Condom Use <sup>c</sup>			
Frequency			
Never			18.0
Sometimes			20.0
Often			13.7
Always			48.3
Used condom at last sex <sup>c</sup>			
No			37.3
Yes			62.7

<sup>a</sup>Percentage of total respondents.

<sup>b</sup>Statistically significant difference between religious affiliation groups ( $p=.000$ ).

<sup>c</sup>Percentage of respondents reporting sexual experience.

history of sexual intercourse, among youth with other/no religious affiliations, the proportion was much larger (49.5%).

### **Timing of Sexual Debut**

Among present study respondents indicating sexual experience, the average age of sexual initiation was approximately 14 years ( $M=14.122$  years). Overall, 6.1% reported having initiated sexual activity before the age of 10 years. It should be noted that this proportion does not include adolescents who reported their first sex to be forced. More than one-quarter of respondents (29.3%) indicated sexual debut to have occurred at or before the age of 13 years, the threshold commonly used to define “early sexual initiation” associated with elevated risk for HIV infection (Ohene et al., 2005, p. 93). (See Table 7.)

### **Sexual Partnering**

Lifetime number of sexual partners

Overall, the *mean* lifetime number of sexual partners reported by sexually experienced respondents to the present study was five partners ( $M=5.211$ ). By contrast, the *median* lifetime number of sexual partners for this subsample was two.<sup>7</sup> Over one-

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<sup>7</sup> The differential between the mean and median lifetime number of partners reported by sexually experienced adolescents in the present sample can be best understood in the light of my decision to retain all cases reporting a plausible lifetime number of partners within the groupings of number of partners used for analysis purposes. (In other words, only extreme outliers were excluded from my analyses, i.e., only those adolescents indicating highly unlikely number of sexual partners.) The retention of adolescents reporting high, though plausible, lifetime number of partners was not considered likely to skew my results, given the fact that for analysis purposes, these cases were counted within a grouping comprised of all adolescents reporting six or more partners. When considering the mean lifetime number of partners, on the other hand, it becomes important to take into account the fact that the inclusion of adolescents reporting high (though plausible) lifetime number of partners inevitably inflated the mean. Consequently, I believe the median may provide a more accurate estimate of the lifetime number of partners among sexually experienced adolescents attending SDA Church schools in the Caribbean.

third of sexually experienced study respondents reporting indicated they had had only one sexual partner (36.6%). Two lifetime partners were reported by 18.3%, and three to five partners by 21.7%. Nearly one-quarter (23.4%) of the sexually experienced adolescents, however, indicated a lifetime number of sexual partners of six or more. (See Table 7.)

#### Number of sexual partners in the last three months

In the last three months prior to data collection, sexually experienced adolescents participating in the present study reported an overall average of two sexual partners ( $M=2.043$ ). However, the median number of reported sexual partners in the short term was one partner.<sup>8</sup> Nearly one-third (32.4%) of present study respondents with a history of sexual intercourse reported having had no sexual partner in the last three months. Another 43.3% reported having one such recent partner. Two sexual partners in the last three months were reported by 9.7%, and three to five partners by 3.8%. However, a striking 10.8% of respondents with sexual experience indicated they had had six or more sexual partners within this short time period. (See Table 7.)

### **Condom Use**

#### Frequency of condom use

Nearly half of sexually experienced adolescents (48.3%) in the present study indicated that they always used a condom when they engaged in sexual intercourse,

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<sup>8</sup>The differential between mean and median number of sexual partners in the last three months can be best understood in the light of the explanation given above in footnote 7, as the same methodology for case selection was used for both sexual partnering variables.

whereas 18.0% reported never using one. One-third (33.7%) of respondents with a sexual history said they used condoms sometimes or often. (See Table 7.)

#### Condom use at last sex

By comparison, a clear majority (62.7%) of adolescents reported they or their partner had used a condom at last sex. On the other hand, more than twice the proportion of adolescents who said they never used a condom (18.0%) reported they did not use one the last time they had intercourse (37.3%). (See Table 7.)

### **Overview of Conceptual Framework**

As described in Chapter 3, five research questions were explored in this study. The investigation of each question, in turn, provided a different window on the significance and strength of the relationships between a set of parental and adolescent religiosity predictor variables and six adolescent sexual behavioral outcomes known to be associated with risk of HIV infection. (See Table 1.) Predictor variables were investigated for their relationships with outcome variables alone and together. These relationships were also tested with and without the removal of the effects of control variables identified in the literature as potentially important to understanding the etiology of adolescent sexual risk-taking and presumed to be causal in their effects on the sexual behavioral outcomes under study. Tests for interaction by gender, language, and age yielded non-significant results, consequently it was deemed unnecessary to take further analytical steps to remove the effects of these demographic controls. The five specific research questions addressed are listed below, followed by a report of study findings.

1. Is there a relationship between each of the parental and adolescent religiosity predictor variables alone and each of the adolescent sexual behavioral outcomes?
2. Is there a relationship between the set of parental and adolescent religiosity predictor variables together and each of the adolescent sexual behavioral outcomes?
3. Is there a relationship between each of the parental and adolescent religiosity predictor variables alone, when controlled for selected social/family demographic and peer attitude variables together, and each of the adolescent sexual behavioral outcomes?
4. Is there a relationship between the set of parental and adolescent religiosity predictor variables together, when controlled for selected social/family demographic and peer attitude variables together, and each of the adolescent sexual behavioral outcomes?
5. Can a parsimonious model, useful for predicting each of the adolescent sexual behavioral outcomes, be developed from among the parental and adolescent religiosity predictor variables?

### **Research Question 1**

The initial research question (RQ1) investigated in this study was: Is there a relationship between each of the parental and adolescent religiosity predictor variables alone and each of the adolescent sexual behavioral outcomes? The calculation of Pearson correlations was the initial test used to evaluate the usefulness of the selected parental and adolescent religiosity variables as predictors of the adolescent sexual behavioral outcomes under study. Pearson product-moment correlation coefficients and the probability of their occurring by chance are reported in Tables 8-12. Numbers of cases for each correlation are also provided as the decision was made to retain cases for correlational analyses wherever values were present for both variables, removing cases



only in the event the specific value needed for a correlation was missing (see Chapter 3). Among statistically significant results, Pearson correlation coefficients  $< .200$  are reported as “weak” correlations. Correlation coefficients between  $.200$  and  $.399$  are reported as “moderate” in strength, and correlation coefficients of  $.400$  and above are reported as “strong” correlations.

It should be noted that both positive and negative correlations may indicate that parental and adolescent religiosity predictors were protective in terms of adolescent sexual behavioral outcomes, depending on the nature of the variables involved. For example, a *negative* correlation between mother connectedness and sexual experience was reported as protective because mother connectedness was associated with reduced risk of adolescent engagement in sexual intercourse. On the other hand, a *positive* correlation between mother connectedness and age of sexual initiation also indicates the protective nature of mother connectedness with regard to age of sexual initiation, that is, mother connectedness is associated with older age at first intercourse.

#### Relationships Between Parental Predictors Alone and Adolescent Sexual Behavioral Outcomes

##### **Adolescent Perception of Parental Connectedness**

Pearson correlations describing the relationships between the parental connectedness predictor variables alone and each of the adolescent sexual behavioral outcomes are reported in Table 8.

Table 8

*Relationships Between Mother/Father Connectedness and Adolescent Sexual Behavioral Outcomes*

Adolescent Sexual Behavioral Outcomes	Mother Connectedness			Father Connectedness		
	Pearson <i>r</i>	<i>p</i>	<i>N</i>	Pearson <i>r</i>	<i>p</i>	<i>N</i>
Sexual Experience	-0.127	0.005	494	-0.115	0.012	479
Age of Sexual Initiation	0.135	0.072	178	0.188	0.012	177
Lifetime Number of Sexual Partners	-0.124	0.104	173	-0.198	0.010	171
Number of Sexual Partners in Last 3 Months	-0.147	0.104	124	-0.089	0.327	122
Frequency of Condom Use	0.054	0.443	202	-0.040	0.576	199
Condom Use at Last Sex	0.104	0.155	189	-0.001	0.987	184

### Mother connectedness

A weak negative correlation was found between adolescent perception of mother connectedness and sexual experience ( $r = -.127, p=.005$ ). Adolescents who felt more connected to their mothers were less likely to have engaged in sexual intercourse than were adolescents who felt less connected to their mothers. On the other hand, although protective against a history of sexual intercourse among study respondents, mother connectedness was not significantly correlated with any of the other adolescent sexual behavioral outcomes under investigation in this study.

### Father connectedness

As with mother connectedness, a weak negative correlation was also found between adolescent perception of father connectedness and sexual experience ( $r = -.115, p=.012$ ). Again, the negative direction of this finding revealed the protective nature of a sense of connectedness with father on this feature of adolescent sexual risk-taking. In addition, results indicated significant correlations between father connectedness and two other adolescent sexual behavioral outcomes. A weak positive correlation between father connectedness and age of sexual initiation ( $r = .188, p=.012$ ) and a weak negative correlation with lifetime number of sexual partners reported by study participants ( $r = -.198, p=.010$ ) both revealed father connectedness to be protective against adolescent sexual at-risk behavior in these areas as well. Adolescents who perceived stronger connectedness with their fathers were less likely to be sexually experienced, initiated sexual intercourse at an older age, and had fewer total sexual partners across their lifetimes than did youth who did not sense a connectedness with their fathers. Father

connectedness was not significantly related to adolescent reports of number of sexual partners in the last three months, frequency of condom use, or use of condoms at last sex.

### **Adolescent Perception of Parental Behavioral Control**

Pearson's correlations describing the relationships between the two parental behavioral control predictor variables—parental rules and parental monitoring—alone and each of the adolescent sexual behavioral outcomes are reported in Table 9.

#### **Parental rules**

The presence of parental rules setting boundaries on a variety of aspects of adolescent life was tested for its potential usefulness as a predictor of adolescent sexual risk-taking. While Pearson correlation coefficients did not reveal significant relationships with five of the six adolescent sexual behavioral outcomes under study, there was a weak negative correlation, signifying a protective relationship between parental rules and sexual experience ( $r = -.115, p=.010$ ). Youth whose parents set clear parameters regarding dress, school work, extracurricular activities, peer relationships, and participation in family life were less likely to be sexually experienced than were adolescents whose parents did not establish such rules. This significant relationship indicates the protection associated with parental boundary setting in relation to adolescent engagement in sexual intercourse.

#### **Parental monitoring**

Parental monitoring was one of two parental predictor variables for which Pearson correlations were the strongest across the greatest number of adolescent sexual

Table 9

*Relationships Between Parental Behavioral Controls and Adolescent Sexual Behavioral Outcomes*

Adolescent Sexual Behavioral Outcomes	Parental Rules			Parental Monitoring		
	Pearson $r$	$p$	$N$	Pearson $r$	$p$	$N$
Sexual Experience	-0.115	0.010	495	-0.376	0.000	494
Age of Sexual Initiation	0.103	0.176	175	0.188	0.012	178
Lifetime Number of Sexual Partners	-0.023	0.765	169	-0.308	0.000	172
Number of Sexual Partners in Last 3 Months	-0.104	0.260	120	-0.355	0.000	124
Frequency of Condom Use	-0.008	0.914	199	-0.027	0.705	201
Condom Use at Last Sex	0.023	0.757	186	0.055	0.454	188

behavioral outcome variables. Moderate negative correlation coefficients were associated with sexual experience ( $r = -.376, p=.000$ ), total lifetime number of sexual partners ( $r = -.308, p=.000$ ), and number of sexual partners in the last three months ( $r = -.355, p=.000$ ), indicating the protection associated with parental monitoring against adolescent sexual risk-taking in these areas. In addition, a weak positive correlation was found between parental monitoring and age of sexual initiation ( $r = .188, p=.012$ ), also revealing the protective nature of parental monitoring on timing of sexual debut. Youth who perceived their parents as monitoring their whereabouts and activities were less likely to report a history of sexual intercourse. Further, these adolescents were more likely to have postponed sexual debut and to have reported fewer sexual partners in both the short and long term, that is, either within the last three months or across their lifetimes. No significant relationships were found between parental monitoring and either of the adolescent condom use predictor variables.

### **Parental Attitudes Regarding Adolescent Sexual Behavior**

The Pearson correlations describing the relationships between the two parental attitude predictor variables—parental disapproval of adolescent sex and parental approval of adolescent condom use—alone and each of the adolescent sexual behavioral outcomes are reported in Table 10.

#### **Parental disapproval of adolescent sex**

Overall, the predictor variable with the strongest Pearson correlations in relation to the sexual behavioral outcome variables under study here was parental disapproval of

Table 10

*Relationships Between Parental Attitudes Regarding Adolescent Sex/Use of Condoms and Adolescent Sexual Behavioral Outcomes*

Adolescent Sexual Behavioral Outcomes	Parental Disapproval of Adolescent Sex			Parental Approval of Adolescent Condom Use		
	Pearson $r$	$p$	$N$	Pearson $r$	$p$	$N$
Sexual Experience	-0.394	0.000	442	0.009	0.842	448
Age of Sexual Initiation	0.172	0.029	160	-0.119	0.126	165
Lifetime Number of Sexual Partners	-0.325	0.000	155	0.046	0.564	160
Number of Sexual Partners in Last 3 Months	-0.579	0.000	110	-0.002	0.985	114
Frequency of Condom Use	-0.111	0.138	180	0.089	0.225	186
Condom Use at Last Sex	0.005	0.945	168	0.103	0.176	173

adolescent sex. A strong negative correlation ( $r = -.579, p=.000$ ) between this parental predictor and the number of sexual partners reported by adolescent respondents in the last three months demonstrated that parental disapproval of adolescent sex was strongly associated with fewer sexual partners in the short term. Moderate negative correlations, also indicative of the protection against adolescent sexual risk-taking offered by such parental disapproval, were found between this parental predictor and both adolescent sexual experience ( $r = -.394, p=.000$ ) and total lifetime number of sexual partners ( $r = -.325, p=.000$ ). Youth whose parents conveyed disapproval of adolescent sex were less likely to be sexually experienced. In addition, they reported fewer lifetime sexual partners than young people whose parents did not communicate such disapproval. A weak positive correlation between youth perceptions of their parents' disapproval of adolescent sex and the age at which respondents initiated sexual intercourse ( $r = .172, p=.029$ ) further demonstrated the protective nature of this parental predictor. Youth who perceived parental disapproval of adolescent sexual activity were also likely to be older at first intercourse.

#### Parental approval of adolescent condom use

Parental approval of adolescent condom use was not found to be significantly related to any of the six adolescent sexual behavioral outcomes.

#### **Summary of Relationships Between Parental Predictors Alone and Sexual Behavioral Outcomes**

From a total of 36 tests of the relationships between each of the parental predictors and each of the adolescent sexual behavioral outcomes in turn, 13 statistically



significant Pearson correlations were found (four reported in Table 8, five in Table 9, and four in Table 10). Mother and father connectedness, parental rules, parental monitoring, and parental disapproval of adolescent sex were negatively correlated with sexual experience. Father connectedness, parental monitoring, and parental disapproval of adolescent sex were positively correlated with age of sexual initiation. That is to say, adolescents who perceived these parental factors were more likely to delay sexual initiation. Father connectedness, parental monitoring, and parental disapproval of adolescent sex were significantly related to lifetime number of sexual partners, as were parental monitoring and parental disapproval to reported number of sexual partners in the last three months. All of the significant Pearson correlations identified the parental predictor tested as protective against one or more adolescent sexual at-risk behaviors. The strength of the significant correlations ranged from weak to strong.

#### Relationships Between Adolescent Religiosity Predictors Alone and Adolescent Sexual Behavioral Outcomes

##### **Religious Affiliation**

The Pearson correlations describing the relationships between the two dummy variables related to adolescent religious affiliation—SDA Church affiliation and no religious affiliation—and each of the adolescent sexual behavioral outcomes are reported in Table 11.

Findings indicated a weak negative correlation between SDA Church affiliation and adolescent sexual experience ( $r = -.190, p = .000$ ). That is to say, young people who affiliated with the SDA Church were less likely to have reported a sexual history than were young people who did not. While SDA Church affiliation was thus identified as a

Table 11

*Relationships Between Adolescent Religious Affiliation and Adolescent Sexual Behavioral Outcomes*

Adolescent Sexual Behavioral Outcomes	SDA Church Affiliation			No Religious Affiliation		
	Pearson <i>r</i>	<i>p</i>	<i>N</i>	Pearson <i>r</i>	<i>p</i>	<i>N</i>
Sexual Experience	-0.190	0.000	486	0.095	0.037	486
Age of Sexual Initiation	-0.076	0.313	176	-0.069	0.361	176
Lifetime Number of Sexual Partners	0.091	0.239	168	0.007	0.931	168
Number of Sexual Partners in Last 3 Months	0.119	0.194	120	0.062	0.504	120
Frequency of Condom Use	-0.023	0.745	196	-0.032	0.654	196
Condom Use at Last Sex	-0.028	0.706	184	-0.133	0.071	184

protective factor, a weak positive correlation between no religious affiliation and a history of sexual experience among adolescents ( $r = .095, p=.037$ ) exposed lack of religious affiliation as a risk factor with regard to adolescent sexual risk-taking. Youth with no religious affiliation were more likely to be sexually experienced than were youth with Christian religious affiliations, including SDA Church affiliation.

### **Attendance at Religious Services**

Pearson correlations associated with the relationships between adolescent attendance at religious services and each of the sexual behavioral outcomes are reported in Table 12. No significant relationships were found between attendance at religious services and any of the adolescent sexual behavioral outcomes of interest here.

### **Importance Ascribed to Religion**

Table 12 also reports the Pearson correlations describing the relationships between the importance adolescents ascribed to religion and each of the sexual behavioral outcomes. The importance adolescents ascribed to religion was the only adolescent religiosity predictor variable to be significantly associated with an adolescent sexual behavioral outcome other than sexual experience. Importance ascribed to religion was found to be reasonably protective against recent sexual partnering, that is, number of sexual partners in the last three months, as indicated by a moderate negative Pearson correlation ( $r = -.324, p=.000$ ). The correlation between youth reports of the importance they ascribed to religion and their history of sexual experience was also negative, but weak ( $r = -.148, p=.001$ ), indicating that the importance adolescents ascribed to religion was also protective on sexual experience. Young people who reported religion to be of

Table 12

*Relationships Between Adolescent Attendance at Religious Services/Importance Ascribed to Religion and Adolescent Sexual Behavioral Outcomes*

Adolescent Sexual Behavioral Outcomes	Attendance at Religious Services			Importance Ascribed to Religion		
	Pearson <i>r</i>	<i>p</i>	<i>N</i>	Pearson <i>r</i>	<i>p</i>	<i>N</i>
Sexual Experience	-0.018	0.684	496	-0.148	0.001	483
Age of Sexual Initiation	0.038	0.613	178	0.126	0.096	177
Lifetime Number of Sexual Partners	0.057	0.455	171	-0.100	0.195	170
Number of Sexual Partners in Last 3 Months	0.023	0.799	123	-0.324	0.000	121
Frequency of Condom Use	0.112	0.115	201	0.052	0.463	198
Condom use at Last Sex	0.078	0.286	191	0.001	0.986	187

greater importance in their lives reported fewer sexual partners in the last three months and were less likely to be sexually experienced than were youth who did not ascribe such personal importance to religion.

### **Summary of Relationships Between Adolescent Religiosity Predictors Alone and Sexual Behavioral Outcomes**

Twenty-four Pearson correlations identified four significant relationships between adolescent religiosity predictor variables and the sexual at-risk behaviors explored here. SDA Church affiliation and importance ascribed to religion by adolescents were negatively associated with sexual experience, that is, youth affiliated with the SDA Church and youth who ascribed greater levels of importance to religion were less likely to be sexually experienced. However, Pearson correlations indicated the strength of these relationships to be weak. Having no religious affiliation was also weakly related to sexual experience. This adolescent religiosity predictor, on the other hand, was *positively* associated with sexual experience, that is, having no religious affiliation was a risk factor associated with increased likelihood of sexual experience. The only adolescent religiosity predictor to be significantly related to a sexual at-risk behavior other than sexual experience was the importance ascribed by adolescents to religion. This predictor was negatively associated with reported number of sexual partners in the last three months, that is, adolescents who indicated religion to be of greater importance in their lives reported fewer sexual partners in the last three months. The Pearson correlation indicated this relationship to be moderate in strength.

## Research Question 2

The second research question (RQ2) to be investigated in the present study was: Is there a relationship between the set of parental and adolescent religiosity predictor variables together and each of the adolescent sexual behavioral outcomes? In the standard regression analyses used to explore this question, all the parental and adolescent religiosity predictor variables being investigated here were combined. This set of all predictors was then tested to determine whether the combined set was significantly related to each of the adolescent sexual behavioral outcomes. The percentages of variance explained by the set of all predictors for each of the adolescent sexual behavioral outcomes are detailed in Tables 13-18 and described below.

Significant part correlations are also reported in the tables and in the text as measures of the unique contributions to the explained variances in adolescent sexual behavioral outcomes made by each predictor variable within the set of all predictors, in addition to all the others. The unique contribution of a significant component predictor, in addition to others in the set, is categorized as “weak” if it was associated with a part correlation of less than .100. Similarly, the independent contribution of a given significant predictor, in addition to all other predictors, is considered “moderate” if the part correlation was between .100 and .299. A component predictor’s independent contribution to the explained variance in a particular dimension of adolescent sexual risk-taking, in addition to all other predictors, is considered “strong” if the part correlation was  $\geq .300$ .

It is worth noting here that a part correlation (part  $r$ ) must be squared in order to determine the proportion of explained variance attributable to an individual predictor within the set of all predictors, in addition to contributions made by all the other predictors toward explaining observed variance. Just as with Pearson correlations in RQ1, both positive and negative part correlations may indicate that parental and adolescent religiosity predictors were protective in terms of adolescent sexual behavioral outcomes, depending on the nature of the variables involved.

As indicated in Chapter 3, the number of cases available for regression analysis testing the relationship between the set of all predictors and sexual experience were sufficient to allow for the most preferred method of handling missing data, that is, the exclusion of cases wherever data were missing. However, it seemed prudent to substitute the mean for missing predictor variable data in analyses testing the relationships between the set of all predictors and the other five sexual behavioral outcomes. This decision was based on the reduction of cases available for analyses related to age of sexual initiation, sexual partnering, and condom use due to the fact that only sexually experienced adolescents were eligible for inclusion. It was understood that such substitution of the mean for missing predictor variable data would likely depress the true explanatory power of these variables. However, this statistical procedure was implemented for these outcomes in favor of an expected increase in the reliability of the findings as a result of the expanded number of cases available for analysis (see Table 2).

## Relationships Between the Set of All Predictors and Adolescent Sexual Behavioral Outcomes

### **Relationship Between the Set of All Predictors and Sexual Experience**

When all of the parental and adolescent religiosity predictor variables were combined, a statistically significant relationship was found between this set of all predictors and adolescent reports of sexual experience ( $p=.000$ ; see Table 13). The set of all predictors explained approximately one-quarter (25.6%) of the variance observed in adolescent sexual experience ( $R^2=.256$ ).

A review of the unique contributions made by each component predictor variable, in addition to that of all the others, indicated that three variables were significant within the set of all predictors and uniquely explained between 3% and 8% of the variance observed: parental disapproval of adolescent sex, 8.2% (part  $r = -.287$ ,  $p=.000$ ); parental monitoring, 5.7% (part  $r = -.238$ ,  $p=.000$ ); and SDA Church affiliation, 2.9% (part  $r = -.169$ ,  $p=.000$ ). As indicated by the direction and strength of the part correlations, the independent contributions made by each of the significant predictors were moderate and protective against a history of sexual intercourse.

### **Relationship Between the Set of All Predictors and Timing of Sexual Debut**

As shown in Table 14, a significant relationship was also found between the set of all predictors and the age of sexual initiation among sexually experienced adolescent respondents ( $p=.037$ ). Findings indicated that the set of all predictors explained 10.5% of the variance observed in the ages of sexual initiation reported by respondents ( $R^2=.105$ ).



Table 13

*Relationship Between Set of All Predictors and Sexual Experience*

Predictors	<i>F</i> -ratio	<i>df</i>	Sig of <i>F</i>	<i>R</i> <sup>2</sup>	<i>b</i>	Beta	<i>t</i>	Sig of <i>t</i>	Part <i>r</i>
Set of All Predictors	12.787	10, 372	0.000	0.256					
Mother connectedness					0.007	0.010	0.208	0.835	0.009
Father connectedness					-0.007	-0.012	-0.241	0.810	-0.011
Parental monitoring					-0.155	-0.267	-5.325	0.000	-0.238
Parental rules					-0.025	-0.014	-0.291	0.771	-0.013
Parental disapproval of adolescent sex					-0.164	-0.310	-6.427	0.000	-0.287
Parental approval of adolescent condom use					-0.011	-0.036	-0.772	0.441	-0.035
SDA Church affiliation					-0.181	-0.184	-3.773	0.000	-0.169
No religious affiliation					-0.064	-0.038	-0.771	0.441	-0.034
Attendance at religious services					0.008	0.019	0.413	0.680	0.018
Importance ascribed to religion					0.042	0.054	1.168	0.243	0.052

Table 14

*Relationship Between Set of All Predictors and Age of Sexual Initiation*

Predictors	<i>F</i> -ratio	<i>df</i>	Sig of <i>F</i>	<i>R</i> <sup>2</sup>	<i>b</i>	Beta	<i>t</i>	Sig of <i>t</i>	Part <i>r</i>
Set of All Predictors	1.995	10, 170	0.037	0.105					
Mother connectedness					0.154	0.052	0.671	0.503	0.049
Father connectedness					0.481	0.166	2.178	0.031	0.158
Parental monitoring					0.239	0.105	1.286	0.200	0.093
Parental rules					0.248	0.029	0.370	0.712	0.027
Parental disapproval of adolescent sex					0.107	0.049	0.606	0.545	0.044
Parental approval of adolescent condom use					-0.202	-0.127	-1.616	0.108	-0.117
SDA Church affiliation					-0.614	-0.132	-1.667	0.097	-0.121
No religious affiliation					-0.370	-0.055	-0.688	0.492	-0.050
Attendance at religious services					0.096	0.045	0.603	0.547	0.044
Importance ascribed to religion					0.229	0.077	0.958	0.340	0.069

It should be noted, however, that only one predictor variable within the set of all predictors—father connectedness—was significant within the set. The unique contribution of father connectedness to the explained variance in age of sexual initiation, in addition to all the other predictors, was 2.5% (part  $r = .158$ ,  $p=.031$ ). This predictor was protective in terms of adolescent sexual risk-taking because it was associated with delayed sexual debut.

The large difference between the 10.5% of explained variance in age of sexual initiation attributable to the set of all predictors and the relatively small contribution of 2.5% made by father connectedness, the one significant component variable within the set, deserves consideration. Of course, intercorrelation between the predictors comprising the set of all predictors would be expected to account for a proportion of this differential, but perhaps not one of this magnitude. It seems reasonable that the sizeable difference may at least partially be understood in the light of the reduced number of cases available to test the explanatory power of the set of all predictors in relation to age of sexual initiation (due to the fact that only sexually experienced adolescents were eligible for inclusion). To maintain reliability, it is generally accepted that the minimum number of cases required for analysis is 10 cases per variable entered into a multiple regression analysis.

For the analyses exploring RQ2, the set of all predictors was comprised of 10 component predictor variables, and the number of cases available was 181. Though the minimum number of cases necessary for testing the relationship between the set of all predictors and age of sexual initiation was met, it stands to reason that the limited number of cases may have negatively affected the reliability of the findings. It is also noteworthy

that the significance level for the relationship between the set of all predictors and age of sexual initiation barely met the probability requirement established as acceptable in this study ( $p < .05$ ), raising additional concern regarding the reliability of the large  $R^2$  associated with the set of all predictors. Given these conditions, the adjusted  $R^2$  (.052) may provide a more accurate measure of the explanatory power of the set of all predictors in relation to age of sexual initiation. Using the adjusted  $R^2$ , the explanatory power of the set of all predictors would be reported perhaps more reliably as 5.2% of observed variance in the age of sexual initiation among respondents.

### **Relationship Between the Set of All Predictors and Lifetime Number of Sexual Partners**

A statistically significant relationship was also found between the set of all predictors and the lifetime number of partners reported ( $p = .000$ ; see Table 15). The set of all predictors explained nearly one-fifth (19.5%) of the variance observed in lifetime number of sexual partners among adolescent participants with a history of sexual intercourse ( $R^2 = .195$ ).

Among the component predictors found to be significant, parental disapproval of adolescent sex was the largest contributor to the overall explained variance in lifetime number of sexual partners. This parental disapproval uniquely explained 5.7% of the observed variance (part  $r = -.238$ ,  $p = .001$ ), in addition to that of all other predictors. Results also indicated that parental monitoring independently contributed 4.2% (part  $r = -.205$ ,  $p = .004$ ) to the explained variance in relation to lifetime number of sexual partners, in addition to all other predictors, and father connectedness uniquely contributed 2.0%

Table 15

*Relationship Between Set of All Predictors and Lifetime Number of Sexual Partners*

Predictors	<i>F</i> -ratio	<i>df</i>	Sig of <i>F</i>	<i>R</i> <sup>2</sup>	<i>b</i>	Beta	<i>t</i>	Sig of <i>t</i>	Part <i>r</i>
Set of All Predictors	3.963	10, 164	0.000	0.195					
Mother connectedness					-0.060	-0.039	-0.519	0.605	-0.036
Father connectedness					-0.233	-0.152	-2.046	0.042	-0.143
Parental monitoring					-0.279	-0.233	-2.923	0.004	-0.205
Parental rules					0.377	0.083	1.110	0.269	0.078
Parental disapproval of adolescent sex					-0.301	-0.261	-3.401	0.001	-0.238
Parental approval of adolescent condom use					-0.010	-0.011	-0.152	0.879	-0.011
SDA Church affiliation					0.241	0.098	1.301	0.195	0.091
No religious affiliation					0.089	0.025	0.320	0.749	0.022
Attendance at religious services					0.070	0.061	0.846	0.399	0.059
Importance ascribed to religion					-0.007	-0.005	-0.061	0.951	-0.004

(part  $r = -.143$ ,  $p=.042$ ). The contributions of all three significant predictors within the set were moderate and protective against the cumulative risk of multiple partners across life.

