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Testing two process models of religiosity and sexual behavior

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Abstract

Adolescents who are more religious are less likely to have sex, but the process by which religiosity impacts sexual behavior is not well established. We tested two potential processes, involving: (1) whether religiosity suppressed individuals' motivations to have sex for physical pleasure, and (2) whether individuals internalized their religions' teachings about sex for pleasure. College students ($N=610$, 53.8% female, M age=18.5, 26.1% Hispanic Latino [HL], 14.9% non-HL African American, 23.8% non-HL Asian American/Pacific Islander, 26.3% non-HL European American and 8.9% non-HL multiracial) completed web surveys during their first three semesters. Religiosity did not moderate the association between students' motivations for sex for pleasure and sexual behavior. Motivations mediated the association between religiosity and sexual behavior, suggesting that religion does not override adolescents' existing motivations, but instead, religious adolescents internalize norms about sexual behavior.

Research has consistently found associations between religiosity and adolescent sexual behavior. Adolescents who are more religious are more likely to delay or abstain from first intercourse (Crockett, Bingham, Chopak, & Vicary, 1996; Hardy & Raffaelli, 2003; Lefkowitz, Gillen, Shearer, & Boone, 2004; Meier, 2003; Nonnemaker, McNeely, & Blum, 2003), have fewer sexual partners (Lefkowitz et al., 2004) and have less frequent intercourse (Sheeran, Abrams, Abraham, & Spears, 1993). These associations hold for public facets of religiosity, such as attendance at religious services (Crockett et al., 1996; Lefkowitz et al., 2004; Nonnemaker et al., 2003; Sheeran et al., 1993), for private beliefs, such the importance of religiosity in daily life (Lefkowitz et al., 2004; Nonnemaker et al., 2003; Sheeran et al., 1993), and for composite scores of both public and private religiosity (Bearman & Bruckner, 2001; Hardy & Raffaelli, 2003; Meier, 2003; Rostosky, Regnerus, & Comer Wright, 2003; Whitbeck, Yoder, Hoyt, & Conger, 1999).

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Versions of this study were presented at the 2010 Society for Research on Adolescence meeting in Philadelphia, PA and as Christina Duntzee's Honor's Thesis.

Researchers have used social control theory to explain these findings (e.g. Hardy & Raffaelli, 2003; Rostosky et al., 2003). Social control theory posits that individuals' drive toward deviant behavior, such as crime, is kept in check by society and its norms (Janowitz, 1975). Later writers focused specifically on how connections to specific institutions, such as religious organizations or the family, serve as a basis for social control (DeLamater, 1981). Sexual behavior is one area in which religion may serve as a social control, as individuals have an innate drive toward sexual behavior, but whether they act upon this behavior is influenced by socializing forces. In general, Judeo-Christian religions emphasize abstinence before marriage, sex for the sake of procreation, and in some cases, the importance of relational aspects of sexual behavior (Rostosky et al., 2003). Thus, these traditions emphasize that sex outside of these contexts, such as engaging in premarital sex or sex primarily for physical pleasure, is wrong.

Because religions place limits on sexual behavior, social control theory posits that religion may influence sexual behaviors in several ways, two of which reflect the concepts of extrinsic and intrinsic motivations. Extrinsic motivations refer to engaging in a behavior in order to obtain separate, external outcomes; in other words, the behavior is not driven by an internal sense of satisfaction, but to gain rewards or escape punishments (Ryan & Deci, 2001). Individuals may follow teachings of their religion for extrinsically motivated reasons, as religions set up a series of formal and informal sanctions when individuals violate a religion's teachings. For example, engaging in sexual behavior outside of marriage may both carry the risk of eventual divine punishment and more immediate social consequences like exclusion or judgment from members of the religious community, which can lead to feelings of guilt and shame (DeLamater, 1981; Rohrbaugh & Jessor, 1975). Another potential pathway is consistent with intrinsic motivation, or engaging in an activity for the activity itself rather than any type of external reward. Individuals may engage in intrinsically motivated behaviors because they satisfy important psychological needs, rather than external rewards or punishments (Ryan & Deci, 2001). Thus, individuals may find comfort, guidance, and other intrinsic rewards from their religion. In this pathway, religious individuals may not refrain from sexual behavior in order to escape external punishment or gain rewards, but because they have internalized the tenants of their religion and find living by them psychologically satisfying (DeLamater, 1981; Rohrbaugh & Jessor, 1975). In short, individuals may abstain from sexual behavior for both extrinsically and intrinsically motivated reasons. They receive rewards for conforming to sexual mores and punishments for deviating from them, and subsequently may act in ways that are inconsistent with their own motivations (externally motivated pathway). Alternatively, religious individuals may internalize messages about sexual behavior into their own attitudes, and subsequently have lower motivations to engage in sexual behavior (intrinsically motivated pathway). Research has suggested that, in general, intrinsic motivations are stronger predictors of behavior; however, both types are important, as beneficial activities may not always be satisfying (Ryan & Deci, 2001).

