

Evaluating U.S. purity culture's impact on female sexual health and development

by

Mary-Joy Pugh

B.S., Arizona State University, 2021

A THESIS

submitted in partial fulfillment of the requirements for the degree

MASTER OF SCIENCE

School of Human Sciences
College of Health and Human Sciences

KANSAS STATE UNIVERSITY
Manhattan, Kansas

2025

Approved by:

Major Professor
Dr. Amber Vennum

Copyright

© Mary-Joy Pugh 2025.

Abstract

The purpose of this research was to investigate the impact of Christian purity culture on the sexual health and development of emerging adult women in the United States. Using self-determination theory and social script theory, the research explores how exposure to purity culture and the internalization of Christian messages via identification and introjection impact sexual health outcomes, including functioning, guilt, pleasure, and first coital affect. The study also examines mediating and moderating variables including age and relationship status at the time of first intercourse. Using a mixed sample ($N = 300$) of college-attending and national panel participants, women aged 18-29 were asked to complete a retrospective online Qualtrics survey assessing exposure to purity culture, sexual health indicators, and religious internalization. Path analyses were conducted to test three hypotheses referencing the relationships among purity culture, religious internalization, and sexual health outcomes. Results indicated that exposure to purity culture beliefs in childhood is associated with poorer sexual health outcomes in emerging adult women, particularly when religious values are internalized through introjection rather than identification. Identification, while also associated with guilt, was positively associated with sexual pleasure, functioning, and older age at first intercourse, suggesting a buffering effect against the negative impacts of purity culture. Guilt was identified as a mediating factor in sexual health outcomes, and relationship status was found to moderate associations between purity culture and introjection, purity culture and guilt, and introjection and guilt. Findings contribute to a deeper understanding of how religious socialization and sexual scripts influence female sexual development and may inform future sexual education and mental health interventions. Ultimately, purity culture has a net negative influence on women's sexual health outcomes, although the way its messages are internalized can mitigate the impact.

Table of Contents

List of Figures	vi
List of Tables	vii
Chapter 1 - Evaluating U.S. Purity Culture’s Impact on Female Sexual Health and Development	1
Literature Review	2
The Importance of Sexual Health During Emerging Adulthood	2
The Impact of “Abstinence Only” Messages on Sexual Health	4
Religiosity and Sexual Health.....	6
Purity Culture as a Distinct Construct	8
Theoretical Framework	9
Chapter 2 - Present Study	11
Methods	13
Procedures.....	13
Participants.....	13
Measures	17
Predictor Variables.....	17
Sexual Timing Variables.....	18
Health of Sexual Functioning	18
Analysis Plan	20
Chapter 3 - Results.....	22
Preliminary Analysis.....	22
Predictors with STIs.....	22
Predictors with Unplanned Pregnancy	22
Predictors with Relationship Status at Time of First Intercourse	23
Correlations	24
Path Models	25
Purity Culture Belief Exposure’s Effect on Sexual Health.....	25
Direct Effects.	26
Indirect Effects.....	27
Moderated Associations by Relationship Status at Time of First Intercourse.....	28

Mediation by Age at First Intercourse and Guilt	30
Indirect Effects.....	31
Chapter 4 - Discussion	32
Purity Culture, Religious Internalization and STIs	33
Purity Culture, Religious Internalization and Unplanned Pregnancy	34
Purity Culture, Religious Internalization and Relationship Status at Time of First Intercourse.....	35
The Important Mediating Role of Internalization	35
Relationship Status as a Moderator.....	37
Mediation of Age at First Intercourse and Sexual Guilt	39
Implications for Policy, Practice, and Research	42
Limitations	43
Conclusion	44
References.....	46
Appendix A - Purity Culture Belief Scale (PCBS).....	59
Appendix B - Christian Religious Identity Scale (CRIS)	64
Appendix C - First Coital Affect Reaction Scale (FCARS)	66
Appendix D - Revised Mosher Sex-Guilt Scale (RMSGGS).....	68
Appendix E - Sexual Pleasure Scale (SPS).....	70
Appendix F - Female Sexual Function Index (FSFI).....	71

