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ORIGINAL ARTICLE

The Impact of Religious Participation and Religious Upbringing on The Sexual Behavior of Emerging Adults in The Southern United States

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Abstract

Emerging adults face a disproportionate burden of unintended pregnancies and sexually transmitted diseases, especially in the southern United States. This study investigates how multiple dimensions of current religiosity as well as religious upbringing influence the sexual behaviors, including contraceptive usage, of individuals 18–25 years old (n=211) in the South. Based on regression analyses, results suggest that emerging adults with higher levels of current religiosity are more likely to remain abstinent, but less likely to use pregnancy prevention methods, such as birth controls pills and long-acting reversible contraceptives. Having a religious upbringing is also associated with lower contraceptive usage. Through the assessment of multiple dimensions of religiosity and various sexual behaviors, this study presents a nuanced picture of the complex associations between religion and sexual health, specifically among emerging adults in the southern United States.

Keywords Religion · Emerging Adulthood · Birth control · Condom use · Abstinence

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Introduction

Emerging adulthood is a developmental period, beginning at age 18 and generally lasting into the mid-20's. This is a transitional period that forms a bridge between adolescence (13–18) and young adulthood (generally mid-20 and 30 s), and is typically characterized as a stage of instability, self-focus, and possibilities (Arnett, 2000; Nelson & Barry, 2005; Jennifer L Tanner, 2011; Jennifer Lynn Tanner & Arnett, 2016). One common feature marking this transition from adolescence to adulthood is when individuals form their own belief and value systems by exploring religion away from parents and religious institutions (Arnett & Jensen, 2002). In addition to belief formation, this developmental stage is also characterized by engagement in sexual risk behaviors, such as having casual sexual relationships and engaging in unprotected sex, which places emerging adults at risk for unintended pregnancies and sexually transmitted infections (STIs) (Bisson & Levine, 2009; Downing-Matibag & Geisinger, 2009; Garcia, Reiber, Massey, & Merriwether, 2012; Owen & Fincham, 2011; Penhollow, Young, & Bailey, 2007; Puentes, Knox, & Zusman, 2008; Santelli, Brener, Lowry, Bhatt, & Zabin, 1998).

Particularly in the southern United States (US), emerging adults experience high rates of unplanned pregnancies and STIs (Centers for Disease Control and Prevention, 2016b; Guttmacher Institute, 2016). They have the highest rates of unintended pregnancies compared to other age groups, with rates more than double that of women over 30 years of age (Finer & Zolna, 2016). In 2011, over 60% of pregnancies among emerging adults were unintended, with increased rates of unintended pregnancies clustered across the southern US (Finer & Zolna, 2016; Guttmacher Institute, 2016; Kost, 2015). There were over 1.2 million unintended pregnancies in this region alone during 2010 (Kost, 2015). Additionally, individuals aged 15–24 are estimated to account for half of all new STIs and 22% of new HIV diagnoses (Centers for Disease Control and Prevention, 2016b, 2017). In 2015, the South had 10 of the 15 states with the highest rates of chlamydia, nine of the 15 states with the highest rates of gonorrhea, four of the six states with the highest rates of primary and secondary syphilis, and eight of the 10 states with the highest rates of new HIV diagnoses (Centers for Disease Control and Prevention, 2016a, 2016b).

In addition to having high rates of unplanned pregnancies and STIs, the South is also highly religious. Data from the Pew Research Center Religious Landscape Study shows that individuals in southern states are more likely to consider themselves to be "highly religious," believe in God, and engage in frequent prayer (Lipka & Wormald, 2016). Among individuals 18–29 years old, 45% say religion is "somewhat important" or "very important" (Pew Research Center, 2014a). This overlap between high rates of unplanned pregnancies, STIs, and religion among emerging adults in southern states warrants further research to better understand its implications for health promotion efforts.

Religion's influence on decision-making and behavior has been demonstrated in the literature, particularly for sexual and reproductive behavior. Most commonly, religiosity is shown to be associated with delays in sexual debut (Haglund & Fehring, 2010; Meier, 2003; Moreau, Trussell, & Bajos, 2013; Rostosky, Wilcox, Wright, & Randall, 2004; Štulhofer, Šoh, Jelaska, Baćak, & Landripet, 2011; Vazsonyi & Jen-

kins, 2010), with one study finding that adolescents and emerging adults who have highly religious beliefs about pre-marital sex are four times more likely to remain a virgin by age 21. Štulhofer et al. (2011) also reported that religious upbringing was associated with sexual debut in females, although no effect was observed for males. Interestingly, different measures of religiosity have had varying associations with sexual debut even within the same study, such that Haglund & Fehring (2010) reported that those who indicated religion to be very important were 27% less likely to have had sex, those who attended services frequently were 46% less likely to have had sex, and those who held strong religious attitudes about sex were 54% less likely to have had sex. These observed differences highlight the benefit of using multiple measures of religiosity in a single study to understand the nuances of how different aspects of religion may impact behavior.

Furthermore, research has looked at the relationship with religiosity and contraceptive behaviors (mostly among adolescents) over the past three decades, but has not reported consistent results. Religion has been reported to be correlated with less contraception use in some populations (Brewster, Cooksey, Guilkey, & Rindfuss, 1998; Moreau et al., 2013; Raine, Minnis, & Padian, 2003; Studer & Thornton, 1987; Zaleski & Schiaffino, 2000), while other studies reported no correlation between religion and contraception use (Adamczyk & Felson, 2008; Bearman & Brückner, 2001; Gold et al., 2010; Jones et al. 2005). Observed differences may be due to different populations or a result of disparate measures to operationalize religion. Additionally, many of these studies only considered condom or birth control pill use; and it is unclear how religiosity is related to other forms of birth control such as long-acting reversible contraceptive (LARC) methods, dual protection methods (i.e., using condoms with another effective pregnancy prevention method), as well as less effective methods like withdrawal.

Existing research examining religion and sexual health have used a variety of measures to operationalize the concept of religiosity, but individual studies frequently only consider a limited number of religiosity measures. Religious service attendance, feelings of religiosity, importance of religion, daily religious practices, religious beliefs (particularly about sexual behavior), and religious affiliation have been commonly studied in the literature (Brewster et al., 1998; Edwards, Haglund, Fehring, & Pruszynski, 2011; Fielder, Walsh, Carey, & Carey, 2013; Gold et al., 2010; Lefkowitz, Gillen, Shearer, & Boone, 2004; Luquis, Brelsford, & Rojas-Guyler, 2012; Moore, Berkley-Patton, & Hawes, 2013; Moreau et al., 2013; Penhollow, Young, & Denny, 2005; Vazsonyi & Jenkins, 2010; Zaleski & Schiaffino, 2000). Researchers to date have not yet agreed upon a validated measure of religiosity, with some arguing religious attendance to be a better predictor of sexual behavior (Edwards et al., 2011), while others argue for using the importance of religion and overall religiosity as primary predictors of sexual behavior (Fielder et al., 2013; Moore et al., 2013). Furthermore, religious upbringing or parental religiosity has not been widely used in the literature as a correlate of sexual and reproductive health behavior among emerging adults. Two studies examining sexual behaviors among adolescents and emerging adults utilized a single question to assess religious upbringing (i.e. were respondents raised religiously?) (Raine et al., 2003; Štulhofer et al., 2011).

