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The impact of mental health problems and religiosity on African-American girls' HIV-risk

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Abstract

We investigated the relationship between religiosity, mental health problems, and two sexual risk behaviors – condom use and number of partners. Participants were 80 sexually active African American girls in psychiatric care and their caregivers. Results indicated differential relationships, depending on parent versus youth report. Mother's religiosity, was positively related to girls' condom use and not to girls' number of partners. Controlling for other predictors in the models, mother's religiosity explained as much as 15% of the variance in girls' condom use. Whereas, parent and adolescent reports of girls' depression/anxiety and rule-breaking were positively associated with number of partners, reports of aggression was associated with having fewer partners. Neither parent nor youth report of girls' mental health problems were associated with condom use. Controlling for other predictors in the models, girls' mental health problems accounted for as much as 31% of the variance in number of partners. Findings underscore of the importance of adopting an ecological framework to understand both the risk and promotive factors for sexual risk taking among troubled girls. The roles of specific aspects of psychopathology and religiosity in relation to sexual risk behavior among African American girls in psychiatric care are discussed.

Keywords

adolescents; mental health; sexual risk; religion; African American

INTRODUCTION

African Americans suffer significant health disparities, including more untreated mental illness and HIV infections (Centers for Disease Control and Prevention [CDC], 2005). Although accounting for less than 15% of the U.S. population, from 2001 to 2004, African Americans made up 61% of new HIV diagnoses among young people (CDC, 2007), and HIV infection was the leading cause of death among Black women aged 25–34 years (CDC, 2008a). African American girls are at greater risk for contracting HIV than their White, Latino and male peers, and the majority of infections were acquired through heterosexual behavior (CDC, 2007; CDC, 2008a; CDC, 2008b). Moreover, mental health problems are

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implicated in unsafe sexual behavior (Donenberg & Pao, 2005), and high rates of untreated mental illness are fueling the HIV epidemic in the African American community. Public health efforts to reduce mental health problems and the spread of HIV among African American girls requires attention to their specific risk and promotive factors and must go beyond cognitive mechanisms (e.g., knowledge, attitudes, and beliefs) (Donenberg & Pao, 2005). Key factors, such as religion, that promote health for African Americans in other contexts (e.g., diabetes) may impact girls' HIV-risk (Samuel-Hodge, et al., 2000). This paper examined the unique contributions of religion and mental health on African American girls' risky sexual behavior.

Mental health problems and risky sexual practices

Youth in psychiatric care engage in the same risk behaviors as their non-troubled peers, but they do so at higher rates, thereby increasing their risk for contracting HIV (Brown, Danovsky, Lourie, DiClemente, & Ponton, 1997). Research documents earlier sexual debut, more partners, frequent intercourse, inconsistent condom use, and substance abuse among troubled versus non-troubled teens (Brown et al., 1997; DiClemente et al., 2001; Donenberg, Emerson, Bryant, Wilson, & Weber-Shifrin, 2001). Emotional and cognitive deficits (e.g., poor emotion regulation, and impaired judgment) interfere with safer sex behavior and the ability to make health-promoting decisions (Donenberg et al., 2005). However, patterns may differ for specific types of mental health problems (i.e., externalizing versus internalizing). Externalizing problems (e.g., aggression, substance abuse and delinquency) are consistently associated with sexual risk (e.g., early sexual debut and unprotected sex) among youth in psychiatric care (Donenberg, Bryant, Emerson, Wilson, & Pasch, 2003), but links to internalizing problems (e.g., anxiety/depression) are less clear. Whereas some studies report no relationship with internalizing problems (Donenberg et al., 2003; Tolou-Shams, Paikoff, McKirnan & Grayson, 2007), others have linked anxiety/depression to more sexual partners, unprotected sex, and an increased likelihood of having had a sexually transmitted infection (Lucenko, Malow, Sanchez-Martinez, Jennings, & Devieux, 2003; Mazzaferro et al., 2006). Still, few, if any studies have focused exclusively on African American girls in psychiatric care. It is unclear how psychopathology contributes to sexual risk for these youth and whether these relationships are impacted by promotive factors (e.g., religiosity).