Little research has examined whether these pathways explain associations between religiosity and adolescent sexual behavior. Some research has documented that religious adolescents have more conservative sexual attitudes (e.g. think sex should be reserved for marriage or there is too much sexual freedom) than their less-religious peers, suggesting that, consistent with the intrinsically motivated pathway, adolescents may internalize their religion's teachings on sex (Lefkowitz et al., 2004; Rostosky et al., 2003). Similarly, several studies suggest that associations between religiosity and becoming sexually active may be explained by sexual attitudes (Hull, Hennessy, Bleakley & Jordan, 2011; Meier, 2003). However, although a few studies have suggested possible mediators of the link between religion and sexual behavior, to our knowledge no study has tested multiple pathways by which religiosity may influence sexual behavior, such as religion serving as both a mediator

and a moderator of motivations on behavior. In addition, prior studies have examined sexual attitudes, and no study has, to our knowledge, assessed associations between religiosity, sexual motivations and sexual behavior. Some sexual motivations, such as motivations to have sex to experience physical pleasure, reflect a part of the drive toward sexual behavior described in social control theory. A motivational perspective can be useful in understanding sexual behavior, and ultimately creating successful prevention programs, by focusing on the reasons why a person may have sex, or what psychological needs may be met by this act (Cooper, Shapiro, & Powers, 1998). Thus, examining associations between religiosity, sexual motivations and sexual behavior may provide insight into the process by which religion influences sexual behavior.

Sexual Motivations

The functional perspective on sex was proposed to address persistent discrepancies between attitudes and risky sexual behaviors by focusing on the motivations for such behaviors and the functions these behaviors serve. This perspective posits that individuals use sexual behaviors to fulfill necessary physical or psychological desires (Cooper et al., 1998). Individuals may be motivated to engage in sexual behavior to experience positive outcomes or to avoid negative outcomes. In this study we focused on enhancement motivations for sex, which are motivations for engaging in sex to experience physical pleasure, because physical pleasure as a sole motivation for sexual behavior is frowned upon by many religions. Among adolescents and college students, stronger endorsement of enhancement motivations is associated with an earlier age at first intercourse, more frequent sex, having more sexual partners, and ever having engaged in oral and vaginal sex (Cooper et al., 1998; Grossbard, Lee, Neighbors, Hendershot, & Larimer, 2007; Patrick, Maggs, Cooper, & Lee, 2011). However, it is unknown how religion is associated with these motivations. This study examined associations among religiosity, sexual behavior and enhancement motivations for sex in a sample of adolescents followed across their first two years of college.

Transition to college

Although religion plays a role in personal decisions about sexual behavior throughout adolescence and adulthood (Arnett & Jensen, 2002; Barkan, 2006; Lefkowitz et al., 2004; Rostosky, Wilcox, Comer Wright, & Randall, 2004), such associations may be particularly important when adolescents move away from their parents. Younger adolescents' reports of their religiosity may reflect their parents' influence rather than their own personal beliefs (Barkan, 2006). As individuals become more autonomous from parents, such as when they are transitioning to residential universities, they may begin to question the teachings of their childhood and develop their own sense of their religiosity separate from the direct control of parents (Arnett & Jensen, 2002; Lefkowitz, 2005). In addition, college provides a highly conducive setting for engaging in sexual behavior, both because of freedom from parental oversight and opportunities to meet new partners (Lefkowitz, 2005). Thus, the early years of college are an important period for exploration of sexuality and religiosity separate from direct parental influences.