### **Relationship Between the Set of All Predictors and Number of Sexual Partners in the Last Three Months**

As seen in Table 16, a significant relationship was found between the set of all predictors and reported number of sexual partners in the last three months ( $p=.000$ ). In fact, the largest amount of variance explained by the set of all predictors was in relation to this adolescent sexual behavioral outcome. Findings indicated that the set of all predictors explained 40.3% of observed variance among sexually experienced youth with regard to reported number of sexual partners in the last three months ( $R^2=.403$ ).

The largest single contributor to explained variance in number of sexual partners in the short term was parental disapproval of adolescent sex. This component predictor explained 21.1%—more than half the variance explained by the set of all predictors—in addition to all other predictors (part  $r = -.459$ ,  $p=.000$ ). The importance adolescents personally ascribed to religion was also a significant predictor within the set of all predictors, uniquely explaining 2.8% of the variance in number of sexual partners in the last three months reported by adolescent respondents, in addition to all the other component predictors (part  $r = -.166$ ,  $p=.023$ ). Again, both component predictors associated significantly with adolescent reports of number of sexual partners in the last three months were protective against the risk of greater number of recent partners. However, it should be noted that the independent contribution to explained variance

Table 16

*Relationship Between Set of All Predictors and Number of Sexual Partners in Last Three Months*

Predictors	<i>F</i> -ratio	<i>df</i>	Sig of <i>F</i>	<i>R</i> <sup>2</sup>	<i>b</i>	Beta	<i>t</i>	Sig of <i>t</i>	Part <i>r</i>
Set of All Predictors	7.710	10, 114	0.000	0.403					
Mother connectedness					-0.037	-0.028	-0.348	0.729	-0.025
Father connectedness					-0.025	-0.018	-0.236	0.814	-0.017
Parental monitoring					-0.167	-0.153	-1.822	0.071	-0.132
Parental rules					0.041	0.009	0.122	0.903	0.009
Parental disapproval of adolescent sex					-0.515	-0.508	-6.345	0.000	-0.459
Parental approval of adolescent condom use					0.086	-0.113	-1.399	0.165	-0.101
SDA Church affiliation					0.202	0.085	1.059	0.292	0.077
No religious affiliation					0.081	0.027	0.336	0.738	0.024
Attendance at religious services					0.005	0.004	0.057	0.955	0.004
Importance ascribed to religion					-0.263	-0.192	-2.296	0.023	-0.166

made by parental disapproval of adolescent sex was strong, whereas the unique contribution made by the importance adolescents ascribed to religion was moderate.

### **Relationship Between the Set of All Predictors and Adolescent Condom Use**

As shown in Table 17, results showed no significant relationship between the set of all predictors and frequency of condom use. Nor was a significant relationship found between the set of all predictors and adolescent condom use at last sex (see Table 18).

### **Summary of Relationships Between the Set of All Predictors and Sexual Behavioral Outcomes**

A significant relationship was found between the set of parental and adolescent religiosity predictor variables together (set of all predictors) and four of the six adolescent sexual behavioral outcomes: sexual experience, age of sexual initiation, lifetime number of sexual partners, and number of sexual partners in the last three months. Unique contributions of component predictor variables were all in the moderate range with the exception of the large independent contribution of parental disapproval of adolescent sex, in addition to all the other predictors, to explained variance in reported number of sexual partners in the last three months. No significant relationship was found between the set of all predictors and frequency of condom use or condom use at last sex.

### **Research Question 3**

The third research question under exploration in this study was: Is there a relationship between each of the parental and adolescent religiosity predictor variables alone, when controlled for selected social/family demographic and peer attitude variables



Table 17

*Relationship Between Set of All Predictors and Frequency of Adolescent Condom Use*

Predictors	<i>F</i> -ratio	<i>df</i>	Sig of <i>F</i>	<i>R</i> <sup>2</sup>	<i>b</i>	Beta	<i>t</i>	Sig of <i>t</i>	Part <i>r</i>
Set of All Predictors	0.650	10, 194	0.770	0.032					
Mother connectedness					0.068	0.043	0.565	0.573	0.040
Father connectedness					-0.063	-0.042	-0.559	0.577	-0.039
Parental monitoring					-0.034	-0.029	-0.363	0.717	-0.026
Parental rules					0.015	0.004	0.047	0.962	0.003
Parental disapproval of adolescent sex					-0.089	-0.080	-1.032	0.303	-0.073
Parental approval of adolescent condom use					0.048	0.060	0.788	0.431	0.056
SDA Church affiliation					-0.100	-0.041	-0.543	0.588	-0.038
No religious affiliation					-0.137	-0.038	-0.486	0.627	-0.034
Attendance at religious services					0.107	0.097	1.329	0.185	0.094
Importance ascribed to religion					0.061	0.042	0.530	0.597	0.037

Table 18

*Relationship Between Set of All Predictors and Adolescent Condom Use at Last Sex*

Predictors	<i>F</i> -ratio	<i>df</i>	Sig of <i>F</i>	<i>R</i> <sup>2</sup>	<i>b</i>	Beta	<i>t</i>	Sig of <i>t</i>	Part <i>r</i>
Set of All Predictors	1.101	10, 182	0.364	0.057					
Mother connectedness					0.070	0.112	1.478	0.141	0.106
Father connectedness					-0.020	-0.032	-0.421	0.674	-0.030
Parental monitoring					0.028	0.058	0.721	0.472	0.052
Parental rules					0.008	0.004	0.055	0.956	0.004
Parental disapproval of adolescent sex					0.009	0.020	0.244	0.808	0.018
Parental approval of adolescent condom use					0.043	0.130	1.675	0.096	0.121
SDA Church affiliation					-0.086	-0.086	-1.098	0.273	-0.079
No religious affiliation					-0.248	-0.172	-2.164	0.032	-0.156
Attendance at religious services					0.028	0.062	0.835	0.405	0.060
Importance ascribed to religion					-0.048	-0.078	-0.997	0.320	-0.072

together, and each of the adolescent sexual behavioral outcomes? Hierarchical regression analyses were used to explore this question. All of the control variables were entered in the first block, followed in the second block by each of the parental and adolescent religiosity predictor variables in turn. Results were examined to determine whether or not the relationship between each of the predictors alone and each of the sexual at-risk behaviors of interest was statistically significant, after the effects of the control variables had been removed. The increase in the proportion of variance observed in the various sexual at-risk behaviors that was explained by each predictor, in addition to that explained by the controls (increase in  $r^2$ ), was then examined as a window on the explanatory strength of each predictor. A predictor's unique explanatory power, as indicated by an increase in  $r^2$  less than .010, was considered weak, whereas the explanatory strength of a predictor associated with an increase in  $r^2$  of .010-.089 was considered moderate. A predictor associated with an increase in  $r^2 \geq .090$  was considered to be strong in predictive power.

All of the control variables had been selected through an evaluation process which determined that they were dissimilar to the predictor variable(s) and/or existed prior to the predictors. In addition, these controls were found to be correlated at low to moderate levels with the predictor variables, hence the need for removing their effects in order to better assess the explanatory strength of the predictors. The final set of control variables was comprised of: (a) highest level of education attained by a live-in parent; (b) two family structure dummy variables: lives with both biological parents, and lives with a single mother; (c) misuse of alcohol/drugs by a live-in parent; and (d) friends' approval of adolescent sex.

Findings of analyses exploring RQ3 are summarized in Tables 19-28 and described below.

Contributions of Parental Predictors to Explained Variance in Each of the Adolescent Sexual Behavioral Outcomes, in Addition to Controls

**Adolescent Perception of Parental Connectedness**

Mother connectedness

Hierarchical regression analyses designed to test the relationships between adolescent perception of mother connectedness and each of the adolescent sexual behavioral outcomes under study, after removing the effects of control variables, revealed no significant relationships (see Table 19).

Father connectedness

On the other hand, as shown on Table 20, adolescent perception of father connectedness was found to be significantly related to both age of sexual initiation and the lifetime number of sexual partners reported by adolescents, after the effects of control variables had been removed. Specifically, father connectedness was found to have made a moderate contribution of 2.9% to the explained variance in age of sexual initiation (increase in  $r^2=.029$ ,  $p=.020$ ), in addition to controls. With regard to lifetime number of sexual partners reported, father connectedness made a similar moderate contribution of 2.8% of observed variance, in addition to controls (increase in  $r^2=.028$ ,  $p=.025$ ). In both cases, connectedness with father was protective against sexual at-risk behaviors associated with increased risk for HIV infection, that is, early sexual debut and multiple partners. On the other hand, RQ3 analyses revealed no significant relationships between

Table 19

*Contribution of Mother Connectedness to Explained Variance in Adolescent Sexual Behavioral Outcomes, in Addition to Controls<sup>‡</sup>*

Adolescent Sexual Behavioral Outcomes	<i>F</i> Chg	<i>df</i>	Sig <i>F</i> Chg	Inc <i>r</i> <sup>2</sup>	<i>b</i>	Beta
Sexual Experience	3.086	1, 487	0.080	0.005	-0.048	-0.074
Age of Sexual Initiation	3.552	1, 171	0.061	0.019	0.410	0.140
Lifetime Number of Sexual Partners	1.644	1, 166	0.202	0.009	-0.146	-0.097
Number of Sexual Partners in Last 3 Months	2.161	1, 117	0.144	0.017	-0.180	-0.134
Frequency of Condom Use	0.734	1, 195	0.393	0.004	0.095	0.062
Condom Use at Last Sex	2.132	1, 182	0.146	0.011	0.067	0.109

*Note.* *F* Chg = *F* Change; Sig *F* Chg = Significance of *F* Change; Inc *R*<sup>2</sup> = Increase in *r*<sup>2</sup>.

<sup>‡</sup> Controls: Lives with both biological parents, lives with single mother, highest level of education attained by live-in parent, misuse of alcohol/drugs by live-in parent, and friends' approval of adolescent sex.

Table 20

*Contribution of Father Connectedness to Explained Variance in Adolescent Sexual Behavioral Outcomes, in Addition to Controls<sup>‡</sup>*

Adolescent Sexual Behavioral Outcomes	<i>F</i> Chg	<i>df</i>	Sig <i>F</i> Chg	Inc <i>r</i> <sup>2</sup>	<i>b</i>	Beta
Sexual Experience	0.278	1, 472	0.598	0.000	-0.014	-0.024
Age of Sexual Initiation	5.557	1, 170	0.020	0.029	0.519	0.180
Lifetime Number of Sexual Partners	5.112	1, 164	0.025	0.028	-0.264	-0.174
Number of Sexual Partners in Last 3 Months	0.356	1, 115	0.552	0.003	-0.078	-0.058
Frequency of Condom Use	0.199	1, 192	0.656	0.001	-0.049	-0.033
Condom Use at Last Sex	0.000	1, 177	0.990	0.000	0.000	0.000

*Note.* *F* Chg = *F* Change; Sig *F* Chg = Significance of *F* Change; Inc *R*<sup>2</sup> = Increase in *r*<sup>2</sup>.

<sup>‡</sup> Controls: Lives with both biological parents, lives with single mother, highest level of education attained by live-in parent, misuse of alcohol/drugs by live-in parent, and friends' approval of adolescent sex.

father connectedness and any of the other adolescent sexual behavioral outcomes, once the effects of the controls had been removed.

### **Adolescent Perception of Parental Behavioral Control**

#### Parental rules

After removing the effects of the control variables, no significant relationships were found between adolescent perception of parental rules and any of the adolescent sexual behavioral outcomes under study here (see Table 21).

#### Parental monitoring

As shown in Table 22, however, analyses associated with RQ3 revealed that adolescent perception of parental monitoring contributed strongly to the explained variance related to reported number of sexual partners in the last three months (increase in  $r^2=.104$ ,  $p=.000$ ) and moderately to explained variance related to lifetime number of sexual partners (increase in  $r^2=.078$ ,  $p=.000$ ) and adolescent sexual experience (increase in  $r^2=.074$ ,  $p=.000$ ), in addition to controls. That is to say, parental monitoring, in addition to controls, predicted for 10.4% of observed variance in reported number of sexual partners in the last three months, 7.8% of observed variance in lifetime number of sexual partners, and 7.4% of the observed variance in sexual experience. These results showed parental monitoring to be consistently protective against sexual risk-taking across all adolescent sexual behavioral outcomes for which this variable was a significant predictor. However, parental monitoring was not shown to be a significant predictor of age of sexual initiation, frequency of condom use, or use of a condom at last sex.

Table 21

*Contribution of Parental Rules to Explained Variance in Adolescent Sexual Behavioral Outcomes, in Addition to Controls<sup>‡</sup>*

Adolescent Sexual Behavioral Outcomes	<i>F</i> Chg	<i>df</i>	Sig <i>F</i> Chg	Inc <i>r</i> <sup>2</sup>	<i>b</i>	Beta
Sexual Experience	1.476	1, 488	0.225	0.003	-0.093	-0.051
Age of Sexual Initiation	1.263	1, 168	0.263	0.007	0.730	0.086
Lifetime Number of Sexual Partners	0.103	1, 162	0.748	0.001	0.110	0.025
Number of Sexual Partners in Last 3 Months	0.451	1, 113	0.503	0.004	-0.265	-0.062
Frequency of Condom Use	0.028	1, 192	0.868	0.000	0.052	0.012
Condom Use at Last Sex	0.050	1, 179	0.823	0.000	0.030	0.017

*Note.* *F* Chg = *F* Change; Sig *F* Chg = Significance of *F* Change; Inc *R*<sup>2</sup> = Increase in *r*<sup>2</sup>.

<sup>‡</sup> Controls: Lives with both biological parents, lives with single mother, highest level of education attained by live-in parent, misuse of alcohol/drugs by live-in parent, and friends' approval of adolescent sex.



Table 22

*Contribution of Parental Monitoring to Explained Variance in Adolescent Sexual Behavioral Outcomes, in Addition to Controls<sup>‡</sup>*

Adolescent Sexual Behavioral Outcomes	<i>F</i> Chg	<i>df</i>	Sig <i>F</i> Chg	Inc <i>r</i> <sup>2</sup>	<i>b</i>	Beta
Sexual Experience	46.310	1, 487	0.000	0.074	-0.151	-0.289
Age of Sexual Initiation	2.761	1, 171	0.098	0.015	0.293	0.129
Lifetime Number of Sexual Partners	15.356	1, 165	0.000	0.078	-0.352	-0.296
Number of Sexual Partners in Last 3 Months	14.268	1, 117	0.000	0.104	-0.366	-0.336
Frequency of Condom Use	0.054	1, 194	0.816	0.000	-0.020	-0.018
Condom Use at Last Sex	0.166	1, 181	0.684	0.001	0.015	0.032

*Note.* *F* Chg = *F* Change; Sig *F* Chg = Significance of *F* Change; Inc *R*<sup>2</sup> = Increase in *r*<sup>2</sup>.

<sup>‡</sup> Controls: Lives with both biological parents, lives with single mother, highest level of education attained by live-in parent, misuse of alcohol/drugs by live-in parent, and friends' approval of adolescent sex.

## **Adolescent Perception of Parental Attitudes Regarding Adolescent Sexual Behavior**

### Parental disapproval of adolescent sex

After the removal of the effects of the controls, findings showed adolescent perception of parental disapproval of adolescent sex to be the strongest single predictor of adolescent sexual risk-taking (see Table 23). With regard to respondent reports of number of sexual partners in the last three months, parental disapproval of adolescent sex made a strong contribution of 27.6% to the explained variance (increase in  $r^2=.276$ ,  $p=.000$ ), in addition to controls. Parental disapproval of adolescent sex also contributed a moderate 5.6% to the explained variance in sexual experience (increase in  $r^2=.056$ ,  $p=.000$ ), and 5.3% to the explained variance in lifetime number of sexual partners (increase in  $r^2=.053$ ,  $p=.003$ ), in addition to controls. In all cases, parental disapproval of adolescent sex was found to be protective against the associated adolescent sexual at-risk behaviors. By contrast, no significant relationship was found between parental disapproval of adolescent sex and age of sexual initiation or adolescent condom use, after the effects of the control variables had been removed.

### Parental approval of adolescent condom use

As shown in Table 24, adolescent perception of parental approval of condom use by sexually active adolescents was not found to contribute significantly to explained variance in any of the adolescent sexual behavioral outcomes under investigation in this study, once the effects of control variables were removed.

Table 23

*Contribution of Parental Disapproval of Adolescent Sex to Explained Variance in Adolescent Sexual Behavioral Outcomes, in Addition to Controls<sup>‡</sup>*

Adolescent Sexual Behavioral Outcomes	<i>F</i> Chg	<i>df</i>	Sig <i>F</i> Chg	Inc <i>r</i> <sup>2</sup>	<i>b</i>	Beta
Sexual Experience	31.677	1, 435	0.000	0.056	-0.130	-0.264
Age of Sexual Initiation	2.023	1, 153	0.157	0.012	0.225	0.118
Lifetime Number of Sexual Partners	9.461	1, 148	0.003	0.053	-0.275	-0.250
Number of Sexual Partners in Last 3 Months	45.189	1, 103	0.000	0.276	-0.560	-0.573
Frequency of Condom Use	1.198	1, 173	0.275	0.007	-0.094	-0.088
Condom Use at Last Sex	0.014	1, 161	0.906	0.000	-0.004	-0.010

*Note.* *F* Chg = *F* Change; Sig *F* Chg = Significance of *F* Change; Inc *R*<sup>2</sup> = Increase in *r*<sup>2</sup>.

<sup>‡</sup> Controls: Lives with both biological parents, lives with single mother, highest level of education attained by live-in parent, misuse of alcohol/drugs by live-in parent, and friends' approval of adolescent sex.

Table 24

*Contribution of Parental Approval of Adolescent Condom Use to Explained Variance in Adolescent Sexual Behavioral Outcomes, in Addition to Controls<sup>‡</sup>*

Adolescent Sexual Behavioral Outcomes	<i>F</i> Chg	<i>df</i>	Sig <i>F</i> Chg	Inc <i>r</i> <sup>2</sup>	<i>b</i>	Beta
Sexual Experience	0.070	1, 441	0.791	0.000	-0.004	-0.012
Age of Sexual Initiation	1.295	1, 158	0.257	0.008	-0.124	-0.089
Lifetime Number of Sexual Partners	0.003	1, 153	0.957	0.000	0.003	0.004
Number of Sexual Partners in Last 3 Months	0.072	1, 107	0.789	0.001	-0.019	-0.025
Frequency of Condom Use	1.050	1, 179	0.307	0.006	0.059	0.076
Condom Use at Last Sex	1.919	1, 166	0.168	0.011	0.034	0.108

*Note.* *F* Chg = *F* Change; Sig *F* Chg = Significance of *F* Change; Inc *R*<sup>2</sup> = Increase in *r*<sup>2</sup>.

<sup>‡</sup> Controls: Lives with both biological parents, lives with single mother, highest level of education attained by live-in parent, misuse of alcohol/drugs by live-in parent, and friends' approval of adolescent sex.

Contributions of Adolescent Religiosity Predictors to Explained  
Variance in Each of the Adolescent Sexual Behavioral  
Outcomes, in Addition to Controls

**Religious Affiliation**

SDA Church affiliation

Findings indicated a significant relationship between SDA Church affiliation and adolescent sexual experience, after the effects of the controls were removed. As can be seen from Table 25, religious affiliation with the SDA Church made a moderate contribution of 2.8% to the explained variance in sexual experience (increase in  $r^2=.028$ ,  $p=.000$ ), in addition to controls. However, SDA Church affiliation provided no contribution to explained variance in any of the other adolescent sexual behavioral outcomes explored in this study, after the effects of the controls had been removed. Consequently, although SDA Church affiliation was protective against sexual experience, it was not shown to be protective against other sexual at-risk behaviors associated with HIV infection.

No religious affiliation

Findings indicated that lack of religious affiliation among adolescent respondents did not make a significant contribution to the explained variance in any of the adolescent sexual behavioral outcomes under study here, once the effects of the controls had been removed (see Table 26).

Table 25

*Contribution of SDA Church Affiliation to Explained Variance in Adolescent Sexual Behavioral Outcomes, in Addition to Controls<sup>‡</sup>*

Adolescent Sexual Behavioral Outcomes	<i>F</i> Chg	<i>df</i>	Sig <i>F</i> Chg	Inc <i>r</i> <sup>2</sup>	<i>b</i>	Beta
Sexual Experience	16.158	1, 479	0.000	0.028	-0.164	-0.167
Age of Sexual Initiation	0.428	1, 169	0.514	0.002	-0.226	-0.049
Lifetime Number of Sexual Partners	0.755	1, 161	0.386	0.004	0.157	0.066
Number of Sexual Partners in Last 3 Months	1.489	1, 113	0.225	0.012	0.251	0.113
Frequency of Condom Use	0.290	1, 189	0.591	0.001	-0.091	-0.039
Condom Use at Last Sex	0.242	1, 177	0.624	0.001	-0.035	-0.037

*Note.* *F* Chg = *F* Change; Sig *F* Chg = Significance of *F* Change; Inc *R*<sup>2</sup> = Increase in *r*<sup>2</sup>.

<sup>‡</sup> Controls: Lives with both biological parents, lives with single mother, highest level of education attained by live-in parent, misuse of alcohol/drugs by live-in parent, and friends' approval of adolescent sex.

Table 26

*Contribution of No Religious Affiliation to Explained Variance in Adolescent Sexual Behavioral Outcomes, in Addition to Controls<sup>‡</sup>*

Adolescent Sexual Behavioral Outcomes	<i>F</i> Chg	<i>df</i>	Sig <i>F</i> Chg	Inc <i>r</i> <sup>2</sup>	<i>b</i>	Beta
Sexual Experience	3.606	1, 479	0.058	0.006	0.135	0.080
Age of Sexual Initiation	1.113	1, 169	0.293	0.006	-0.542	-0.081
Lifetime Number of Sexual Partners	0.255	1, 161	0.614	0.001	0.140	0.040
Number of Sexual Partners in Last 3 Months	0.057	1, 113	0.812	0.000	0.064	0.023
Frequency of Condom Use	0.016	1, 189	0.899	0.000	-0.033	-0.009
Condom Use at Last Sex	1.965	1, 177	0.163	0.011	-0.149	-0.107

*Note.* *F* Chg = *F* Change; Sig *F* Chg = Significance of *F* Change; Inc *R*<sup>2</sup> = Increase in *r*<sup>2</sup>.

<sup>‡</sup> Controls: Lives with both biological parents, lives with single mother, highest level of education attained by live-in parent, misuse of alcohol/drugs by live-in parent, and friends' approval of adolescent sex.

### **Attendance at Religious Services**

After removing the effects of controls, attendance at religious services made no significant contribution to the explained variance in any of the adolescent sexual behavioral outcomes investigated in this research (see Table 27).

### **Importance Ascribed to Religion**

As reported in Table 28, the importance ascribed to religion by adolescents made a strong contribution of 10.4% to explained variance on reported number of sexual partners in the last three months (increase in  $r^2=.104$ ,  $p=.000$ ), in addition to controls. Further, this predictor was demonstrated to significantly predict for sexual experience. However, findings showed that importance ascribed to religion made only a weak contribution of less than 1% to explained variance in sexual experience (increase in  $r^2=.009$ ,  $p=.026$ ), in addition to controls. In both cases where a significant relationship was found, importance ascribed to religion was protective against the associated adolescent sexual at-risk behavior.

#### **Summary of the Contributions of Predictors to Explained Variance in Each of the Adolescent Sexual Behavioral Outcomes, in Addition to Controls**

A significant relationship was found between half (5 of 10) of the predictor variables and one or more of the adolescent sexual behavioral outcomes, after the effects of control variables had been removed:

1. Father connectedness contributed moderately to explained variance in age of sexual initiation (2.9%) and lifetime number of sexual partners (2.8%), in addition to controls.



Table 27

*Contribution of Attendance at Religious Services to Explained Variance in Adolescent Sexual Behavioral Outcomes, in Addition to Controls<sup>‡</sup>*

Adolescent Sexual Behavioral Outcomes	<i>F</i> Chg	<i>df</i>	Sig <i>F</i> Chg	Inc <i>r</i> <sup>2</sup>	<i>b</i>	Beta
Sexual Experience	2.332	1, 489	0.127	0.004	-0.027	-0.064
Age of Sexual Initiation	1.035	1, 171	0.310	0.006	0.160	0.077
Lifetime Number of Sexual Partners	0.168	1, 164	0.683	0.001	0.035	0.031
Number of Sexual Partners in Last 3 Months	0.044	1, 116	0.834	0.000	-0.023	-0.021
Frequency of Condom Use	2.847	1, 194	0.093	0.014	0.135	0.123
Condom Use at Last Sex	1.181	1, 184	0.279	0.006	0.036	0.080

*Note.* *F* Chg = *F* Change; Sig *F* Chg = Significance of *F* Change; Inc *R*<sup>2</sup> = Increase in *r*<sup>2</sup>.

<sup>‡</sup> Controls: Lives with both biological parents, lives with single mother, highest level of education attained by live-in parent, misuse of alcohol/drugs by live-in parent, and friends' approval of adolescent sex.

Table 28

*Contribution of Importance Ascribed to Religion to Explained Variance in Adolescent Sexual Behavioral Outcomes, in Addition to Controls<sup>‡</sup>*

Adolescent Sexual Behavioral Outcomes	<i>F</i> Chg	<i>df</i>	Sig <i>F</i> Chg	Inc <i>r</i> <sup>2</sup>	<i>b</i>	Beta
Sexual Experience	4.961	1, 476	0.026	0.009	-0.065	-0.096
Age of Sexual Initiation	2.843	1, 170	0.094	0.015	0.372	0.126
Lifetime Number of Sexual Partners	1.889	1, 163	0.171	0.011	-0.156	-0.106
Number of Sexual Partners in Last 3 Months	14.195	1, 114	0.000	0.104	-0.456	-0.339
Frequency of Condom Use	0.465	1, 191	0.496	0.002	0.071	0.049
Condom Use at Last Sex	0.014	1, 180	0.905	0.000	-0.005	-0.009

*Note.* *F* Chg = *F* Change; Sig *F* Chg = Significance of *F* Change; Inc *R*<sup>2</sup> = Increase in *r*<sup>2</sup>.

<sup>‡</sup> Controls: Lives with both biological parents, lives with single mother, highest level of education attained by live-in parent, misuse of alcohol/drugs by live-in parent, and friends' approval of adolescent sex.

2. Parental monitoring made a strong contribution of 10.4% to explained variance in reported number of sexual partners in the last three months. This predictor also contributed moderately to explained variance in lifetime number of sexual partners and sexual experience (7.8% and 7.4% respectively), in addition to controls.

3. Parental disapproval of adolescent sex contributed strongly to explained variance in reported number of sexual partners in the last three months (27.6%). This predictor also contributed moderately to explained variance in sexual experience and lifetime number of sexual partners (5.6% and 5.3%, respectively), in addition to controls.

4. SDA Church affiliation contributed a moderate 2.8% to explained variance in sexual experience, in addition to controls.

5. Importance ascribed to religion contributed strongly to explained variance in number of sexual partners in the last three months (10.4%), but made only a weak contribution of less than 1.0% to explained variance in sexual experience, in addition to controls.

#### **Research Question 4**

The fourth research question (RQ4) investigated in the present study was: Is there a relationship between the set of parental and adolescent religiosity predictor variables together, when controlled for social/family demographic and peer attitude variables together, and each of the adolescent sexual behavioral outcomes? In the hierarchical regression analyses used to explore this question, the set of control variables was entered into the first block, and the set of all predictors (see discussion of RQ2) was entered into the second block. The set of all predictors was then tested for its contribution to explained variance in each of the adolescent sexual behavioral outcomes, after the effects of the

control variables had been removed (see discussion of RQ3). Results are reported in Tables 29-34.

Significant part correlations are also reported in the tables and in the text as measures of the contributions to the explained variances in adolescent sexual behavioral outcomes made by each component predictor variable within the set of all predictors, in addition to controls. As in RQ2, contributions made by individual predictors are reported as “weak” when associated with part correlations of  $< .100$ . Contributions are reported as “moderate” if the part correlations were between  $.100$  and  $.299$ , and contributions associated with part correlations  $\geq .300$  are reported as “strong.”

#### Contribution of the Set of All Predictors to Explained Variance in Each of the Adolescent Sexual Behavioral Outcomes, in Addition to Controls

##### **Sexual Experience**

In addition to controls, the set of all predictors contributed 14.2% to the explained variance in adolescent sexual experience (increase in  $R^2=.142$ ,  $p=.000$ ). (See Table 29.)

Three individual component predictors made significant contributions to the explained variance in sexual experience predicted by the set of all predictors, in addition to controls. Parental disapproval of adolescent sex contributed 4.8% (part  $r = -.218$ ,  $p=.000$ ), whereas parental monitoring contributed 4.0% (part  $r = -.201$ ,  $p=.000$ ) and SDA Church affiliation contributed 2.4% (part  $r = -.155$ ,  $p=.000$ ). The contributions of all three significant component predictors within the set of all predictors were moderate and protective against sexual experience among adolescent respondents.

Table 29

*Contribution of the Set of All Predictors to Explained Variance in Sexual Experience, in Addition to Controls<sup>‡</sup>*

Predictors	<i>F</i> Chg	<i>df</i>	Sig <i>F</i> Chg	Inc <i>R</i> <sup>2</sup>	<i>b</i>	Beta	<i>t</i>	Sig of <i>t</i>	Part <i>r</i>
Set of All Predictors in Addition to Controls	7.353	10, 367	0.000	0.142					
Mother connectedness					0.007	0.011	0.224	0.823	0.010
Father connectedness					0.004	0.006	0.123	0.902	0.005
Parental monitoring					-0.134	-0.231	-4.571	0.000	-0.201
Parental rules					0.005	0.003	0.057	0.954	0.003
Parental disapproval of adolescent sex					-0.131	-0.249	-4.963	0.000	-0.218
Parental approval of adolescent condom use					-0.012	-0.037	-0.795	0.427	-0.035
SDA Church affiliation					-0.167	-0.170	-3.533	0.000	-0.155
No religious affiliation					-0.042	-0.025	-0.512	0.609	-0.022
Attendance at religious services					-0.001	-0.003	-0.055	0.956	-0.002
Importance ascribed to religion					0.037	0.048	1.031	0.303	0.045

*Note.* *F* Chg = *F* Change; Sig *F* Chg = Significance of *F* Change; Inc *R*<sup>2</sup> = Increase in *R*<sup>2</sup>.