List of Figures

Figure 1	26
Figure 2	29
Figure 3	30
Appendix Figure A.1. PCBS.....	59
Appendix Figure B.1. CRIS	64
Appendix Figure C.1. FCARS	66
Appendix Figure D.1. RMSGS	68
Appendix Figure E.1. SPS	70

List of Tables

Table 1 14

Table 2 25

Table 3 27

Table 4 28

Table 5 31

Chapter 1 - Evaluating U.S. Purity Culture's Impact on Female Sexual Health and Development

In the United States, sexual health is recognized as a public health issue (Gruskin & Kismödi, 2020). Healthy sexual development encompasses procreation, the absence of sexually transmitted infections (STIs) and unplanned pregnancies, sexual functioning, and the presence of satisfaction and pleasure (Wellings et al., 2012). Arnett (2024) notes that “with marriage delayed for most people until around age 30, the late teens and 20s become a time for exploring their options, falling in and out of love with different people, and gaining sexual experience” (p. 79). However, across multiple indicators of sexual health, the U.S. significantly lags behind its European counterparts (Durant, 2023; U.S. Department of Health and Human Services, Office of Population Affairs [OPA], 2024). This disparity may be partly attributed to the influence of Christian denominations that promote “purity culture” (Natarajan et al., 2022; Pew Research Center, 2025), which emphasizes abstinence until heterosexual marriage to maintain the “purity” of body, mind, and soul (Crut, 2021; Ortiz, 2019).

Feminist scholars have highlighted how this emphasis on chastity disproportionately burdens women (Crut, 2021; Fahs, 2010), who are often expected to resist men’s sexual advances until marriage. Women are also more likely than men to identify with and practice religion (Hackett, 2016; Schnabel, 2015), take virginity pledges (Bearman & Brückner, 2001; McKenna et al., 2024), delay sexual initiation for religious reasons (Koletić et al., 2021; Meier, 2003; Pearson, 2018), and report sexual dysfunctions such as difficulty achieving orgasm, painful intercourse, or low desire (Moreau et al., 2016). Additionally, women are more likely to experience guilt that interferes with sexual satisfaction (Higgins et al., 2010), feel shame

(Marcinechova & Zahorcova, 2020), and suffer from sexual dysfunction linked to religious beliefs (Lefevor et al., 2024).

Specific factors may moderate this association, including relationship status (Higgins et al., 2010; Marcinechova & Zahorcova, 2020; Vasilenko & Espinosa, 2019) and the internalization of religious beliefs (Hackathorn et al., 2016; Marcinechova & Zahorcova, 2020; Vasilenko & Espinosa, 2019). Additionally, the age of first sexual experience has been identified as a potential mediating factor in sexual health outcomes (Azim et al., 2021; Komlenac et al., 2022). Given that sexual satisfaction has been linked to important outcomes such as relationship and marital satisfaction, general life satisfaction, and mental health (Brody & Costa, 2009; Carcedo et al., 2020; Fallis et al., 2016; Yeh et al., 2006), the purpose of this study was to examine how exposure to Christian purity culture and the internalization of its messages affect the sexual health and development of emerging adult women. This study also examined mediating moderating variables that contributed to alternative outcomes in healthy sexual development within this population. Self-determination theory (SDT) and sexual script theory were used to explore and explain these phenomena (Estrada, 2022; McCormick, 2010; Ryan & Deci, 2017).

Literature Review

The Importance of Sexual Health During Emerging Adulthood

According to Arnett (2024), emerging adulthood is a relatively recent stage of human development, shaped by the rise of modern technology and evolving social norms in the developed world over the past century. The National Center for Health Statistics (2017) reports that over 60% of females aged 19 or younger have had sexual intercourse, with the median age of first intercourse being 17 in the United States (Abma & Martinez, 2017). Sexual beliefs and

behaviors evolve from adolescence through emerging adulthood as individuals encounter new contexts (such as employment, college, and cohabitation with peers or romantic partners) and developmental experiences (Arnett, 2024). For instance, while most young adults feel their age of sexual debut was appropriate, a significant minority (37%) wish they had waited longer (Sprecher et al., 2022). This is noteworthy because early sexual debut (i.e., before the median age) is associated with increased reports of feeling pressured to have sex, regret (Sprecher et al., 2022; Wight et al., 2008), and a higher likelihood of contracting STIs (Epstein et al., 2014; Kugler et al., 2017; Peragine et al., 2022). Conversely, delaying sexual debut beyond the normative age of 17–18 may be linked to difficulties with sexual arousal and function (Peragine et al., 2022; Sandfort et al., 2008), pain during intercourse (Azim et al., 2021; Donders et al., 2011; Peragine et al., 2022), and challenges achieving orgasm (Peragine et al., 2022; Raboch & Barták, 1983).