To build on the existing literature, this study investigates how multiple measures of religious upbringing and multiple measures of current religiosity are associated with sexual behaviors (i.e., abstinence and sexual debut) and contraceptive usage (including condoms, birth control pills, withdraw, and LARC methods) among individuals 18–25 years of age residing in the South. Additionally, in recognition that religiosity can be measured through numerous dimensions, this study expands on previous findings by utilizing religious coping, religious social support, and multiple measures of religious upbringing, in addition to more common measurements including affiliation, religious service attendance, and participation in religious activities. By considering multiple dimensions of religiosity and various sexual behaviors, this study provides a more nuanced picture of the complex associations between religion and sexual health. Finally, this study focuses on the southern United States, which has been shown to be disproportionately impacted by STIs and unplanned pregnancies, especially among emerging adults.

Methods

Study Design

An anonymous online survey was disseminated nationally through schools, community-based organizations, churches, and social media platforms from September 2014 to May 2016. Interested venues were asked to distribute a flyer with a direct link to the survey via listservs, their website or social media pages, and physical printed copies. An initial landing page on the electronic survey provided detailed information about the survey and the types of measures included. Informed consent was obtained from all individual participants included in the study. To be eligible for participation, respondents must be at least 18 years of age and reside in the US or a US territory. A total of 1,011 responses were collected that were eligible for participation and provided informed consent. For the purposes of this study, unmarried individuals between the ages of 18–25 who resided in the southern region of the US, according to the Census Bureau definition (United States Census Bureau, 2010), were included in the analysis (n = 211). Emory University Institutional Review Board approved this study prior to any data collection occurring and no incentive was provided for participation.

Measures

Sexual Behavior Outcomes. Sexual behaviors were assessed through three measures: lifetime sexual activity, age at sexual debut, and current birth control use. First, respondents were asked whether they had ever engaged in oral, vaginal, or anal sex, which was a dichotomous item with a yes/no response. If they had previously engaged in sex, they were asked to provide their age when they first engaged in any type of sexual activity (continuous variable).

Current birth control use was asked of all respondents, regardless of their sexual history. Respondents were asked, “are you/your partner using any form of birth con-

trol," and asked to select all current methods utilized. Response options included condoms, birth control pills, IUD, implant, shot, patch, ring, withdrawal method, tubal ligation, vasectomy, other method, unsure, and no method. For the purposes of this study, birth control methods were re-categorized in the following dichotomous variables, which were not mutually exclusive: (1) no method of protection; (2) condom use; (3) birth control pill; (4) withdrawal method; (5) LARC, which included an IUD, implant, patch, shot, and ring; and (6) dual protection methods, which included simultaneous use of condoms and another birth control method, not including withdrawal. The primary dependent variables for this study included ever engaging in sexual activity, age at sexual debut, and each of the birth control methods listed above.

Measures of Current Religiosity. Measures of religiosity were separated into current religiosity and religious upbringing, which was defined as beliefs and activities occurring before the age of 18 (See Table 1 for a description of religiosity measures). Current religiosity was assessed using seven measures: religious affiliation, religious institution membership, religious service attendance, religious volunteer hours outside of religious service attendance, religious social support, positive religious coping, and negative religious coping. The religious affiliation measure was based on religious traditions and Christian denominations from Pew Research Center's Religious Landscape Study (Pew Research Center, 2014b), which was recoded into four categories: Christian/Protestant, Christian/Catholic, Non-Christian Religions (which included Hindu, Muslim, Jewish, Buddhist, and Other world religions), and Unaffiliated based on (Steensland et al., 2000). We combined Hindu, Muslim, Jewish, Buddhist, and Other world religions in to one "Non-Christian" category, which is how these faiths were categorized in Pew's Religious Landscape Study (Pew Research Center, 2014b). The South is predominately comprised of Christian religions (>75% of adults), which is consistent with our sample (Pew Research Center, 2014b). Religious institution membership was measured by asking respondents to indicate whether they "currently belong to or attend a church, synagogue, temple, or other community of faith." This is a common metric utilized for measuring membership, such as used in (Roof & Hoge, 1980). A respondent's religious service attendance was calculated by totaling the number of times per month they attended religious services, such as weekend and midweek services. Number of services over a period of time is a standard measure of religious attendance (Rossi & Scappini, 2014). Based on measures reported by (Campbell & Yonish, 2003), religious volunteer hours were assessed by the item, "in an average month, how many hours total do you give in volunteer service to your church?" An adapted 8-item version of the CASSS social support scale, previously used to capture perceived support from parents, peers, and social media by adolescents and young adults, was used to assess perceived support from respondents' religious community ($\alpha = 0.90$) (Malecki, Demaray, Elliott, & Nolten, 2000; Wohn, Ellison, Khan, Fewins-Bliss, & Gray, 2013). Responses ranged from 19 to 32 with higher scores indicating greater perceived religious social support. The 14-item Religious Coping Scale (RCOPE), comprised of two subscales, was used to assess positive and negative religious coping (7-items each) (Pargament, Feuille, & Burdzy, 2011). Positive religious coping measured whether respondents perceived themselves as having a secure relationship with God and their church,

Table 1 Measures of Religiosity

Measure Name	Survey Question	Recoding	Source of Measure
Measures of Current Religiosity			
Religious Affiliation	What religion do you consider yourself? - Protestant Christian - Catholic Christian - Orthodox Christian - Christian, Mormon - Christian, Jehovah's Witness - Christian, Other - Jewish - Muslim - Hindu - Buddhist - Other World Religion - Other Faith - Unaffiliated	Christian/ Protestant Catholic Non-Chris-tianReligion Unaffiliated	Survey question based on Pew Research Center's Religious Landscape Study (Pew Research Center, 2014b) Recoding based on (Steensland et al., 2000)
Religious Institution Membership	Do you currently belong to or attend a church, synagogue, temple, or other community of faith? (Yes, No)	N/A	(Roof & Hoge, 1980)
Religious Service Attendance	In an average month, how many times do you attend weekend services? In an average month, how many times do you attend midweek services?	Sum of number of services attended per month	(Rossi & Scappini, 2014)
Religious Volunteer Hours	In an average month, how many hours total do you give in volunteer service to your church?	N/A	(Campbell & Yonish, 2003)
Religious Social Support Scale	Please select how strongly you agree (Strongly Disagree, Disagree, Agree, Strongly Agree) with the following statements: - My religious community makes suggestions when I do not know what to do. - My religious community does not give me good advice. - My religious community helps me solve problems by giving me information. - My religious community does not listen to me when I need to talk. - My religious community understands my feelings. - My religious community shows they are proud of me. - My religious community explains things that I do not understand. - My religious community does not stick up for me if others are treating me badly.	Reverse-coded items with negative valence, summed items to calculate composite score	(Malecki et al., 2000; Wohn et al., 2013)