<sup>‡</sup> Controls: Lives with both biological parents, lives with single mother, highest level of education attained by live-in parent, misuse of alcohol/drugs by live-in parent, and friends' approval of adolescent sex.

### **Timing of Sexual Debut**

As shown in Table 30, the set of all predictors made no significant contribution to the variance observed in age of sexual initiation among adolescent respondents, after the effects of control variables were removed.

### **Lifetime Number of Sexual Partners**

As shown in Table 31, the set of all predictors was found to have significantly contributed to explained variance in the lifetime number of sexual partners reported by adolescents, after the effects of the set of controls had been removed. In this instance, the set of all predictors contributed 15.7% to explained variance (increase in  $R^2=.157$ ,  $p=.001$ ), in addition to controls.

With regard to reported lifetime number of sexual partners, two individual component variables made moderate contributions to the explained variance: parental monitoring and parental disapproval of adolescent sex. Parental monitoring contributed 4.8% (part  $r = -.220$ ,  $p=.002$ ), whereas parental disapproval of adolescent sex contributed an additional 4.0% (part  $r = -.200$ ,  $p=.004$ ). Both component predictors were protective against the cumulative risk of multiple partners over time.

### **Number of Sexual Partners in the Last Three Months**

After the effects of the controls had been removed, the set of all predictors demonstrated its strongest predictive power in relation to reported number of sexual partners in the last three months (see Table 32). In addition to controls, the set of all predictors contributed 37.8% (increase in  $R^2=.378$ ,  $p=.000$ ) to the explained variance in recent sexual partnering among adolescent study participants.

Table 30

*Contribution of the Set of All Predictors to Explained Variance in Age of Sexual Initiation, in Addition to Controls<sup>‡</sup>*

Predictors	<i>F</i> Chg	<i>df</i>	Sig <i>F</i> Chg	Inc <i>R</i> <sup>2</sup>	<i>b</i>	Beta	<i>t</i>	Sig of <i>t</i>	Part <i>r</i>
Set of All Predictors in Addition to Controls	1.593	10, 165	0.113	0.082					
Mother connectedness					0.203	0.069	0.879	0.381	0.063
Father connectedness					0.493	0.170	2.177	0.031	0.156
Parental monitoring					0.107	0.047	0.553	0.581	0.040
Parental rules					0.301	0.035	0.443	0.658	0.032
Parental disapproval of adolescent sex					0.079	0.036	0.432	0.666	0.031
Parental approval of adolescent condom use					-0.163	-0.102	-1.303	0.195	-0.094
SDA Church affiliation					-0.538	-0.115	-1.464	0.145	-0.105
No religious affiliation					-0.453	-0.067	-0.819	0.414	-0.059
Attendance at religious services					0.147	0.069	0.913	0.363	0.066
Importance ascribed to religion					0.240	0.080	0.992	0.323	0.071

*Note.* *F* Chg = *F* Change; Sig *F* Chg = Significance of *F* Change; Inc *R*<sup>2</sup> = Increase in *R*<sup>2</sup>.

<sup>‡</sup> Controls: Lives with both biological parents, lives with single mother, highest level of education attained by live-in parent, misuse of alcohol/drugs by live-in parent, and friends' approval of adolescent sex.

Table 31

*Contribution of the Set of All Predictors to Explained Variance in Lifetime Number of Sexual Partners, in Addition to Controls<sup>‡</sup>*

Predictors	<i>F</i> Chg	<i>df</i>	Sig <i>F</i> Chg	Inc <i>R</i> <sup>2</sup>	<i>b</i>	Beta	<i>t</i>	Sig of <i>t</i>	Part <i>r</i>
Set of All Predictors in Addition to Controls	3.284	10, 159	0.001	0.157					
Mother connectedness					-0.019	-0.012	-0.163	0.871	-0.011
Father connectedness					-0.210	-0.137	-1.817	0.071	-0.126
Parental monitoring					-0.312	-0.261	-3.181	0.002	-0.220
Parental rules					0.473	0.105	1.385	0.168	0.096
Parental disapproval of adolescent sex					-0.266	-0.231	-2.884	0.004	-0.200
Parental approval of adolescent condom use					-0.023	-0.028	-0.366	0.715	-0.025
SDA Church affiliation					0.231	0.095	1.259	0.210	0.087
No religious affiliation					0.255	0.071	0.895	0.372	0.062
Attendance at religious services					0.071	0.062	0.844	0.400	0.058
Importance ascribed to religion					-0.027	-0.018	-0.230	0.819	-0.016

*Note.* *F* Chg = *F* Change; Sig *F* Chg = Significance of *F* Change; Inc *R*<sup>2</sup> = Increase in *R*<sup>2</sup>.

<sup>‡</sup> Controls: Lives with both biological parents, lives with single mother, highest level of education attained by live-in parent, misuse of alcohol/drugs by live-in parent, and friends' approval of adolescent sex.



Table 32

*Contribution of the Set of All Predictors to Explained Variance in Number of Sexual Partners in the Last Three Months, in Addition to Controls<sup>‡</sup>*

Predictors	<i>F</i> Chg	<i>df</i>	Sig <i>F</i> Chg	Inc <i>R</i> <sup>2</sup>	<i>b</i>	Beta	<i>t</i>	Sig of <i>t</i>	Part <i>r</i>
Set of All Predictors in Addition to Controls	7.156	10, 109	0.000	0.378					
Mother connectedness					-0.008	-0.006	-0.071	0.944	-0.005
Father connectedness					0.016	0.012	0.143	0.886	0.010
Parental monitoring					-0.191	-0.175	-1.999	0.048	-0.145
Parental rules					0.068	0.015	0.198	0.844	0.014
Parental disapproval of adolescent sex					-0.544	-0.536	-6.248	0.000	-0.454
Parental approval of adolescent condom use					-0.091	-0.119	-1.446	0.151	-0.105
SDA Church affiliation					0.170	0.071	0.876	0.383	0.064
No religious affiliation					0.069	0.023	0.273	0.786	0.020
Attendance at religious services					-0.004	-0.004	-0.048	0.962	-0.003
Importance ascribed to religion					-0.263	-0.191	-2.170	0.032	-0.158

*Note.* *F* Chg = *F* Change; Sig *F* Chg = Significance of *F* Change; Inc *R*<sup>2</sup> = Increase in *R*<sup>2</sup>.

<sup>‡</sup> Controls: Lives with both biological parents, lives with single mother, highest level of education attained by live-in parent, misuse of alcohol/drugs by live-in parent, and friends' approval of adolescent sex.

Among component predictors, three made significant contributions to explained variance in reported number of sexual partners in the last three months, in addition to controls. A large significant contribution was made by parental disapproval of adolescent sex, which was found to have contributed 20.6% (part  $r = -.454$ ,  $p=.000$ ). Much smaller contributions were also made by importance ascribed to religion (2.5%) (part  $r = -.158$ ,  $p= .032$ ) and parental monitoring (2.1%) (part  $r = -.145$ ,  $p=.048$ ). Again, both component predictors within the set of all predictors were found to be protective against multiple partners in the short term.

### **Adolescent Condom Use**

As shown in Tables 33 and 34, the set of all predictors made no significant contribution to explained variance in either frequency of adolescent condom use or condom use at last sex, after the effects of the set of controls were removed.

### **Summary of the Contributions of the Set of All Predictors to Explained Variance in Sexual Behavioral Outcomes, in Addition to Controls**

Results indicated that the set of all predictors contributed to explained variance in three of the six adolescent sexual behavioral outcomes, in addition to controls: reported number of sexual partners in the last three months (37.8%), lifetime number of sexual partners (15.7%), and adolescent sexual experience (14.2%). However, the set of all predictors made no significant contribution to explained variance in age of sexual initiation, frequency of adolescent condom use, and condom use at last sex, once the effects of the controls were removed.

Table 33

*Contribution of the Set of All Predictors to Explained Variance in Frequency of Condom Use, in Addition to Controls<sup>‡</sup>*

Predictors	<i>F</i> Chg	<i>df</i>	Sig <i>F</i> Chg	Inc <i>R</i> <sup>2</sup>	<i>b</i>	Beta	<i>t</i>	Sig of <i>t</i>	Part <i>r</i>
Set of All Predictors in Addition to Controls	0.588	10, 189	0.823	0.029					
Mother connectedness					0.083	0.053	0.679	0.498	0.048
Father connectedness					-0.066	-0.044	-0.577	0.565	-0.041
Parental monitoring					-0.050	-0.043	-0.513	0.609	-0.036
Parental rules					0.076	0.018	0.228	0.820	0.016
Parental disapproval of adolescent sex					-0.068	-0.061	-0.749	0.455	-0.053
Parental approval of adolescent condom use					0.045	0.056	0.727	0.468	0.051
SDA Church affiliation					-0.104	-0.043	-0.558	0.578	-0.039
No religious affiliation					-0.036	-0.010	-0.125	0.901	-0.009
Attendance at religious services					0.126	0.114	1.510	0.133	0.107
Importance ascribed to religion					0.043	0.029	0.370	0.712	0.026

*Note.* *F* Chg = *F* Change; Sig *F* Chg = Significance of *F* Change; Inc *R*<sup>2</sup> = Increase in *R*<sup>2</sup>.

<sup>‡</sup> Controls: Lives with both biological parents, lives with single mother, highest level of education attained by live-in parent, misuse of alcohol/drugs by live-in parent, and friends' approval of adolescent sex.

Table 34

*Contribution of the Set of All Predictors to Explained Variance in Condom Use at Last Sex, in Addition to Controls<sup>‡</sup>*

Predictors	<i>F</i> Chg	<i>df</i>	Sig <i>F</i> Chg	Inc <i>R</i> <sup>2</sup>	<i>b</i>	Beta	<i>t</i>	Sig of <i>t</i>	Part <i>r</i>
Set of All Predictors in Addition to Controls	0.933	10, 177	0.504	0.049					
Mother connectedness					0.075	0.119	1.535	0.127	0.111
Father connectedness					-0.020	-0.032	-0.404	0.687	-0.029
Parental monitoring					0.016	0.033	0.384	0.702	0.028
Parental rules					0.029	0.016	0.204	0.838	0.015
Parental disapproval of adolescent sex					0.004	0.008	0.098	0.922	0.007
Parental approval of adolescent condom use					0.042	0.125	1.584	0.115	0.115
SDA Church affiliation					-0.079	-0.080	-1.004	0.317	-0.073
No religious affiliation					-0.214	-0.148	-1.799	0.074	-0.130
Attendance at religious Services					0.031	0.069	0.912	0.363	0.066
Importance ascribed to religion					-0.050	-0.080	-1.012	0.313	-0.073

*Note.* *F* Chg = *F* Change; Sig *F* Chg = Significance of *F* Change; Inc *R*<sup>2</sup> = Increase in *R*<sup>2</sup>.

<sup>‡</sup> Controls: Lives with both biological parents, lives with single mother, highest level of education attained by live-in parent, misuse of alcohol/drugs by live-in parent, and friends' approval of adolescent sex.

## Research Question 5

The final research question investigated in this study was: Can a parsimonious model, useful for predicting each of the adolescent sexual behavioral outcomes, be developed from among the parental and adolescent religiosity predictor variables? Practical considerations drove a quest for prediction models constructed from relatively small numbers of predictor variables, all of which made meaningful contributions to the explanatory power of each model.

Established criteria were used to identify potentially valuable predictors based on present research results, augmented by the suggestions made by forward and backwardstepwise regression analyses. Table 35 graphically summarizes the comparative strength of significant predictor variables—as demonstrated in the investigative analyses of RQs 1-4, as well as in the model under construction (RQ5)—using the established criteria.

Once it was determined how well individual predictors measured up to criteria established for inclusion in a prediction model, it became clear that it would be possible to construct prediction models for four of the six adolescent sexual behavioral outcomes: (a) sexual experience, (b) age of sexual initiation, (c) lifetime number of sexual partners, and (d) number of sexual partners in the last three months. Table 36 describes these models in detail. It was not possible to construct prediction models for adolescent condom use, as the predictor variables investigated here did not predict significantly for either frequency of condom use or use of a condom at last sex among adolescent respondents.

Table 35

*Comparative Strength of Significant Predictors in Relation to Adolescent Sexual Behavioral Outcomes Based on Analyses of Research Questions 1-5*

Predictors	Sexual Experience					Age of Sexual Initiation					Lifetime No. of Partners					No. of Partners Last Quarter					Frequency of Condom Use					Condom Use at Last Sex				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Mother connectedness	•																													
Father connectedness	•					•	•	•		•	•	•	•		•															
Parental monitoring	•	•	•	•	•	•			•	•	•	•	•	•	•		•	•	•											
Parental rules	•																													
Parental disapproval of adolescent sex	•	•	•	•	•	•				•	•	•	•	•	•	•	•	•	•											
Parental approval of adolescent condom use																														
SDA Church affiliation	•	•	•	•	•																									
No religious affiliation	•																													
Attendance at religious services																														
Importance ascribed to religion	•		•													•	•	•	•	•										

*Note.* The presence of a bullet in the matrix intersection of a given predictor and research question indicates that the predictor has met the research-question-specific statistical criteria for consideration as a component variable in the prediction model under construction for the adolescent sexual behavior indicated. The size of the bullet conveys the relative strength of the correlation/explanatory power of the predictor in relation to the associated adolescent sexual behavior. Criteria for determining bullet size (• = weak; • = moderate; • = strong) are described in Chapter 4.

Table 36

*Explanatory Power of Prediction Models*

Prediction Models	<i>F</i>	<i>df</i>	Sig of <i>F</i>	<i>R</i> <sup>2</sup>	<i>b</i>	Beta	<i>t</i>	Sig of <i>t</i>	Part <i>r</i>
Prediction Model for Sexual Experience	42.049	3, 379	0.000	0.250					
Parental disapproval of adolescent sex					-0.159	-0.301	-6.456	0.000	-0.287
Parental monitoring					-0.155	-0.267	-5.790	0.000	-0.258
SDA Church affiliation					-0.159	-0.162	-3.604	0.000	-0.160
Prediction Model for Timing of Sexual Debut	5.611	2, 178	0.004	0.059					
Parental monitoring					0.362	0.159	2.153	0.033	0.157
Father connectedness					0.460	0.158	2.143	0.033	0.156
Prediction Model for Lifetime Number of Sexual Partners	11.871	3, 171	0.000	0.172					
Parental disapproval of adolescent sex					-0.299	-0.256	-3.551	0.000	-0.247
Parental monitoring					-0.248	-0.207	-2.804	0.006	-0.195
Father connectedness					-0.239	-0.156	-2.194	0.030	-0.153
Prediction Model for Number of Sexual Partners in Last Three Months	25.442	3, 121	0.000	0.387					
Parental disapproval of adolescent sex					-0.500	-0.484	-6.607	0.000	-0.470
Importance of religion					-0.263	-0.191	-2.491	0.014	-0.177
Parental monitoring					-0.185	-0.170	-2.166	-0.032	-0.154

The independent contributions of each component predictor to explained variance in the particular sexual behavior predicted by a given model (in addition to the contributions made by the other predictors included in the model) are also reported in Table 36. As in RQ2, unique contributions of component predictors associated with part correlations  $< .100$  are considered “weak,” contributions associated with part correlations between  $.100$  to  $.299$  are considered “moderate,” and contributions associated with part correlations  $\geq .300$  are considered “strong.”

### Model Building for Predicting Sexual Experience

A review of the explanatory strength of each predictor variable in relation to adolescent sexual experience clearly identified three predictors as potentially useful components for a prediction model for this adolescent sexual behavioral outcome: (a) parental disapproval of adolescent sex, (b) parental monitoring, and (c) SDA Church affiliation (see Table 35). These same predictors were also combined in a prediction model for sexual experience suggested by forward and backward stepwise regression analyses.

The results of regression analysis showed the explanatory power of this three-predictor model for predicting sexual experience to be strong (see Table 36). Overall, this prediction model explains 25.0% of the observed variance in sexual experience ( $R^2=.250$ ,  $p=.000$ ). All three of the predictors included met the non-negotiable criteria established in this study for variable inclusion in the final prediction model:

1. All were considered theoretically sound, as evidenced by their compatibility with PST and the literature. In the United States, increased parental monitoring was the most consistent predictor of lower risk of adolescent sexual experience; greater



parental/maternal disapproval of adolescent sex was also a strong predictor of this risky sexual behavior, overall. Fewer studies conducted in the United States tested the relationship between religious affiliation and sexual experience. However, this predictor was also found to be associated with reduced likelihood of sexual experience among youth in the majority of the studies reviewed, although results sometimes varied by gender, religious affiliation, or ethnicity.

It is particularly significant here that my findings are not only largely consistent with those of other researchers investigating these variables in the United States, but also with the findings of studies conducted in the Caribbean region and among youth with SDA Church connections. For example, Kotchick et al. (1999), in a study that included a subsample of Puerto Rican youth, found conservative maternal attitudes regarding adolescent sex to be associated with reduced likelihood of sexual experience. Forehand et al. (1997) reported the protective effect of greater parental monitoring on deviant behavior (including sexual experience) to be strongest among youth in their Puerto Rican subsample. It is of particular interest to me as a religious educator associated with the SDA Church that Dudley (1992), Lee and Rice (1995), and Ludescher (1992) also reported lower levels of at-risk behavior (including sexual experience) to be significantly associated with parental enforcement of the conservative standards established by the SDA Church. In addition, two of the three studies found testing the relationship between religious affiliation and sexual experience among youth with SDA Church connections (Hopkins, 1996)—one of which included a Caribbean subsample (Gray, 1994)—also found SDA Church affiliation to be protective against adolescent sexual experience. By contrast, Ludescher (1992) reported no significant relationship between these variables.

2. Parental disapproval of adolescent sex, parental monitoring, and SDA Church affiliation were all significant predictors of adolescent sexual experience alone, as evidenced by significant Pearson correlations with sexual experience ( $r = -.394, p=.000$ ;  $r = -.376, p=.000$ ; and  $r = -.190, p=.000$ , respectively). (See Tables 9, 10, and 11 associated with the discussion of RQ1.)

3. Forward stepwise regression analysis, conducted as part of the investigation of RQ5, indicated that each of the three predictors incorporated into the model made a significant independent contribution to the  $R^2$  as it entered the prediction model. Parental disapproval of adolescent sex entered the model first and was associated with an  $r^2$  of .156 (significance of  $F$  change=.000). The entrance of parental monitoring and SDA Church affiliation was associated with increases in  $r^2$  of .068 (significance of  $F$  change=.000) and .026 (significance of  $F$  change=.000), respectively. In addition, all three maintained unique explanatory power within the prediction model itself. As shown in Table 36, parental disapproval of adolescent sex uniquely accounted for 8.2% of the predictive strength of the model (part  $r = -.287, p=.000$ ), parental monitoring, 6.7% (part  $r = -.258, p=.000$ ), and SDA Church affiliation, 2.6% (part  $r = -.160, p=.000$ ).

Each of the predictor variables included in this three-predictor model also met all of the negotiable statistical requirements established for inclusion in the final prediction model for sexual experience under construction here:

4. Parental disapproval of adolescent sex, parental monitoring, and SDA Church affiliation were all good predictors in multiple regression analyses, in addition to other study predictor variables (part  $r = -.287, p=.000$ ; part  $r = -.238, p=.000$ ; and part  $r = -.169, p=.000$ , respectively). (See Table 13 for a summary of the results of the

investigation of RQ2.) That is to say, all three predictors made meaningful independent contributions to the explanatory power of the set of all predictors: parental disapproval uniquely contributed 8.2% to the explained variance in sexual experience. Parental monitoring independently contributed 4.8%, and SDA Church affiliation another 2.8%.

5. As shown in Tables 22, 23, and 25 presented in conjunction with the discussion of RQ3, all three predictors also met minimum criteria as good predictors after the effects of the controls had been removed. Parental monitoring accounted for 7.4% of explained variance in sexual experience, in addition to controls (increase in  $r^2=.074$ ). Parental disapproval made a contribution of 5.6% to explained variance in sexual experience (increase in  $r^2=.056$ ), whereas SDA Church affiliation contributed another 2.8% (increase in  $r^2=.028$ ), in addition to controls. In each case, the significance of  $F$  change associated with these increases in  $r^2$  was .000.

6. Further, as reported in the discussion of RQ4 (Table 29), all three predictors included in the prediction model remained good predictors, even when controlled for other study predictors and control variables. Specifically, parental disapproval of adolescent sex made an independent contribution of 4.8% to explained variance in sexual experience (part  $r = -.218$ ,  $p=.000$ ), whereas parental monitoring uniquely accounted for 4.0% (part  $r = -.201$ ,  $p=.000$ ), and SDA Church affiliation, 2.4% (part  $r = -.155$ ,  $p=.000$ ), in addition to controls and the contributions made by other predictors.

In a final review of study findings, no additional variables were found to have met the non-negotiable statistical requirements for inclusion in the final prediction model. Though importance ascribed to religion was good in theory; significantly negatively correlated with sexual experience (RQ1); and made a significant contribution to

explained variance, in addition to controls (RQ3), the contribution was very weak. Further, when this predictor was added to the model, the increase in  $r^2$  attributable to the importance ascribed to religion was negligible and the independent contribution of this variable, in addition to that of the other predictors in the model, was less than 1.0 percent. Consequently, I decided not to include this additional predictor in the model.

In summary, then, the prediction model for adolescent sexual experience to emerge from present study results is a three-predictor model including the following family-context and adolescent religiosity variables: parental disapproval of adolescent sex, parental monitoring, and SDA Church affiliation. Overall, the prediction model explains 25.0% of the variance observed among adolescents attending SDA Church schools in the Caribbean region with regard to their sexual experience. Parental disapproval of adolescent sex uniquely accounts for 8.2% of the predictive strength of the model; parental monitoring, 6.7%; and SDA Church affiliation, 2.6%.

#### Model Building for Predicting Timing of Sexual Debut

A review of the explanatory strength of each predictor variable in relation to age of sexual initiation (see Table 35) identified two predictors as potentially good component predictors for inclusion in a model for predicting age of sexual initiation: (a) father connectedness and (b) parental monitoring. Both forward and backward stepwise regression analyses also suggested the combining of these two variables into a model for predicting age of sexual initiation.

Standard regression analysis findings demonstrated the explanatory power of this two-predictor model to be sufficient to justify its usefulness in predicting age of sexual initiation. Specifically, father connectedness and parental monitoring together explained

5.9% of the variance observed in age of sexual initiation among sexually experienced study respondents ( $R^2=.059$ ,  $p=.004$ ) (see Table 36). Both component predictors met the non-negotiable criteria established in this study for variable inclusion in the final prediction model constructed here.

1. Both predictors were consistent with PST and identified by Kirby et al. (2005) as important family-context factors associated with age of sexual initiation. Father connectedness per se was not investigated in any of the studies reviewed, so direct comparisons with my results were not possible. Parental connectedness, however, was strongly associated with delayed sexual initiation in the largest study of adolescent health conducted in the United States (Resnick et al., 1997) and in another study with a Puerto Rican subsample (Vélez-Pastrana et al., 2005). At the same time, the majority of studies reviewed exploring this relationship reported findings that were either inconsistent or not statistically significant. Further, the CYHS found no significant relationship between parental connectedness and age of sexual initiation among older adolescents 16-18 years of age (Blum et al., 2003). Lerand et al. (2004), reporting the results of further analyses of CYHS data, also indicated a gender effect.

The mixed performance of parental monitoring as a predictor of timing of sexual debut in my analyses was compatible with the literature. For example, study findings in the United States and Caribbean contexts, overall, were inconclusive with regard to the nature of the relationship between parental monitoring and age of sexual initiation (cf. Buhi & Goodson, 2007). In the United States, for every study reporting a significant relationship between parental monitoring/strictness and timing of sexual initiation (including those studies reporting gender/ethnic effects), another study indicated the

relationship had not achieved statistical significance. In the Caribbean region, study findings were equally mixed. On the one hand, Vélez-Pastrana et al. (2005), whose study included a Puerto Rican subsample, reported a significant relationship between greater parental monitoring and delayed sexual debut, whereas K. S. Miller et al. (1999, 2000) found no significant relationship between parental monitoring and timing of sexual debut in two other studies also including Puerto Rican youth. Consequently, based on the literature reviewed alone, parental monitoring would not have been considered a particularly good building block for a prediction model for timing of sexual debut. However, given its overall strength in socialization theory (see, for example, Baumrind, 1991c; Bronfenbrenner, 1985; Maccoby & Martin, 1983; Oetting & Donnermeyer, 1998), its consistency as a predictor across the spectrum of sexual at-risk behaviors in the present study, and its performance in the present prediction model, it was deemed of sufficient value to be included in the final model.

2. Both parental monitoring and father connectedness were identified in the exploration of RQ1 as weakly correlated with age of sexual initiation. (By coincidence, both had a Pearson  $r = .188$ ,  $p=.012$ .) (See Tables 8 and 9 associated with the discussion of RQ1.)

3. Forward stepwise regression analysis, conducted as part of the exploration of RQ5, indicated that each predictor included in this two-predictor model made a significant independent contribution to the  $R^2$  as it entered the prediction model. Parental monitoring, associated with an  $r^2$  of .035 (significance of  $F$  change=.012), was the first to enter the model. The entrance of father connectedness was associated with an increase in  $r^2$  of .024 (significance of  $F$  change=.033). In addition, both predictors maintained unique

explanatory power within the model. As shown in Table 30, parental monitoring independently contributed 2.5% to the explained variance in age of sexual initiation (part  $r = .157, p=.033$ ), while father connectedness uniquely contributed 2.4% (part  $r = .156, p=.033$ ).

With regard to the negotiable requirements established for variable inclusion in a prediction model under construction in this study, one of the predictors—father connectedness—met two of the three criteria. On the other hand, as discussed below, parental monitoring did not meet the standards set for any of the three negotiable criteria.

4. As shown in Table 14 (presented in conjunction with the discussion of RQ2), father connectedness was a good predictor in multiple regression analyses, in addition to all other study predictor variables (part  $r = .158, p=.031$ ). However, it can be seen that the results of these analyses for parental monitoring were not statistically significant. That is to say, father connectedness independently contributed 2.5% to the explanatory power of the set of all predictors. It could not be determined from these analyses with any certainty, however, that parental monitoring was responsible for a unique contribution to the explanatory power of the set.

5. Again, as shown on Table 20 (associated with the results of RQ3), father connectedness was found to be a good predictor after the effects of the controls were removed. That is to say, father connectedness was associated with a significant contribution of 2.9% to explained variance in age of sexual initiation (increase in  $r^2=.029$ , significance of  $F$  change=.020), in addition to controls. However, in this test of the strength of the explanatory power of each of the predictors, once the effects of controls

had been removed, the results for parental monitoring were not statistically significant (see Table 22).

6. As reported in the discussion of RQ4 (Table 30), the hierarchical regression analyses employed in the investigation of this research question failed to demonstrate statistically significant explanatory power associated with either father connectedness or parental monitoring in relation to timing of sexual debut. Although father connectedness made a significant contribution to explained variance within the set of all predictors, the predictors together made no significant contribution to the variance observed in age of sexual initiation among adolescent respondents, after the effects of the control variables were removed.

A further review of study findings indicated that no additional variables had performed well enough in any of the analyses, in terms of independent explanatory power, to justify consideration as a component predictor in the model under construction here for predicting age of sexual initiation. It is true that even parental monitoring did not meet the standard necessary to satisfy the minimum of one of the negotiable criteria. It is important to remember, however, that model building in this study is based on multiple tests of predictor strength. Parental monitoring is strong in theory, though it is somewhat inconsistent in the literature. However, it does meet both non-negotiable criteria, including making a significant contribution to explained variance in the model under consideration. Consequently, I selected the two-predictor model evaluated above as the prediction model for age of sexual initiation to emerge from present study results.

In summary, the prediction model constructed here for predicting age of sexual initiation is a two-predictor model including father connectedness and parental



monitoring. Overall, this prediction model, based on present study results, explains 5.9% of the variance in timing of sexual debut among adolescents attending SDA Church schools in the Caribbean Basin. Father connectedness uniquely explains 2.4% of the variance observed, whereas parental monitoring independently explains 2.5% (see Table 36).

### Model Building for Predicting Lifetime Number of Sexual Partners

Results of the investigations of the research questions addressed in this study highlight the potential value of three predictors in the construction of a model for predicting lifetime number of sexual partners: (a) parental disapproval of adolescent sex, (b) parental monitoring, and (c) father connectedness (see Table 35). These three predictors were also combined in a prediction model for lifetime number of sexual partners suggested by forward and backward stepwise regression analyses.

Forward stepwise regression analysis showed a model constructed of these three component predictors to be a strong predictor of adolescent reports of lifetime number of sexual partners. Overall, this three-predictor model explains 17.2% of the observed variance ( $R^2=.172, p=.000$ ). All three predictor variables met both the non-negotiable and the negotiable criteria established in this study for variable inclusion in the final prediction model.

1. Parental disapproval of adolescent sex, parental monitoring, and father connectedness are consistent with both the theoretical framework and the literature review that undergirded this study. My finding that parental disapproval of adolescent sex was the strongest predictor of a reduced lifetime number of sexual partners among present study respondents was consistent with K. S. Miller et al. (1999, 2000) who

reported the strongest protective effect of maternal disapproval of adolescent sex on multiple sexual partnering over the long term among adolescents in their Puerto Rican subsample. By contrast, the only United States study found to have explored the relationship between parental disapproval of adolescent sex and sexual partnering across life reported no significant association.

Consistent with my findings, K. S. Miller et al. (1999, 2000) also found increased parental monitoring to be protective against multiple sexual partnering across life. One study found similarly in the United States, while another reported a gender effect.