It is in public interest to ensure that the nation's populace is as well prepared for this critical developmental period as possible. Fisher and Fisher's (1998) Information-Motivation-Behavioral Skills (IMB) model asserts that achieving high sexual self-efficacy in young adulthood requires adolescents to develop motivation and acquire skills that support the prevention of STIs and sexual violence, promote reproductive cancer screening, and encourage healthy sexual functioning. Similarly, Haffner (1995) presented the foundational position of the National Commission on Adolescent Sexual Health, stating that "responsible adolescent intimate relationships, like those of adults, should be based on shared personal values, and should be: consensual, nonexploitative, honest, pleasurable, and protected against unintended pregnancies and sexually transmitted diseases if any type of intercourse occurs" (p. 10). Haffner (1995, 1996) further emphasized that becoming a healthy sexual adult is a key developmental task of

adolescence, requiring effective communication, body appreciation, and sufficient knowledge to make informed personal decisions about sexuality. This position has since been expanded by the American Academy of Pediatrics (Ott et al., 2025) to include tenants of reproductive health equity, confidentiality, and unimpeded access to sexual health care counseling and services. Additionally, the World Association for Sexual Health (2021) reaffirmed the importance of sexual pleasure as a fundamental component of sexual health and well-being.

Sexual health is a critical national concern, with the U.S. government spending approximately \$16 billion annually to address STIs, most of which occur during emerging adulthood (Centers for Disease Control and Prevention [CDC], 2024). Therefore, it is essential to better understand the beliefs and behaviors during adolescence and emerging adulthood that promote lifelong sexual health—and whether sexual health is actually being attained in practice.

The Impact of “Abstinence Only” Messages on Sexual Health

Unfortunately, not all emerging adults receive critical sexual health education during adolescence due to the promotion of “abstinence-only” curricula that is endorsed both within conservative religious institutions and in public education settings (Lefevor et al., 2024; Santelli et al., 2017). In 2015, the United States had more Christians than any other country, with approximately 70% identifying as Christian (Pew Research Center, 2015), and over 45% identifying as Evangelical Protestant or Catholic — groups strongly associated with promoting purity culture (Cruz, 2022; Ortiz, 2019). As of 2024, 62% of U.S. adults identified as Christian, with 42% identifying as either Evangelical Protestant or Catholic (Smith et al., 2025). Although the proportion of Christians has declined over the past decade, this suggests that a larger share of today’s emerging adults were raised within religious communities that perpetuate purity

culture compared to those currently under 18, potentially shaping how they interpret their sexual experiences.

The Christian “religious right” has been a dominant political force (see Whitehead & Perry, 2015), influencing public school sexual education funding and curricula by promoting abstinence-only approaches (Santelli et al., 2006; Stanger-Hall et al., 2011; Williams, 2011). Evangelical Christian morality—which, as aforementioned, is strongly associated with purity culture—mandates abstinence in all forms of sexual activity up until heterosexual marriage, and this messaging has permeated national legislature and the way sexual health is taught to students across the country (Williams, 2011). However, abstinence-only programs have failed to significantly impact teen sexual behavior, reduce teen pregnancy, or lower STI rates (Santelli et al., 2017). In fact, such programs have been positively correlated with higher teen pregnancy rates (Stanger-Hall et al., 2011). Organizations endorsing abstinence-until-marriage ideologies have also perpetuated the misleading notion that post-marital sex is free of risk, pain, or negative outcomes (Fahs, 2010). In contrast, comprehensive sexual education includes information about both contraception and abstinence and has been shown to delay sexual initiation, reduce intercourse frequency, and lower teen pregnancy rates (Santelli et al., 2017). However, comprehensive sexual education is at odds with Evangelical Christian views, and has been suppressed by organizations that subscribe to abstinence-only ideology, and programs abiding by comprehensive sexual education have declined in U.S. middle and high schools in recent decades (Santelli et al., 2017).