Table 1 (continued)

Measure Name	Survey Question	Recoding	Source of Measure
Positive Religious Coping Scale	How often (Never, Not too often, Often, Very Often) in the past 3 months have you: - Looked for a stronger connection with God? - Sought God's love and care? - Sought help from God in letting go of your anger? - Tried to put your plans into action together with God? - Tried to see how God might be trying to strengthen you in your situation? - Asked for forgiveness for your sins? - Focused on religion to stop worrying about your problems?	Summed items to calculate composite score	(Pargament et al., 2011)
Negative Religious Coping Scale	How often (Never, Not too often, Often, Very Often) in the past 3 months have you: - Wondered whether God had abandoned you? - Felt punished by God for your lack of devotion? - Wondered what you did for God to punish you? - Questioned God's love for you? - Wondered whether your church had abandoned you? - Decided the devil made this happen? - Questioned the power of God?	Summed items to calculate composite score	(Pargament et al., 2011)
Measures of Religious Upbringing			
Religious Parents	During your teenage years (13–18 years), were your parents/guardians religious? (Yes, No)	N/A	
Religious Involvement	During your teenage years (13–18 years), were you involved in a church or religious youth group? (Yes, No)	N/A	(Mueller et al., 2010)
Religious Youth Activities	Did you participate in youth/teen activities outside of regularly scheduled religious services (i.e., social activities, trips, choir, etc.)? - Yes, at least once a week. - Yes, a few times a month. - Yes, at least once a month. - Yes, a few times a year. - No, I did not participate in these types of activities.	N/A	(Mueller et al., 2010)

whereas negative religious coping reflected turmoil in their religious beliefs and potential questioning of whether God is good and loving. Positive religious coping scores ranged from 7 to 28, with higher scores indicating increased positive religious coping ($\alpha = 0.94$). Negative religious coping scores ranged from 7 to 28, with higher scores indicating increased negative religious coping ($\alpha = 0.93$).

Measures of Religious Upbringing. In addition to current religiosity, religious upbringing was also assessed with four measures: having religious parents/guardians, religious service attendance until age 18, participation in a religious youth group, and participation in religious youth activities. Having a religious parent was a dichotomous variable indicating whether the respondent's parents or guardians were religious during their adolescence. Religious service attendance during adolescence was created by collapsing responses from three separate dichotomous items: whether they attended services with their parent/guardian, with friends, or by themselves. A yes response recorded for one or more of these three items indicated that the participant attended religious services during their upbringing. Since over 90% of participants

reported attending services as a child, this measure was not utilized as a religious predictor in the regression analysis due to the lack of variability. Participation in a religious youth group was also a dichotomous measure assessed using the following question, "were you involved in a church or religious youth group?" Finally, participation in other religious youth activities was assessed by asking, "did you participate in youth/teen activities outside of regularly scheduled religious services (i.e., social activities, trips, choir, etc.)?" Response options included (0) no participation, (1) a few times a year, (2) at least once a month, (3) a few times a month, and (4) at least once a week. Compared to current religiosity, measures of religious upbringing are not as well studied in the current literature, but our measures are consistent with other studies (Mueller, Bensyl, Vesely, Oman, & Aspy, 2010; Pew Research Center, 2014a).

Demographic Control Variables. Demographic variables including age, assigned sex at birth (male or female), and race/ethnicity were collected. Participants were asked to indicate their race by selecting one or more of the following categories: American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, White, Hispanic, or Other. For the purposes of analysis, race was re-categorized as White, Black or African American, Asian and Other (which includes those who indicated more than one race, Hispanics, American Indians or Alaska Natives, and Native Hawaiians or Other Pacific Islanders). Participants were also asked to indicate their relationship status (in a relationship or not in a relationship).

Statistical Analyses

Analyses included all emerging adults between the ages of 18 and 25 who resided in the South when the survey was administered. Based on criteria set by the Census Bureau, the South includes 16 states and the District of Columbia (United States Census Bureau, 2010). Descriptive statistics were calculated for all relevant study variables, and bivariate analyses were performed between religious predictors and sexual behavior outcomes. We also performed tests to ensure model assumptions were met (i.e., linearity, homoscedasticity, normality). Variables had no notable outliers, and missing data was minimal (missing data ranged from 0 to 10 per variable). Because there were high levels of intercorrelations between the religious variables (multicollinearity), each religious predictor was entered into a separate model. Logistic regression analyses were used to assess the relationship between each measure of religiosity and the dichotomous outcome variables (ever having sex, use of no pregnancy prevention method, use of condoms, use of the withdrawal method, use of birth control pills, use of LARC, and use of dual protection methods). Linear regression analyses were used to assess the relationship between each measure of religiosity and the continuous outcome variable (age at sexual debut). Due to conceptual considerations, all regression models controlled for age, assigned sex at birth, race, and relationship status. Only respondents with no missing data for independent variables were included in the model. Statistical significance was considered at the $p<0.05$ level. All analyses were conducted in SPSS version 23 (IBM Corp, 2015).

Results

Participant Characteristics

A total of 211 unmarried emerging adults living in the southern United States were included in the sample (Table 2). The mean age of respondents was 21.88 years (SD=2.03), and 80.1% were female. The majority of respondents were White (59.5%), followed by Asian (19.0%), Black (12.4%), and Other (9.0%). Approximately half (46.4%) of respondents were in a current relationship.

Overall, 45.5% of respondents were Christian/Protestant, 28.9% were unaffiliated, 8.1% were Catholic, and 12.2% were affiliated with a Non-Christian religion. Of those reporting a religious affiliation, the majority currently attended religious services (64.7%). They also reported attending weekend and midweek services on approximately 4.16 days (SD=4.29) per month. Outside of religious services, they volunteered 2.53 h (SD=4.33) a month, on average, to their church or religious institution. High religious social support was seen among respondents with a mean score of 26.55 out of 32 (SD=3.86). Also, high positive religious coping was seen among respondents with a mean score of 19.36 out of 28 (SD=6.00). Negative religious coping scores were lower, with a mean score of 10.43 (SD=4.32). During their upbringing (13-18y), most respondents reported attending religious services (93.5%), grew up with religious parents (65.7%), attended religious youth groups (57.1%), and participated in faith-based youth activities at least a few times a year (92.9%).