None of the studies reviewed explored the relationship between father connectedness per se and lifetime number of sexual partners. However, in studies conducted in the United States, greater maternal/family connectedness was found to be protective against the risk of multiple sexual partners across life. One United States study, however, reported no significant relationship between these variables. In a related study conducted on St. Maarten, McBride et al. (2005) reported a great relationship with mother to predict for a reduced lifetime total of sexual partners.

2. All three variables comprising the model were found to be significantly related to lifetime number of sexual partners. Specifically, Pearson correlations associated with each relationship were as follows: parental disapproval of adolescent sex ( $r = -.325$ ,  $p=.000$ ), parental monitoring ( $r = -.308$ ,  $p=.000$ ), and father connectedness ( $r = -.198$ ,  $p=.010$ ). (See Tables 8, 9, and 10 introduced as part of the discussion of RQ1.)

3. Each predictor incorporated into this three-predictor model made a significant contribution to the overall model  $R^2$  as it entered the prediction model in the forward stepwise regression analysis conducted as part of the investigation of RQ5. Parental

disapproval of adolescent sex was the first variable to be brought into the model with an  $r^2=.095$  (significance of  $F$  change=.000). Subsequently, parental monitoring and father connectedness were associated with increases in  $r^2$  of .054 (significance of  $F$  change=.001) and .023 (significance of  $F$  change=.030), respectively, as they were individually brought into the model. As detailed in Table 36, all three predictors also retained independent explanatory power within the model itself, in addition to the other two predictors. Parental disapproval of adolescent sex independently accounted for 6.1% of explained variance in lifetime number of sexual partners (part  $r = -.247$ ,  $p=.000$ ), whereas parental monitoring contributed 3.8% (part  $r = -.195$ ,  $p=.006$ ), and father connectedness, 2.3% (part  $r = -.153$ ,  $p=.030$ ).

Among negotiable criteria:

4. Parental disapproval of adolescent sex, parental monitoring, and father connectedness were all good predictors of lifetime number of sexual partners in the set of all predictors. As shown in Table 15 (see the discussion of RQ2), parental disapproval uniquely contributed 5.7% to the explained variance in lifetime number of sexual partners (part  $r = -.238$ ,  $p=.001$ ), in addition to the contributions of other study predictors. Parental monitoring contributed an additional 4.2% to explained variance (part  $r = -.205$ ,  $p=.004$ ). The independent contribution of father connectedness, within the set of all predictors, was 2.0% (part  $r = -.143$ ,  $p=.042$ ).

5. All three variables also met minimum criteria for use in model building as good predictors after the effects of the controls had been removed. (See Tables 20, 22, and 23 in conjunction with the discussion of RQ3.) Parental disapproval of adolescent sex contributed 5.3% (increase in  $r^2=.053$ , significance of  $F$  change=.003) to the explained

variance observed in adolescent reports of lifetime number of sexual partners, in addition to controls. Likewise, parental monitoring contributed 7.8% (increase in  $r^2=.078$ , significance of  $F$  change $=.000$ ), and father connectedness an additional 2.8% (increase in  $r^2=.028$ , significance of  $F$  change $=.025$ ), in addition to controls.

6. Both parental disapproval of adolescent sex and parental monitoring retained their explanatory power within the set of all predictors, after the effects of the controls had been removed (see the discussion of RQ4 summarized in Table 31). Specifically, in addition to the contributions made by other predictors in the set and the controls, parental disapproval of adolescent sex made a significant contribution of 4.0% to lifetime number of partners (part  $r = -.200$ ,  $p=.004$ ), whereas parental monitoring contributed 4.8% (part  $r = -.220$ ,  $p=.002$ ). However, results indicated that father connectedness did not make a significant contribution to the explained variance associated with the set of all predictors, in relation to the lifetime number of sexual partners reported by study respondents, after the effects of the controls had been removed.

Further review of variables excluded by forward stepwise regression analysis in the building of this model revealed two predictors with partial correlations  $> .100$ , an indication that these variables may have potential as predictors in the model under construction here. However, neither of the two predictors—parental rules or SDA Church affiliation—had been found to be good predictors in RQs 1-4 in relation to lifetime number of sexual partners. Consequently, no further consideration was given to these variables as potential components of the final prediction model now under construction.

In summary, the predictor model for lifetime number of sexual partners to emerge from this study is a three-predictor model including three family-context predictor

variables: parental disapproval of adolescent sex, parental monitoring, and father connectedness. Overall, the prediction model explains 17.2% of the variance observed among adolescents attending SDA Church schools across the Caribbean with regard to reported lifetime number of sexual partners. Parental disapproval of adolescent sex uniquely explained 6.1% of the variance observed, parental monitoring, 3.8% of this variance, and father connectedness, 2.3%.

#### Model Building for Predicting Number of Sexual Partners in the Last Three Months

The fourth model constructed as part of this study predicts for adolescent-reported number of sexual partners in the last three months (in the short term). In this case, the results of my previous investigations, as graphically summarized in Table 35, indicated three potentially useful component predictors for consideration in the construction of a prediction model for number of sexual partners in the last three months: (a) parental disapproval of adolescent sex, (b) importance ascribed to religion, and (c) parental monitoring.

When these three predictors were combined into a prediction model, forward stepwise regression analysis indicated this model to be the strongest among the four prediction models to grow out of this study in terms of explanatory power. Overall, the prediction model for number of sexual partners in the last three months—comprised of parental disapproval of adolescent sex, importance ascribed to religion, and parental monitoring—explains 38.7% of the observed variance in number of sexual partners in the last three months among Caribbean adolescents attending SDA Church schools across the Caribbean region ( $R^2=.387, p=.000$ ) (see Table 36). All three predictors met both the non-

negotiable and the negotiable criteria for consideration as component variables in the final prediction model to be constructed for number of sexual partners in the last three months.

With regard to the non-negotiable criteria:

1. All component predictors were supported by PST. Overall, however, my study appears to be among the first testing the relationships between the set of predictors under study here and adolescent sexual partnering in the last three months, making direct comparisons impossible. For example, though parental disapproval of adolescent sex was a very strong predictor of fewer sexual partners in the short term among sexually experienced respondents in my study, no other studies testing this relationship in the United States, Caribbean region, or among adolescents with SDA Church connections were found.

Neither were any studies located that could be directly compared with this study with regard to the relationship between the importance adolescents ascribed to religion and their sexual partnering in the last three months. The findings of a study conducted in the United States, which tested the effects of this predictor on adolescent sexual partnering in the *last year* in an all-female sample, however, were in keeping with my own. Another United States study found similarly, though findings varied by ethnicity.

Although one study conducted in the United States reported results consistent with my finding that greater parental monitoring significantly predicted for fewer sexual partners in the last three months, another found no significant relationship between this predictor and sexual partnering in the *last year*.

2. Parental disapproval of adolescent sex, importance ascribed to religion, and parental monitoring were all significantly related to reported number of sexual partners in the last three months. This was evidenced by the significant Pearson correlations describing these relationships ( $r = -.579, p=.000$ ;  $r = -.324, p=.000$ ; and  $r = -.355, p=.000$ , respectively). (See Tables 9, 10, and 12 associated with the discussion of RQ1.)

3. Forward stepwise regression analyses, conducted as part of the exploration of RQ5, indicated that each predictor made a significant independent contribution to the  $R^2$  as it entered the prediction model. Parental disapproval of adolescent sex entered the model first and was associated with an  $r^2=.302$  (significance of  $F$  change=.000). When importance ascribed to religion was added, it was associated with an increase in  $r^2$  of .061 (significance of  $F$  change=.001). Parental monitoring entered last and was associated with an increase in  $r^2$  of an additional .024 (significance of  $F$  change=.032). Further, all three predictors maintained unique explanatory power within the prediction model itself. As shown in Table 36, parental disapproval of adolescent sex uniquely accounted for 22.1% of the explained variance in number of partners in the short term (part  $r = -.470, p=.000$ ), importance ascribed to religion for 3.1% (part  $r = -.177, p=.014$ ), and parental monitoring for another 2.4% (part  $r = -.154, p=.032$ ).

With regard to the established negotiable criteria:

4. Parental disapproval of adolescent sex and importance ascribed to religion were both good predictors within the set of all predictors (part  $r = -.459, p=.000$  and part  $r = -.166, p=.023$ , respectively). That is to say, both made meaningful independent contributions to the explanatory power of the set. Parental disapproval of adolescent sex uniquely contributed 21.1% to the explained variance in reported number of sexual

partners in the last three months, in addition to all the other predictors. Importance of religion contributed another 2.8% to the explained variance associated with the set of all predictors. On the other hand, results indicated that parental monitoring made no significant independent contribution to explained variance in reported number of sexual partners in the short term, in addition to other predictors. (See Table 16 for a summary of present study results associated with RQ2.)

5. As shown in Tables 22, 23, and 28 (presented as part of the investigation of RQ3), all three predictors were also good predictors after the effects of the controls had been removed. Parental disapproval of adolescent sex was associated with a 27.6% contribution to explained variance in relation to number of sexual partners in the short term (increase in  $r^2=.276$ , significance of  $F$  change=.000), whereas importance ascribed to religion accounted for 10.4% (increase in  $r^2=.104$ , significance of  $F$  change=.000) and parental monitoring for another 10.4% (increase in  $r^2=.104$ , significance of  $F$  change=.000), in addition to controls.

6. As reported in the discussion of RQ4 (Table 32), all remained good predictors within the set of all predictors after the effects of the controls had been removed. Specifically, in addition to the contributions of other predictors in the set and the controls, parental disapproval of adolescent sex contributed 20.6% to the explained variance in number of sexual partners in the last three months associated with the set of all predictors (part  $r = -.454$ ,  $p=.000$ ), whereas importance ascribed to religion contributed 2.5% (part  $r = -.158$ ,  $p=.032$ ) and parental monitoring another 2.1% (part  $r = -.145$ ,  $p=.048$ ).

A final review of the findings of the investigation of RQs 1-4 revealed no additional variables that were good candidates for inclusion in the prediction model under



construction for number of sexual partners in the last three months. None of the other predictors explored in this study had shown themselves to be consistent significant predictors in relation to reported number of sexual partners in the short term.

To recap, the prediction model for number of sexual partners in the last three months to emerge from this study is a three-predictor model including the following family-context and adolescent religiosity variables: (a) parental disapproval of adolescent sex, (b) parental monitoring, and (c) importance ascribed to religion. Overall, this prediction model explains 38.7% of the variance observed among adolescents attending SDA Church schools in the Caribbean region with regard to their reported number of sexual partners in the short term. Parental disapproval of adolescent sex uniquely accounts for 22.1% of the model's predictive strength. Importance ascribed to religion uniquely explains an additional 3.1% of observed variance, and parental monitoring independently explains another 2.4%.

#### Model Building for Predicting Frequency of Condom Use

Findings from the investigation of RQs 1-4 did not show significant relationships between any of the predictor variables and any of the adolescent sexual behavioral outcome variables under study here. For this reason, no attempt was made to build a model for predicting frequency of condom use from present study results.

#### Model Building for Predicting Condom Use at Last Sex

Findings from the investigations of RQs 1-4 revealed no significant relationships between the predictor variables under investigation here and any of the adolescent sexual

behavioral outcomes. For this reason, no attempt was made to build a model for predicting frequency of condom use from the results of the study.

### **Summary**

In this chapter I have reported the results of my exploration of five research questions with the view of evaluating the usefulness of 10 predictor variables in predicting the variance observed in six sexual behavioral outcomes associated with HIV infection among adolescents attending SDA Church schools across the Caribbean region. In the course of these investigations, I have appraised the explanatory power of these predictors alone and together, with and without the effects of the selected set of social/family demographic and peer attitude controls removed. From these multiple perspectives—and with the use of forward and backward stepwise regression as supplementary statistical indicators of (a) which predictors might be most useful and (b) the approximate number of predictors that may be necessary to create a useful prediction model—I have constructed prediction models for four of the six adolescent sexual behavioral outcomes under study here: sexual experience, age of sexual initiation, lifetime number of sexual partners, and number of sexual partners in the last three months. No reliable prediction models emerged from the results of this study for either frequency of condom use or condom use at last sex among adolescent respondents. In Chapter 5, I will discuss these findings in the light of the work of other researchers and the potential usefulness of my work in protecting Caribbean youth at risk from the life-altering consequences associated with sexual risk-taking, particularly in nations where HIV/AIDS is generalized.

## CHAPTER 5

### CONCLUSIONS

In this chapter, I will review the problem addressed by the present research, the platform of previous research upon which it builds, the statistical methodologies employed, and key findings of the present study. The primary purpose of this chapter, however, will be to discuss the implications of my research for parents, local faith communities, and educators/ministry leaders with responsibilities related to youth development, particularly within the SDA Church context. Recommendations are also included for future research.

#### **The Problem**

The Joint United Nations Programme on HIV/AIDS marks the Caribbean as second only to sub-Saharan Africa in HIV/AIDS prevalence. Sexually active youth have been identified as among the region's "most-at-risk populations" (UNAIDS, 2007b, p. 35) for infection with the HIV virus and other health-compromising problems associated with adolescent sexual risk-taking. In a comprehensive review of studies meeting rigorous research criteria and published in the United States between 1990 and 2004, Kirby et al. (2005) reduced a list of some 400 environmental and individual adolescent factors associated with adolescent sexual risk-taking to a manageable list of predictors demonstrating the greatest strength and consistency in relation to sexual at-risk behaviors.

However, the rigorous research needed to confirm “whether similar types of factors operate in the same manner for increasing or diminishing adolescents’ risks” (Mmari & Blum, 2009, p. 351) in the Caribbean region is very limited. Further, research exploring such relationships among adolescents attending SDA Church-operated schools across the Anglophone/Latin Caribbean region is virtually non-existent.

### **Purpose of the Present Study**

Recognizing the complex nature of adolescent sexual risk-taking, the present study responded to this problem by testing the relationships between a set of parental and adolescent religiosity factors and the sexual at-risk behaviors reported by Caribbean adolescents, ages 16-18 years, attending secondary schools operated across the region by the Seventh-day Adventist Church (SDA Church). Bivariate and multivariate analyses were then used to assess the significance and strength of these factors as predictors of adolescent sexual risk-taking—both individually and together as a set of predictors—in order to identify the best predictors for inclusion in prediction models for each of the sexual at-risk behaviors. As available predictors allowed, prediction models were then constructed for the various risky adolescent sexual behaviors under study.

### **Significance of the Present Study**

The present study thus expands existing knowledge regarding the relationships between a set of parental and adolescent religiosity factors and adolescent sexual risk-taking in the Caribbean region. The findings strengthen the research base necessary for the identification of at-risk adolescents and the development of effective, culturally sensitive strategies for reducing risk and better protecting youth against the life-altering

consequences associated with sexual risk-taking. In the process, an empirical baseline for adolescents with SDA connections is established that documents important dimensions of adolescent family context and religiosity, as well as the nature and extent of youth participation in risky sexual behaviors, for purposes of monitoring future trends and evaluating intervention programs.

### **Theoretical Framework**

Both family (Pequegnat & Szapocznik, 2000; Whitehead & Pearson, 2006) and religion (Regnerus, 2003; Seidman et al., 1994) have been identified as positive influences in the shaping of adolescent sexual attitudes and behaviors as well as the protection of youth from the dangers associated with engagement in risky sexual behaviors. Among the theories to emerge articulating this perspective, Primary Socialization Theory (PST), as described by Oetting and Donnermeyer (1998), identifies the family as among three primary socialization agents (alongside the school and peer clusters) charged in most societies with conveying societal norms to the next generation. PST links the socialization of children and youth who are likely to adopt prosocial norms and remain relatively unaffected by deviance with the formation of strong parent-child relational bonds. These bonds are viewed as “channels” through which life-affirming attitudes, beliefs, and behaviors may be transmitted. Oetting and Donnermeyer (1998) further assert that such values are conveyed through the direct communication of acceptable attitudes and behaviors, as well as through other parental actions such as the monitoring and supervision of youth and parental expression of strong negative attitudes toward deviant behavior.

Oetting and his colleagues (Oetting, 1999; Oetting, Donnermeyer, & Deffenbacher, 1998) have also focused on religion as a positive, though indirect, influence in the transmission of positive values to the next generation because it (a) “generally reinforce[s] prosocial behaviors and specifically sanction[s] most forms of deviance,” (b) affirms parents and supports them in their efforts to convey life-affirming norms, and (c) provides a context for the formation of ties with peer clusters less prone to risk-taking. Primary socialization theorists do, however, also acknowledge a high level of spirituality—associated by the theorists with holistic developmental maturity—which may exert a more direct effect on behavior.

### **Literature Review**

A review of all relevant studies cited by Kirby et al. (2005), as well as pertinent studies conducted specifically in the Caribbean region and/or within the SDA Church religious context, informed the selection of the predictor variables investigated in the present study. These predictors of one or more sexual at-risk behaviors associated with HIV infection are contextual measures of adolescents’ perceptions of parental (a) support/connectedness, (b) monitoring/supervision, and (c) attitudes regarding adolescent sexual behavior, as well as (d) individual measures of adolescent religiosity. A brief overview of the literature regarding the strength and consistency of the predictors under investigation here as related to each of the adolescent sexual at-risk behaviors of interest is presented below. As findings of United States studies are referenced in detail in Chapter 2, references are provided in this chapter only for studies conducted in the Caribbean context and/or among youth with SDA connections.

## Predictors of Sexual Experience

### **Parental Predictors**

Although not every study reviewed found a significant relationship between parental monitoring and sexual experience, greater parental monitoring was the most consistent predictor of fewer adolescents reporting sexual experience in both the United States and among youth with SDA Church connections (Dudley, 1992; Lee & Rice, 1995; Ludescher, 1992). Forehand et al. (1997) found the protective effect of parental monitoring/strictness against deviant behavior to be strongest in their Puerto Rican subsample.

Though findings between studies were not entirely consistent, greater parental disapproval of adolescent sex and maternal disapproval, in particular, were also found to be strong predictors of reduced incidence of sexual experience in studies conducted in the United States. Kotchick et al. (1999) also reported conservative maternal attitudes with regard to adolescent sex to have been associated with reduced adolescent sexual risk-taking in a study based, in part, on the responses of a subsample of Puerto Rican youth.

Though frequently investigated, parental support/connectedness was the least consistent predictor of adolescent sexual experience. Nevertheless, a number of studies in all three contexts—the United States, the Caribbean (Blum & Ireland, 2004; D. Smith et al., 2003), and among youth with SDA Church connections (Dudley, 1992; Lee & Rice, 1995; Ludescher, 1992; cf. Strahan, 1994)—did report greater parental support/connectedness to be associated with fewer adolescents reporting sexual experience. Caribbean studies, however, reported the effect to be significant only among females (Stallworth et al., 2004) and adolescents  $\leq 16$  years of age (Halcón et al., 2003).

## **Adolescent Religiosity Predictors**

Though investigated in somewhat fewer studies, attendance at religious services was found to be a highly consistent predictor of adolescent sexual experience in both the United States and in the Anglophone regional Caribbean Youth Health Survey (CYHS) (Blum et al., 2003; Halcón et al., 2000). It was, however, the weakest predictor of sexual experience identified by the CYHS (Blum & Ireland, 2004).

Similarly, greater importance ascribed to religion/overall religiosity was found to predict consistently for reduced incidence of sexual experience among adolescents in the United States. Among North American youth with SDA Church connections, findings from the Valuegenesis Study (Dudley, 1992) also indicated a moderate relationship between greater importance ascribed to religion and lower scores on an at-risk index which included sexual experience. CYHS researchers reported, however, that this relationship lost significance for adolescents 16-18 years of age (Halcón et al., 2000).

Whereas in the United States religious affiliation was found to be associated with reduced incidence of adolescent sexual experience, findings differed across studies. In studies among youth with SDA connections, both Gray (1994)—whose sample included a Caribbean subsample—and Hopkins (1996) found affiliation with the SDA Church to be protective against adolescent sexual experience, whereas Ludescher (1992) reported no significant relationship between these variables.

### **Predictors of Timing of Sexual Debut**

Although timing of sexual debut was the sexual at-risk behavior most often explored in the studies reviewed, generalizations regarding the relationships between the predictors under investigation here and age of sexual initiation were made difficult by the



inconclusive findings emerging from the studies themselves, as well as the paucity of Caribbean-based studies and research among youth with SDA Church connections.

### **Parental Predictors**

Although the large National Longitudinal Study of Adolescent Health (Add Health) was among the studies in the United States that reported a significant relationship between strong adolescent perception of parental support/connectedness and delayed sexual debut, findings across studies were far from conclusive. Consistent with a number of United States studies, CYHS findings indicated a significant relationship between greater parental support/connectedness and delayed sexual debut only among females (Lerand et al., 2004). Though Vélez-Pastrana et al. (2005) reported a significant relationship between these variables, overall, CYHS results also found this relationship to be significant only among younger youth  $\leq 16$  years of age (Blum et al., 2003).

Inconclusive findings in United States studies exploring parental monitoring/strictness as a predictor of age of sexual debut precluded generalization. Although one study with a Puerto Rican subsample found parental monitoring/strictness to be significantly associated with delayed sexual initiation (Vélez-Pastrana, 2005), two others reported no significant results (K. S. Miller et al., 1999, 2000).

Though findings across studies were not entirely consistent, the Add Health study indicated a significant relationship between strong parental disapproval of adolescent sex and delayed sexual debut. K. S. Miller et al. (1999, 2000) found no significant relationship between maternal disapproval of adolescent sex and timing of sexual debut in their studies including a Puerto Rican subsample.

Parental approval (support/acceptance) of condom use among sexually active adolescents was the least explored of the present study predictors. However, in the large United States Add Health study, this predictor was reported to be a significant *risk* factor associated with early sexual debut.

### **Adolescent Religiosity Predictors**

Findings reported in United States studies regarding religious affiliation and attendance at religious services in relation to timing of sexual debut were mixed. However, both religious affiliation—specifically affiliation with a conservative Christian church—and attendance at religious services were associated with delayed sexual initiation in the Add Health study. Gray (1994), whose study included a subsample from the U. S. Virgin Islands, also found SDA Church affiliation to be associated with postponement of first intercourse.

Whereas several studies conducted in the United States, including the Add Health study, found greater importance ascribed to religion to be associated with delayed sexual debut, findings reported in other studies were far from conclusive. Among youth with SDA Church connections, greater religiosity was found to be a protective factor significantly associated with delayed sexual debut among all but ninth-grade males, among whom—surprisingly—it was found to be a *risk* factor (Weinbender & Rossignol, 1996). By contrast, no significant relationship was found between these variables in studies conducted among Caribbean youth (K. S. Miller et al., 2000; Wyatt et al., 1999).

## Predictors of Number of Sexual Partners

In the literature reviewed, number of sexual partners—lifetime and in the last three months—were the sexual at-risk behaviors least explored in relation to study predictors. It is important to remember that the following summary is based on few studies, and the results were often mixed.

### **Lifetime Number of Sexual Partners**

#### Parental predictors

In the United States, greater parental support/connectedness was found to be significantly associated with a reduced lifetime number of sexual partners in the Add Health study. Greater parental monitoring/strictness was also found to be protective against the risk of multiple sexual partners across life in the United States overall and in studies with Puerto Rican subsamples (K. S. Miller et al., 1999, 2000). Although K. S. Miller et al. (1999, 2000) reported maternal disapproval of adolescent sex to have demonstrated its strongest effect on lifetime number of sexual partners in their Puerto Rican subsample, no significant relationship between these variables was reported in a study based on Add Health data.

#### Adolescent religiosity predictors

The one United States study testing the effects of attendance at religious services on lifetime number of sexual partners reported inconsistent findings. On the other hand, the only study of youth with SDA Church connections to investigate the antecedents of lifetime number of sexual partners—a study with a Caribbean subsample—indicated affiliation with the SDA Church to be highly protective against multiple sexual partnering

in the long term (Gray, 1994). Similarly, importance ascribed to religion was protective overall on lifetime number of sexual partners in the United States Add Health Study. The one study which included a Puerto Rican subsample (Miller et al., 2000), however, found no significant relationship between these variables.

### **Number of Sexual Partners in the Last Three Months**

#### Parental predictors

Parental monitoring/strictness was the only parental predictor to be investigated in relation to number of sexual partners in the short term in the United States studies reviewed. Findings were inconclusive.

#### Adolescent religiosity predictors

Findings from United States studies testing the effects of attendance at religious services and religious affiliation on number of sexual partners in the short term were inconclusive. However, in her study of adolescents with SDA Church connections, including a Caribbean subsample, Gray (1994) reported affiliation with the SDA Church to be associated with fewer sexual partners in the short term. One United States study also reported greater importance ascribed to religion to be associated with reduced risk of multiple sexual partnering in the short term.

### Predictors of Consistent Condom Use

#### **Parental Predictors**

Overall, more United States studies reviewed indicated no significant relationship between parental predictors (i.e., parental support/connectedness, monitoring/strictness,

and approval of adolescent condom use) and the adolescent sexual at-risk behaviors of interest here than reported significant relationships. Among those reporting significant findings, results were largely inconclusive. Whereas the CYHS found parental connectedness to be protective on consistency of condom use for males, but not females (Lerand et al., 2004), K. S. Miller et al. (2000) found no significant relationships between parental connectedness, monitoring, or disapproval of adolescent sex and this outcome.

### **Adolescent Religiosity Predictors**

Although United States studies investigating the relationship between religious affiliation and consistency of condom use were inconclusive, Gray's (1994) finding, in a study that included a Caribbean subsample, that affiliation with the SDA Church was a *risk* factor associated with greater inconsistency in adolescent use of condoms is noteworthy. The preponderance of studies testing the relationship between importance ascribed to religion and consistency of condom use—including one with a Puerto Rican subsample (K. S. Miller et al., 2000) and another based on responses of youth with SDA Church connections (Ludescher, 1992)—also indicated no significant results. Similarly, studies exploring the relationship between attendance at religious services and consistency of condom use reported no significant findings.

## **Methodology**

### **The Seventh-day Adventist Caribbean Youth Survey**

The present study was based on survey data generated by the Seventh-day Adventist Caribbean Youth Survey (SDACYS), a cross-sectional exploration of the prevalence and antecedents of a spectrum of at-risk behaviors with serious health-

compromising consequences, including HIV infection. The study was conducted by a team of researchers from Andrews University and Loma Linda University in collaboration with the Inter-American Division of the SDA Church. The research design was approved by the Institutional Review Boards of both universities. Data collection was governed by generally accepted academic protocols, with the exception of allowance for passive parental consent—an accommodation made in light of the concerns of local educators that requiring parents to return a signed form would be outside of normal school practice and create undue alarm. It is noteworthy that passive parental consent was also utilized in the Caribbean Youth Health Survey, the largest study of adolescent health to have been conducted in the region to date (Halcón et al., 2003; Ohene et al., 2004). As then Co-director of the Department of Family Ministries at the SDA ChurchWorld Headquarters, I served as a consultant to the research team in the development of the family-context and adolescent religiosity measures on the 106-item survey questionnaire made available in English, Spanish, and French. Three national survey instruments were the primary sources for specific measures.

Respondents to the SDACYS were youth, ages 14-18 years, enrolled in randomly selected SDA Church-operated secondary schools representative of the Latin and Anglophone Caribbean regions. Regrettably, though originally included in the random sampling, no suitable schools were available for data collection in the Francophone island group. Of the 1,625 adolescents eligible for participation, 1,330 young people were included in the final SDACYS sample.

## Overview of Conceptual Framework

Specifically, the present study used data from the SDACYS to explore relationships between a set of parental and adolescent religiosity predictors and six specific adolescent sexual behavioral outcomes associated with HIV infection. The parental predictors being explored were measures of adolescent perception in three areas of parent-adolescent interface: (a) parental connectedness, (b) parental behavioral control, and (c) parental attitudes regarding adolescent sexual behavior. Three dimensions of individual adolescent religiosity—religious affiliation, attendance at religious services, and personal importance ascribed to religion—were also examined as predictors of youth sexual at-risk behaviors. The adolescent sexual behavioral outcomes under study were measures of (a) sexual experience, (b) timing of sexual debut, (c) number of sexual partners, and (d) consistency of condom use.

Relationships were tested between predictors alone and the set of all predictors together and each of the adolescent sexual behavioral outcomes. Each of these relationships was also explored after removing the effects of selected control variables. Specifically, controls included (a) parents' education—a commonly used indicator of socioeconomic level, (b) family structure, (c) parental misuse of alcohol and/or drugs, and (d) friends' attitudes regarding adolescent sex. It was assumed that by controlling for these variables, the strength of the relationships between the predictor variables—alone and together—and each of the adolescent sexual behavioral outcomes could be observed with greater reliability. It should be noted here that, in virtually all cases, tests to determine the role of gender, age, and language group in explaining observed differences in adolescent sexual at-risk behaviors were not statistically significant. Thus it was not

considered necessary to take further analytical steps to remove the effects of these common demographic controls.

### Sample Selection

Two important modifications were made to the SDACYS sample to enhance the reliability of present study findings:

1. All respondents who reported that their first sex was forced ( $n=69$ ) were removed because any relationships between the predictors and the adolescent sexual behaviors would be difficult to interpret if adolescents had not made the decision to initiate sexual intercourse by their own free will.

2. The present study sample was limited to 16-18-year-olds ( $n=596$ ) because patterns of sexual initiation in the larger SDACYS sample indicated that most adolescents who were going to initiate first intercourse by the time they were 18 years of age would have done so by the age of 16 years. Limiting the age range for this study was a means of more accurately identifying the proportion of adolescents who were going to engage in sexual intercourse before the age of 18 and studying the effects of the parental and adolescent religiosity predictors under study here on their sexual behavior with more reliability.

### Research Questions

The five research questions (RQ1 – RQ5) addressed in this study explored relationships between the set of parental and adolescent religiosity factors and six adolescent sexual behaviors associated with HIV infection among adolescents enrolled in



SDA Church-operated secondary schools across the Anglophone/Latin Caribbean regions.

Specifically, the five research questions investigated in the present study were:

1. Is there a relationship between each of the parental and adolescent religiosity predictor variables alone and each of the adolescent sexual behaviors?

2. Is there a relationship between the combined set of parental/adolescent religiosity predictor variables and each of the adolescent sexual behaviors?

3. Is there a relationship between each of the parental and adolescent religiosity predictor variables alone and each of the adolescent sexual behaviors, after the effects of the control variables have been removed together?