Religiosity and sexual risk behaviors

The majority of research on youth in psychiatric care focuses on risks for negative health outcomes. The few studies to examine promotive factors have focused on ethnically diverse girls and boys (Nappi, McBride, & Donenberg, 2007; Wilson & Donenberg, 2004), making it unclear whether the same mechanisms promote safe sexual practices among African American girls. Research on positive youth development among African Americans has identified religion as a unique factor that promotes development and protects youth from negative outcomes. Studies have defined religion in a variety of ways (e.g., religiosity, spirituality), and there is limited consensus on construct terms (Zinnbauer & Pargament, 2005). The term religiosity has traditionally referred to institutional and organizational aspects of religion (e.g., church attendance), and spirituality has referred to more personal and subjective aspects of religion (e.g., beliefs) (Zinnbauer & Pargament, 2005). Despite these distinctions, the term religiosity has been largely used in developmental and health research to describe both public and private aspects of religion. Consistent with these fields of research, we use the term religiosity to refer to both public and private aspects of religion.

Religion is highly salient to many African Americans (Pew, 2009), and has been associated with a variety of positive outcomes for African American youth, such as depression and substance abuse (Christian & Barbarin, 2001; Jones, 2007; Steinman, Ferketich, & Sahr, 2008). Some evidence suggests that religiosity improves sexual health outcomes for African

American girls (McCree, Wingood, DiClemente, Davies, & Harrington, 2003; Steinman & Zimmerman 2004). Middle to late adolescent girls (ages 14–19 years) with higher levels of religiosity have been found to initiate sexual intercourse at later ages, use condoms more consistently, have less frequent sexual intercourse, and report less risky sexual attitudes (McCree et al., 2003; Steinman & Zimmerman, 2004). However, the mechanism by which religiosity protects from sexual risk is uncertain. For example, girls' religious beliefs, their regular attendance at church or both may prevent and/or deter engagement in risky sexual practices. Whereas few studies have empirically examined the various ways religiosity may promote health for typically functioning youth, no studies have examined the role of religion for African American girls in psychiatric care.

One complication of previous research concerns the definition of religiosity. Most studies assess adolescent religiosity with one to three items or limit the construct to either religious practices (e.g., attending church) or beliefs (Rew & Wong, 2006). Few distinguish between the role of parental religiosity and child religiosity. The diverse definitions of religiosity have made it difficult to draw conclusions across studies, and to understand the mechanism by which religiosity promotes sexual health (Rew & Wong, 2006). A better understanding of the role of religiosity in sexual risk behavior requires a definition that incorporates beliefs and practices, as well as distinctions between parent and adolescent religiosity. Such a definition recognizes the diversity in religious beliefs and practices. The promotive value of religiosity may function differently depending on how it is measured.

This study examined the relationship between mental health problems, religiosity, and sexual risk behaviors among African American girls seeking outpatient psychiatric care. The study extends previous research in several important ways. First, we focus on African American girls seeking mental health services – a population at high risk for negative health outcomes that has received relatively little attention in HIV prevention research. Second, we evaluated youth and parent reports of girls' psychopathology since data from multiple informants provide a more comprehensive perspective (Donenberg et al., 2001). Third, we assessed three narrow-band mental health problems (depression/anxiety, aggression, and rule-breaking) related to adolescent sexual risk taking in previous research (DiClemente et al., 2001; Donenberg et al., 2003). Narrow-band, rather than broad-band psychopathology (e.g., externalizing) allows for greater specificity in the linkages between psychopathology and sexual risk, thereby pointing to particular areas of intervention. Fourth, we evaluated the unique contribution of a key factor for many African Americans in promoting healthy behavior, namely youth and parent reports of religiosity. By assessing religious beliefs and practices separately for both parents and adolescents, our study addresses limitations identified in current studies of religiosity and adolescent health (Rew & Wong, 2006). Finally, we explored two important outcomes typically linked to HIV/STI-risk, unprotected sexual intercourse and number of sexual partners. Based on previous research regarding the role of externalizing problems and sexual risk taking (Donenberg et al., 2001), we expected more aggression and rule breaking to be related to increased sexual risk among African American girls, but we made no specific hypotheses about the role of depression/anxiety. We also expected greater religiosity to be related to less sexual risk taking, but prior research prevented more specific predictions about particular aspects of religiosity (e.g., parent religiosity vs. adolescent religiosity; religious beliefs vs. religious practices) in relation to risk.