Regarding sexual behaviors, most respondents reported ever engaging in sexual activity (70.1%), with the mean age of sexual debut being 17.45 years (SD=1.96). Respondents used a variety of pregnancy prevention methods including condoms (60.8%), birth control pills (47.6%), dual protection (39.2%) of condoms plus another form of birth control for pregnancy prevention, withdrawal (26.6%), and LARC methods (16.1%). Only 11.9% of respondents did not use any method to prevent pregnancy. Table 2 provides more detailed descriptive statistics regarding respondents' characteristics.

Regression Analyses

Controlling for age, assigned sex at birth, race, and relationship status, results suggest that multiple measures of current religiosity are associated with ever having sex (Table 3). Specifically, those who were members of religious institutions were less likely to have engaged in sex (p=0.001). Also, individuals with greater religious service attendance (p=0.006), religious volunteer hours (p=0.019), religious social support (p=0.021), and positive religious coping (p=0.002) were less likely to ever engage in sex. There were no significant relationships between measures of religious upbringing and ever having sex. Also, no significant associations were found between age at sexual debut any measure of current religiosity or religious upbringing (Table 4).

Controlling for age, assigned sex at birth, race, and relationship status, the associations between all measures of current religiosity/religious upbringing and various methods of pregnancy prevention were assessed (Tables 5 and 6). Respondents with

Table 2 Participant characteristics (n=211)

Characteristics	n (%)	*M* (*SD*)
Demographics/Controls		
Age		21.88 (2.03)
Assigned sex at birth		
Female	169 (80.1)	
Male	42 (19.9)	
Race/Ethnicity		
White	125 (59.5)	
Asian	40 (19.0)	
Black	26 (12.4)	
Other [a]	19 (9.0)	
In a relationship	96 (46.4)	
Current Religiosity		
Religious affiliation		
Christian/Protestant	96 (45.5)	
Catholic	17 (8.1)	
Hindu	10 (4.7)	
Jewish	8 (3.8)	
Muslim	4 (1.9)	
Buddhist	2 (0.9)	
Other World Religion	2 (0.9)	
Unaffiliated	61 (28.9)	
Religious institution membership	90 (64.7)	
Religious service attendance, days per month [b]		4.16 (4.29)
Religious volunteer hours, per month		2.53 (4.33)
Religious social support		26.55 (3.86)
Positive religious coping		19.36 (6.00)
Negative religious coping		10.43 (4.32)
Religious Upbringing (13-18y)		
Had religious parents	130 (65.7)	
Attended religious services	145 (93.5)	
Religious involvement	113 (57.1)	
Religious youth activities		
No participation	8 (7.1)	
A few times a year	18 (15.9)	
At least once a month	28 (24.8)	
A few times a month	25 (22.1)	
At least once a week	34 (30.1)	
Sexual Behaviors		
Ever had sex	143 (70.1)	
Age at sexual debut		17.45 (1.96)
Pregnancy prevention, not mutually exclusive		
No method	17 (11.9)	
Withdrawal	38 (26.6)	
Condoms	87 (60.8)	

Table 2 (continued)

Characteristics	n (%)	*M* (*SD*)
Birth control pills	68 (47.6)	
LARC [c]	23 (16.1)	
Dual protection [d]	56 (39.2)	

[a] Includes individuals who are American Indian/Alaska Native, Native Hawaiian/Pacific Islander, Hispanic, and more than one race

[b] Total number of days devoted to religious services per month

[c] Includes IUD, implant, patch, shot or ring

[d] Use of condoms and another form of birth control, except withdrawal, for pregnancy prevention

Table 3 Relationships between religion and ever having sex

	OR (95% CI)	Pseudo-R2 [a]	-2 Log Likelihood
Current Religion			
Religious affiliation		0.27	200.79
Christian/Protestant	ref		
Catholic	2.47 (0.60-10.15)		
Non-Christian Religion [b]	0.81 (0.28–2.41)		
Unaffiliated	1.67 (0.69–4.03)		
Religious Institution membership	**0.14 (0.05–0.42)*****	0.32	138.93
Religious service attendance	**0.75 (0.61–0.91)****	0.41	90.80
Religious volunteer hours	**0.86 (0.76–0.98)***	0.37	94.43
Religious social support	**0.83 (0.71–0.97)***	0.42	83.79
Positive religious coping	**0.88 (0.82–0.95)****	0.29	142.6
Negative religious coping	0.97 (0.88–1.07)	0.19	153.72
Religious Upbringing			
Had religious parents	0.88 (0.42–1.84)	0.25	202.87
Religious involvement	0.64 (0.31–1.33)	0.26	201.54
Religious youth activities	0.95 (0.67–1.36)	0.29	115.75

*p < 0.05, **p < 0.01, ***p < 0.001

Note: Each religious predictor is a separate model. All regressions controls for age, sex at birth, race, and relationship status

[a] Nagelkerke R Square.

[b] Includes Hindu, Jewish, Muslim, Buddhist, and Other World Religions.

greater religious service attendance were more likely to not use any pregnancy prevention method ($p = 0.003$) and less likely to use birth control pills ($p = 0.027$). Participants with greater religious volunteer hours were also less likely to use birth control pills ($p = 0.037$). Additionally, respondents who had greater positive religious coping scores were more likely to not use any pregnancy prevention method ($p = 0.005$) and

Table 4 Relationships between religion and age at sexual debut

	β (95% CI)	R2	Root MSE
Current Religion			
Religious affiliation		0.06	1.98
Christian/Protestant	ref		
Catholic	0.67 (-0.52-1.01)		
Non-Christian Religion [a]	0.57 (-0.66-1.81)		
Unaffiliated	0.12 (-0.71-0.92)		
Religious institution membership	0.65 (-0.25-1.54)	0.12	1.96
Religious service attendance	0.14 (-0.12-0.39)	0.12	1.98
Religious volunteer hours	-0.02 (-0.20-0.17)	0.10	2.01
Religious social support	-0.09 (-0.25-0.07)	0.11	1.89
Positive religious coping	-0.001 (-0.08-0.08)	0.11	1.97
Negative religious coping	-0.02 (-0.13-0.08)	0.11	1.97
Religious Upbringing			
Had religious parents	0.05 (-0.68-0.78)	0.04	1.98
Religious involvement	-0.17 (-0.89-0.55)	0.05	1.98
Religious youth activities	0.31 (-0.07-0.70)	0.08	2.04

*p<0.05, **p<0.01, ***p<0.001

Note: Each religious predictor is a separate model. All regressions controls for age, sex at birth, race, and relationship status

[a] Includes Hindu, Jewish, Muslim, Buddhist, and Other World Religions.

less likely to use LARC methods ($p=0.023$). No measures of current religiosity/religious upbringing were associated with withdrawal or condom use. One measure of religious upbringing was associated with pregnancy prevention, where respondents who grew up with religious parents were more likely to not use any pregnancy prevention method ($p=0.04$, Table 5).