Research Questions

In this study, we examined two pathways by which religion may influence sexual behavior. Our first research question tested an extrinsically motivated pathway, and posited that individuals' religiosity overrode their own desire for sexual behavior, possibly due to fear of sanctions for engaging in pre-marital sexual behavior. In this model, we tested whether religiosity moderates associations between enhancement motivations for sex and sexual behavior. The extrinsically motivated pathway suggests that enhancement motivations would be a weaker predictor of engaging in sexual behavior for more religious adolescents,

as religious adolescents may not act on their motivations for fear of judgment from members of their religious community. Our second research question tested an intrinsically motivated pathway which suggested that religious individuals may be less likely to engage in premarital sexual behavior because they internalized norms about sexual behavior. In line with this idea, we tested whether enhancement motivations mediate associations between religiosity and sexual behavior. We examined multiple measures of religiosity in both models, because religiosity is a multidimensional construct, and because distinct measures of religiosity are differentially associated with sexual behavior (Lefkowitz et al., 2004; Penhollow, Young & Denny, 2005). We specifically chose both a behavioral (attendance at religious services) and an attitudinal (importance of religion in daily life) measure of religiosity because the two types of measures may reflect extrinsic and intrinsic motivations. For example, we predicted that in the model testing extrinsically motivated pathways, enhancement motivations would be a significant moderator of the association between religiosity and sexual behavior for attendance at religious services and not for importance of religion; attending services is a public act in which individuals interact with other members of their religious community, and thus may be exposed to sanctions from others when they deviate from their religion's teachings about sex. Alternatively, we predicted that the intrinsically motivated pathway would show significant mediation only for importance of religion, because this aspect of religiosity involves private aspects of faith that are not subject to external pressures.

Method

Participants

We used data from three waves of the [self-identifier removed], a longitudinal study of college students at a large, Northeastern university recruited during their first semester of college. The university Registrar provided a list of first year, first time, traditionally aged students meeting eligibility criteria, and a stratified random sampling procedure with replacement was used to create a diverse sample. In total, 746 students participated in the initial first semester survey (65.6% recruitment response rate), and these students were invited to participate in additional surveys in subsequent semesters. This study utilized data from participants who completed the first three semesters of data collection. We ran three Chi-square tests and five t-tests to examine whether the participants who did not complete all waves differed from those who did on any Semester 1 demographic or study variables. Participants who did not complete all semesters attended religious services less frequently, $t(712) = 6.2, p < .01$, had higher enhancement motivations for sex, $t(733) = 7.6, p < .01$, and were more likely to be male $\chi^2(1, N = 742) = 12.04, p < .01$, than those who remained in the study. The groups did not differ in importance of religion in daily life, race/ethnicity or whether they had engaged in penetrative sex in the past 12 weeks.

The 610 students who completed all 3 semesters of surveys were 53.8% female with a mean age of 18.5 years at semester 1 ($SD = 0.4$, range = 16.9 to 20.3 years). The self-reported race/ethnicity of the sample was 26.1% Hispanic/Latino [HL], 14.9% non-HL African American/Black, 23.8% non-HL Asian/Pacific Islander, 26.3% non-HL European American/White and 8.9% non-HL multiracial. Participants' self-reported sexual orientation was as follows: 98.0% heterosexual, 0.5% homosexual/gay/lesbian, and 1.3% bisexual, with one participant reporting "other" sexual orientation. Participants were 35.2% Catholic, 21.8% other Christian, 10.7% Protestant, 8.9% other religion, 2.6% Jewish and 1.5% Muslim, with 15.6% of participants reporting no religious affiliation.

Procedures

Participants completed a web-based survey during their first three semesters of college. Each participant received an email containing a secure link to the study, and received \$20–30 for completing this portion of the survey, depending on the semester.

Measures

Because of the temporal order of associations predicted by our hypotheses, we used measures of religiosity from the Semester 1 (S1) survey, enhancement motivations for sex from Semester 2 (S2), and whether or not students engaged in penetrative sex from Semester 3 (S3). Using three waves of data in this way is necessary to test models in which the proposed process occurs in sequence (Collins & Graham, 1998).