METHOD

Overview of Procedures

This study is part of a larger longitudinal project designed to understand HIV-risk behavior among African American girls seeking outpatient mental health services. Data were

collected between 2003 and 2008. Participants were recruited from eight mental health clinics in urban Chicago. Girls were eligible for the study if they: 1) self-reported being African American between the ages of 12 and 16; 2) lived with a female caregiver (referred to as mothers in the study) for at least 3 months; 3) understood the survey questions and assent process; 4) spoke English; and 5) had no siblings in the study. Adolescents who were wards of the Department of Child and Family Services were not allowed to participate due to the lack of approval from their institutional review board. A clinic staff member contacted eligible families to gain permission to be contacted by research staff. If families agreed, their names and contact information were released to study personnel who followed-up with a letter and telephone call. Eighty two percent of the families approached enrolled in the project (N = 266). Mothers and daughters provided written informed consent and assent, and were reassured that participation was voluntary and that their decision to participate would not impact their mental health treatment. This study was approved by the University of Illinois at Chicago's Institutional Review Board. Mothers and daughters received $40 for participating at baseline, and mothers received an additional $15 for travel and parking. This study focused on the baseline data pertaining to girls' mental health problems, mothers and daughters' religiosity, and girls' sexual risk behavior.

Participants

Participants were a subset of girls who reported ever having sex (N=80/266) and their caregivers. The ethnic composition of the sample was predominantly African American (94% of girls, and 99% of caregivers), followed by multiethnic (4% of girls, and 1% of caregivers). Girls ranged in age from 12 to 16 years (M =15.07; SD =1.02), and the majority of caregivers were biological mothers (71%), grandmothers (14%), and adoptive mothers (5%). Caregivers ranged in age from 25 to 80 years (M =43.10; SD=10.61), and the majority (89%) reported raising their adolescent for 10 or more years (M =13.32; SD = 3.18; range = 1 – 16). Eighty percent scored in the first three levels of the Hollingshead index (Hollingshead, 1975), indicating low to middle incomes. The majority of girls (80%) and caregivers (86%) identified as Christians, followed by those who with no religious affiliation (19% of the girls, and 10% of the caregivers). Given that the majority of families who attended places of worship were Christian, the term "church" will be used to refer to places of worship.

According to the standard cutoff for clinical significance on the Child Behavior Checklist (CBCL) (Achenbach, 1991a) and Youth Self Report (YSR) (Achenbach, 1991b) (T≥63 on the broad-band syndromes and T≥67 on the narrow-band syndromes), 25% of girls self-reported clinical levels of internalizing problems, and 56% self-reported clinical levels of externalizing problems. Based on mother reports, 42% of girls scored in the clinical range for internalizing problems, and 66% had clinical levels of externalizing problems. For the narrow-band syndromes, 9% of girls and 30% of mothers reported clinical levels of adolescent anxiety/depression, 26% of girls and 55% of mothers reported clinical levels of adolescent rule-breaking, and 40% of girls and 47% of mothers reported clinical levels of adolescent aggressive behavior. These rates are comparable to other adolescent psychiatric outpatient populations (Donenberg et al., 2003; Weisz & Weiss, 1989), and reveal relatively high levels of mental health problems in the sample.

Measures

Religiosity—Girls' religious beliefs and practices were assessed using a 6-item scale of religiosity and spirituality adapted from the National Longitudinal Study of Adolescent Health (ADD Health). Mothers' religious beliefs and practices were assessed using a 5-item religiosity scale also adapted from ADD Health. Items queried frequency of religious attendance, importance of religion, religious guidance, religious beliefs about sex, and

participation in religious activities for youth (for adolescents only) rated on a 4-point Likert scale. Higher scores indicated more religious involvement and stronger religious beliefs. One item assessed prayer frequency on a 5-point Likert scale, with higher scores indicating more prayer. Internal consistencies for adolescent report of religiosity was .70, and .62 for parent report of religiosity.