4. Is there a relationship between the combined set of parental/adolescent religiosity predictor variables and each of the adolescent sexual behaviors, after the effects of the control variables have been removed together?

5. Can a simple model that would be useful in predicting each of the adolescent sexual behaviors be developed from among the parental and adolescent religiosity predictor variables explored here?

### Analyses

Basic descriptive statistical analyses were used to describe the study sample. Pearson correlations and standard multiple regression analyses were used to explore relationships between each of the parental and adolescent religiosity predictor variables—alone (RQ1) and combined as a set of all predictors (RQ2)—and each of the adolescent sexual behaviors. Hierarchical regression was then employed to investigate the relationships between each of these predictor variables—alone (RQ3) and combined as a

set of all predictors (RQ4)—and the adolescent sexual behaviors under study, after removing the effects of the control variables. Each of these analyses was employed with the primary goal of identifying predictor variables that could be useful in the development of simple models for predicting the sexual behaviors of adolescents in the Caribbean region (RQ5).

## **Results**

### **The Present Study Sample in Context**

The present study sample was comprised of 596 adolescents between the ages of 16 and 18 years enrolled in SDA Church-operated schools in seven Caribbean nations and the Commonwealth of Puerto Rico. The descriptive collage of these adolescents with SDA Church connections identified ways in which respondents were both similar and different—for better or worse—from Caribbean adolescents responding to other regional studies. Similarities and differences were found both in terms of the relative presence of risk and protective factors associated with adolescent sexual risk-taking and the involvement of adolescents in risky sexual behaviors. Comparative research findings are reported here in those instances where my results were substantially different from those reported in large regional studies. In any case, comparative data rarely allowed for direct comparison and were often severely limited.

### **Family Contexts**

Approximately three-quarters (71%) of present study respondents, as compared to half (48%) of youth responding to the CYHS (Halcón et al., 2000, p. 24), lived in two-parent families, with the majority residing with their biological parents (56%). To the

degree that parent education served as a true proxy for family socioeconomic level, respondents' families were similar in socioeconomic status, overall, to most families across the region.<sup>9</sup> One in five respondents (22%) indicated past or present parental misuse of drugs and/or alcohol.

Overall, respondents reported moderate-to-strong perceptions of connectedness with both father and mother; however, their feelings of connectedness were stronger with their mothers than with their fathers. Strong perceptions of parental monitoring, as well as moderate perceptions of the presence of parental rules, were also indicated. By comparison, youth attending public school in Puerto Rico reported only moderate perceptions of parental monitoring (Forehand et al., 1997; Vélez-Pastrana et al., 2005). Respondents also registered strong perceptions of parental disapproval of adolescent sex and moderate-to-strong perceptions of parental acceptance/support of condom use among sexually active adolescents.

### **Adolescent Religiosity**

As might be expected, given the parochial school-based sample, 91% of study respondents reported religious affiliation, as compared with 72% in the CYHS sample (Ohene et al., 2004, p. 179). Most were affiliated with the SDA Church (56%). The vast majority (91%) also indicated that religion was very/pretty important in their lives. Religious affiliation and importance ascribed to religion did not necessarily translate into regular attendance at services, however. Nearly half of respondents (48%) indicated they rarely/never attended church.

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<sup>9</sup> On average, the most educated parent in respondent households had completed at least 13 years of schooling, an educational attainment roughly comparable to the school life expectancy for adults across the region (CIA, 2011; United States Census Bureau, 2008).

## Sexual At-Risk Behaviors

### Sexual experience

More than one-third of the present sample (39%) admitted to sexual experience, a somewhat larger proportion than was found among 16-18-year-olds responding to the CYHS (33%)<sup>10</sup>(Halcón et al., 2003, p. 1855). It is noteworthy, however, that among SDA Church-affiliated respondents, the 31% with a sexual history represented a slightly *smaller* proportion than was found in the CYHS sample, and a considerably smaller proportion than was identified among present study respondents with other/no religious affiliations (50%).

### Timing of sexual debut

Fourteen years of age was the average age of sexual debut among present study respondents. However, nearly one-third of sexually experienced respondents marked first intercourse at or before the age of 13 (29%), a considerably smaller proportion than was reported among CYHS respondents ages 16-18 years (48%) (Ohene et al., 2005, p. 94).<sup>11</sup> Only 6% of sexually experienced respondents to the present study reported first intercourse before the age of 10 years, as compared to 26% of CYHS respondents in the same age bracket (Halcón et al., 2003, p. 1855).

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<sup>10</sup> As in the present sample, the CYHS proportion does not include adolescents who reported their first sex was forced.

<sup>11</sup> It should be noted here that the CYHS included adolescents whose first sex was forced when reporting their findings on early sexual initiation. However, the decision to remove such adolescents from the analysis sample for the present study did not appear to fully explain the large differences in findings between this study and the CYHS with regard to timing of sexual debut. None of the adolescents removed from the present analysis sample because they indicated coerced first sex also reported that this violation occurred before the age of 10 years. On the other hand, 12% did indicate both forced first intercourse and initiation before the age of 13 years.

### Lifetime number of sexual partners

The median lifetime number of sexual partners was two. Over one-third of sexually experienced respondents (37%) reported having had only one sexual partner in their lifetime. However, nearly one-quarter (23%) reported a lifetime total of six or more sexual partners.

### Number of sexual partners in the last three months

Nearly one-third of respondents (32%) with a sexual history said they had not had sex with anyone in the last three months. Although the median number of sexual partners in the last three months was one, a striking 11% of study respondents said they had had six or more sexual partners during this brief time period.

### Consistency of condom use

Among sexually experienced study respondents, 48% reported *always* using a condom. On the other hand, 37% of sexually experienced study respondents reported *not* using a condom at last sex, whereas a considerably smaller proportion of age-matched adolescents responding to the CYHS (29%) reported unprotected last sex (Halcón et al., 2003, p. 1855).

## Strength of Significant Predictors in Bivariate and Multivariate Analyses Associated With Research Questions 1-4

### **Strength of Predictors Significantly Related to Sexual Experience**

In bivariate analyses associated with RQ1, statistically significant Pearson correlations ( $r$ ) identified eight predictor variables as potentially useful components for prediction model building for sexual experience. Two predictors—parental disapproval of

adolescent sex and parental monitoring—were moderately correlated with sexual experience. Weak correlations with sexual experience were identified with SDA Church affiliation, importance ascribed to religion, mother-connectedness, father-connectedness, parental rules, and no religious affiliation. All significant predictors were associated with reduced likelihood of adolescent sexual experience, with the exception of no religious affiliation, which was weakly associated with increased risk.

Across the multivariate analyses associated with RQs 2-4, however, only three predictors maintained statistical significance in relation to sexual experience: parental disapproval of adolescent sex, parental monitoring, and SDA Church affiliation. In my investigation of RQ2, all three predictors made moderate contributions toward the differences in sexual experience explained by the combined set of all predictors (26%)—with parental disapproval of adolescent sex making an independent contribution of 8%; parental monitoring, 6%; and SDA Church affiliation, 3%. In my exploration of RQ3, all three predictors were also found to be moderately related to sexual experience, in addition to controls: parental monitoring independently explained 7% of the differences in sexual experience; parental disapproval of adolescent sex, 6%, and SDA Church affiliation, 3%. In my exploration of RQ4, all three predictors again made significant independent contributions toward the differences in sexual experience explained by the combined set of all predictors, in addition to controls (14%): parental disapproval uniquely explained 5%; parental monitoring, 4%; and SDA Church affiliation, 2%.

Although importance ascribed to religion also made a weak, but statistically significant, contribution of less than 1% to explained variance in sexual experience, in addition to controls (RQ3), it lost statistical significance in all other multivariate analyses.

Mother and father connectedness, parental rules, and no religious affiliation did not maintain statistical significance in any of the multivariate analyses.

### **Strength of Predictors Significantly Related to Timing of Sexual Debut**

In bivariate analyses associated with RQ1, three predictor variables were identified in statistically significant relationships with age of sexual initiation: parental monitoring, father connectedness, and parental disapproval of adolescent sex. The correlations were weak, but showed these predictors to be protective in terms of risks associated with early sexual debut.

Across the multivariate analyses, however, only father connectedness maintained statistical significance, and that only in my investigations of RQs 2-3. In findings related to RQ2, father connectedness made a moderate independent contribution of 3% toward differences in age of sexual initiation explained by the combined set of all predictors (5%). In RQ3 results, father connectedness was also found to be moderately related to age of sexual initiation, in addition to controls, explaining 3% of the variance. In analyses associated with RQ4, the set of all predictors failed to achieve statistical significance, in addition to controls. Parental monitoring was not shown to be significantly related to age of sexual initiation in RQs 2-4.

### **Strength of Predictors Significantly Related to Sexual Partnering**

Lifetime number of sexual partners

In bivariate analyses associated with RQ1, statistically significant Pearson correlations identified three predictor variables as potentially useful components for

prediction model building for lifetime number of sexual partners: parental disapproval of adolescent sex, parental monitoring, and father connectedness. Two predictors—parental disapproval of adolescent sex and parental monitoring—were moderately correlated with lifetime number of sexual partners. Father connectedness, on the other hand, was only weakly associated with this sexual at-risk behavior. All three were found to be protective in terms of risks associated with multiple sexual partners.

Across multivariate analyses associated with RQs 2-4, all three predictors retained statistical significance in relation to lifetime number of sexual partners. In my investigation of RQ2, each of the three predictors made a moderate contribution toward differences in lifetime number of sexual partners explained by the combined set of all predictors (20%). Parental disapproval made an independent contribution of 6%; parental monitoring, 4%; and father connectedness, 2%. In RQ3 analyses, findings indicated all three predictors were moderately related to this sexual behavioral outcome, in addition to controls: parental monitoring explained 8% of the variance; parental disapproval, 5%; and father connectedness, 3%. In RQ4 analyses, two of the three predictors again made moderate contributions to the overall differences in lifetime number of partners explained by the combined set of all predictors, in addition to controls (16%): parental monitoring independently explained 5%, whereas parental disapproval of adolescent sex explained 4%. Father connectedness lost statistical significance within the set of all predictors, after the effects of the controls were removed.



## Number of sexual partners in the last three months

In both bivariate and multivariate analyses, the strongest relationship identified between study predictors and adolescent sexual risk-taking was found between parental disapproval of adolescent sex and number of sexual partners in the last three months. In bivariate analyses conducted in investigation of RQ1, there were moderate correlations between parental monitoring and importance ascribed to religion and this sexual behavioral outcome. Each of these predictors was found to be protective against risks associated with multiple sexual partnering in the short term.

In multivariate analyses, all three predictors retained statistical significance. In my investigation of RQ2, parental disapproval of adolescent sex made a contribution of 21% to the differences in number of sexual partners in the last three months explained by the combined set of all predictors (40%), whereas importance ascribed to religion contributed another 3%. The contribution of parental monitoring was not statistically significant in RQ2. In analyses associated with RQ3, the predictive strength of parental disapproval of adolescent sex was again strong, explaining 28% of the variance in recent sexual partnering, in addition to controls. Both importance ascribed to religion and parental monitoring were also strong predictors in these analyses, with each independently explaining 10%, in addition to controls. Similarly, RQ4 findings indicated that parental disapproval of adolescent sex independently contributed 21% to the differences in number of sexual partners in the last three months explained by the combined set of all predictors, in addition to controls (38%). Moderate contributions to explained variance in recent sexual partnering were also made by importance ascribed to religion (3%) and parental monitoring (2%).

## Prediction Model Building

The final research question in this study (RQ5) explored whether prediction models, specific to the adolescent sexual at-risk behaviors under study, could be developed from the parental and adolescent religiosity predictors investigated here. I constructed prediction models for four of the six adolescent sexual behavioral outcomes: (a) sexual experience, (b) timing of sexual debut, (c) lifetime number of sexual partners, and (d) number of sexual partners in the last three months. The predictors under investigation here did not support the construction of prediction models for frequency of condom use or condom use at last sex.

### **Model Building for Predicting Sexual Experience**

Based on the findings of my investigations of RQs 1-5, three variables were identified as potentially useful in predicting adolescent sexual experience: (a) parental disapproval of adolescent sex, (b) parental monitoring, and (c) SDA Church affiliation. I incorporated these parental and adolescent religiosity predictors into a three-predictor model, which standard regression analysis showed to be a strong predictor of sexual experience. Overall, this prediction model explained 25% of the differences in sexual experience observed among study respondents. Parental disapproval of adolescent sex uniquely explained 8% of these differences, whereas parental monitoring independently explained 7%, and SDA Church affiliation, 3%. The model is consistent with Primary Socialization Theory (PST) and the literature.

### **Model Building for Predicting Timing of Sexual Debut**

A review of the results of my explorations of RQs 1-5 identified two parental variables as the best predictors available for constructing a prediction model for timing of sexual debut: (a) father connectedness and (b) parental monitoring. I incorporated these predictors into a two-predictor model. Given the overall performance of these variables in my analyses, as well as the mixed findings of other researchers, it was not surprising that the explanatory power of this model was the lowest of any prediction model constructed here. However, standard regression analysis revealed that this prediction model explained a respectable 6% of the observed differences in timing of sexual debut. Father connectedness uniquely explained 2% of the differences observed, whereas parental monitoring independently explained 3%. The model is compatible with PST and generally consistent with the literature.

### **Model Building for Predicting Lifetime Number of Sexual Partners**

Results of my investigations of RQs 1-5 highlighted the potential value of three parental predictors as potential components in the construction of a prediction model useful in predicting lifetime number of sexual partners: (a) parental disapproval of adolescent sex, (b) parental monitoring, and (c) father connectedness. I incorporated these predictors into a three-predictor model, which standard regression analysis showed to be a strong predictor of lifetime number of sexual partners reported by adolescents. Overall, this three-predictor model explained 17% of the observed differences in lifetime number of sexual partners among sexually experienced respondents, with parental disapproval of adolescent sex uniquely explaining 6%; parental monitoring, 4%; and father

connectedness, 2% of these differences. This model is consistent with PST and the literature.

### **Model Building for Predicting Number of Sexual Partners in the Last Three Months**

Results of my investigations in RQs 1-5 indicated three potentially useful parental and adolescent religiosity variables in the construction of this prediction model: (a) parental disapproval of adolescent sex, (b) importance ascribed to religion, and (c) parental monitoring. I used these predictors to construct a three-predictor model, which standard regression analysis indicated had the greatest explanatory strength of any of my models. Overall, this model explained 39% of the differences observed among sexually experienced adolescents with regard to reported number of sexual partners in the last three months. Parental disapproval of adolescent sex uniquely explained 22% of these differences, whereas importance ascribed to religion uniquely explained an additional 3%, and parental monitoring another 2%. This model is compatible with PST; however, my study appears to be among the first testing the relationships between these predictors and adolescent sexual partnering in the last three months.

### **Model Building for Predicting Adolescent Condom Use**

The striking absence of significant relationships between the parental and adolescent religiosity predictors under study here and the two measures of consistency of condom use made model building for predicting adolescent condom use impossible. However, my findings are generally consistent with those of studies conducted in the United States and the Caribbean with one noteworthy exception. Gray (1994), in her

study including a Caribbean subsample, reported SDA Church affiliation to be a strong *risk* factor for HIV infection associated with the lack or inconsistent use of condoms.

## **Discussion**

This section will focus primarily on a discussion of what I consider to be the most important findings to emerge from my investigations designed ultimately to identify the best predictors of adolescent sexual at-risk behaviors associated with HIV. As a prelude to this discussion, I will make a few observations arising from descriptive findings concerning the study sample. The implications of my observations for parents, educators, religious and community leaders, and researchers concerned with the holistic health of adolescents form the basis for the recommendations which follow.

### Observations Related to Descriptive Findings

#### **Family Context**

It is evident from the portrait of the study sample in context presented earlier in this chapter that study respondents generally stood to benefit from the strong presence in their lives of a number of family and adolescent religiosity factors associated in theory (Oetting & Donnermeyer, 1998) and the literature (Kirby et al., 2005) with reduced involvement in sexual risk-taking. Although family demographics typically account for less than 10% of the differences observed among adolescents in terms of their participation in at-risk behaviors (Blum, Beuhring, & Rinehart, 2000), it is significant that nearly three-quarters of respondents came from two-parent families, and over half lived with their biological parents. Further, respondents reported strong perceptions of connectedness with parents, parental monitoring, and parental disapproval of adolescent

sex, as well as high levels of religious affiliation and importance ascribed to religion. The presence of two factors did, however, flag respondents as at increased risk for health-compromising outcomes: (a) past/present parental misuse of alcohol and/or drugs, and (b) a moderate level of approval of adolescent sex within the respondents' peer clusters.

The moderate-to-strong perceptions of parental acceptance/support for the use of condoms by sexually active youth came as a surprise, given the fact that the SDA Church has historically stopped well short of explicit support for the use of condoms by sexually active unmarried persons, even for the purpose of avoiding sexually transmitted diseases (General Conference of Seventh-day Adventists, 2010, pp. 101-107). Religious prohibition against condom use has been marked as a contributing factor in the sexual spread of HIV across the region (Inciardi et al., 2005, p. S9; see also Wellings et al., 2006, p. 1723). Consistent with this assertion, Gray (1994)—in a study of youth with SDA Church connections, including a Caribbean subsample—reported affiliation with the SDA Church to be a *risk* factor associated with inconsistent condom use.

### **Adolescent Religiosity**

Given the SDA Church parochial school sample, it was not at all surprising that the vast majority of respondents (91%) were affiliated with religious organizations, and the majority with the SDA Church (56%). Although greater regularity in church attendance might have been expected, it may be that youth attendance largely reflected the attendance patterns of the families of which they were a part. This understanding would be consistent with PST's view of religion as affecting adolescent behavior primarily through the influence of primary socialization agents such as parents (Oetting, 1999; Oetting, Donnermeyer, & Deffenbacher, 1998).

A large proportion of respondents (91%) also indicated a high level of importance ascribed to religion. This, along with the fact that more than half of respondents do attend church with some regularity (53% at least monthly), may also be viewed collectively as encouraging signs of effective transmitting of religious heritage from parents to children as well as continued openness to parental values and influence into adolescence, as proposed by PST (Oetting, 1999; Oetting, Donnermeyer, Trimble, et al., 1998; Whitbeck, 1999).

### **Sexual At-Risk Behaviors**

Among the most striking findings to emerge from the sample collage were subject reports of substantial levels of involvement in sexual risk-taking. Assuming these findings represent a conservative approximation of reality, as is considered characteristic of school-based samples (Halcón et al., 2000, p. 4), they are indeed disquieting. Nearly four in 10 reported sexual experience. The average age of sexual initiation was 14. The median lifetime total of sexual partners was two, though nearly one-quarter of sexually experienced respondents reported six or more sexual partners across their short lifespans. One in 10 reported six or more sexual partners in the last three months. More than one-third of respondents who had engaged in sexual intercourse said they did not use a condom at last sex, and nearly one in five reported they never used one. From my perspective as a religious educator, these findings mandate education and ministry responses that are grounded not only in “what should be,” but also in the reality of “what is.” Such interventions may well require a considerable shift in thinking and practice among parents, teachers, and church leaders with SDA Church connections.

I initially found the extent of sexual risk-taking among study respondents puzzling, especially in light of the strong presence of factors generally found to be protective against adolescent sexual risk-taking and the limited presence of risk factors. On reflection, however, I recognize these findings may be viewed as further support for the general consensus that the etiology of adolescent sexual risk-taking is indeed complex. In this regard, my findings are consistent with Kirby et al.'s (2005) conclusion that practitioners "working to change teen sexual behavior will probably need to address (and change) multiple risk and protective factors" (p. 26).

#### Observations Related to Findings Regarding the Strength of Parental and Adolescent Religiosity Factors as Predictors of Sexual Risk-Taking

Study results contribute toward empirical validation of the proposition—supported by both the literature (Kirby et al., 2005) and PST (Oetting & Donnermeyer, 1998)—that the parental and adolescent religiosity factors investigated here would prove to be important predictors of one or more adolescent sexual at-risk behaviors. Further, as a primary investigator in the CYHS, Blum et al. (2003) also ventured an early opinion that many of the risk and protective factors found to be associated with adolescent sexual risk-taking in the United States would be found to operate similarly in the Caribbean context. Present study findings also provided considerable support for this assertion.

From the set of predictors explored here, five achieved statistical significance in relation to one or more of the sexual at-risk behaviors of interest and met the established levels of predictive strength required for inclusion in one or more of the prediction models constructed. These predictors included parental monitoring, parental disapproval of adolescent sex, father connectedness, importance ascribed to religion, and affiliation



with the SDA Church. In every case, the increased presence of these predictors in the lives of respondents was found to be protective against adolescent involvement in sexual at-risk behaviors. All are well-suited to the kind of prevention initiatives recommended by Kirby et al. (2005), as they are likely to “have an impact on sexual behavior and . . . can be markedly changed” (p. 23).

Despite showing promise in the literature, however, five predictors explored here were not included in any of my prediction models. These predictors failed either to achieve statistical significance in relation to one or more of the sexual at-risk behaviors or to demonstrate the predetermined explanatory power required for inclusion in a model. These variables were mother connectedness, parental rules, parental acceptance/support for condom use among sexually active adolescents, no religious affiliation, and attendance at religious services. Whereas some of these predictors are generally considered positive factors associated with good parenting or religious practice, they were not identified in this study as statistically significant predictors of adolescent sexual risk-taking. It was not within the parameters of this study to further explore the relationship between these variables and adolescent at-risk behavior. For this reason, they will not be discussed at any length or incorporated into forthcoming recommendations. However caution is in order lest my findings be interpreted as diminishing the importance of these predictors in relation to risky sexual behavior among adolescents.

Based on my analyses, I was able to develop some of the first models for predicting sexual risk-taking among adolescents with SDA Church connections across the Anglophone/Latin Caribbean and to identify the best predictors upon which to focus prevention efforts. Overall, the prediction models developed here exhibited significant

explanatory power. My model for predicting sexual partnering in the last three months (comprised of parental disapproval of adolescent sex, parental monitoring, and importance ascribed to religion) was the strongest, explaining 39% of the variance observed in number of sexual partners in the last three months. The prediction model for sexual experience (comprised of parental disapproval of adolescent sex, parental monitoring, and SDA Church affiliation) explained 25% of the variance in sexual experience, whereas the model for predicting lifetime number of sexual partners (comprised of parental disapproval of adolescent sex, parental monitoring, and father connectedness) explained 17% of variance observed in adolescent sexual partnering across life. My model for predicting timing of sexual debut (comprised of father connectedness and parental monitoring) was the weakest of the models, explaining only 6% of the variance observed in age of sexual initiation. Only with regard to predicting consistency of condom use did the predictors under investigation in this study prove inadequate for model building.

It is recognized that the cross-sectional design of this study precludes the use of study findings to determine causality. This study was, however, designed around a pragmatic framework that *presumes likelihood* that the predictors investigated are causal in their relationship to adolescent sexual risk-taking. On this basis, “effect” language is at times employed in describing the relationships between predictors and adolescent sexual at-risk behaviors. I, like many other researchers and practitioners, consider the consequences of adolescent sexual risk-taking to be of sufficient magnitude to justify proactive steps in the direction that available research and common sense lead, even as

we wait for the sharper focus on causality that longitudinal research can provide (Kirby et al., 2005; Mmari & Blum, 2009).

### **Key Predictors Across Models**

Individual models developed here are useful in identifying at-risk youth for particular sexual at-risk behaviors. For practitioners, they are particularly useful as they collectively identify parental and adolescent religiosity factors likely to be effective in increasing protection and reducing risk associated with adolescent sexual risk-taking, thus expanding the research base for the development of prevention interventions.

#### Parental monitoring

Parental monitoring was the most consistent overall predictor of adolescent sexual risk-taking in the present study—qualifying for inclusion in all four prediction models constructed. Consistent with the literature in the United States, the Caribbean (Forehand et al., 1997), and among adolescents with SDA Church connections (Dudley, 1992; Lee & Rice, 1995; Ludescher, 1992), parental monitoring made its greatest independent contribution toward explained variance in sexual experience (7% within a model that explained a total of 25%). On the other hand, in keeping with the regional literature (cf. Vélez-Pastrana et al., 2005, K. S. Miller et al., 1999, 2000), this predictor was the least consistent across my analyses in relation to timing of sexual debut. This inconsistency in performance appears aligned with the fact that the two-predictor model for this sexual at-risk behavior was the weakest of the models developed here in terms of explanatory power, explaining only 6% of the variance in age of sexual initiation, with parental monitoring making an independent contribution of 3%.

Parental monitoring contributed independently to explained variance in both my prediction models for adolescent sexual partnering (making a 4% contribution to a model explaining 17% of variance in lifetime number of sexual partners and a 2% contribution to a model explaining 39% of variance in number of sexual partners in the last three months). Overall, my finding that increased parental monitoring was protective against multiple sexual partnering across life was consistent with studies conducted in the United States and with the findings of K. S. Miller et al. (1999, 2000), based in part on the responses of a Puerto Rican subsample. In relation to sexual partnering in the last three months, however, the findings of United States studies were mixed. My results thus provide support for those of K. S. Miller et al. (1999, 2000) regarding the protective effect of parental monitoring against multiple sexual partnering across life among Caribbean youth and extend this finding to include youth across the region with SDA Church connections.

The predominance of parental monitoring as a significant predictor across a spectrum of adolescent sexual at-risk behaviors in the present study suggests to me that this dimension of parental behavioral control may provide one of the best all-around means for protecting youth from the life-altering consequences associated with sexual risk-taking, particularly in environments like the Caribbean Basin where HIV/AIDS poses a serious threat to adolescent health. Clearly, this task is made all the more challenging by the normal tension that exists in the adolescent family between parents' responsibility for the safety and protection of their youth and adolescents' drive to complete the pivotal developmental task of this period—namely, identity formation—which includes differentiation from parents (Berger, 2008; Erikson, 1968). As early as

the 1980s, Bronfenbrenner (1985) postulated, however, that as risk to adolescent health and well-being increases or is better discerned in a given environment, family and societal protective factors may need to be increased to counter that risk, even when such protection appears to come at the expense of promoting normal stage development. As a religious educator, I resonate with Bronfenbrenner's sentiments. I also find good company among the more than 30 pediatricians, researchers, and mental health/youth service professionals comprising the Commission on Children at Risk (2003) in the United States, whose real-world experience among America's youth drove their powerful appeal to parents, educators, and religious/community leaders at every level of society to create the kind of "authoritative" contexts in which children and youth can grow and thrive. Such contexts are characterized, in part, by a combination of warm, nurturing human connections and age-appropriate limits and expectations with consequences. In a poignant appeal, that, in my view, is equally well-suited for the Caribbean region, members of the Commission remind us all:

The journey away from the protection of the family, and toward the wider social world, is a time of peril. Characterized by increased risk-taking and peer affiliation . . . this period of transition also often sees high rates of certain forms of adolescent mortality. . . . Wishing that teenagers were different won't make them so. Treating immaturity as pathology will cure very little. Pressuring young people to focus on other priorities will only go so far. *Worst of all, leaving them largely to their own devices, with one another as their main sources of wisdom regarding how to take risks and pursue novelty, has shortcomings which those of us in the mental health field see every day. . . . Meeting the challenge of this special period of life requires a society-wide mobilization of a particular kind—one that understands and embraces, rather than denies or walks away from, what is distinctive about adolescence, and one that carefully guides the adolescent need for risk, novelty, excitement, and peer approval toward authentic fulfillment, leading toward maturity* [italics added].  
(Commission on Children at Risk, (2003, pp. 22-23)

## Parental disapproval of adolescent sex

Overall, present study findings also indicated parental disapproval of adolescent sex to be a consistent predictor of adolescent sexual risk-taking, qualifying as it did for inclusion in three of the four prediction models. Further, parental disapproval made the largest contribution to explained variance (22%) as a component variable in the strongest prediction model constructed here—my model for predicting sexual partnering in the last three months which explained 39% of variance observed. The introduction of this predictor into the mix of previously identified antecedents to number of sexual partners in the last three months is a unique contribution of this study to the research base.

The association of parental disapproval of adolescent sex with recent sexual partnering suggests that parents would be ill-advised to rely on a single, or even occasional, communication of their disapproval of adolescent sex if they expect the maximum protection potential of this predictor to be realized. Rather, the fact that the effects of parental disapproval were strongest in relation to the most immediate measure of risky sexual behavior clearly supports the adoption of ongoing, intentional parental efforts toward conveying sexual values across childhood and adolescence (Flowers & Flowers, 2004; Kirby et al., 2005; Oetting & Donnermeyer, 1998).

The fact that the overall association of parental disapproval of adolescent sex with sexual risk-taking is strongest with regard to recent sexual partnering also contributes to accumulating evidence of the continuing influence of parents into adolescence (see, for example, Baumrind, 1991c; Pequegnat & Szapocznik, 2000; Schutt-Aine & Maddalene, 2003; D. Smith et al., 2003). PST gives equal status to family and school as primary socialization agents and postulates a shift toward the increased influence of peer clusters

during adolescence (Oetting & Beauvais, 1987; Oetting & Donnermeyer, 1998). Present findings, however, are consistent with Oetting's (1999) response to Whitbeck's (1999) rejoinder that the family is the most important primary socialization agent, even in adolescence. In his response, Oetting affirmed that PST theorists do indeed concur with Whitbeck's assertion that the influence of parents is felt until adolescents establish independence (p. 955). Support may thus be found in present study findings as well as in theory for Kelly's (1995) early observation that "the family is . . . a logical and appropriate level for HIV prevention interventions for adolescents" (p. 351).

My finding that parental disapproval of adolescent sex accounted for 6% of the variance explained by the prediction model for lifetime number of sexual partners (which explained a total of 17% of this variance) supports the work of K. S. Miller et al. (1999, 2000) who found the association of such disapproval with fewer sexual partners across life to be strongest in their Caribbean subsample. Although the protective effect of parental disapproval of adolescent sex was found in my study to be much stronger in terms of number of sexual partners in last three months than in the long term, the association of this predictor with a reduced lifetime total of sexual partners indicates that parental disapproval of adolescent sex also has an extended protective effect on sexual partnering.