Religious attendance—Participants answered an open-ended question to determine the number of religious services attended in a year: “How many times have you attended religious services during the past 12 months (52 weeks)?” Responses indicating attendance at more than one service per week were capped at 52 (one service per week) to limit the influence of outliers. Participants, on average, reported attending 19.4 services per year at S1 ($SD=20.0$).

Importance of religion in daily life—To assess the importance of religion in daily life, participants completed a 7-item measure (Rohrbaugh & Jessor, 1975). Three questions had four response choices. For example, “When you have a serious personal problem, how often do you take religious advice or teaching into consideration?” had the following response options: “never, sometimes, usually, almost always.” Four questions had five response choices. For example, “During the past 12 months (52 weeks), how often have you experienced a feeling of religious reverence or devotion?” had the following response options: “never, rarely, sometimes, frequently, almost daily.” Each response choice was assigned a numerical value, ranging from 0 to either 3 or 4, with higher scores indicating more importance of religion. We used a variable that contained the mean score on all items for individuals completing more than 50% of scale items, with weighting to account for items with different numbers of response options ($M=2.0$, $SD=1.0$). The scale had good reliability (S1 $\alpha=.92$).

Although our two measures of religiosity were strongly correlated (.62, see Table 1), they are not identical, and thus we assess them as separate constructs, as suggested in prior literature (King & Roeser, 2009; Rostosky et al., 2004).

Enhancement motivations for sex—To assess the extent to which participants’ desire to experience physical pleasure influenced their decisions about sex we used a measure of enhancement motivations for sex (Cooper et al., 1998). Participants answered questions with the stem “How important do you think the following reasons will be in influencing your decisions to have penetrative sex this semester?” A 5-point scale ranging from *not at all* (0) to *very important* (4) was used to assess each motivation ($M=1.7$, $SD=1.3$). The scale contained five items (e.g., because it feels good, to satisfy your sexual needs), and had good reliability (S2 $\alpha=.93$).

Penetrative sex—Participants who reported ever engaging in vaginal or anal sex (defined as sex in which the penis penetrates the vagina or anus) were asked the question “In the past 12 weeks, have you had vaginal and/or anal sex with a partner” (0=no, 1=yes). At S3, 42.1% reported penetrative sex in the past 12 weeks.

Other covariates—Because research has demonstrated gender and racial/ethnic differences in associations between religiosity and sexual behavior (Regnerus, 2007), we include gender and race/ethnicity as covariates in all models. At S1, participants reported their gender (female=0, male=1), whether they were of Hispanic, Latino or Spanish origin (Y/N) and their race(s), using National Institutes of Health (NIH) reporting categories (American Indian or Alaskan Native, Asian, Black or African American, Native Hawaiian or Pacific Islander, White or other). We recoded participants into five mutually exclusive race/ethnicity categories (Hispanic/Latino [HL], non-HL African American, non-HL Asian American/Pacific Islander, non-HL European American, non-HL multiracial; no participants reported only American Indian race). Based on this information, we created 4 dichotomous variables (African American, Asian American, Latino American and Multiracial) where 1 indicated an individual was in a particular race/ethnicity category, and 0 indicated they were not; European American was the reference group. We also control for participants' age at S1.

Results

Research Question 1: Extrinsic Pathway

To examine whether religiosity moderated the association between enhancement motivations for sex and engaging in penetrative sex, we performed two logistic regressions. For each analysis, 12-week penetrative sex (yes/no) at S3 was predicted by S2 enhancement motivations. The measure of religiosity (attendance at religious services or importance of religion) at S1 was entered in each analysis as a moderator of the association between enhancement motivations and penetrative sex. In the first step, we entered five dichotomous variables for gender and race/ethnicity as controls, along with religiosity. In step 2, we added enhancement motivations for sex, and in step 3 we added the enhancement motivations \times religiosity interaction. A significant interaction with the association between enhancement motivations and penetrative sex stronger in less religious individuals would provide support for the extrinsic pathway.