Discussion

In this study, we investigated how religiosity during emerging adulthood and how religious upbringing influenced the sexual behaviors of individuals 18–25 years of age living in the southern US. We gained a more nuanced picture of the complex associations between religion and sexual health by considering multiple dimensions of current religiosity, religious upbringing, and various sexual behaviors. Results suggest that individuals with higher levels of some measures of current religiosity were more likely to remain abstinent, and less likely to use forms of pregnancy prevention, such as birth control pills and LARC methods. Furthermore, because most measures of religious upbringing during adolescence were unassociated with sexual behavior in emerging adulthood, exposure to religion during adolescence may be less predictive of sexual behavior among this population.

Emerging adulthood is a time where youth are moving away from dependent relationships with family members, making their own decisions about religious institutions, and actively shaping their religiosity (beliefs and practices). During adolescence, religious involvement is not always voluntary; however, during emerging adulthood, individuals have the opportunity to make their own choices about religious beliefs and practices. Our results reflect this transition, as over 93% of respon-

Table 5 Relationships between religion and pregnancy prevention methods (no method, withdrawal, and condoms)

	No Method OR (95% CI)	Pseudo-R2 [a], -2 Log Likelihood	Withdrawal OR (95% CI)	Pseudo-R2 [a], -2 Log Likelihood	Condoms OR (95% CI)	Pseudo-R2 [a], -2 Log Likelihood
Current Religion						
Religious affiliation				0.14, 145.92		0.13, 174.71
Christian/Protestant	-		ref		ref	
Catholic	-		0.64 (0.15–2.76)		1.21 (0.31, 4.69)	
Non-Christian Religion [b]	-		0.18 (0.02–1.51)		1.33 (0.34, 5.21)	
Unaffiliated	-		0.71 (0.28–1.81)		0.89 (0.37, 2.07)	
Religious institution membership		0.14, 64.44	0.55 (0.20–1.52)	0.16, 96.35	1.01 (0.38–2.65)	0.13, 115.42
Religious service attendance	**1.81 (1.18–2.78)****	0.51, 29.19	0.75 (0.51–1.09)	0.21, 49.02	0.92 (0.70–1.21)	0.37, 55.01
Religious volunteer hours	1.25 (0.99–1.57)	0.34, 36.25	0.85 (0.62–1.17)	0.17, 50.5	1.03 (0.84–1.27)	0.36, 55.26
Religious social support	1.11 (0.89–1.39)	0.23, 41.96	1.11 (0.91–1.36)	0.21, 45.03	0.92 (0.76–1.11)	0.33, 52.48
Positive religious coping	**1.29 (1.08–1.55)****	0.28, 56.36	1.05 (0.95–1.16)	0.15, 94.21	0.94 (0.86–1.02)	0.16, 111.70
Negative religious coping	1.05 (0.91–1.21)	0.09, 66.78	0.97 (0.83–1.12)	0.13, 94.95	0.97 (0.87–1.09)	0.13, 113.67
Religious Upbringing						
Had religious parents	**5.23 (1.08–25.43)***	0.11, 94.87	0.79 (0.34–1.84)	0.11, 146.03	0.66 (0.30–1.46)	0.13, 172.15
Religious involvement	3.11 (0.85–11.37)	0.08, 97.19	0.82 (0.35–1.93)	0.11, 146.13	0.57 (0.26–1.24)	0.13, 171.17
Religious youth activities	0.94 (0.56–1.58)	0.16, 62.32	0.85 (0.56–1.31)	0.08, 79.76	0.86 (0.59–1.26)	0.14, 97.61

*p < 0.05, **p < 0.01, ***p < 0.001

Note: Each religious predictor is a separate model. All regressions controls for age, sex at birth, race, and relationship status. A dash (-) indicates that the model was unable to produce stable estimates due to small cell sizes

[a] Nagelkerke R Square.

[b] Includes Hindu, Jewish, Muslim, Buddhist, and Other World Religions.

dents attended religious services during adolescence, but only 65% maintained that behavior during emerging adulthood. This is consistent with other studies that found 60% of emerging adults attend religious services at least a few times a year (Pew Research Center, 2014a). Furthermore, because emerging adults have more ownership over their religious involvement than they did during adolescence, religiosity among emerging adults may be more reflective of individual beliefs and personal religious commitment. Because of this transition, we found that current religiosity is more predictive of sexual behavior among emerging adults compared to religious upbringing.

Religious upbringing was measured by parental religiosity, religious youth group attendance, and frequency of religious youth activities during ages 13–18 years. The only significant association regarding religious upbringing was between parental religiosity and use of no method of pregnancy prevention. Individuals with religious parents were over five times more likely to use no method of birth control compared to those without religious parents. Parental religiosity is an understudied predictor of sexual behavior among emerging adults, but these results suggest that parental beliefs may influence birth control use into the mid-20s.

In addition to religious upbringing, current religiosity was measured by religious affiliation, religious membership, religious service attendance, religious volunteer hours, religious social support, and religious coping. All measures of current religiosity, except for religious affiliation and negative religious coping, were associated with ever having sex, where those who reported higher current religiosity were more likely to remain abstinent. Because religious doctrines typically discourage sexual activity, especially among emerging adults who are not married (Sherkat & Ellison, 1999), emerging adults who have high levels of religious participation may be more likely to conform to these expectations. These findings are consistent with previous studies conducted among emerging adults, where more religious individuals are less likely to engage in sexual activity (Burdette, Ellison, Hill, & Glenn, 2009; Haglund & Fehring, 2010; Lefkowitz et al., 2004; Luquis et al., 2012; Penhollow et al., 2007; Vazsonyi & Jenkins, 2010).

Even though current religiosity was protective against ever having sex, we found that it was associated with a lower utilization of pregnancy prevention methods, including birth control pills and LARC methods. Previous studies that tested this relationship were primarily conducted among adolescents (Brewster et al., 1998; Manlove, Terry-Humen, Ikramullah, & Moore, 2006; Rostosky et al., 2004). The few studies among emerging adults found mixed results. One recent study found a negative association between religiosity and contraceptive use, indicating that religious youth perceive barriers to pregnancy prevention (Burdette, Haynes, Hill, & Bartkowski, 2014). However, other studies found no impact of religiosity on contraceptive use (Gold et al., 2010; Jones et al., 2005). Furthermore, these studies typically combine birth control pills, LARC, and condom use into one composite measure of contraceptive usage without exploring the nuances of individual prevention methods. Our study expands upon these findings and suggests that some measures of religiosity are more associated with pregnancy prevention methods that require a prescription or medical visit, such as birth control pills and LARC.