Importantly, the abstinence-only messaging that corresponds with purity culture in Christian communities does not necessarily result in abstinence until marriage. For example, Rosenbaum and Weathersbee (2013) found that over 70% of newlywed Southern Baptist couples

reported having engaged in vaginal or oral sex before marriage. Without comprehensive sexual education, this can increase the risk of negative sexual health outcomes (Lefevor et al., 2024). Even those who successfully abstain can still experience negative sexual health outcomes. In a qualitative study, Azim and colleagues (2020) found that women raised in Christian purity culture who entered marriage as virgins often expected sex to be painful, did not question ongoing pain, and were reluctant to seek medical help due to discomfort discussing sexuality. Indeed, restrictive religiosity has been linked to sexual dysfunctions such as lubrication difficulties, anorgasmia, vaginismus, and dyspareunia (Azim et al., 2020; Lefevor et al., 2024).

Religiosity and Sexual Health

A substantial body of research has demonstrated that religiosity in the United States significantly influences youth sexual health (see Claster & Blair, 2017, for a review). For example, virginity pledges are often promoted by churches aligned with purity culture and have shown mixed outcomes. Some studies suggest that individuals with strong religious commitment are more likely to follow through on virginity pledges (Landor & Simons, 2014). However, other research indicates that such pledges generally delay sexual debut by only about six months (Bearman & Brückner, 2001), and that the sexual behavior of pledgers does not differ significantly from non-pledgers (Rosenbaum, 2009). Bersamin and colleagues (2005) found that adolescents who made a private pledge to delay sex until they were older were significantly more likely to postpone sexual debut, whereas those who pledged to wait until marriage were not. This distinction is important, as purity culture emphasizes marriage, not age, as the appropriate context for sexual activity (Hackathorn et al., 2016).

Caution is warranted when interpreting the relationship between religiosity and sexual health, as studies vary in how they conceptualize and measure religiosity (see Vasilenko &

Espinosa, 2019, for a review). Despite this variability, consistent patterns have emerged. Rowatt and Schmitt (2003) found intrinsic religiosity (religion as an end in itself) to be associated with sexual restrictiveness. Davidson and colleagues (2004) found church attendance was correlated with reduced sexual activity and less favorable attitudes toward nonprocreative sexual pleasure. Lefkowitz and colleagues (2004) reported that among high school students, church attendance was negatively associated with peer discussions about STIs, contraception, and sexual behaviors. Pearson (2018) found that female students in schools with higher religious attendance perceived greater barriers to birth control, experienced more guilt and shame about sex, and had lower expectations of sexual pleasure. Similarly, Marcinechova and Zahorcova (2020) found a negative relationship between religiosity and birth control use among women.

Woo and colleagues (2012) found that religious fundamentalism, intrinsic religiosity, and spirituality were all associated with sexual guilt. Azim and colleagues (2021) also found that individuals with higher religiosity reported greater sexual guilt and were more likely to experience pain during sex. Their study concluded that “women who have internalized religious doctrine around appropriate sexual conduct are more likely to experience painful sex” (p. 779), with shame serving as the key mediating factor. Marcinechova and Zahorcova (2020) identified sexual shame, shame proneness, and intrinsic religiosity as accounting for nearly 20% of the variance in sexual satisfaction, with sexual shame being the strongest predictor. These findings align with Azim and colleague’s (2021) conclusion that sexual shame is negatively associated with sexual satisfaction and positively associated with intrinsic religiosity. Recent research by Coates and colleagues (2025) further supports this, showing that exposure to purity culture beliefs is positively correlated with sexual shame, which in turn predicts sexual functioning and satisfaction. Together, sexual shame and functioning accounted for nearly half of the variance in

sexual satisfaction. However, sexual guilt does not always influence sexual outcomes among the religious. Hackathorn and colleagues (2016) found that sexual guilt was significantly associated with satisfaction only with premarital sexual activity, not with sex within marriage.