Results are presented in Table 2. Students who were more religious were less likely to have engaged in penetrative sex in the past 12 weeks at Semester 3 (Step 1). Specifically, attending ten additional services per year was associated with about 10% reduced odds of engaging in penetrative sex, and a one unit increase in importance of religion was associated with about 20% reduced odds of engaging in penetrative sex. Students with stronger enhancement motivations at Semester 1 were more likely to have engaged in penetrative sex in the past 12 weeks, and neither religiosity measure predicted penetrative sex above and beyond the impact of enhancement motivations (Step 2). The interaction between enhancement motivations and religiosity was not significant for either model (Step 3). Thus, results did not support the moderator/extrinsic pathway hypothesis.

Research Question 2: Intrinsic Pathway

To examine whether enhancement motivations mediated the association between religiosity and engaging in penetrative sex, we ran a mediation analysis using the indirect macro (Preacher & Hayes, 2004). Five dichotomous measures of gender and race/ethnicity, along with participant age at S1 were entered as controls in all models. One set of models used attendance at religious services as a predictor, and another set used the importance of religion in daily life. Path A examined whether religiosity predicted enhancement motivations. Path B examined whether enhancement motivations predicted penetrative sex in the past 12 weeks. Path C tested the association between religiosity and penetrative sex, and C' examined the association between religiosity and penetrative sex when enhancement motivations were added to the models.

Results are presented in Figure 1. Both attendance at religious services and importance of religion predicted enhancement motivations (Path A), and enhancement motivations predicted odds of penetrative sex (Path B). Both more frequent attendance at religious services and higher importance of religion were associated with lesser odds of engaging in penetrative sex when enhancement motivations were not in the model (Path C). However, this association became nonsignificant in both models when enhancement motivations were added (Path C'). The β coefficient for the association between attendance and penetrative sex decreased by 58% when enhancement motivations were added. Similarly, the β coefficient for the association between importance of religion and penetrative sex decreased by 85% when enhancement motivations were added. These findings provide support for the mediator/intrinsic pathway hypothesis.

Discussion

This study tested two possible pathways, suggested by social control theory (DeLamater, 1981; Rohrbaugh & Jessor, 1975), of the process by which religiosity influences sexual behavior, that parallel concepts of extrinsic and intrinsic motivations. We found no evidence for the extrinsically motivated pathway, as associations between enhancement motivations for sex and engaging in sexual behavior in the past 12 weeks were not weaker for more religious students. This finding suggests that associations between sexual behavior and religiosity may not be due to religious individuals suppressing their own motivations for sexual behavior because of external pressures from their religious group. Instead, enhancement motivations mediated associations between religiosity and sexual behavior, suggesting an intrinsically motivated process by which individuals may have internalized their religion's teachings about sexual behavior, incorporating them into their own motivations. Research has demonstrated that the internalization of values and behavioral regulation is typically a better motivator than external rewards (Ryan & Deci, 2001). Our findings supporting an intrinsically motivated pathway demonstrate how religion may be a particularly potent socializing force in adolescent sexual behavior. Thus, it appears that religion may serve as a social control of sexual behavior primarily by providing individuals with a set of beliefs that they internalize and accept as their own.

Results were the same for both behavioral and attitudinal measures of religiosity. We hypothesized that attending religious services, a public behavior, would follow an extrinsically motivated pathway. It is possible that by the time individuals are in college, and thus more free to make their own decisions about religious service attendance, even public components of religion may reflect an internalized, rather than externalized, religiosity, and thus our models did not include a method truly reflecting extrinsic motivations. Older adolescents and college students may have increasingly greater control of their religious attendance, whereas earlier in childhood or adolescence, individuals' attendance at religious services may be more directly influenced by parents, and thus may reflect a more externalized set of beliefs. Future research should examine these processes in younger adolescents to see whether these associations differ.

There are several limitations to this study. Because it is difficult to detect interaction effects (McClelland & Judd, 1993), it is possible that our inability to find support for the extrinsically motivated pathway may reflect differential power between the two models. However, because the direction of the nonsignificant findings in the extrinsically motivated pathway was in the opposite direction from predicted, it seems unlikely that this model describes the process well. In addition, some measures that are important to the theoretical pathways tested in the model were not directly assessed. For example, we only have information about attendance at religious services, but no measure of the sort of messages about sex and formal and informal sanction experienced by each individual who attends

these services. Thus, we did not directly test the extrinsic hypothesis. We also used only one measure of sexual behavior, despite the fact that sexual behavior is a multidimensional construct. In addition, because our sample contained individuals with many different religions and was relatively small, we could not assess differences by religion or denominations. Further studies should ask questions about each religion's conservatism and messages about sex. Differential attrition also could have affected our models, as less religious students were more likely to drop out of the study. Finally, although we used longitudinal data, it is not possible to assess whether religiosity influenced enhancement motivations, rather than the other way around. The process may be bi-directional, and religiosity and sexual motivations may be influenced by other factors. Future research should attempt to better understand these associations.