Mental Health—Mothers and girls reported on girls' psychopathology using the CBCL (Achenbach, 1991a) and YSR (Achenbach, 1991b), respectively. Both provide scores for narrow-band syndromes. Items are rated on a 3-point Likert scale from 0 = not true, to 2 = very true or often true. Extensive psychometric data exist for both measures. Alphas for anxiety/depression, aggression and rule-breaking behavior as measured by the CBCL were . 86, .92, and .90, respectively. Alphas for anxiety/depression, aggression and rule-breaking behavior as measured by the YSR were .82, .85, and .81, respectively.

Adolescents' Sexual Behavior—Three items associated with HIV-transmission from the AIDS Risk Behavior Assessment (ARBA) (Donenberg et al., 2001) were used to reflect sexual risk taking: (1) "In the past 6 months, how often did you and your partner use condoms/latex protection during vaginal sex?" where 1 = Never used a condom, to 5 = Used a condom every time, or 6 = Did not have sex within past 6 months; (2) and "In the past 6 months, how often did you and your partner use condoms/latex protection during anal sex?" and (3)"How many sexual partners have you had in the past 6 months?" where more partners represents increased risk. A single variable, "condoms/latex protection during vaginal and anal sex," was created to account for condom use within the past 6 months for both anal and/or vaginal sex. This combined variable is rated on the same 6-point scale from the individual condom use variables previously described. Participants who reported engaging in both vaginal and anal sex within the past 6 months were assigned their lowest reported score (conferring greater sexual risk) for the combined variable.

RESULTS

Data Analysis

Analyses examined the relations among psychopathology, religiosity and sexual risk behaviors (condom use, number of partners) among sexually active African American girls seeking outpatient mental health services. We conducted a series of 4 hierarchical regression analyses each for condom use and number of sexual partners. In each model, age was entered in the first block, reports of psychopathology (parent or teen report) were entered into a second block, and religiosity (parent or teen report) was entered into a third block. As such, we were able to evaluate (1) the unique effects of girls' mental health problems on sexual risk outcomes while controlling for age, and (2) the unique effects of religiosity over and above both mental health problems and age. Given the exploratory nature of the study, we balanced Type I and Type II error by using the Bonferroni correction of .05/4 ($p \leq .012$) to control for mother versus daughter reports in both religiosity and girls' psychopathology.

Sexual Risk Descriptives

Among girls who ever had sex, 84% (N = 67/80) reported having sex within the past 6 months. Among girls who had sex within the past 6 months, only 54% reported using condoms on every occasion ($M = 4$; $SD = 1$), and 15% reported using condoms more than half of the time. Of the remaining girls, 13% reported condom use half of the time, 10% reported condom use some of the time, and 8% reported never using condoms within the past 6 months. The majority (N = 46; 69%) of girls who reported having sex within the past 6 months reported having one partner ($M = 2$; $SD = 2$; range 1 – 14), but 31% (N = 21) reported two or more partners, with an average of 4 partners ($SD = 3$) in the past 6 months.

Condom use

Results indicated that the model including age, parent-report of girls' psychopathology, and parent religion significantly predicted condom use among girls, $F(9, 79) = 2.60$, $p = .01$, accounting for 25% of the variance. Age, included in the first block, was negatively associated with condom use, and only accounted for 5% of the variance. The addition of parent-reported symptoms of girls' psychopathology in the second block did not achieve statistical significance. Parent religiosity in the third block accounted for an additional 15% of variance in the overall model. As shown in Table 1, parent church attendance, which was positively associated with condom use, was the only parent religiosity variable that statistically contributed to condom use.