Present study results also indicated parental disapproval of adolescent sex to be the strongest predictor of sexual experience among the predictors explored here, independently contributing 8% toward a total 25% of variance explained by the prediction model for this sexual at-risk behavior. This finding is consistent with both United States and regional literature (Kotchick et al., 1999). This finding contributes to

the existing regional body of knowledge and particularly to an understanding of the antecedents of sexual experience among youth with SDA Church connections.

#### Father connectedness

Another important contribution of the present study was the identification of father connectedness as a valuable predictor of timing of sexual debut. This predictor independently contributed 2% to the total 6% of variance explained by my prediction model. Unfortunately, direct comparisons with the findings of other researchers were not possible since studies were not found that investigated father connectedness per se as a predictor of sexual at-risk behavior. More research is needed to further assess the significance and strength of father connectedness as a predictor of timing of sexual debut.

In the present study, father connectedness was also found to be a significant predictor of lifetime number of sexual partners, making an independent contribution of 2% to the explanatory power of my prediction model, which explained a total of 17% of the variance observed. Again, no direct comparisons could be made with existing literature. Mother connectedness, on the other hand, did not demonstrate sufficient overall predictive strength for inclusion in this, or any other, of my models for predicting adolescent sexual risk-taking. However, it is important to note that my data do not support the premature conclusion that there is no relationship between mother connectedness and adolescent sexual risk-taking.

Contrary to what one might expect, perhaps these findings are reflective of the central nurturing role traditionally played by mothers throughout childhood and into adolescence, at least among some ethnic groups in the Caribbean region (Roopnarine et al., 2011), with fathers conventionally less engaged in day-to-day child rearing (Fox,



1999; Roopnarine et al., 2011, in press). If this were the case, the assumption would be that mother connectedness is so much a constant in the lives of youth that even its strong presence does not exert as marked an effect on adolescent sexual at-risk behavior as father connectedness, even at moderate levels, because it is less often experienced. The explanatory strength of father connectedness as a predictor of timing of sexual debut and sexual partnering in the long term may also be related to the fact that nearly all of the respondents reported church affiliation. Such an explanation would be in keeping with Anderson's finding that churchgoing fathers in Jamaica tended to be more committed to their responsibilities as fathers and to hold less traditional views of manhood (as cited in Roopnarine, in press, p. 217; see also Fox, 1999).

Although further research exploring the relationships between father connectedness and adolescent sexual at-risk behaviors in the Caribbean region is needed, it may be propitious that my findings draw attention to the significance of father connectedness as a predictor of timing of sexual debut and lifetime number of sexual partners even as the role of fathers appears to be in transition across the Caribbean Basin (Fox, 1999; Roopnarine, in press). There is movement at present, at least in some ethnic groups, toward more positive engagement of fathers with their children and away from male/female role stereotypes that have led in the past to low levels of father participation in parenting and family life (Roopnarine, in press; cf. Kurz et al., 1995). At the very least, my findings provide impetus for further investigation of the role of fathers, in particular, in the shaping of adolescent sexual behavior in the Anglophone/Latin Caribbean.

## **Key Adolescent Religiosity Predictors**

### Importance ascribed to religion

Importance ascribed to religion was the measure I used in an attempt to quantify the extent to which respondents experienced a deeper level of personal spirituality than I would expect to be represented by either religious affiliation or attendance at religious services. Consistent with United States studies, this predictor independently contributed 3% toward the 39% of variance explained by my prediction model for number of sexual partners in the last three months. However, this protective effect was not sustained in relation to lifetime number of sexual partners. This finding underscores the importance of keeping adolescents presently engaged in spiritual processes that guide the practical application of faith and the core values it represents in real-life decision-making.

Consistent with a majority of United States studies and the findings of Dudley (1992) among youth with SDA connections, importance ascribed to religion showed some early promise as a predictor of sexual experience in my analyses associated with RQ1 and RQ3. As in the CYHS where significance was lost among older adolescents (Halcón et al., 2003), however, this predictor lost significance when tested in a model with the three strongest predictors of sexual experience identified here.

Though consistent with Caribbean studies (K. S. Miller et al., 2000; Wyatt et al., 1999), my finding that there was no significant relationship between importance ascribed to religion and timing of sexual debut stood in contrast to the results of a number of studies conducted in the United States and to those of Weinbender and Rossignol (1996) who found that among older adolescents with SDA Church connections, greater importance ascribed to religion was significantly associated with delayed sexual debut.

In my view, my findings are consistent with the possibility of a maturing spirituality in later adolescence with potential to affect adolescent sexual risk-taking directly (cf. Fowler, 1999). It should be remembered that primary socialization theorists leave room within the parameters of their theory for religion to impact the behavior of spiritually mature individuals directly (Oetting, 1999, Oetting, Donnermeyer, & Deffenbacher, 1998). I am intrigued with the work of Goggin, Malcarne, Murray, Metcalf, and Wallston (2007) who suggested that more sophisticated measures of adolescent religiosity (beyond single-item, individual measures) may open new vistas on “the nature of the relationship” (p. 125) between youth religiosity and adolescent sexual at-risk behavior (cf. Gaydos et al., 2010). However, given the relatively small proportion of explained variance attributable to importance ascribed to religion in my prediction model for recent sexual partnering, as well as the apparent complexity of the interface between religion and adolescent sexual behavior, overall, caution in interpreting present study results is certainly in order.

#### Religious affiliation

SDA Church affiliation met study requirements for inclusion in my model for predicting sexual experience, accounting for 3% of a total 25% of variance explained. My finding that religious affiliation—specifically affiliation with the SDA Church—was protective against sexual experience was generally in keeping with the results of United States studies, though the results reported were mixed. In addition, two of three studies conducted among youth with SDA Church connections (Hopkins, 1996), including one with a Caribbean subsample (Gray, 1994), also found religious affiliation to be protective against sexual experience (cf. Ludescher, 1992).

It is unclear why, in the present study, affiliation with the SDA Church was associated with only one of the sexual at-risk behaviors of interest here, particularly given the strong association of this predictor with multiple risky sexual behaviors in a study of youth with SDA Church connections, including a Caribbean subsample (Gray, 1994). However, the fact that this predictor was found to be protective against sexual experience in my study is particularly important when sexual experience is framed as the “gateway” to all other sexual at-risk behaviors.

Nonetheless, I see opportunity here for faith-based organizations to have a greater impact on sexual at-risk behavior. In the SDA Church context, the foundation has been laid. The Department of Family Ministries at the SDA Church World Headquarters has released a curriculum framework for sexuality education from birth to 18 years of age (Flowers & Flowers, 2004). However, the creation of culturally sensitive resources to guide parents as primary agents entrusted with the sexual socialization of their children, as well as the support network of teachers, pastors, and youth development/community leaders who undergird their efforts in this important task, largely remains to be accomplished. As a religious educator with much invested in both the development of this sexuality curriculum framework and the empirical platform for taking next steps, it is my hope that present study findings will spur informed action in this direction. Given (a) the significant level of involvement of youth with SDA Church connections in sexual at-risk behavior quantified for the first time in this study, (b) the serious health consequences associated with such risk-taking particularly in the Anglophone/Latin Caribbean context, and (c) the empirical findings presented here to inform best practice, there is no time like the present to begin.

## Adolescent Condom Use

Strikingly, none of the predictors included in the set of all predictors explored here—including parental acceptance/support of condom use among sexually active adolescents—were found to be significantly related to either study measure of consistency of condom use, that is, frequency of condom use or use of a condom at last sex. It seems safe to assume, in Sinha et al.'s (2007) imagery, that the black box containing the history of the etiology of adolescent condom use is not to be found in the landscape of parental/adolescent religiosity predictor variables. Overall, my findings were in keeping with the limited research done in the United States, as well as the findings of researchers working in the Caribbean (see K. S. Miller et al., 2000) and among youth with SDA Church connections (see Ludescher, 1992). Additional research is clearly needed to advance understanding of the antecedents of consistent condom use.

The issue of condom use, even for the protection consistent usage offers against unwanted pregnancy and STD/HIV infection, creates a dilemma for many parents, educators, and church/community leaders working within religious contexts to protect adolescents from the health-compromising consequences associated with sexual risk-taking. As aptly articulated by Gaydos et al. (2010):

Faith communities are often the only place where intergenerational groups of community members meet on a regular basis . . . where there is discourse on a variety of issues of importance to the community and where many community members come for support. Therefore, these faith homes become instrumental in establishing a center of strength for the community. Not surprisingly, when health issues and concerns arise, many people of faith look to their religious communities for answers. . . . *However, these issues often pose greater difficulty for religious and faith leaders and institutions who want to help those they serve, but either do not have the tools to do so . . . or find conflicting teachings in the religion they know and the health promotion they may seek [italics added].* (p. 475)

Educators, church leaders, and parents responsible for youth with SDA Church connections in the Caribbean region know this dilemma first hand. In my view, the health-compromising consequences associated with unprotected sex call for a serious effort by faith communities to help families living in contexts fraught with sexual risk to harmonize faith and practice in ways that lead to the best possible protection of youth from such life-altering outcomes.

### **Recommendations**

These recommendations arise directly from the results of the present study. Among the set of all predictors investigated here, five were identified as useful predictors of one or more of the risky sexual behaviors under study: (a) parental monitoring, (b) parental disapproval of adolescent sex, (c) father connectedness, (d) affiliation with the SDA Church, and (e) importance ascribed to religion. That is to say, across study analyses each of these predictors achieved statistical significance in relation to one or more sexual at-risk behaviors and met the predetermined levels of explanatory power established here for inclusion in a prediction model. These family context and individual adolescent religiosity factors thus provide logical and practical points of intervention for educators and religious/community leaders seeking to increase protective factors/reduce risk factors associated with adolescent sexual risk-taking. I have addressed my specific recommendations to three broad groups: educators and ministry leaders working in the context of the SDA Church, local faith communities, and researchers.

## Recommendations for Educators and Ministry Leaders Working in the Context of the SDA Church

Educators from several levels of organization in the SDA Church along with a number of seasoned researchers associated with SDA Church-operated universities collaborated on the original SDA Caribbean Youth Survey from which data were used for this present analysis. The following recommendations are addressed to educators and ministry leaders at various levels of responsibility:

1. Wide distribution of present study findings among parents, teachers, and religious/community leaders across the Caribbean region is needed to create awareness of the extent of the overall problem as well as the particular parental and adolescent religiosity factors identified in this study as associated with sexual risk-taking. Study findings can be used as a basis for dialogue about how to best utilize the combined resources of family, school, church, and community to address this challenge. It is recommended that study collaborators report present study findings to IAD administration and to local church administrators, pastors, teachers, and youth leaders in the Caribbean region.

2. The present study underscores the importance of parents in the sexual socialization of their youth into adolescence. Because SDA Church educational philosophy recognizes both the primacy of parents in the socialization process and the importance of the home-school-church network, it is recommended that such coalitions be intentionally strengthened in the Caribbean region with a particular view toward supporting parents as the primary agents in the sexual socialization of youth and working in tandem to increase protective factors/decreasing risk factors associated with adolescent sexual risk-taking.

3. Within the SDA Church, the Children's Ministries, Education, Family Ministries, Health Ministries, Ministerial, and Youth Departments share responsibility for resourcing and training of pastors, teachers, and local church leaders responsible for holistic youth development. As such, it is recommended that the IAD headquarters office convene a taskforce utilizing these ministry leaders together with parents, educators, pastors, and other professionals with the necessary expertise to develop culturally sensitive resources for education regarding sexuality. A comprehensive sexuality curriculum framework developed by the Family Ministries Department at the SDA Church World Headquarters (Flowers & Flowers, 2004) provides the age-appropriate messages that form the foundation for such resource development. Every effort should be made to include parents in the development of these resources to encourage their cooperation in sexuality education and to prepare them to undertake this task in the family context. Adaptation for presentation in the school and church context will also be needed to provide for some youth who will not receive such education at home.

4. Parent education is an intervention that is cost-effective and doable at the local level using the existing structures of the school, church, and community. However, the findings of my study also indicate that some family context and adolescent religiosity factors may operate differently in the Caribbean region than they do in the United States, suggesting that the development of parent education resources suited particularly to Caribbean island cultures is warranted. Consequently, it is recommended that parenting resources be developed and local leaders equipped to implement parent education programs in the Caribbean region. In light of study findings, it is further recommended that these programs focus particularly on (a) equipping parents as the primary agents for



the sexual socialization of their children; (b) enhancing parent-adolescent connectedness, and particularly father connectedness; and (c) developing the skills needed for effective parental monitoring of adolescents, the communication of life-affirming sexual beliefs and values to the next generation, and the spiritual nurture of adolescents.

5. Data analyses showed that respondents' awareness of parental disapproval of adolescent sex was related to lower rates of adolescent sexual risk-taking. It is therefore recommended that the parent education resources proposed above include a "biblical best case" for sexual abstinence that can be used to (a) fortify parents' personal convictions and provide them with motivation as well as rationale for helping their offspring embrace life-affirming sexual values and (b) facilitate the clear communication of these standards.

#### Recommendations for Local Faith Communities

As discussed earlier, the church is often the only place where communities come together regularly to dialogue about issues that concern them and to seek support in meeting the challenges of everyday life. As such, several recommendations grow out of this study for faith communities in general, and congregations affiliated with the SDA Church in particular.

1. Beyond the family circle, I see the church as the next most immediate context responsible for the spiritual development of children and youth. The findings of this study regarding the significant association between the importance ascribed to religion and adolescent sexual partnering in the short term highlight the importance of making the spiritual nurture of children and youth a priority in the local church. Specifically, it is recommended that leaders responsible for youth development be provided with in-service

training in how to foster age-appropriate faith development and to encourage spiritual growth in youth.

2. The church is also in a strong position to facilitate the formation of networks of parents and caring adults who can support busy parents in monitoring the whereabouts, activities, and peer associations of their adolescents. Given the protective effect of parental monitoring across the spectrum of adolescent sexual at-risk behaviors, it is recommended that church leadership intentionally orchestrate a variety of activities that both foster support networks among parents and augment their efforts to supervise the activities of their youth.

3. The protective effect of affiliation with the SDA Church on sexual experience highlights the value of strengthening adolescent associations with the local congregation. It is recommended that church leaders engage youth in dialogue regarding church life, encourage their involvement and foster a sense of belonging and attachment to the local congregation and the world church, and carefully note and respond to whatever youth say keeps them closely affiliated with their faith community.

#### Recommendations for Researchers

1. Periodic research is needed to update the baseline portrait of Caribbean adolescents with SDA Church connections generated by this study. Such research is essential for monitoring trends and evaluating efforts toward increasing protection/reducing risk factors associated with adolescent sexual risk-taking. Longitudinal research is also needed in order to test my assumption that the predictors under study here are causal in their effects on adolescent sexual at-risk behavior. It is

recommended that future research in the Caribbean region include the Francophone regions.

2. The most obvious questions generated by this research arise from the total lack of association between any of the predictors investigated here and adolescent condom use. Further research is clearly needed to locate and explore the “black box” containing the clues needed to better understand this high-risk adolescent behavior.

3. Though this study indicated no significant relationship between adolescent perception of parental approval of adolescent condom use and any of the sexual at-risk behaviors of interest here, there is not, in my view, enough consistent empirical evidence to draw conclusions about the relationships between this predictor and adolescent sexual risk-taking. On the other hand, continued exploration of this issue is especially important for both the cultural and religious subcultural contexts represented by my sample. Parents affiliated with the SDA Church and other conservative denominations in the Caribbean region need the best research data possible as they wrestle with the dissonance between a strong commitment to the value of premarital abstinence and their strong parental instincts to do whatever may be necessary to protect their children from the life-altering consequences associated with sexual risk-taking in an environment fraught with risk.

4. Research employing more sophisticated measures of adolescent religiosity than those employed in this study is also imperative if we are to better understand the relationship between adolescent religiosity and sexual risk-taking.

5. Finally, further research is also needed to mine the richness of the SDACYS dataset for the answers it may hold to questions related to the antecedents of a spectrum of adolescent at-risk behaviors. Since younger adolescents were not included in the

sample selected for the present study, it is recommended that data available for adolescents ages 14 and 15 years be analyzed. Data are also available for exploration of the relationships between parallel sets of parent, teacher, and peer predictors and a range of adolescent at-risk behaviors. The dataset may also hold answers as to how adolescent risk-taking in general is intercorrelated with sexual risk-taking in the Anglophone/Latin Caribbean region and among adolescents with SDA Church connections in particular.

APPENDIX A

SEVENTH-DAY ADVENTIST CARIBBEAN YOUTH SURVEY:

ENGLISH SURVEY INSTRUMENT

*This survey has been designed to identify the risk behaviors of some of the young people in our community* Code Number: \_\_\_\_\_

Please do not write your name anywhere on the survey. There will never be any attempt to identify those who complete this survey. Please put the code number the researcher tells you in the top right corner (Code Number).

**Instructions:** Please **circle** the letter corresponding to the response that you choose for each of the following questions. Circle **only one** response for each question unless it tells you that you can circle more than one response. Do not circle between responses.

If you are given rating scale with five places, circle the number on your response form which best describes your feelings or attitudes.

For **example**, if you were asked to rate how much you agree with the statement, "I enjoy school," you would pick from the following:

strongly disagree	disagree	neither agree nor disagree	agree	strongly agree
1	2	3	4	5

If you strongly agree with the statement, you would circle the number 5.

If you agree, you would circle the number 4.

If you neither agree nor disagree, you would circle the number 3.

If you disagree, you would circle the number 2.

If you strongly disagree, you would circle the number 1.

If you are not sure you understand what you need to do, please ask one of the researchers.

**Questions 1 through 11 ask about personal information**

1a. How old are you? \_\_\_\_\_

1b. What is your sex? 1. Male 2. Female

2. What are most of your grades in school? 1. Excellent 2. Very Good 3. Average 4. Not very good 5. Failing

3. What is your ethnicity (please circle)? 1. East Indian 2. Afro-Caribbean 3. Chinese 4. Portuguese 5. White  
6. Black 7. Mulatre 8. Indio 9. Other (Please indicate): \_\_\_\_\_

4. What is the main language you speak? \_\_\_\_\_

5. I like how I look (circle one): 1. All of the time 2. Most of the time 3. Some of the time 4. I never like how I look

6. Please circle the **one** statement that best fits what you think of your weight:

1. I think I am too skinny 2. I think my weight is normal 3. I think I am fat

6a. How often do you get in trouble for doing things you shouldn't?

1. Often 2. Sometimes 3. Hardly ever 4. Never

6b. Did you ever get in trouble for physically hurting someone (by yourself or with a group)

1. Often 2. Sometimes 3. Hardly ever 4. Never

7a. How often do you attend religious services?

1. Never 2. Rarely 3. About once or twice a month 4. About once a week or more

7b. How important is religion in your life?

1. Not important 2. A little important 3. Pretty important 4. Very important

8. Which church do you attend :

1. SDA 2. Catholic 3. Other Protestant 4. None 5. Other (please indicate): \_\_\_\_\_

9. Which type of family best describes the family in which you live now? Please choose only ONE of the following:

1. I live with both parents in the same home
2. I live part-time with both parents who do not live together in the same home
3. I live in a one-parent home with my mother
4. I live in a one-parent home with my father
5. I live with my mother and stepfather
6. I live with my father and stepmother
7. I live with one or both of my grandparents
8. I live with someone who is not a member of my family
9. Other (please specify \_\_\_\_\_)

10. The father/stepfather I now live with has (circle one) 1) not finished high school 2) finished high school

- 3) gone to college 4) gone to graduate school 5) I don't live with a father/stepfather 6) I don't know

11. The mother/stepmother I now live with has (circle one) 1) not finished high school 2) finished high school

- 3) gone to college 4) gone to graduate school 5) I don't live with a father/stepfather 6) I don't know

**Questions 12 and 13 ask about whom you feel comfortable talking and relating to**

12. How would you describe your relationship with your:

- |               |          |       |             |   |
|---------------|----------|-------|-------------|---|
| a) Mother     | 1. Great | 2. OK | 3. Not good | 4. Not applicable (I don't have a mother)     |
| b) Father     | 1. Great | 2. OK | 3. Not good | 4. Not applicable (I don't have a father)     |
| c) Stepmother | 1. Great | 2. OK | 3. Not good | 4. Not applicable (I don't have a stepmother) |
| d) Stepfather | 1. Great | 2. OK | 3. Not good | 4. Not applicable (I don't have a stepfather) |

13. When you want to discuss sensitive issues (i.e. dating, sex, alcohol, or drugs), whom are you most comfortable talking to?

1. Mother
2. Father
3. Stepmother
4. Stepfather
5. Both my parents
2. None of the above
3. Either my mother/stepmother OR father/stepfather, depending on the topic
4. Other adult (please specify their relationship to you, e.g., uncle, aunt \_\_\_\_\_)

**Questions 14 through 20 ask about the father/stepfather you feel closest to**

14. On sex-related topics, my father/stepfather (the one you feel closest to) (Please circle all that apply)

- a. doesn't know enough to answer my questions
- b. knows enough to answer my questions
- c. isn't available to answer my questions

15. When I have sex-related questions (Please circle all that apply)

- a. I talk to my father/stepfather because he is comfortable talking about these topics
- b. I talk to my father/stepfather because he listens to my perspectives and feelings
- c. I don't talk to my father/stepfather because he will think I'm sexually active
- d. I don't talk to my father/stepfather because he lectures me but doesn't listen
- e. I don't talk to my father/stepfather because he will only warn and threaten me about the consequences

16. Has your father/stepfather ever talked to you about
- |  |        |       |
|--|--------|-------|
| a. changes that will happen to your body as you grow up      | 1. Yes | 2. No |
| b. how to handle peer pressure                               | 1. Yes | 2. No |
| c. smoking tobacco   | 1. Yes | 2. No |
| d. drinking alcohol  | 1. Yes | 2. No |
| e. using drugs   | 1. Yes | 2. No |
| f. sexual activity   | 1. Yes | 2. No |
| g. HIV/AIDS  | 1. Yes | 2. No |
| h. STIs (STIs are sexually transmitted infection or disease) | 1. Yes | 2. No |
| i. Not applicable (I don't have a father)                    |        |       |

17. How often does your father/stepfather praise or encourage you?
1. Often      2. Sometimes      3. Hardly ever      4. Never

18. How often do you and your father/stepfather do something together that you both enjoy, like playing sports and games or going somewhere or doing something together?

1. Often      2. Sometimes      3. Hardly ever      4. Never

19. How often does your father/stepfather express love for you by saying he loves you or giving you a hug, kiss, pat on the back, etc.?

1. Often      2. Sometimes      3. Hardly ever      4. Never

20. How often do you ask your father/stepfather for advice or guidance?

1. Often      2. Sometimes      3. Hardly ever      4. Never

**Questions 21 through 27 ask about the mother/stepmother you feel closest to**

21. On sex-related topics, my mother/stepmother (the one you feel closest to) (Please circle all that apply)

- a. doesn't know enough to answer my questions  
 b. knows enough to answer my questions  
 c. isn't available to answer my questions

22. When I have sex-related questions (Please circle all that apply)

- a. I talk to my mother/stepmother because she is comfortable talking about these topics  
 b. I talk to my mother/stepmother because she listens to my perspectives and feelings  
 c. I don't talk to my mother/stepmother because she will think I'm sexually active  
 d. I don't talk to my mother/stepmother because she lectures me but doesn't listen  
 e. I don't talk to my mother/stepmother because she will only warn and threaten me about the consequences

23. Has your mother/stepmother ever talked to you about

- |  |        |       |
|--|--------|-------|
| a. changes that will happen to your body as you grow up      | 1. Yes | 2. No |
| b. how to handle peer pressure                               | 1. Yes | 2. No |
| c. smoking tobacco   | 1. Yes | 2. No |
| d. drinking alcohol  | 1. Yes | 2. No |
| e. using drugs   | 1. Yes | 2. No |
| f. sexual activity   | 1. Yes | 2. No |
| g. HIV/AIDS  | 1. Yes | 2. No |
| h. STIs (STIs are sexually transmitted infection or disease) | 1. Yes | 2. No |
| i. Not applicable (I don't have a mother)                    |        |       |

24. How often does your mother/stepmother praise or encourage you?
1. Often      2. Sometimes      3. Hardly ever      4. Never

25. How often do you and your mother/stepmother do something together that you both enjoy, like playing sports and games or going somewhere or doing something together?

1. Often      2. Sometimes      3. Hardly ever      4. Never



26. How often does your mother/stepmother express love for you by saying she loves you or giving you a hug, kiss, pat on the back?

1. Often                      2. Sometimes                      3. Hardly ever                      4. Never

27. How often do you ask your mother/stepmother for advice or guidance?

1. Often                      2. Sometimes                      3. Hardly ever                      4. Never

**Questions 28 through 36 ask about important people in your life, including your parents/guardians**

28. Have either of your grandparents ever talked to you about

- |   |        |       |
|---|--------|-------|
| a. smoking tobacco                            | 1. Yes | 2. No |
| b. drinking alcohol                           | 1. Yes | 2. No |
| c. using drugs                                | 1. Yes | 2. No |
| d. sexual activity                            | 1. Yes | 2. No |
| e. HIV/AIDS                                   | 1. Yes | 2. No |
| f. STIs                                       | 1. Yes | 2. No |
| g. Not Applicable (I don't have grandparents) |        |       |

29. Have any other adults ever talked to you about

- |                     |        |       |
|---------------------|--------|-------|
| a. smoking tobacco  | 1. Yes | 2. No |
| b. drinking alcohol | 1. Yes | 2. No |
| c. using drugs      | 1. Yes | 2. No |
| d. sexual activity  | 1. Yes | 2. No |
| e. HIV/AIDS         | 1. Yes | 2. No |
| f. STIs             | 1. Yes | 2. No |

30. Have any of your teachers ever talked to you about

- |                     |        |       |
|---------------------|--------|-------|
| a. smoking tobacco  | 1. Yes | 2. No |
| b. drinking alcohol | 1. Yes | 2. No |
| c. using drugs      | 1. Yes | 2. No |
| d. sexual activity  | 1. Yes | 2. No |
| e. HIV/AIDS         | 1. Yes | 2. No |
| f. STIs             | 1. Yes | 2. No |

31. Have any of your friends ever talked to you about

- |                     |        |       |
|---------------------|--------|-------|
| a. smoking tobacco  | 1. Yes | 2. No |
| b. drinking alcohol | 1. Yes | 2. No |
| c. using drugs      | 1. Yes | 2. No |
| d. sexual activity  | 1. Yes | 2. No |
| e. HIV/AIDS         | 1. Yes | 2. No |
| f. STIs             | 1. Yes | 2. No |

32. After school and when I go out on evenings and weekends, I am expected to tell my parents/guardians where I am going

1. Always      2. Most of the time      3. Sometimes      4. Hardly ever      5. Never

33. After school and when I go out on evenings and weekends, I tell my parents/guardians where I am really going

1. Always      2. Most of the time      3. Sometimes      4. Hardly ever      5. Never

34. How often do your parents/guardians ask about the plans you've made with friends for after school, evening or weekend activities?

1. Often      2. Sometimes      3. Hardly ever      4. Never

35. If I am going to be home late or change my plans, I am expected let my parents/guardians know

1. Always      2. Most of the time      3. Sometimes      4. Hardly ever      5. Never

36. My parents/guardians have definite rules about (Please circle all that apply)
- Time for being in at night
  - Homework
  - Dating
  - Television or video games
  - Against going around with certain boys
  - Against going around with certain girls
  - Eating dinner with the family
  - Helping around the house
  - How you dress and hair your hair
  - My parents don't have rules about these kinds of behaviors.

**Questions 37 through 43 ask about smoking cigarettes.**

37. Have you ever tried cigarette smoking, even one or two puffs?

- Yes
- No      If no: 1) I have never wanted to try cigarettes      OR      2) I have had no opportunity to try cigarettes

38. How old were you when you smoked a whole cigarette for the first time, not including one or two puffs?

- |  |                           |
|--|---------------------------|
| 1. I have never smoked a whole cigarette | 7. 13 years old           |
| 2. 8 years old or younger                | 8. 14 years old           |
| 3. 9 years old                           | 9. 15 years old           |
| 4. 10 years old                          | 10. 16 years old          |
| 5. 11 years old                          | 11. 17 years old          |
| 6. 12 years old                          | 12. 18 years old or older |

39. During the past 30 days, on how many days did you smoke cigarettes?

- 0 days
- 1 or 2 days
- 3 to 5 days
- 6 to 9 days
- 10 to 19 days
- 20 to 29 days
- All 30 days

40. During the past 30 days, on the days you smoked, how many cigarettes did you smoke per day?

- I did not smoke cigarettes in the past 30 days
- Less than 1 cigarette per day
- 1 cigarette per day
- 2 to 5 cigarettes per day
- 6 to 10 cigarettes per day
- 11 to 20 cigarettes per day
- More than 20 cigarettes per day

41. Have you ever smoked cigarettes regularly, that is, at least one cigarette every day for 30 days?

- Yes
- No

42. Have you ever tried to quit smoking cigarettes?

- Yes
- No

43. From the list below, which persons have ever smoked or are now smoking CIGARETTES? (Please circle all that apply).

- |                  |                |
|------------------|----------------|
| a. Mother        | f. Aunt(s)     |
| b. Father        | g. Uncles(s)   |
| c. Stepparent(s) | h. Grandfather |
| d. Brother(s)    | i. Grandmother |
| e. Sister(s)     | j. Friend/s    |

Questions 44 through 55 ask about drinking ALCOHOL. This includes drinking beer, wine, and liquor such as rum, vodka, or whiskey, etc. For these questions, drinking alcohol does not include drinking a few sips of wine for religious purposes.