Table 6 Relationships between religion and pregnancy prevention methods (birth control pills, LARC, and dual protection)

	Birth Control Pills OR (95% CI)	Pseudo-R2 [c], -2 Log Likelihood	LARC [a] OR (95% CI)	Pseudo-R2 [c], -2 Log Likelihood	Dual Protection [b] OR (95% CI)	Pseudo-R2 [c], -2 Log Likelihood
Current Religion						
Religious affiliation		0.10, 182.33				0.14, 171.34
Christian/Protestant	ref		-		ref	
Catholic	1.07 (0.32–3.66)		-		0.61 (0.18–2.13)	
Non-Christian Religion [d]	0.63 (0.17–2.31)		-		0.55 (0.14–2.11)	
Unaffiliated	0.67 (0.29–1.56)		-		0.58 (0.24, 1.38)	
Religious institution membership	1.17 (0.46–2.96)	0.10, 123.35	0.35 (0.10–1.30)	0.23, 62.90	1.16 (0.45–2.97)	0.11, 119.17
Religious service attendance	**0.73 (0.54–0.98)***	0.25, 62.21	0.95 (0.62–1.44)	0.18, 32.47	0.93 (0.70–1.22)	0.26, 60.57
Religious volunteer hours	**0.73 (0.54–0.98)***	0.29, 60.22	0.98 (0.75–1.30)	0.18, 32.52	0.90 (0.73–1.11)	0.28, 59.79
Religious social support	1.09 (0.92–1.30)	0.19, 59.87	0.89 (0.68–1.17)	0.16, 32.09	0.99 (0.82–1.20)	0.37, 49.70
Positive religious coping	0.98 (0.90–1.06)	0.10, 121.52	**0.85 (0.73–0.98)***	0.27, 56.87	0.95 (0.88–1.03)	0.13, 116.34
Negative religious coping	0.89 (0.78–1.01)	0.15, 118.01	1.04 (0.85–1.29)	0.17, 62.87	0.95 (0.85–1.08)	0.12, 117.26
Religious Upbringing						

Table 6 (continued)

	Birth Control Pills OR (95% CI)	Pseudo-R2 [c], -2 Log Likelihood	LARC [a] OR (95% CI)	Pseudo-R2 [c], -2 Log Likelihood	Dual Protection [b] OR (95% CI)	Pseudo-R2 [c], -2 Log Likelihood
Had religious parents	1.09 (0.51–2.31)	0.10, 180.67	0.45 (0.16–1.27)	0.15, 105.47	0.89 (0.41–1.91)	0.12, 170.85
Religious involvement	1.08 (0.51–2.27)	0.10, 180.68	0.77 (0.28–2.14)	0.12, 107.52	0.95 (0.44–2.04)	0.12, 170.93
Religious youth activities	1.09 (0.74–1.60)	0.20, 94.45	1.02 (0.58–1.80)	0.21, 53.45	0.83 (0.57–1.23)	0.15, 93.01

*p<0.05, **p<0.01, ***p<0.001

Note: Each religious predictor is a separate model. All regressions controls for age, sex at birth, race, and relationship status. A dash (-) indicates that the model was unable to produce stable estimates due to small cell sizes

[a]Includes IUD, implant, patch, shot, and ring.

[b]Use of condoms and another form of birth control, except withdrawal, for pregnancy prevention.

[c]Nagelkerke R Square

[d]Includes Hindu, Jewish, Muslim, Buddhist, and Other World Religions

The relationship between religiosity and use of pregnancy prevention methods warrants further investigation, yet, results from this study suggest that religious emerging adults may perceive barriers to contraception usage. This may be due to religious teachings that promote sexual morality and due to the socialization of individuals in conservative contexts where social sanctions are placed on individuals that engage in pre-marital sex (Thornton & Camburn, 1989). Additionally, some religious institutions have historically forbid birth control use, promoting "natural" forms of family planning including abstinence and the rhythm method (Ryder, 1993). Moreover, some religious individuals believe that contraceptive use is a premeditated sin, so they avoid these forms of family planning (Adler, Moore, & Tschann, 2014).

Additionally, no measures of religiosity were associated with use of the withdrawal method. Approximately 26% of the sample reported using this method either alone or in conjunction with another effective form of pregnancy prevention. A nationally representative survey found that emerging adults 18–24 years of age are more likely to use withdrawal compared to any other age group (Jones et al., 2014). Taken together, these findings indicate that emerging adults are using withdrawal methods at high rates regardless of religious beliefs. No prior studies have looked at the relationship between religiosity and use of withdrawal among emerging adults, and more research is needed to understand these relationships.

Interestingly, religious affiliation was not associated with any of the sexual behavior outcomes. These results suggest that religious affiliation alone has little impact on sexual behavior, and that participation within religious contexts is more predictive of sexual behavior among emerging adults. One explanation for this is that affiliation may not be reflective of personal beliefs about sexuality (Arnett & Jensen, 2002). Other studies have reported similar findings, where the effects of religious affiliation were no longer significant after controlling for religious participation, indicating that personal involvement in religious settings is more important than affiliation alone (Beck, Cole, & Hammond, 1991; Moreau et al., 2013). However, other studies have found significant relationships between religious affiliation and sexual behavior (Gillum & Holt, 2010).

Although we found significant associations between current religiosity variables and ever having sex (i.e., virginity), among individuals who engaged in sexual activity, no measures of religiosity, including both current religiosity and religious upbringing, were associated with age at sexual debut. Among this sample of emerging adults from the South, the average age at sexual debut was 17.5 years, which did not significantly differ based on level of religiosity. This finding contradicts several other studies conducted among adolescents and emerging adults that found religiosity is associated with age of sexual debut. According to these studies, religious individuals are more likely to delay sex or wait until marriage (Haglund & Fehring, 2010; Meier, 2003; Moreau et al., 2013; Rostosky et al., 2004; Štulhofer et al., 2011; Vazsonyi & Jenkins, 2010). One possible explanation for our findings is that virginity among adolescents is of high social value, both among religious and non-religious populations in the southern US. Social expectations that value virginity may be perpetuated beyond religious communities through abstinence-based education within schools (Carpenter, 2005; Guttmacher Institute, 2018).