Number of partners

Three of the four models predicting number of partners achieved statistical significance, each explaining a large proportion of variance, ranging from 31% (for the model including age, parent report of girls' psychopathology, parent religiosity, $F(9, 79) = 3.49$, $p = .001$) to 37% (for the model including age, girls' self-reported psychopathology, and parent religiosity, $F(9, 79) = 4.66$, $p < .001$). The third model (including girls' self-reported psychopathology and religiosity) accounted for 32% of the variance in number of partners, $F(10, 78) = 3.22$, $p = .002$. As shown in Table 2, age was not statistically significant in any of the models, but the addition of girls' psychopathology in the second block accounted for a significant proportion of variance in all three models, ranging from 26% to 31%. Specific forms of girls' psychopathology uniquely contributed to number of partners; greater rule breaking and increased anxiety/depression were consistently associated with more partners, whereas more aggression was associated with fewer partners. Religion did not contribute any unique variance to the models.

DISCUSSION

This is one of the first studies to examine the promotive effects of religiosity on sexual risk behaviors among sexually active African American girls in psychiatric care, and the unique contribution of mental health problems to these linkages. Notably, the study examined the associations between specific sexual risk behaviors and different types of psychopathology. Employing a measure of parent and adolescent religiosity including beliefs and practices, this study is also one of the first to examine the particular aspects of religiosity contributing to specific sexual risk behaviors. Results indicated different risk and promotive mechanisms for girls' condom use and number of partners, depending on parent versus youth report. Mother religiosity was significantly related to girls' condom use, but not to girls' number of partners. Instead, girls' number of partners was associated with both parent and adolescent report of girls' mental health problems. The models adequately fit the data, with religiosity explaining as much as 15% of the variance in condom use and psychopathology accounting for as much as 31% of the variance in number of partners.

Contrary to our expectations, greater religiosity was not uniformly related to less sexual risk taking. Rather, more maternal church attendance was the primary religious activity related to greater condom use among girls. Previous research supports church attendance as promoting wellness among African American youth. Churches serve as important sources of community and family for many African Americans (Haight, 2002), and scholars hypothesize that individuals who attend church engage in a form of social integration that reinforces social regularities and values conducive to various forms of positive youth development, including pregnancy prevention (Johnson, Jang, Li, & Larson, 2000; Regenerus & Elder, 2003; Wallace & Williams, 1997). Whereas, church members are rewarded for engaging in prescribed behavior, engaging in proscribed behavior may lead to

sanctions (Muller & Ellison, 2001). Given the normative value of abstaining from premarital sex among church communities, sexually active girls may be motivated to prevent public disclosure of the condemned activity (i.e., pregnancy), and thus, more likely to use condoms. Indeed, research suggests adolescents are more motivated to use condoms to prevent pregnancy than STI acquisition (O'Sullivan, Udell, Montrose, Antoniello, & Hoffman, 2009). This may also explain why parent church attendance was not related to girls' number of partners (a factor that can be kept private). Reasons for why girls' church attendance was unrelated to their sexual risk are less clear. However, it is possible that belonging to a church provides mothers with support and encourages parenting practices (e.g., communication regarding sexual risks) that promote condom use among girls. Future research should examine potential mediators of the relationship between maternal church attendance and pregnancy prevention, as well as other factors identified as important in the literature, such as future orientation and academic achievement (Regenerus & Elder, 2003).

Similar to extant research (Donenberg et al., 2003; Mazzaferro et al., 2006), girls' psychopathology was inconsistently associated with their risky sexual practices. Mental health was unrelated to girls' condom use, but it was associated with their number of partners. Specifically, more rule-breaking behavior (via parent- and self-report) and anxiety/depression (via parent report) were related to more sexual partners, while increased youth aggression (via parent report) was related to fewer sexual partners. Research suggests that rule breaking often occurs in groups and may be part of a larger problem behavior syndrome (Jessor & Jessor, 1977) that includes high-risk sexual behavior. As these youth often travel in mixed gender groups, there tend to be ample opportunities for sexual encounters with a variety of partners. By contrast, aggression is typically associated with poor peer relationships and peer rejection (Coie, Dodge, & Coppotelli, 1982). Aggressive youth with strained peer relationships have fewer friends (Coie et al., 1982). As a result, aggressive girls may have fewer opportunities to develop sexual relationships with multiple partners. Additionally, given their interpersonal deficits, troubled youth may have difficulty maintaining relationships that lead to sexual encounters, especially girls in psychiatric care.