<b>44. I BELIEVE THAT</b>		strongly disagree	disagree	neither agree nor disagree	agree	strongly agree
a.	it is OK for people my age to drink alcohol	1	2	3	4	5
b.	it is OK to drink when I'm alone	1	2	3	4	5
c.	alcohol is harmful to my health	1	2	3	4	5
d.	it is OK to get drunk every once in a while	1	2	3	4	5

<b>45. MY PARENTS/GUARDIANS BELIEVE THAT</b>		strongly disagree	disagree	neither agree nor disagree	agree	strongly agree
a.	it is OK for people my age to drink alcohol	1	2	3	4	5
b.	it is OK to drink when one is alone	1	2	3	4	5
c.	alcohol is harmful to one's health	1	2	3	4	5
d.	it is OK to get drunk every once in a while	1	2	3	4	5

<b>46. MY FRIENDS BELIEVE THAT</b>		strongly disagree	disagree	neither agree nor disagree	agree	strongly agree
a.	it is OK for people my age to drink alcohol	1	2	3	4	5
b.	it is OK to drink when one is alone	1	2	3	4	5
c.	alcohol is harmful to one's health	1	2	3	4	5
d.	it is OK to get drunk every once in a while	1	2	3	4	5

<b>47. MY TEACHERS BELIEVE THAT</b>		strongly disagree	disagree	neither agree nor disagree	agree	strongly agree
a.	it is OK for people my age to drink alcohol	1	2	3	4	5
b.	it is OK to drink when one is alone	1	2	3	4	5
c.	alcohol is harmful to one's health	1	2	3	4	5
d.	it is OK to get drunk every once in a while	1	2	3	4	5

<b>48. OTHER ADULTS BELIEVE THAT</b>		strongly disagree	disagree	neither agree nor disagree	agree	strongly agree
a.	it is OK for people my age to drink alcohol	1	2	3	4	5
b.	it is OK to drink when one is alone	1	2	3	4	5
c.	alcohol is harmful to one's health	1	2	3	4	5
d.	it is OK to get drunk every once in a while	1	2	3	4	5

<b>49. HAVE YOU EVER</b>		1. Yes	2. No	3. haven't offered
a.	said "No" to your <b>friends</b> when they offered you alcohol	1. Yes	2. No	3. haven't offered
b.	said "No" to <b>family members</b> when they offered you alcohol	1. Yes	2. No	3. haven't offered
c.	used alcohol when you were alone	1. Yes	2. No	
d.	had health problems because you used alcohol	1. Yes	2. No	
e.	had relationship problems because you used alcohol	1. Yes	2. No	
f.	been drunk	1. Yes	2. No	

<b>50. I PLAN TO</b>		strongly disagree	disagree	neither agree nor disagree	agree	strongly agree
a.	drink alcohol at my age	1	2	3	4	5
b.	drink when I am alone	1	2	3	4	5
c.	get drunk every once in a while	1	2	3	4	5

51. During your life, on how many days have you had at least one drink of alcohol OTHER than just a few sips?

- |                  |                     |
|------------------|---------------------|
| 1. 0 days        | 5. 20 to 39 days    |
| 2. 1 or 2 days   | 6. 40 to 99 days    |
| 3. 3 to 9 days   | 7. 100 or more days |
| 4. 10 to 19 days |                     |

52. How old were you when you had your first drink of alcohol OTHER than just a few sips?

- |                               |                           |
|-------------------------------|---------------------------|
| 1. I have never drank alcohol | 7. 13 years old           |
| 2. 8 years old or younger     | 8. 14 years old           |
| 3. 9 years old                | 9. 15 years old           |
| 4. 10 years old               | 10. 16 years old          |
| 5. 11 years old               | 11. 17 years old          |
| 6. 12 years old               | 12. 18 years old or older |

53. During the past 30 days, on how many days did you have at least one drink of alcohol OTHER than just a few sips?

1. 0 days
2. 1 or 2 days
3. 3 to 5 days
4. 6 to 9 days
5. 10 to 19 days
6. 20 to 29 days
7. All 30 days

54. During the past 30 days, on how many days did you have 5 or more drinks of alcohol in a row, that is, within a couple of hours?

1. 0 days
2. 1 day
3. 2 days
4. 3 to 5 days
5. 6 to 9 days
6. 10 to 19 days
7. 20 or more days

55. Which of the following individuals have ever had or currently have a DRINKING PROBLEM? (Please circle all that apply).

- |                  |                |
|------------------|----------------|
| a. Mother        | f. Aunt(s)     |
| b. Father        | g. Uncles(s)   |
| c. Stepparent(s) | h. Grandfather |
| d. Brother(s)    | i. Grandmother |
| e. Sister(s)     | j. Friend/s    |

**Questions 56 through 67 ask about DRUGS such as marijuana (ganja), cocaine, heroin, methamphetamines, glue, etc.**

56. I BELIEVE THAT

	strongly disagree	disagree	neither agree nor disagree	agree	strongly agree
a. it is OK for people my age to use illegal drugs	1	2	3	4	5
b. it is OK for me to do drugs when I'm alone	1	2	3	4	5
c. drugs are harmful to my health	1	2	3	4	5
d. it is OK for me to get high on drugs every once in a while	1	2	3	4	5

57. MY PARENTS/GUARDIANS BELIEVE THAT

	strongly disagree	disagree	neither agree nor disagree	agree	strongly agree
a. it is OK for people my age to use illegal drugs	1	2	3	4	5
b. it is OK to use drugs when one is alone	1	2	3	4	5
c. drugs are harmful to one's health	1	2	3	4	5
d. it is OK to get high on drugs every once in a while	1	2	3	4	5

58. MY FRIENDS BELIEVE THAT		strongly disagree	disagree	neither agree nor disagree	agree	strongly agree
a.	it is OK for people my age to use illegal drugs	1	2	3	4	5
b.	it is OK to use drugs when one is alone	1	2	3	4	5
c.	drugs are harmful to one's health	1	2	3	4	5
d.	it is OK to get high on drugs every once in a while	1	2	3	4	5

59. MY TEACHERS BELIEVE THAT		strongly disagree	disagree	neither agree nor disagree	agree	strongly agree
a.	it is OK for people my age to use illegal drugs	1	2	3	4	5
b.	it is OK to use drugs when one is alone	1	2	3	4	5
c.	drugs are harmful to one's health	1	2	3	4	5
d.	it is OK to get high on drugs every once in a while	1	2	3	4	5

60. OTHER ADULTS BELIEVE THAT		strongly disagree	disagree	neither agree nor disagree	agree	strongly agree
a.	it is OK for people my age to use illegal drugs	1	2	3	4	5
b.	it is OK to use drugs when one is alone	1	2	3	4	5
c.	drugs are harmful to one's health	1	2	3	4	5
d.	it is OK to get high on drugs every once in a while	1	2	3	4	5

61. HAVE YOU EVER		1. Yes	2. No	3. haven't offered
a.	said "No" to your <b>friends</b> who offer you drugs?	1. Yes	2. No	3. haven't offered
b.	said "No" to <b>family members</b> who offer you drugs?	1. Yes	2. No	3. haven't offered
c.	used drugs when you were alone?	1. Yes	2. No	
d.	had health problems because you used drugs?	1. Yes	2. No	
e.	been high on drugs?	1. Yes	2. No	

62. I PLAN TO		strongly disagree	disagree	neither agree nor disagree	agree	strongly agree
a.	use drugs	1	2	3	4	5
b.	say "No" to using drugs when <b>friends</b> offer me drugs	1	2	3	4	5
c.	say "No" to using drugs when <b>family members</b> offer me drugs	1	2	3	4	5
d.	use drugs when I am alone	1	2	3	4	5
e.	get high by using drugs	1	2	3	4	5

63. Have you ever tried drugs such as marijuana, crack/cocaine, heroin, ecstasy, etc.?
- Yes If yes, please list all of the drugs you have ever tried below:
  - No If no, choose one: 1) I have never wanted to try drugs OR 2) I have had no opportunity to get drugs

64. During your life, how many times have you used any of these drugs?
- 0 times
  - 1 or 2 times
  - 3 to 9 times
  - 10 to 19 times
  - 20 to 39 times
  - 40 to 99 times
  - 100 or more times

65. How old were you when you tried drugs for the first time?
- |                             |                           |
|-----------------------------|---------------------------|
| 1. I have never tried drugs | 7. 13 years old           |
| 2. 8 years old or younger   | 8. 14 years old           |
| 3. 9 years old              | 9. 15 years old           |
| 4. 10 years old             | 10. 16 years old          |
| 5. 11 years old             | 11. 17 years old          |
| 6. 12 years old             | 12. 18 years old or older |

66. During the past 30 days, how many times have you used drugs?
- |                 |                     |
|-----------------|---------------------|
| 1. 0 times      | 4. 10 to 19 times   |
| 2. 1 or 2 times | 5. 20 to 39 times   |
| 3. 3 to 9 times | 6. 40 or more times |

67. Which of the following individuals have ever had or currently have a DRUG PROBLEM? (Please circle all that apply).
- |                  |                |
|------------------|----------------|
| a. Mother        | f. Aunt(s)     |
| b. Father        | g. Uncles(s)   |
| c. Stepparent(s) | h. Grandfather |
| d. Brother(s)    | i. Grandmother |
| e. Sister(s)     | j. Friend/s    |

**Questions 68 through 88 ask about your sexual behavior. Sexual activity includes oral, anal, and/or genital sex (sexual intercourse). It does not include touching, kissing, or holding hands.**

**68. I BELIEVE THAT**

	strongly disagree	disagree	neither agree nor disagree	agree	strongly agree
a. it is OK for people my age to have sex	1	2	3	4	5
b. it is OK for people my age to have sex with someone they have dated for a long time	1	2	3	4	5
c. it is OK for people my age to have sex with someone they do not know very well	1	2	3	4	5
d. Using condoms to prevent pregnancy or infections makes it OK for people my age have sex	1	2	3	4	5
e. People my age should use condoms if they have sex	1	2	3	4	5

**69. MY FATHER BELIEVES THAT**

	strongly disagree	disagree	neither agree nor disagree	agree	strongly agree
a. It is OK for people my age to have sex	1	2	3	4	5
b. It is OK for people my age to have sex with someone they have dated for a long time	1	2	3	4	5
c. It is OK for people my age to have sex with someone they do not know very well	1	2	3	4	5
d. Using condoms to prevent pregnancy or infections makes it OK for people my age have sex	1	2	3	4	5
e. People my age should use condoms if they have sex	1	2	3	4	5

**70. MY MOTHER BELIEVES THAT**

	strongly disagree	disagree	neither agree nor disagree	agree	strongly agree
a. It is OK for people my age to have sex	1	2	3	4	5
b. It is OK for people my age to have sex with someone they have dated for a long time	1	2	3	4	5
c. It is OK for people my age to have sex with someone they do not know very well	1	2	3	4	5
d. Using condoms to prevent pregnancy or infections makes it OK for people my age have sex	1	2	3	4	5
e. People my age should use condoms if they have sex	1	2	3	4	5

- 71. MY FRIENDS BELIEVE THAT**
- |  | strongly disagree | disagree | neither agree nor disagree | agree | strongly agree |
|--|-------------------|----------|----------------------------|-------|----------------|
| a. it is OK for people my age to have sex  | 1                 | 2        | 3                          | 4     | 5              |
| b. it is OK for people my age to have sex with someone they have dated for a long time | 1                 | 2        | 3                          | 4     | 5              |
| c. it is OK for people my age to have sex with someone they do not know very well      | 1                 | 2        | 3                          | 4     | 5              |
| d. people my age should use condoms if they have sex                                   | 1                 | 2        | 3                          | 4     | 5              |
| e. it is OK for people my age to say "NO" to having sex                                | 1                 | 2        | 3                          | 4     | 5              |
- 72. MY TEACHERS BELIEVE THAT**
- |  | strongly disagree | disagree | neither agree nor disagree | agree | strongly agree |
|--|-------------------|----------|----------------------------|-------|----------------|
| a. it is OK for people my age to have sex  | 1                 | 2        | 3                          | 4     | 5              |
| b. it is OK for people my age to have sex with someone they have dated for a long time | 1                 | 2        | 3                          | 4     | 5              |
| c. it is OK for people my age to have sex with someone they do not know very well      | 1                 | 2        | 3                          | 4     | 5              |
- 73. OTHER ADULTS BELIEVE THAT**
- |  | strongly disagree | disagree | neither agree nor disagree | agree | strongly agree |
|--|-------------------|----------|----------------------------|-------|----------------|
| a. it is OK for people my age to have sex  | 1                 | 2        | 3                          | 4     | 5              |
| b. it is OK for people my age to have sex with someone they have dated for a long time | 1                 | 2        | 3                          | 4     | 5              |
| c. it is OK for people my age to have sex with someone they do not know very well      | 1                 | 2        | 3                          | 4     | 5              |
- 74. I PLAN TO**
- |  | strongly disagree | disagree | neither agree nor disagree | agree | strongly agree |
|--|-------------------|----------|----------------------------|-------|----------------|
| a. have sex at my age  | 1                 | 2        | 3                          | 4     | 5              |
| b. have sex at my age <i>only</i> if I have dated my partner for a long time | 1                 | 2        | 3                          | 4     | 5              |
| c. have sex with someone <i>even if</i> we do not know each other very well  | 1                 | 2        | 3                          | 4     | 5              |
| d. use condoms when I have sex   | 1                 | 2        | 3                          | 4     | 5              |
| e. say "NO" to having sex if I don't want to have sex                        | 1                 | 2        | 3                          | 4     | 5              |
75. Have you ever said "NO" to someone who has asked you to have sex? 1. Yes 2. No 3. No one has asked
76. How long do you usually date someone before having sex?  
1. A few days 2. A few months 3. More than 6 months 4. I don't have sex
77. Do you know what a condom is? 1. Yes 2. No 77a. If yes, do you know how to use a condom? 1. Yes 2. No
78. Have you ever had sexual intercourse? 1. Yes 2. No (If no, please skip to question #89)
79. How old were you when you had sexual intercourse for the first time? (Please provide a number).  
a. I was \_\_\_\_\_ years old  
b. During your first time, were you forced to have sex? 1. Yes 2. No
80. During your life, how many people have you had sexual intercourse with? (Write a number) With \_\_\_\_\_ people
81. During the past 3 months, with how many people have you had sexual intercourse?  
a. With \_\_\_\_\_ people (write "0" if you have not had sexual intercourse in the last 3 months)
82. How often do you use condoms when you have sex?  
1. Never 2. Sometimes 3. Often 4. Always

82a. If you answered "1-never" or "2-sometimes," please indicate why you do not use condoms (Please circle all that apply).

- a. Condoms are expensive
- b. Condoms are hard to find
- c. I don't find them to be necessary
- d. It is not acceptable to me or to my partner to use them
- e. I use other methods of contraception
- f. Other (please note \_\_\_\_\_)

83. The last time you had sexual intercourse, did you or your partner use a condom? 1. Yes 2. No

84. The last time you had sexual intercourse, did you do any of the following? (Please circle all that apply)

- a. Use birth control pills
- b. Use condoms
- c. Use Depo-Provera (injectable birth control)
- d. Use the withdrawal method
- e. Use the rhythm method
- f. I do not know
- g. Use some other method (please specify \_\_\_\_\_)

85. What part of the day/week was the last time you had sexual intercourse?

- 1. After school
- 2. Before school
- 3. During school
- 4. On the weekend
- 5. At night
- 6. Other – please specify \_\_\_\_\_

86. Where were you the last time you had sexual intercourse?

- 1. At school
- 2. At home
- 3. At a friend's house
- 4. At a party
- 5. In a club
- 6. In a car
- 7. Other – please specify \_\_\_\_\_

87. Answer if you are **FEMALE**:

- a. Have you ever been pregnant?
  - 1. Yes  
If yes, how many times (87a1) \_\_\_\_\_
  - 2. No
- b. Have you ever had an abortion?
  - 1. Yes  
If yes, how many times (87b1) \_\_\_\_\_
  - 2. No

88. Answer if you are **MALE**: Have you ever gotten someone pregnant?

- 1. Yes 2. No 3. I am not sure
- If yes, how many times (88a) \_\_\_\_\_

**Questions 89 through 106 ask about your knowledge of AIDS.**

- 89. Have you ever been taught about AIDS or HIV infection in school? 1. Yes 2. No 3. I don't know
- 90. A person can get AIDS from sharing needles to inject drugs. 1. True 2. False 3. I don't know
- 91. A person can get AIDS from using public toilets. 1. True 2. False 3. I don't know
- 92. A person can get AIDS from having a blood test even if the instruments are sterile. 1. True 2. False 3. I don't know
- 93. A person can get AIDS from having sex without using a condom. 1. True 2. False 3. I don't know



94. A person can get AIDS from holding hands with someone. 1. True 2. False 3. I don't know
95. People can reduce their chances of becoming infected with the AIDS virus by not having any kind of sex with someone who use drugs with a needle. 1. True 2. False 3. I don't know
96. Anyone who has the AIDS virus can infect someone else during sex. 1. True 2. False 3. I don't know
97. A pregnant woman who has the AIDS virus can infect her unborn baby. 1. True 2. False 3. I don't know
98. Only men who have sex with other men get AIDS. 1. True 2. False 3. I don't know
99. People can reduce their chances of becoming infected with the AIDS virus by not having any kind of sex (being abstinent). 1. True 2. False 3. I don't know
100. A person can get AIDS from being bitten by mosquitoes/ insects. 1. True 2. False 3. I don't know
101. Through sex, women have a greater chance of becoming infected with the AIDS virus from an infected man than men do from a woman who is infected with the AIDS virus. 1. True 2. False 3. I don't know
102. There is a cure for AIDS. 1. True 2. False 3. I don't know
103. How likely do you think it is that you will contract HIV?  
 1. Very likely  
 2. Somewhat likely  
 3. Unsure  
 4. Somewhat unlikely  
 5. Very unlikely
104. How likely do you think it is that you will contract an STI (sexually transmitted infection or disease)?  
 1. Very likely  
 2. Somewhat likely  
 3. Unsure  
 4. Somewhat unlikely  
 5. Very unlikely
105. How likely do you think it is that one of your friends will contract HIV or another STI?  
 1. Very likely  
 2. Somewhat likely  
 3. Neither likely nor unlikely  
 4. Somewhat unlikely  
 5. Very unlikely
106. Where did you learn about AIDS? (Please circle all that apply)  
 1. Your parent(s)  
 2. Your friend(s)  
 3. Your teacher(s)  
 4. Other adult(s)  
 5. Your doctor  
 6. Books or newspapers  
 7. TV or Radio  
 8. Other (please specify \_\_\_\_\_)

Please state your opinion about this survey and if you think it has any importance to your peers and to your community.

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Thank you for your participation!

APPENDIX B

SEVENTH-DAY ADVENTIST CARIBBEAN YOUTH SURVEY:

SPANISH SURVEY INSTRUMENT

Número Clave \_\_\_\_\_

Esta encuesta ha sido diseñada para identificar el alcance de algunas conductas de riesgo entre algunos de los jóvenes en nuestra comunidad.

Por favor no anotes tu nombre en ninguna parte de la encuesta. No se hará nunca el intento de identificar quiénes han participado en esta encuesta. Anota por favor en el ángulo superior derecho, el número de clave que tu instructor te indique (donde dice: Número de Clave).

**Instrucciones:** Por favor, marca encerrando en un **círculo** la letra correspondiente a la respuesta que has elegido para cada una de las preguntas siguientes. Marca **solamente una** respuesta para cada pregunta. No marques círculo entre las respuestas.

En algunas preguntas se te pedirá que uses escalas de medición con cinco opciones; debes elegir el número de respuesta que mejor describa tus sentimientos o actitudes.

Por **ejemplo**. Si se te pide que estimes hasta dónde estás de acuerdo con la declaración "Me gusta la escuela", debes elegir de entre las siguientes declaraciones:

totalmente en desacuerdo	en desacuerdo	ni de acuerdo ni en desacuerdo	de acuerdo	totalmente de acuerdo
1	2	3	4	5

Si estás totalmente de acuerdo con la declaración, debes encerrar en un círculo el número 5.

Si estás de acuerdo, debes encerrar en un círculo el número 4.

Si no estás ni de acuerdo ni en desacuerdo, debes encerrar en un círculo el número 3.

Si estás en desacuerdo, debes encerrar en un círculo el número 2.

Si estás totalmente en desacuerdo, debes encerrar en un círculo el número 1.

**Si no estás seguro de entender lo que debes hacer, por favor pregunta a uno de los investigadores.**

Las preguntas 1 al 5 se refieren a información personal

- 1a. ¿Cuántos años tienes? \_\_\_\_\_
- 1a. Indica tu género      1. Masculino      2. Femenino
2. ¿Cómo son la mayoría de tus calificaciones en la escuela?  
1. Excelentes      2. Muy buenas      3. Promedio      4. No muy buenas      5. Malas
3. ¿A qué etnia perteneces? (Encierra en un círculo tu respuesta)  
1. Hindú    2. Afrocaribeño    3. Chino    4. Portugués    5. Blanco    6. Negro  
7. Mulato    8. Indoamericano    9. Otra (Indícala por favor): \_\_\_\_\_
4. ¿Cuál es el idioma primordial que hablas? \_\_\_\_\_
5. Me gusta cómo me ven: (Escoge una respuesta y traza un círculo alrededor de ella)  
1. Todo el tiempo    2. La mayor parte del tiempo    3. Parte del tiempo    4. No me gusta cómo me ven
6. Por favor traza un círculo alrededor de la declaración que describe mejor lo que piensas de tu peso:

1. Pienso que estoy muyelgado    2. Pienso que mi peso es normal    3. Pienso que estoy gordo(a)
- 6a. ¿Cuán a menudo te metes en problema por hacer lo que no debes?
1. A menudo            2. A veces            3. Casi nunca            4. Nunca
- 6b. ¿Alguna vez te has metido en problema por lastimar a alguien físicamente? (Solo o con un grupo)
1. A menudo            2. A veces            3. Casi nunca            4. Nunca
- 7a. ¿Cuán a menudo asistes a servicios religiosos?
1. A menudo            2. Raras veces            3. Una o dos veces al mes            4. Una vez o más por semana
- 7b. ¿Cuán importante es la religión en tu vida?
1. No es importante            2. Poco importante            3. Bastante importante            5. Muy importante
8. ¿A qué iglesia asistes? (Traza un círculo alrededor de tu respuesta):
1. Adventista            2. Católica            3. Otra iglesia protestante            4. Ninguna            5. Otra (indica cuál) \_\_\_\_\_
9. ¿Qué tipo de familia describe mejor la familia con la que estás viviendo? Elige sólo UNO de los siguientes:
1. Vivo con ambos padres en la misma casa.  
 2. Vivo parte del tiempo con ambos padres, quienes no viven juntos en la misma casa.  
 3. Vivo en una casa con mi madre solamente.  
 4. Vivo en una casa con mi padre solamente.  
 5. Vivo con mi madre y mi padrastro.  
 6. Vivo con mi padre y mi madrastra.  
 7. Vivo con uno de mis abuelos o ambos.  
 8. Vivo con alguien que no es de mi familia.  
 9. Otro (favor de especificar \_\_\_\_\_)
10. Mi padre o padrastro con quien vivo ahora
- 1) No terminó la escuela secundaria    2) terminó la escuela secundaria    3) fue a la universidad  
 4) hizo estudios a nivel graduado    5) no vivo con mi padre/padrastro    6) no sé
11. Mi madre o madrastra con quien vivo ahora
- 1) No terminó la escuela secundaria    2) terminó la escuela secundaria    3) fue a la universidad  
 4) hizo estudios a nivel graduado    5) no vivo con mi madre/madrastra    6) no sé

**Las preguntas 12 y 13 preguntan con quién te sientes más cómodo hablando y relacionándote**

12. Cómo describes tu relación con tu
- |              |              |          |                 |                 |                      |
|--------------|--------------|----------|-----------------|-----------------|----------------------|
| a) Madre     | 1. Magnífica | 2. Buena | 3. No muy buena | 4) No se aplica | [No tengo madre]     |
| b) Padre     | 1. Magnífica | 2. Buena | 3. No muy buena | 4) No se aplica | [No tengo padre]     |
| c) Madrastra | 1. Magnífica | 2. Buena | 3. No muy buena | 4) No se aplica | [No tengo madrastra] |
| d) Padrastro | 1. Magnífica | 2. Buena | 3. No muy buena | 4) No se aplica | [No tengo padrastro] |

13. Cuando deseas hablar de asuntos delicados (por ejemplo, noviazgo, sexo, alcohol, drogas) ¿con quién de tus padres te sientes más cómodo al hablar?
1. Madre
  2. Padre
  3. Madrastra
  4. Padrastro
  5. Ambos padres
  6. Ninguno de los anteriores
  7. Con mi madre o madrastra, o con mi padre o padrastro, depende de cuál sea el tema
  8. Otro adulto (por favor especifique qué relación tiene con él (tío, tía, etc. \_\_\_\_\_))

**Las preguntas 14 al 20 preguntan sobre tu padre o padrastro a quien te sientes más apegado**

14. En tópicos relacionados con el sexo, mi padre o padrastro (al que más te sientas apegado) [traza un círculo alrededor de cada respuesta que se aplique]
- a. No sabe suficiente para contestar mis preguntas
  - b. Sabe suficiente para contestar mis preguntas
  - c. No está disponible para contestar mis preguntas
15. Cuando tengo preguntas sobre el sexo (Por favor traza un círculo alrededor de todas las respuestas que se apliquen)
1. Hablo con mi padre o mi padrastro porque él se siente cómodo al hablar de estos tópicos
  2. Hablo con mi padre o mi padrastro porque escucha mis perspectivas y sentimientos
  3. No hablo con mi padre o mi padrastro porque va a creer que estoy activo sexualmente
  4. No hablo con mi padre o mi padrastro porque sólo me amonesta y no me escucha.
  5. No hablo con mi padre o mi padrastro porque sólo me amonesta y me amenaza con las consecuencias.
16. ¿Te ha hablado tu padre o padrastro acerca de
- |  |       |  |
|--|-------|--|
| a. los cambios que va a sufrir tu cuerpo al crecer | 1. Sí | 2. No  |
| b. como manejar la presión de grupo                | 1. Sí | 2. No  |
| c. fumar tabaco                                    | 1. Sí | 2. No  |
| d. beber alcohol                                   | 1. Sí | 2. No  |
| e. consumir drogas                                 | 1. Sí | 2. No  |
| f. sexo  | 1. Sí | 2. No  |
| g. HIV o SIDA                                      | 1. Sí | 2. No  |
| h. ETS   | 1. Sí | 2. No (ETS se refiere a enfermedades o infecciones transmitidas sexualmente) |
| i. No se aplica (no tengo padre)                   |       |  |
17. ¿Cuán a menudo tu padre o padrastro te elogia o te anima?
1. a menudo    2. a veces    3. casi nunca    4. nunca
18. ¿Cuán a menudo haces algo con tu padre o padrastro que ambos disfrutan; tal como jugar un deporte, juegos de mesa, pasear o cualquier otra actividad?
1. a menudo    2. a veces    3. casi nunca    4. nunca

19. ¿Cuán a menudo tu padre o padrastro te expresa amor al decirte que te ama, al darte un beso, un abrazo o una palmadita en la espalda, etc.?
1. a menudo    2. a veces    3. casi nunca    4. nunca
20. ¿Cuán a menudo le pides a tu padre o padrastro orientación o consejo?
1. a menudo    2. a veces    3. casi nunca    4. nunca

**Las preguntas 21 al 27 preguntan sobre tu madre o madrastra a quien te sientas más apegado**

21. En tópicos relacionados con el sexo, mi madre o madrastra (a la que más te sientas apegado) [traza un círculo alrededor de cada respuesta que se aplique]
- a. No sabe suficiente para contestar mis preguntas  
 b. Sabe suficiente para contestar mis preguntas  
 c. No está disponible para contestar mis preguntas
22. Cuando tengo preguntas sobre el sexo (Por favor traza un círculo alrededor de todas las respuestas que se apliquen)
- a. Hablo con mi madre o mi madrastra porque ella se siente cómoda al hablar de estos tópicos  
 b. Hablo con mi madre o mi padrastro porque escucha mis perspectivas y sentimientos  
 c. No hablo con mi madre o mi madrastra porque va a creer que estoy activo sexualmente  
 d. No hablo con mi madre o mi madrastra porque solamente me sermonea y no me escucha.  
 e. No hablo con mi madre o mi madrastra porque solamente me amonesta y me amenaza con las consecuencias.
23. ¿Te ha hablado tu madre o madrastra acerca de
- |  |       |  |
|--|-------|--|
| a. los cambios que va a sufrir tu cuerpo al crecer | 1. Sí | 2. No  |
| b. como manejar la presión de grupo                | 1. Sí | 2. No  |
| c. fumar tabaco                                    | 1. Sí | 2. No  |
| d. beber alcohol                                   | 1. Sí | 2. No  |
| e. consumir drogas                                 | 1. Sí | 2. No  |
| f. sexo  | 1. Sí | 2. No  |
| g. HIV o SIDA                                      | 1. Sí | 2. No  |
| h. ETS   | 1. Sí | 2. No (ETS se refiere a enfermedades o infecciones transmitidas sexualmente) |
| i. No se aplica (no tengo madre)                   |       |  |
24. ¿Cuán a menudo tu madre o madrastra te elogia o te anima?
1. a menudo    2. a veces    3. casi nunca    4. nunca
25. ¿Cuán a menudo haces algo con tu madre o madrastra que ambos disfrutan; tal como jugar un deporte, juegos de mesa, pasear o cualquier otra actividad?
1. a menudo    2. a veces    3. casi nunca    4. nunca
26. ¿Cuán a menudo tu madre o madrastra te expresa amor al decirte que te ama, al darte un beso, un abrazo o una palmadita en la espalda, etc.?
1. a menudo    2. a veces    3. casi nunca    4. nunca

27. ¿Cuán a menudo le pides a tu madre o madrastra orientación o consejo?