Limitations

Although this study is innovative in its use of multiple measures to assess current religiosity and religious upbringing, and its exploration of associations between these and birth control use among emerging adults, the study is not without limitations, which should be considered in the interpretation of the findings. The cross-sectional design of the study is one limiting factor, and therefore conclusions about directionality cannot be made. Additionally, the convenience sample limits our ability to generalize the findings to the larger population of emerging adults in the Southern US. The study is largely comprised of White, educated females and therefore the findings may not represent populations of differing racial backgrounds, genders, incomes, or education levels. There may also be measurement error as data is self-reported; participants may overestimate church attendance or not report sexual behavior due to social desirability. Recall bias may also interfere with participants memories of their childhood upbringing. Lastly, we grouped very different faiths into one category ("Non-Christian Religions") and with a greater sample size for each, it would have been ideal to analyze them separately, since religions have diverse teachings around sexuality and sexual behavior.

Conclusions

The findings of this study support prior research indicating that religiosity is protective of ever engaging in sex, although our findings contradict previous studies showing no association between religiosity and sexual debut in the South. Our findings also add to the literature by suggesting religiosity is associated with a lower utilization of birth control pills and LARC methods of pregnancy prevention. Furthermore, since our findings indicate that religious upbringing is not associated with sexual behaviors or birth control use, except for parental religiosity, adolescent sexual and reproductive health promotion efforts should focus on providing comprehensive risk reduction education regardless of religious background or beliefs to lessen the likelihood of unintended negative health outcomes. Providers and educators should also be mindful of how religiosity impacts decisions around birth control use, as conservative beliefs may deter emerging adults from using protective methods against STIs and unplanned pregnancy. Finally, the different measures of religiosity utilized in this study varied in their associations with sexual behavior and birth control use, suggesting that the conceptualization and nuances of religiosity are more complex than can be captured in a single item. Future research is needed though to determine how the differing measures of religiosity impact sexual risk behaviors.

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Data Availability Data will be made available upon reasonable request to the corresponding author.

Declarations

Conflict of interest The authors have no relevant financial or non-financial interests to disclose.

Ethics Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Consent to Participate Informed consent was obtained from all individual participants included in the study.

References

Adamczyk, A., & Felson, J. (2008). Fetal positions: Unraveling the influence of religion on premarital pregnancy resolution. *Social Science Quarterly*, 89(1), 17–38

Adler, N. E., Moore, P. J., & Tschann, J. M. (2014). Planning Skills in Adolescence: The Case of Contraceptive Use. *The Developmental Psychology of Planning: Why, How, and When Do We Plan, 321*

Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American psychologist*, 55(5), 469

Arnett, J. J., & Jensen, L. A. (2002). A congregation of one: Individualized religious beliefs among emerging adults. *Journal of Adolescent Research*, 17(5), 451–467

Bearman, P. S., & Brückner, H. (2001). Promising the future: Virginity pledges and first intercourse1. *American journal of Sociology*, 106(4), 859–912

Beck, S. H., Cole, B. S., & Hammond, J. A. (1991). Religious heritage and premarital sex: Evidence from a national sample of young adults. Journal for the Scientific Study of Religion, 173–180

Bisson, M. A., & Levine, T. R. (2009). Negotiating a friends with benefits relationship. *Archives of sexual behavior*, 38(1), 66–73

Brewster, K. L., Cooksey, E. C., Guilkey, D. K., & Rindfuss, R. R. (1998). The changing impact of religion on the sexual and contraceptive behavior of adolescent women in the United States. Journal of Marriage and the Family, 493–504

Burdette, A. M., Ellison, C. G., Hill, T. D., & Glenn, N. D. (2009). "Hooking up" at college: Does religion make a difference? *Journal for the Scientific Study of Religion*, 48(3), 535–551

Burdette, A. M., Haynes, S. H., Hill, T. D., & Bartkowski, J. P. (2014). Religious variations in perceived infertility and inconsistent contraceptive use among unmarried young adults in the United States. *Journal of Adolescent Health*, 54(6), 704–709

Campbell, D. E., & Yonish, S. J. (2003). Religion and volunteering in America. *Religion as social capital: Producing the common good*, 87, 106

Carpenter, L. (2005). *Virginity lost: An intimate portrait of first sexual experiences*. NYU Press

Centers for Disease Control and Prevention (2016a). *HIV in the Southern United States* Retrieved from https://www.cdc.gov/hiv/pdf/policies/cdc-hiv-in-the-south-issue-brief.pdf

Centers for Disease Control and Prevention (2016b). STDs in Adolescents and Young Adults. Retrieved from https://www.cdc.gov/std/stats16/adolescents.htm

Centers for Disease Control and Prevention (2017). *HIV Among Youth*. Retrieved from https://www.cdc.gov/hiv/pdf/group/age/youth/cdc-hiv-youth.pdf

Downing-Matibag, T. M., & Geisinger, B. (2009). Hooking up and sexual risk taking among college students: A health belief model perspective. *Qualitative Health Research*, 19(9), 1196–1209

Edwards, L. M., Haglund, K., Fehring, R. J., & Pruszynski, J. (2011). Religiosity and sexual risk behaviors among Latina adolescents: trends from 1995 to 2008. *Journal of Women's Health*, 20(6), 871–877

Fielder, R. L., Walsh, J. L., Carey, K. B., & Carey, M. P. (2013). Predictors of sexual hookups: A theory-based, prospective study of first-year college women. *Archives of sexual behavior*, 42(8), 1425–1441

Finer, L. B., & Zolna, M. R. (2016). Declines in unintended pregnancy in the United States, 2008–2011. *New England Journal of Medicine*, 374(9), 843–852

Garcia, J. R., Reiber, C., Massey, S. G., & Merriwether, A. M. (2012). Sexual hookup culture: a review. *Review of General Psychology*, 16(2), 161

Gillum, R. F., & Holt, C. L. (2010). Associations between religious involvement and behavioral risk factors for HIV/AIDS in American women and men in a national health survey. *Annals of Behavioral Medicine*, 40(3), 284–293

Gold, M. A., Sheftel, A. V., Chiappetta, L., Young, A. J., Zuckoff, A., DiClemente, C. C., & Primack, B. A. (2010). Associations between religiosity and sexual and contraceptive behaviors. *Journal of pediatric and adolescent gynecology*, 23(5), 290–297

Guttmacher Institute (2016). Unintended Pregnancy in the United States. Retrieved from https://www.guttmacher.org/fact-sheet/unintended-pregnancy-united-states

Guttmacher Institute (2018). Sex and HIV Education. Retrieved from https://www.guttmacher.org/state-policy/explore/sex-and-hiv-education

Haglund, K. A., & Fehring, R. J. (2010). The association of religiosity, sexual education, and parental factors with risky sexual behaviors among adolescents and young adults. *Journal of religion and health*, 49(4), 460–472

IBM Corp. (2015). *IBM SPSS Statistics for Windows, Version 22.0. Armonk*. NY: IBM Corp

Jones, Darroch, & Singh (2005). Religious differentials in the sexual and reproductive behaviors of young women in the United States. *Journal of Adolescent Health*, 36(4), 279–288