At least two possible pathways may explain the relationship between anxiety and depression and multiple partners. Although research consistently supports the relationship between sexual experiences and depressive symptoms among adolescent girls (Davila et al., 2009; Hallfors, Waller, Bauer, Ford, & Halpern, 2005; Joyner & Udry, 2000), the direction of the relationship is unclear. Consistent with the stress and coping model of adolescent romantic experiences and depressive symptoms (Davila et al., 2009), having multiple sexual partners may increase the likelihood of depressive symptoms. Engaging in sexual activity involves dealing with issues of rejection and acceptance, conflict resolution and negotiation. These experiences may be challenging for girls in psychiatric care, because they tend to have poor emotion regulation (to manage the variety of feelings brought about by intimacy) and strained relationships. The stress resulting from such challenges, along with limited coping skills characteristic of troubled girls, may increase the likelihood of depressive symptoms (Davila et al., 2009; Hallfors et al., 2005).

Alternatively, depression and anxiety may lead girls to seek more sexual partners. Anxious and depressed girls often suffer from low self-esteem, feelings of isolation, and perceptions of low social support (Daley & Hammen, 2002; Joiner, Alfano, & Metalsky, 1992). Research suggests that girls' self-concept is more interpersonally oriented (Block & Robins, 1993; Richards & Larson, 1989), with greater perceptions of connectedness associated with higher levels of self-esteem (Josephs, Markus, & Taforodi, 1992). Troubled girls, many of whom have impaired relationships and lack skills to develop healthy interpersonal connections, may pursue sexual intimacy with multiple partners in order to improve their

self-esteem and gain reassurance of self-worth (Davila et al., 2009). Longitudinal data are best equipped to clarify this direction of the effects.

Results should be interpreted in the context of study limitations. First, the cross-sectional nature of the data prohibits determining the direction of the effects. Second, unexamined third variables may explain the relationships among religiosity, psychopathology, and sexual risk behaviors more fully. Future research should examine mechanisms as possible mediators of these linkages, such as positive peer influence (Donenberg et al., 2003) or parent-child communication (Hadley et al., 2009). Third, study findings are based on a sample of African American girls seeking outpatient psychiatric care and may not generalize to boys, psychiatric populations from other ethnic groups, or to non-psychiatric samples. Finally, the study relied on participant self-report that may be subject to various biases, including social desirability and reporter bias. Although we used computer-assisted assessments found to minimize reporter bias (Romer et al., 1997), this remains a problem associated with all research utilizing self-report methods (O'Sullivan, 2008).

This study provides further support that mental health is an important factor in sexual risk taking (Brown et al., 1997; Donenberg et al., 2001; Donenberg & Pao, 2005), and extends previous research by linking specific types of mental health problems to particular sexual risk behaviors among African American girls in psychiatric care. It also contributes to the body of literature suggesting religiosity as a promotive factor for safe sexual practices among African American girls. According to the CDC, 50% of sexually active African American girls have a sexually transmitted infection (STI) (CDC, 2008c), and rates are likely to be even higher among troubled African American girls. Unfortunately, few studies have attended to this population and its unique prevention needs. Findings from this study underscore the importance of adopting an ecological framework to understand both the risk and promotive factors for sexual risk taking among troubled African American girls (Donenberg & Pao, 2005). Understanding the ways in which religion can promote sexual health among girls is important for developing effective and culturally relevant HIV prevention programs for African American families in religious communities. Programs that incorporate community strengths and health promotive practices are more likely to be accepted by and implemented in the communities for which they are created.