Despite these limitations, this study contributes to our understanding of religiosity and sexual behavior in several ways. First, it examined individuals during the first two years of college, an important period for development in the areas of religion and sexuality. Second, it used two different measures of religiosity to examine the influence of both attitudinal and behavioral aspects of religion. Finally, this study attempted to understand the process by which religiosity influences sexual behavior. Our findings suggest that one way in which religion influences sexual behavior is by decreasing individuals' motivations to have sex for physical pleasure, and subsequently making them less likely to engage in sexual behavior. Thus intrinsically motivated processes, such as the internalization of motives for sexual behavior, may play an important role in sexual behavior and be a potential source for prevention and intervention efforts.

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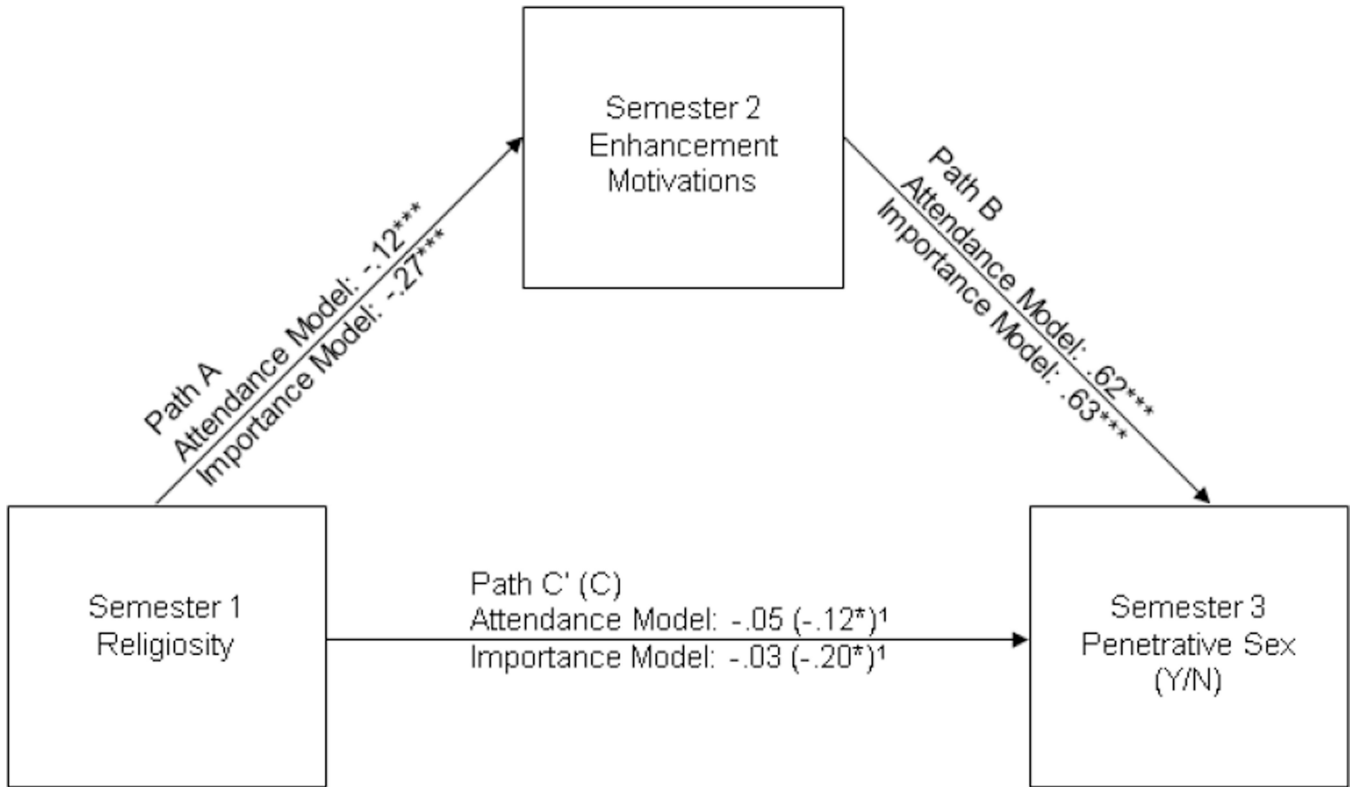