Jones, Lindberg, & Higgins (2014). Pull and pray or extra protection? Contraceptive strategies involving withdrawal among US adult women. *Contraception*, 90(4), 416–421

Kost, K. (2015). *Unintended pregnancy rates at the state level: estimates for 2010 and trends since 2002*. In: New York: Guttmacher Institute

Lefkowitz, E. S., Gillen, M. M., Shearer, C. L., & Boone, T. L. (2004). Religiosity, sexual behaviors, and sexual attitudes during emerging adulthood. *Journal of sex research*, 41(2), 150–159

Lipka, M., & Wormald, B. (2016). How religious is our state? Retrieved from http://www.pewresearch.org/fact-tank/2016/02/29/how-religious-is-your-state

Luquis, R. R., Brelsford, G. M., & Rojas-Guyler, L. (2012). Religiosity, spirituality, sexual attitudes, and sexual behaviors among college students. *Journal of religion and health*, 51(3), 601–614

Malecki, C. K., Demaray, M. K., Elliott, S. N., & Nolten, P. W. (2000). *The child and adolescent social support scale*. DeKalb, IL: Northern Illinois University

Manlove, J. S., Terry-Humen, E., Ikramullah, E. N., & Moore, K. A. (2006). The role of parent religiosity in teens' transitions to sex and contraception. *Journal of Adolescent Health*, 39(4), 578–587

Meier, A. M. (2003). Adolescents' transition to first intercourse, religiosity, and attitudes about sex. *Social Forces*, 81(3), 1031–1052

Moore, E. W., Berkley-Patton, J. Y., & Hawes, S. M. (2013). Religiosity, alcohol use, and sex behaviors among college student-athletes. *Journal of religion and health*, 52(3), 930–940

Moreau, C., Trussell, J., & Bajos, N. (2013). Religiosity, religious affiliation, and patterns of sexual activity and contraceptive use in France. *The European Journal of Contraception & Reproductive Health Care*, 18(3), 168–180

Mueller, T., Bensyl, D., Vesely, S. K., Oman, R. F., & Aspy, C. B. (2010). The association of attendance at religious services and involvement in church/religious activities and youth assets, by gender, with youth's engagement in sexual intercourse. *Health Education*

Nelson, L. J., & Barry, C. M. (2005). Distinguishing features of emerging adulthood: The role of self-classification as an adult. *Journal of adolescent research*, 20(2), 242–262

Owen, J., & Fincham, F. D. (2011). Effects of gender and psychosocial factors on "friends with benefits" relationships among young adults. *Archives of sexual behavior*, 40(2), 311–320

Pargament, K., Feuille, M., & Burdzy, D. (2011). The Brief RCOPE: Current psychometric status of a short measure of religious coping. *Religions*, 2(1), 51–76

Penhollow, T., Young, M., & Bailey, W. (2007). Relationship between religiosity and "hooking up" behavior. *American Journal of Health Education*, 38(6), 338–345

Penhollow, T., Young, M., & Denny, G. (2005). The impact of religiosity on the sexual behaviors of college students. *Journal of Health Education*, 36(2), 75–85

Pew Research Center (2014a). Adults who say religion is very important who are in the South. Retrieved from http://www.pewforum.org/religious-landscape-study/region/south/importance-of-religion-in-ones-life/very-important/

Pew Research Center (2014b). Religious Landscape Study Retrieved from http://www.pewforum.org/religious-landscape-study/

Puentes, J., Knox, D., & Zusman, M. E. (2008). Participants in" friends with benefits" relationships. *College Student Journal*, 42(1), 176

Raine, T., Minnis, A. M., & Padian, N. S. (2003). Determinants of contraceptive method among young women at risk for unintended pregnancy and sexually transmitted infections. *Contraception*, 68(1), 19–25

Roof, W. C., & Hoge, R. (1980). Church involvement in America: Social factors affecting membership and participation. Review of Religious Research, 405–426

Rossi, M., & Scappini, E. (2014). Church attendance, problems of measurement, and interpreting indicators: A study of religious practice in the United States, 1975–2010. *Journal for the Scientific Study of Religion*, 53(2), 249–267

Rostosky, S. S., Wilcox, B. L., Wright, M. L. C., & Randall, B. A. (2004). The impact of religiosity on adolescent sexual behavior: A review of the evidence. *Journal of adolescent research*, 19(6), 677–697

Ryder, R. (1993). " Natural family planning": effective birth control supported by the Catholic Church. *BMJ*, 307(6906), 723–726

Santelli, J. S., Brener, N. D., Lowry, R., Bhatt, A., & Zabin, L. S. (1998). Multiple sexual partners among US adolescents and young adults.Family planning perspectives,271–275

Sherkat, D. E., & Ellison, C. G. (1999). Recent developments and current controversies in the sociology of religion. *Annual Review of Sociology*, 25(1), 363–394

Steensland, B., Robinson, L. D., Wilcox, W. B., Park, J. Z., Regnerus, M. D., & Woodberry, R. D. (2000). The measure of American religion: Toward improving the state of the art. *Social forces*, 79(1), 291–318

Studer, M., & Thornton, A. (1987). Adolescent religiosity and contraceptive usage.Journal of Marriage the Family,117–128

Štulhofer, A., Šoh, D., Jelaska, N., Baćak, V., & Landripet, I. (2011). Religiosity and sexual risk behavior among Croatian college students, 1998–2008. *Journal of sex research*, 48(4), 360–371

Tanner, J. L. (2011). Emerging adulthood. In: Levesque, R. J., eds. *Encyclopedia of adolescence* (pp. 818–825). Springer

Tanner, J. L., & Arnett, J. J. (2016). The new life stage between adolescence and young adulthood. *Routledge Handbook of Youth and Young Adulthood*

Thornton, A., & Camburn, D. (1989). Religious participation and adolescent sexual behavior and attitudes. Journal of Marriage and the Family,641–653

United States Census Bureau (2010). Census Regions and Divisions of the United States. Retrieved from https://www2.census.gov/geo/pdfs/maps-data/maps/reference/us_regdiv.pdf

Vazsonyi, A. T., & Jenkins, D. D. (2010). Religiosity, Self-Control, and Virginity Status in College Students from the "Bible Belt": A Research Note. *Journal for the Scientific Study of Religion*, 49(3), 561–568

Wohn, D. Y., Ellison, N. B., Khan, M. L., Fewins-Bliss, R., & Gray, R. (2013). The role of social media in shaping first-generation high school students' college aspirations: A social capital lens. *Computers & Education*, 63, 424–436

Zaleski, E. H., & Schiaffino, K. M. (2000). Religiosity and sexual risk-taking behavior during the transition to college. *Journal of adolescence*, 23(2), 223–227