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Table 1

Results of regression analyses predicting condom use

		Model #1[a]			Model #2[b]			Model #3[c]			Model #4[d]		
Block	**Predictors**	**β**	**t**	**ΔR²**	**β**	**t**	**ΔR²**	**β**	**t**	**ΔR²**	**β**	**t**	**ΔR²**
1	**Age**	−.22	−2.03*	.05*	−.21	−1.96*	.04	−.21	−1.96*	.04*	−.22	−2.03*	.05*
2	**CBCL**			.05			.05						
	Anxiety/depression	.16	1.19		.17	1.19							
	Rule breaking	−.10	−.63		−.09	−.57							
	Aggression	−.20	−1.15		−.21	−1.16							
	YSR									.02			.02
	Anxiety/depression							−.06	−.52		−.06	−.50	
	Rule breaking							−.17	−1.07		−.15	−1.00	
	Aggression							.08	.50		.06	.41	
3	**Mother Religion**			.15*									.15*
	Attendance	.34	3.01**								.31	2.70**	
	Importance	−.25	−1.91								−.34	−2.51*	
	Prayer	−.18	−1.72								−.18	−1.62	
	Guidance	.21	1.54								.24	1.69	
	Views About Sex	−.05	−.46								−.04	−.39	
	Girl Religion						.06			.06			
	Attendance				.12	.76		.13	.86				
	Importance				.09	.56		.09	.59				
	Prayer				.07	.63		.01	.13				
	Guidance				.07	.52		.08	.59				
	Views About Sex				.02	.23		.05	.43				
	Youth group				−.07	−.59		−.10	−.76				
	Overall model ΔR²			.25**			.15			.13			.22*

Note: Given the Bonferroni correction, the overall model is considered significant at $p \leq .012$.

* $p \leq .05$.

** $p \leq .012$.

*** $p \leq .001$.

[a] Model #1 includes: age, parent reported symptoms of daughter psychopathology, and parent self-reported religiosity.

[b] Model #2 includes: age, parent reported symptoms of daughter psychopathology, and daughter self-reported religiosity.

[c] Model #3 includes: age, daughter self-reported symptoms of psychopathology, and daughter self-reported religiosity.

[d] Model #3 includes: age, daughter self-reported symptoms of psychopathology, and parent self-reported religiosity.

Table 2

Results of regression analyses predicting number of partners

		Model #1a			Model #2b			Model #3c			Model #4d		
Block	**Predictors**	**β**	**t**	**Δ R^2**	**β**	**t**	**Δ R^2**	**β**	**t**	**Δ R^2**	**β**	**t**	**Δ R^2**
1	**Age**	−.14	−1.29*	.02	.04	.37	.00	.04	.37	.00	−.14	−1.29	.02
2	**CBCL**			.26***			.18**						
	Anxiety/depression	.33	2.65**		.19	1.43							
	Rule breaking	.53	3.57***		.46	2.94*							
	Aggression	−.37	−2.34*		−.21	−1.22							
	YSR									.28***			.31***
	Anxiety/depression							.20	1.84		.19	1.81	
	Rule breaking							.43	3.04***		.59	4.48***	
	Aggression							−.02	−.15		−.22	−1.71	
3	**Mother Religion**			.03									.15*
	Attendance	−.09	−.90								−.07	−.73	
	Importance	.17	1.33								.19	1.61	
	Prayer	.05	.53								.07	.74	
	Guidance	−.09	−.72								−.15	−1.19	
	Sexual Behavior	.13	1.12								.14	1.31	
	Girl Religion						.03			.04			
	Attendance				−.14	−.94		−.10	−.76				
	Importance				.06	.40		.02	.19				
	Prayer				.01	.09		.05	.43				
	Guidance				−.03	−.22		.00	.05				
	Sexual Behavior				.12	1.03		.07	.70				
	Youth group				.14	1.10		.18	1.54				
	Overall model Δ R^2			.31***			.21			.32**			.37***

Note: Given the Bonferroni correction, the overall model is considered significant at $p \leq .012$.

*$p \leq .05$.

** $p \leq .012$.

*** $p \leq .001$.

[a] Model #1 includes: age, parent reported symptoms of daughter psychopathology, and parent self-reported religiosity.

[b] Model #2 includes: age, parent reported symptoms of daughter psychopathology, and daughter self-reported religiosity.

[c] Model #3 includes: age, daughter self-reported symptoms of psychopathology, and daughter self-reported religiosity.

[d] Model #3 includes: age, daughter self-reported symptoms of psychopathology, and parent self-reported religiosity.