1. a menudo    2. a veces    3. casi nunca    4. nunca

**Las preguntas 28 al 36 preguntan sobre las personas que son importantes en tu vida, incluyendo a tus padres o tutores.**

28. ¿Te ha hablado alguno de tus abuelos o abuelas acerca de

- |    |                                 |       |       |  |
|----|---------------------------------|-------|-------|--|
| a. | fumar tabaco                    | 1. Sí | 2. No |  |
| b. | beber alcohol                   | 1. Sí | 2. No |  |
| c. | consumir drogas                 | 1. Sí | 2. No |  |
| d. | sexo                            | 1. Sí | 2. No |  |
| e. | HIV o SIDA                      | 1. Sí | 2. No |  |
| f. | ETS                             | 1. Sí | 2. No | (ETS se refiere a enfermedades o infecciones transmitidas sexualmente) |
| g. | No se aplica (no tengo abuelos) |       |       |  |

29. ¿Te ha hablado cualquier otro adulto acerca de

- |    |                 |       |       |  |
|----|-----------------|-------|-------|--|
| a. | fumar tabaco    | 1. Sí | 2. No |  |
| b. | beber alcohol   | 1. Sí | 2. No |  |
| c. | consumir drogas | 1. Sí | 2. No |  |
| d. | sexo            | 1. Sí | 2. No |  |
| e. | HIV o SIDA      | 1. Sí | 2. No |  |
| f. | ETS             | 1. Sí | 2. No | (ETS se refiere a enfermedades o infecciones transmitidas sexualmente) |

30. ¿Te ha hablado alguno de tus maestros acerca de

- |    |                 |       |       |  |
|----|-----------------|-------|-------|--|
| a. | fumar tabaco    | 1. Sí | 2. No |  |
| b. | beber alcohol   | 1. Sí | 2. No |  |
| c. | consumir drogas | 1. Sí | 2. No |  |
| d. | sexo            | 1. Sí | 2. No |  |
| e. | HIV o SIDA      | 1. Sí | 2. No |  |
| f. | ETS             | 1. Sí | 2. No | (ETS se refiere a enfermedades o infecciones transmitidas sexualmente) |

31. ¿Te ha hablado alguno de tus amigos acerca de

- |    |                 |       |       |  |
|----|-----------------|-------|-------|--|
| a. | fumar tabaco    | 1. Sí | 2. No |  |
| b. | beber alcohol   | 1. Sí | 2. No |  |
| c. | consumir drogas | 1. Sí | 2. No |  |
| d. | sexo            | 1. Sí | 2. No |  |
| e. | HIV o SIDA      | 1. Sí | 2. No |  |
| f. | ETS             | 1. Sí | 2. No | (ETS se refiere a enfermedades o infecciones transmitidas sexualmente) |

32. Cuando salgo de la escuela y cuando salgo en las noches y los fines de semana, ¿se espera que le diga a mis padres o tutores adónde voy?

- a. Siempre                      b. casi siempre                      c. a veces                      d. casi nunca                      e. nunca

33. Cuando salgo de la escuela y cuando salgo en las noches y los fines de semana, le digo a mis padres o tutores realmente a dónde voy



34. a. Siempre                      b. casi siempre                      c. a veces                      d. casi nunca                      e. nunca  
 ¿Cuán a menudo te preguntan tus padres o tutores sobre los planes que has hecho con los amigos para después de las clases, en las noches o en el fin de semana?
- a. Siempre                      b. casi siempre                      c. a veces                      d. casi nunca                      e. nunca
35. Si voy a llegar a casa tarde o cambio mis planes, se espera que debo avisar a mis padres o tutores.
- a. Siempre                      b. casi siempre                      c. a veces                      d. casi nunca                      e. nunca
36. Mis padres o tutores tienen reglas definidas en cuanto a: (trace un círculo alrededor de todas las frases que se aplican)
- a. la hora que debo llegar a la casa en la noche  
 b. tareas  
 c. salir en citas  
 d. televisión o juegos de video  
 e. cuando están en contra de que me asocie con algunos varones  
 f. cuando están en contra de que me asocie con ciertas muchachas  
 g. cenar con la familia  
 h. ayudar con las tareas en el hogar  
 i. cómo vestirme y peinar tu pelo  
 j. mis padres no tienen reglas para estos tipos de comportamientos

Las preguntas 37 al 43 son acerca de fumar cigarrillos

37. ¿Has tratado alguna vez de fumar cigarrillos, aun cuando fuera una o dos fumadas?
1. Si  
 2. No Si la respuesta es No: 1) Nunca he querido fumar o 2) Nunca he tenido la oportunidad de fumar.
38. ¿Qué edad tenías cuando fumaste por primera vez un cigarrillo entero, sin incluir cuando diste una o dos fumadas?
- |   |                   |
|---|-------------------|
| 1. Nunca he fumado un cigarrillo entero | 7. 13 años        |
| 2. 8 años o menos                       | 8. 14 años        |
| 3. 9 años                               | 9. 15 años        |
| 4. 10 años                              | 10. 16 años       |
| 5. 11 años                              | 11. 17 años       |
| 6. 12 años                              | 12. 18 años o más |
39. Durante los pasados 30 días, cuántos días fumaste cigarrillos?
1. 0 días  
 2. 1 a 2 días  
 3. 3 a 5 días  
 4. 6 a 9 días  
 5. 10 a 19 días  
 6. 20 a 29 días  
 7. Todos los 30 días

40. Durante los pasados 30 días, en los días que fumaste, ¿cuántos cigarrillos fumaste por día?
1. No he fumado cigarrillos en los últimos 30 días
  2. Menos de un cigarrillo por día
  3. 1 cigarrillo por día
  4. 2 a 5 cigarrillos por día
  5. 6 a 10 cigarrillos por día
  6. 11 a 20 cigarrillos por día
  7. Más de 20 cigarrillos por día
41. ¿Has fumado alguna vez en forma regular, o sea, por lo menos un cigarrillo por día durante 30 días?
1. Sí
  2. No
42. ¿Has tratado alguna vez de dejar de fumar?
1. Sí
  2. No
43. De la siguiente lista de familiares u otras personas cercanas a ti, ¿quiénes han fumado o fuman actualmente CIGARRILLOS? (Encierra en un círculo todos los que correspondan)
- |                          |              |
|--------------------------|--------------|
| a. Madre                 | f. Tía(s)    |
| b. Padre                 | g. Tío(s)    |
| c. Madrastra o padrastro | h. Abuelo    |
| d. Hermano(s)            | i. Abuela    |
| e. Hermana(s)            | j. Amigo (s) |

Las preguntas 44 al 55 se refieren al consumo de ALCOHOL. Esto incluye el beber cerveza, vino y licor, tales como ron, vodka, whisky, etc. En estas preguntas no se incluye el beber algunos tragos de vino con propósitos religiosos.

	en total desacuerdo	en desacuerdo	ni de acuerdo ni en desacuerdo	de acuerdo	totalmente de acuerdo
44. CREO QUE					
a. está bien que gente de mi edad consuma bebidas alcohólicas	1	2	3	4	5
b. está bien tomar bebidas alcohólicas cuando estoy solo	1	2	3	4	5
c. las bebidas alcohólicas dañan la salud	1	2	3	4	5
d. está bien embriagarse de vez en cuando	1	2	3	4	5
45. MIS PADRES O TUTORES PIENSAN QUE					
a. está bien que gente de mi edad consuma bebidas alcohólicas	1	2	3	4	5
b. está bien tomar bebidas as cuando estoy solo	1	2	3	4	5
c. las bebidas alcohólicas dañan la salud	1	2	3	4	5
d. está bien embriagarse de vez en cuando	1	2	3	4	5

46.	MIS AMIGOS PIENSAN QUE	en total de acuerdo	en desacuerdo	ni de acuerdo ni en desacuerdo	de acuerdo	totalmente de acuerdo
	a. está bien que gente de mi edad consuma bebidas alcohólicas	1	2	3	4	5
	b. está bien tomar bebidas as cuando estoy solo	1	2	3	4	5
	c. las bebidas alcohólicas dañan la salud	1	2	3	4	5
	d. está bien embriagarse de vez en cuando	1	2	3	4	5
47.	MIS MAESTROS PIENSAN QUE	en total de acuerdo	en desacuerdo	ni de acuerdo ni en desacuerdo	de acuerdo	totalmente de acuerdo
	a. está bien que gente de mi edad consuma bebidas alcohólicas	1	2	3	4	5
	b. está bien tomar bebidas as cuando estoy solo	1	2	3	4	5
	c. las bebidas alcohólicas dañan la salud	1	2	3	4	5
	d. está bien embriagarse de vez en cuando	1	2	3	4	5
48.	OTROS ADULTOS PIENSAN QUE	en total de acuerdo	en desacuerdo	ni de acuerdo ni en desacuerdo	de acuerdo	totalmente de acuerdo
	a. está bien que gente de mi edad consuma bebidas alcohólicas	1	2	3	4	5
	b. está bien tomar bebidas as cuando estoy solo	1	2	3	4	5
	c. las bebidas alcohólicas dañan la salud	1	2	3	4	5
	d. está bien embriagarse de vez en cuando	1	2	3	4	5
49.	¿ALGUNA VEZ HAS...					
	a. dicho "No" a tus amigos cuando te ofrecieron bebidas alcohólicas?	1. Sí	2. No	3. No me han ofrecido		
	b. dicho "No" a un familiar cuando te ofreció bebidas alcohólicas?	1. Sí	2. No	3. No me han ofrecido		
	c. tomado bebidas alcohólicas cuando estás solo?	1. Sí	2. No			
	d. tenido problemas de salud por tomar bebidas alcohólicas?	1. Sí	2. No			
	e. tenido problemas en tus relaciones por tomar bebidas alcohólicas?	1. Sí	2. No			
	f. estado ebrio?	1. Sí	2. No			
50.	TENGO PLANES DE	en total de acuerdo	en desacuerdo	ni de acuerdo ni en desacuerdo	de acuerdo	totalmente de acuerdo
	a. tomar bebidas alcohólicas a mi edad	1	2	3	4	5
	b. tomar bebidas alcohólicas cuando esté solo	1	2	3	4	5
	c. embriagarme de vez en cuando	1	2	3	4	5
51.	Durante tu vida, ¿en cuántos días has tomado por lo menos una bebida alcohólica?					
	1. 0 días	5. 20 a 39 días				
	2. 1 o 2 días	6. 40 a 99 días				
	3. 3 a 9 días	7. 100 o más días				
	4. 10 a 19 días					
52.	¿Qué edad tenías cuando tomaste por primera vez más que unos cuantos tragos de bebida alcohólica?					
	1. Nunca he probado bebidas alcohólicas	7. 13 años				
	2. 8 años o menos	8. 14 años				
	3. 9 años	9. 15 años				
	4. 10 años	10. 16 años				
	5. 11 años	11. 17 años				

6. 12 años 12. 18 años o más
53. Durante los **pasados 30 días**, ¿en cuántos días has ingerido **por lo menos** una bebida alcohólica?
- |               |                      |
|---------------|----------------------|
| 1. 0 días     | 5. 10 a 19 días      |
| 2. 1 o 2 días | 6. 20 a 29 días      |
| 3. 3 a 5 días | 7. Todos los 30 días |
| 4. 6 a 9 días |                      |
54. Durante los **pasados 30 días**, ¿en cuántos días has consumido **5 o más bebidas** alcohólicas seguidamente; en otras palabras, durante un par de horas?
- |               |                  |
|---------------|------------------|
| 1. 0 días     | 5. 6 a 9 días    |
| 2. 1 día      | 6. 10 a 19 días  |
| 3. 2 días     | 7. 20 o más días |
| 4. 3 a 5 días |                  |
55. ¿Cuál de las siguientes personas han tenido o tienen un **PROBLEMA DE ALCOHOLISMO**? (Traza un círculo alrededor de todas las respuestas que se apliquen).
- |                          |              |
|--------------------------|--------------|
| a. Madre                 | f. Tía(s)    |
| b. Padre                 | g. Tío(s)    |
| c. Madrastra o padrastro | h. Abuelo    |
| d. Hermano(s)            | i. Abuela    |
| e. Hermana(s)            | j. Amigo (s) |

Las preguntas 56 al 67 se refieren a **DROGAS** tales como **mariguana (ganja), cocaína, heroína, meta anfetaminas, pegamento, etc.**

- |   | en total<br>de acuerdo | en<br>desacuerdo | ni de acuerdo<br>ni en desacuerdo | de acuerdo | totalmente<br>de acuerdo |
|---|------------------------|------------------|-----------------------------------|------------|--------------------------|
| 56. <b>CREO QUE...</b>                                    |                        |                  |                                   |            |                          |
| a. está bien que gente de mi edad consuma drogas ilegales | 1                      | 2                | 3                                 | 4          | 5                        |
| b. está bien que consuma drogas cuando estoy solo         | 1                      | 2                | 3                                 | 4          | 5                        |
| c. las drogas dañan la salud                              | 1                      | 2                | 3                                 | 4          | 5                        |
| d. está bien que consuma drogas de vez en cuando          | 1                      | 2                | 3                                 | 4          | 5                        |
| 57. <b>MIS PADRES O TUTORES CREEN QUE...</b>              |                        |                  |                                   |            |                          |
| a. está bien que gente de mi edad consuma drogas          | 1                      | 2                | 3                                 | 4          | 5                        |
| b. está bien que consuma drogas cuando estoy solo         | 1                      | 2                | 3                                 | 4          | 5                        |
| c. las drogas son dañinas para la salud                   | 1                      | 2                | 3                                 | 4          | 5                        |
| d. está bien que consuma drogas de vez en cuando          | 1                      | 2                | 3                                 | 4          | 5                        |

58.	MIS AMIGOS CREEN QUE ... QUE ...	en total de acuerdo	en desacuerdo	ni de acuerdo ni en desacuerdo	de acuerdo	totalmente de acuerdo
	a. está bien que gente de mi edad consuma drogas	1	2	3	4	5
	b. está bien que consuma drogas cuando estoy solo	1	2	3	4	5
	c. las drogas son dañinas para la salud	1	2	3	4	5
	d. está bien que consuma drogas de vez en cuando	1	2	3	4	5
59.	MIS MAESTROS CREEN QUE... QUE ...	en total de acuerdo	en desacuerdo	ni de acuerdo ni en desacuerdo	de acuerdo	totalmente de acuerdo
	a. está bien que gente de mi edad consuma drogas	1	2	3	4	5
	b. está bien que consuma drogas cuando estoy solo	1	2	3	4	5
	c. las drogas son dañinas para la salud	1	2	3	4	5
	d. está bien que consuma drogas de vez en cuando	1	2	3	4	5
60.	OTROS ADULTOS CREEN QUE... QUE ...	en total de acuerdo	en desacuerdo	ni de acuerdo ni en desacuerdo	de acuerdo	totalmente de acuerdo
	a. está bien que gente de mi edad consuma drogas	1	2	3	4	5
	b. está bien que consuma drogas cuando estoy solo	1	2	3	4	5
	c. las drogas son dañinas para la salud	1	2	3	4	5
	d. está bien que consuma drogas de vez en cuando	1	2	3	4	5
61.	¿ALGUNA VEZ HAS....?					
	a. dicho "No a tus amigos que te ofrecieron drogas?"		1. Si	2. No	3. No me han ofrecido	
	b. dicho "No" a familiares que te ofrecieron drogas?		1. Si	2. No	3. No me han ofrecido	
	c. usado drogas cuando estabas solo?		1. Si	2. No		
	d. tenido problemas porque consumiste drogas?		1. Si	2. No		
	e. te has intoxicado (puesto grifo) con drogas?		1. Si	2. No		
62.	TENGO PLANES DE... QUE ...	en total de acuerdo	en desacuerdo	ni de acuerdo ni en desacuerdo	de acuerdo	totalmente de acuerdo
	a. consumir drogas	1	2	3	4	5
	b. decir "No" cuando mis amigos me ofrezcan drogas	1	2	3	4	5
	c. decir "No" cuando mis familiares me ofrezcan drogas	1	2	3	4	5
	d. consumir drogas cuando esté solo	1	2	3	4	5
	e. intoxicarme o ponerme grifo al usar drogas	1	2	3	4	5

63. ¿Has consumido alguna vez drogas tales como marihuana, crack, cocaína, heroína, ecstasy, etc.?
1. Sí  
Si la respuesta es Sí, anota por favor todas las drogas que has consumido:  
\_\_\_\_\_
  2. No  
Si la respuesta es No, escoge una de las siguientes declaraciones: 1) Nunca he querido probar drogas  
2) Nunca he tenido la oportunidad de conseguir drogas
64. ¿Cuántas veces durante tu vida has consumido cualquiera de esas drogas?
1. 0 veces
  2. 1 o 2 veces
  3. 3 a 9 veces
  4. 10 a 19 veces
  5. 20 a 39 veces
  6. 40 a 99 veces
  7. 100 o más veces
65. ¿Cuántos años tenías cuando usaste drogas por primera vez?
- |                              |                   |
|------------------------------|-------------------|
| 1. Nunca he consumido drogas | 7. 13 años        |
| 2. 8 años o menos            | 8. 14 años        |
| 3. 9 años                    | 9. 15 años        |
| 4. 10 años                   | 10. 16 años       |
| 5. 11 años                   | 11. 17 años       |
| 6. 12 años                   | 12. 18 años o más |
66. Durante los **pasados 30 días**, ¿cuántas veces has consumido drogas?
- |                |                    |
|----------------|--------------------|
| 1. 0 veces     | 4. 10 a 19 veces   |
| 2. 1 o 2 veces | 5. 20 a 39 veces   |
| 3. 3 a 9 veces | 6. 40 veces o más. |
67. De entre las siguientes personas, ¿cuál de ellos ha tenido o tiene actualmente un **PROBLEMA DE CONSUMO DE DROGAS?** (Trace un círculo alrededor de la letra correspondiente).
- |                          |             |
|--------------------------|-------------|
| a. Madre                 | f. Tía(s)   |
| b. Padre                 | g. Tíos(s)  |
| c. Padrastro o madrastra | h. Abuelo   |
| d. Hermano(s)            | i. Abuela   |
| e. Hermana(s)            | j. Amigo(s) |

**Las preguntas 68 a 88 se refieren a tu conducta sexual. La actividad sexual incluye sexo oral, anal y, o, sexo genital. No incluye tocar o acariciar, besar o tomarse de las manos.**

		en total de acuerdo	en desacuerdo	ni de acuerdo ni en desacuerdo	de acuerdo	totalmente de acuerdo
68.	CREO QUE QUE...					
	a. está bien que gente de mi edad tenga relaciones sexuales	1	2	3	4	5
	b. está bien que gente de mi edad tenga relaciones sexuales con alguien con quien ha "andado" por mucho tiempo	1	2	3	4	5
	c. está bien que gente de mi edad tenga relaciones sexuales con alguien a quien no conoce muy bien	1	2	3	4	5
	d. si se usan condones para prevenir el embarazo o infecciones, está bien que gente de mi edad tenga relaciones sexuales	1	2	3	4	5
	e. la gente de mi edad debe usar condones si va a tener relaciones sexuales	1	2	3	4	5
69.	MI PADRE PIENSA QUE QUE...					
	a. está bien que gente de mi edad tenga relaciones sexuales	1	2	3	4	5
	b. está bien que gente de mi edad tenga relaciones sexuales con alguien con quien ha "andado" por mucho tiempo	1	2	3	4	5
	c. está bien que gente de mi edad tenga relaciones sexuales con alguien a quien no conoce muy bien	1	2	3	4	5
	d. si se usan condones para prevenir el embarazo o infecciones, está bien que gente de mi edad tenga relaciones sexuales	1	2	3	4	5
	e. la gente de mi edad debe usar condones si va a tener relaciones sexuales	1	2	3	4	5
70.	MI MADRE PIENSA QUE QUE...					
	a. está bien que gente de mi edad tenga relaciones sexuales	1	2	3	4	5
	b. está bien que gente de mi edad tenga relaciones sexuales con alguien con quien ha "andado" por mucho tiempo	1	2	3	4	5
	c. está bien que gente de mi edad tenga relaciones sexuales con alguien a quien no conoce muy bien	1	2	3	4	5
	d. si se usan condones para prevenir el embarazo o infecciones, está bien que gente de mi edad tenga relaciones sexuales	1	2	3	4	5
	e. la gente de mi edad debe usar condones si va a tener relaciones sexuales	1	2	3	4	5

71.	MIS AMIGOS PIENSAN QUE QUE...	en total desacuerdo	en desacuerdo	ni de acuerdo ni en desacuerdo	de acuerdo	totalmente de acuerdo
	a. está bien que gente de mi edad tenga relaciones sexuales	1	2	3	4	5
	b. está bien que gente de mi edad tenga relaciones sexuales con alguien con quien ha "andado" por mucho tiempo	1	2	3	4	5
	c. está bien que gente de mi edad tenga relaciones sexuales con alguien a quien no conoce muy bien	1	2	3	4	5
	d. la gente de mi edad debe usar condones si va a tener relaciones sexuales	1	2	3	4	5
	e. está bien que gente de mi edad diga "NO" a tener relaciones sexuales	1	2	3	4	5
72.	MIS MAESTROS PIENSAN QUE QUE...	en total desacuerdo	en desacuerdo	ni de acuerdo ni en desacuerdo	de acuerdo	totalmente de acuerdo
	a. está bien que gente de mi edad tenga relaciones sexuales	1	2	3	4	5
	b. está bien que gente de mi edad tenga relaciones sexuales con alguien con quien ha "andado" por mucho tiempo	1	2	3	4	5
	c. está bien que gente de mi edad tenga relaciones sexuales con alguien a quien no conoce muy bien	1	2	3	4	5
73.	OTROS ADULTOS PIENSAN QUE QUE...	en total desacuerdo	en desacuerdo	ni de acuerdo ni en desacuerdo	de acuerdo	totalmente de acuerdo
	a. está bien que gente de mi edad tenga relaciones sexuales	1	2	3	4	5
	b. está bien que gente de mi edad tenga relaciones sexuales con alguien con quien ha "andado" por mucho tiempo	1	2	3	4	5
	c. está bien que gente de mi edad tenga relaciones sexuales con alguien a quien no conoce muy bien	1	2	3	4	5
74.	TENGO PLANES DE QUE...	en total desacuerdo	en desacuerdo	ni de acuerdo ni en desacuerdo	de acuerdo	totalmente de acuerdo
	a. tener relaciones sexuales a mi edad	1	2	3	4	5
	b. tener relaciones sexuales a mi edad solamente con alguien con quien he estado "andado" por mucho tiempo.	1	2	3	4	5
	c. tener relaciones sexuales con alguien aunque no nos conozcamos muy bien	1	2	3	4	5
	d. usar condones al tener relaciones sexuales	1	2	3	4	5
	e. decir "NO" a tener relaciones sexuales si no deseo tenerlas	1	2	3	4	5



75. ¿Le has dicho "NO" alguna vez a alguien que te pidió tener relaciones sexuales contigo?
1. Sí                    2. No                    3. Nadie me lo ha pedido
76. ¿Por cuánto tiempo te relacionas generalmente con una pareja antes de tener relaciones sexuales?
1. Unos cuantos días    2. Unos cuantos meses    3. Más de 6 meses    4. No tengo relaciones sexuales
77. ¿Sabes lo que es un condón (preservativo de funda elástica)    1. Sí                    2. No
77. Si la respuesta es SI, ¿sabes cómo usar un condón?    1. Sí                    2. No
78. ¿Has tenido alguna vez relaciones sexuales?    1. Sí                    2. No (Si contestas no, salta hasta la pregunta # 89)
79. ¿Qué edad tenías cuando tuviste relaciones sexuales por primera vez? (Escríbelo en números)
- a. Tenía \_\_\_\_\_ años
- b. Esa primera vez, te forzaron a tener relaciones sexuales?    1. Sí                    2. No
80. ¿Con cuántas personas has tenido relaciones sexuales durante tu vida? (Escribe la cantidad de personas, no quiénes son).
- a. Con \_\_\_\_\_ personas
81. ¿Con cuántas personas has tenido relaciones sexuales durante los tres meses pasados?
1. Con \_\_\_\_\_ personas (Escribe "0" si no has tenido relaciones sexuales en los últimos tres meses)
82. ¿Cuán a menudo usas condones al tener relaciones sexuales?
1. Nunca                    2. A veces                    3. Con frecuencia                    4. Siempre
- 82a. Si tu respuesta fue "1. Nunca", o "2. A veces", indica por favor por qué razón no los usas (marca todas las respuestas que necesites).
- a. Los condones son caros
- b. Los condones no son fáciles de encontrar
- c. No pienso que son necesarios
- d. El usarlos no es aceptable para mí o mi pareja
- e. Uso otros métodos anticonceptivos
- f. Otras razones (anótalas) \_\_\_\_\_
83. La última vez que tuviste relaciones sexuales, ¿usaron condón tú o tu pareja?    1. Sí                    2. No
84. La última vez que tuviste relaciones sexuales, ¿usaste alguno de los métodos siguientes? (Marca todos los usados)
- a. Píldoras anticonceptivas
- b. Condones
- c. Inyección anticonceptiva (tal como Depo-Provera)
- d. Retirar, o sacar
- e. Método del ritmo
- f. No sé
- g. Algún otro método (especifica por favor) \_\_\_\_\_



durante las relaciones sexuales

97. Una mujer embarazada que tiene SIDA puede infectar al bebé que lleva en su seno 1. Verdadero 2. Falso 3. No lo sé
98. Sólo los hombres que tienen relaciones sexuales con otros hombres contraen SIDA 1. Verdadero 2. Falso 3. No lo sé
99. Las personas pueden reducir sus probabilidades de infectarse del virus de SIDA no teniendo ninguna clase de relaciones sexuales (siendo abstinentes) 1. Verdadero 2. Falso 3. No lo sé
100. Una persona puede contraer SIDA al ser picada por mosquitos u otros insectos 1. Verdadero 2. Falso 3. No lo sé
101. Por medio de las relaciones sexuales, las mujeres tienen mucho más probabilidades de infectarse con el virus del SIDA, a través de un hombre infectado de SIDA, que los hombres de infectarse a través de una mujer infectada del virus del SIDA 1. Verdadero 2. Falso 3. No lo sé
102. Hay cura para el SIDA 1. Verdadero 2. Falso 3. No lo sé
103. ¿Cuán probable piensas que sería que contrajerás HIV?
1. Muy probable
  2. De alguna manera probable
  3. Ni probable ni improbable
  4. De alguna manera improbable
  5. Muy improbable
104. ¿Cuán probable piensas que sería para ti contraer ETS (enfermedades o infecciones transmitidas sexualmente)?
1. Muy probable
  2. De alguna manera probable
  3. Ni probable ni improbable
  4. De alguna manera improbable
  5. Muy improbable
105. ¿Cuán probable piensas que sería para ti o para alguno de tus compañeros de escuela contraer HIV o alguna otra ETS (enfermedad o infección transmitida sexualmente)?
1. Muy probable
  2. De alguna manera probable
  3. Ni probable ni improbable
  4. De alguna manera improbable
  5. Muy improbable
106. ¿De quién o de qué fuente aprendiste acerca del SIDA? (Marca todas las respuestas que se apliquen)
1. Tu padre o madre
  2. Tu amigo(s)
  3. Tu maestro(s)
  4. Otro adulto(s)
  5. Tu médico
  6. Libros o periódicos
  7. Radio o televisión

8. Otras fuentes (especifica cuáles \_\_\_\_\_)

Por favor expresa tu opinión con respecto a la necesidad o importancia de esta encuesta para tus compañeros y tu comunidad.

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**¡Gracias por tu participación!**

## REFERENCE LIST

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**EDUCATION**

Ph.D. (Religious Education), Andrews University, Berrien Springs, MI, 2013  
M.A. (Religious Education), Andrew University, Berrien Springs, MI, 1996.  
B.A. (English), Andrews University, Berrien Springs, MI, 1968.

**CREDENTIALS**

Certified Family Life Educator, Andrews University, 1996 Lifetime Certificate  
Ordained Minister, Columbia Union, Seventh-day Adventist Church, 2013

**HONORS**

Emeritus designation: Director Emeritus, Department of Family Ministries, World Headquarters,  
Seventh-day Adventist Church (GCFM), Silver Spring, Maryland, July, 2010.  
Arthur & Maud Spaulding Family Ministries Distinguished Service Award, July, 2010.  
Woman of the Year for Church Life, Association of Adventist Women, 2000.  
International Year of the Family Testimonial Award, United Nations, 1994.  
Phi Kappa Phi Honor Society, 1991-present.

**CAREER**

Associate Director, Department of Family Ministries, GCFM, Silver Spring, MD, 1985 –  
Retirement, July, 2010.  
Assistant Director, Home and Family Service, GCFM, Washington, D.C., 1980-1985.

**PROFESSIONAL ACTIVITIES**

Delegate, World Council of Churches Consultation on Decade to Overcome Violence, Scotland,  
2001.  
Presenter, Pyrgos International Conference on Violence in the Family, Nicosia, Cyprus 2000.  
Presenter, World Conference on Family Violence, Singapore, 1998.  
Delegate, World NGO Forum on the Fourth World Conference on Women, Beijing, China, 1995.  
Convener/Presenter, National Christian Family Life Conference, New Guinea, 1993.  
Delegate, World NGO Forum on the 1994 International Year of the Family, Malta, 1993.  
Convener, Pan African Consultation on the Family, University of Eastern Africa, Kenya, 1992.  
Presenter, National Christian Family Life Conference, Sydney, Australia, 1994.  
Presenter, Family Life Leadership Development workshops 1981 -2010 (listed by first visit only):  
Denmark, England, Federal Republic of Germany, France, German Democratic Republic,  
Netherlands, Switzerland, 1981; Australia, New Zealand, Fiji, 1982; Hong Kong,  
Indonesia, Korea, Philippines, Singapore, 1984; Curcao, Bonaire, 1985; South Africa,  
1986; Canada, Jamaica, Puerto Rico, Martinique, 1987; India, 1988; Mexico, Guatemala,  
Costa Rica, Kenya, Tanzania, Zambia, Botswana, Zimbabwe, 1989; Madagascar, Burundi,  
Nigeria, Ghana, 1990; Italy, Romania, 1992; Finland, 1991; Antigua, 1992; Brazil,  
Czechoslovakia, Papua New Guinea, 1993; Guadaloupe, Russia, 1994; Malawi, Egypt,  
Jordan, 1995; Hungary, 1996; Ukraine, 1998; Argentina, Bolivia, Chile, China, Peru,  
Poland, 1999; Rwanda, Trinidad, 2000; Spain 2001.

**PUBLICATIONS**

Co-author (with B. C. Hernandez), *Binding Up Bruised Reeds: A Quick Reference Guide for  
Pastors on Ministry to Families Experiencing Abuse and Family Violence* (Lincoln, NB:  
Center for Creative Ministries, 2009).

Co-Editor (with R. M. Flowers), *Human Sexuality: Sharing the Wonder of God's Good Gift with  
Your Children* (GCFM, 2004).