Figure 1. Beta coefficients representing the mediating effect of enhancement motivations on the association between religiosity (attendance at religious services and importance of religion in daily life) and engaging in penetrative sex. Numbers in parentheses represents association between variables without mediator in the model. * $p < .05$, *** $p < .001$.

Table 1

Correlations Between Study Variables

	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. Gender	1.00								
2. Age	.12*	1.0							
3. African American	-.09*	-.16***	1.0						
4. Latino American	-.02	-.06	NA	1.0					
5. Asian American	.05	.03	NA	NA	1.0				
6. Multiracial	-.01	-.01	NA	NA	NA	1.0			
7. Religious Attendance	-.01	-.12**	.09*	-.13**	-.03	.02	1.0		
8. Importance of religion	-.12**	-.12**	.23**	-.03	-.12	-.06	.62**	1.0	
9. Enhancement	.21**	.03	-.01	.08	-.12	.06	-.12**	-.21**	1.0

* $p < .05$

**

$p < .01$

$p < .001$

Table 2

Logistic Regressions Examining the Moderating Effect of Semester 1 Religiosity on the Association Between Semester 2 Enhancement Motivations for Sex and Engaging in Penetrative Sex in the Past 12 Weeks at Semester 3

	Attendance Model N=586				Importance Model N=600			
	Parameter Estimates		Model Fit		Parameter Estimates		Model Fit	
	OR	Wald χ^2	χ^2	Δ From Prior Step	OR	Wald χ^2	χ^2	Δ From Prior Step
Step 1 (<i>df</i> =6)			45.15***				50.04***	
Gender	0.77	2.26			0.74	3.12		
Age	1.09	0.16			1.12	0.31		
African American	1.23	0.59			1.36	1.21		
Latino American	1.45	2.57			1.56	3.75		
Asian American	0.36	15.29***			0.33	18.43***		
Multiracial	1.25	0.45			1.21	0.36		
Religiosity	0.99	6.72*			0.80	5.68*		
Step 2 (<i>df</i> =7)			126.48***	81.33***			133.80***	83.42***
Gender	0.48	13.38***			0.47	14.55***		
Age	1.20	0.67			1.24	0.88		
African American	1.21	0.41			1.25	0.56		
Latino American	1.43	2.02			1.49	2.59		
Asian American	0.38	12.16***			0.35	14.30***		
Multiracial	1.09	0.06			1.07	0.03		
Religiosity	1.00	1.01			0.95	0.27		
Enhancement	1.97	70.13***			2.00	71.59***		
Step 3 (<i>df</i> =8)			126.67***	0.19			135.11***	1.32
Gender	0.48	13.51***			0.47	14.62**		
Age	1.21	0.70			1.25	.97		
African American	1.21	0.41			1.24	0.52		
Latino American	1.42	2.02			1.48	2.45		

	Attendance Model N=586				Importance Model N=600			
	Parameter Estimates		Model Fit		Parameter Estimates		Model Fit	
	OR	Wald χ^2	Δ From Prior Step	χ^2	OR	Wald χ^2	Δ From Prior Step	χ^2
Asian American	0.38	12.27***			0.35	14.43***		
Multiracial	1.08	0.05			1.04	0.12		
Religiosity	1.00	0.99			0.94	0.40		
Enhancement	1.97	70.08***			1.97	68.60***		
ENH \times REL ^a	1.00	0.67			1.10	1.32		

Note. Attendance model uses attendance at religious services as religiosity moderator. Importance model uses importance of religion in daily life as religiosity moderator.

^aENH \times REL indicates the interaction between enhancement motivations and religiosity (either attendance or importance)

* $p < .05$

** $p < .01$

*** $p < .001$