Purity Culture as a Distinct Construct

Although the equation of virginity with purity, the sexual double standard, and guilt and shame surrounding sex have been ingrained in Christian doctrine since its origin (Tannahill, 1982), the contemporary conceptualization of purity culture has developed a unique identity with the advent of movements including The Silver Ring Thing, True Love Waits, Moral Revolution, and Quiverfull (see Miller, 2017). The literature examining the impact of this particular branch of cultural influence on emerging adults is scant, and the degree to which varying Christian denominations and churches propagate purity culture is not well defined in existing measures of religiosity. Accordingly, few quantitative studies exist that use measures that differentiate between the influence of exposure to purity culture beliefs versus levels of Christian religious identification. This gap in the literature warrants further study, as differences between these constructs may account for differential outcomes in sexual health. It also may explain mixed findings in current literature, particularly as it relates to how religiosity influences sexual pleasure, satisfaction, and functioning. For example, Peri-Rotem and Skirbekk (2023) found evidence to support the claim that religiosity corresponds with higher levels of sexual satisfaction, whereas Davidson and colleagues (2004) found no relationship between sexual satisfaction and religiosity, and Leonhardt and colleagues (2023) found that religiosity can lead to lower sexual satisfaction when “sexual sanctification” was low in a couple relationship.

Theoretical Framework

Self-determination theory (SDT) is highly relevant for understanding how religion influences individual behavior, beliefs, and attitudes (Ryan et al., 1993). The theory addresses human motivation along a continuum from controlled to autonomous, emphasizing how societal contexts either support or thwart the satisfaction of basic psychological needs, and how biological and evolutionary factors underpin psychological processes (Ryan & Deci, 2017). From this perspective, human development is characterized by intrinsic motivation (an inherent tendency to explore, manipulate, and understand) and by the internalization of social norms and values.

Drawing from SDT, Ryan and colleagues (1993) defined religious identification as “the process through which an individual transforms a formerly externally prescribed regulation or value into an internal one” (p. 586), which can occur through either introjection or identification. Introjection involves internalizing religious values based on guilt, self-approval, or the need for esteem, whereas identification reflects internalization based on personal value and an internal locus of control (Hackathorn et al., 2016). Ryan and colleagues (1993) found that religious identification was positively associated with mental health, while religious introjection was negatively associated. Notably, older participants scored higher on identification and lower on introjection, suggesting developmental shifts in how religious values are internalized. These findings have important implications for how the type of religious internalization at the time of first sexual experience may influence sexual health outcomes in emerging adults.

Although SDT helps explain the motivation behind sexual behaviors, sexual script theory provides insight into the mechanisms through which individuals act on these motivations. Sexual script theory offers a framework for understanding how some emerging adults develop a healthy

sense of sexuality and sexual behavior. According to McCormick (2010), a “script” is a conventionalized sequence of events that outlines what has happened, is happening, and is likely to happen. Scripts influence how adolescents interpret their sexual development, navigate sexually charged situations, and determine how they are expected to behave, respond, and feel.

Sexual script “tracks” describe patterns of behavior in similar situations (McCormick, 2010), and these are shaped by cultural, interpersonal, and intrapsychic influences (Wiederman et al., 2015). Sexual role stereotypes are gendered scripts that prescribe expected behaviors based on gender and sexual orientation (McCormick, 2010). One example is the “good Christian girl” trope of a female who is modest, chaste, and uninterested in premarital sex, as portrayed in Western popular culture (Estrada, 2022). Additionally, the “sexual double standard,” which is the belief that women’s sexual behavior should be more restricted than men’s, is a prevalent script within purity culture (Estrada, 2022; Ortiz, 2019). Because girls are socialized in Christian purity culture from an early age to adopt a script aligned with biblical values (Estrada, 2022), sexual script theory is a particularly relevant framework for this research.

Chapter 2 - Present Study

The objective of this study is to identify the impact of being raised in U.S. “purity culture” on the sexual health and development of emerging adult women, and how this relationship may be mediated by how one identifies with the Christian religion when they have first intercourse. Vasilenko and Espinosa (2019) emphasized the importance of how religiosity is measured, noting that differences in internalization and the compartmentalization of identity across life domains, including sexuality, are likely to affect sexual behavior. Yet, prior research has not adequately examined how variations in introjection and internalization of religious beliefs influence the relationship between purity culture and sexual health outcomes. Additionally, Coates and colleagues (2025) were the first to explore the relationship between sexual shame, purity culture, and sexual satisfaction in women, and their findings warrant further investigation to augment their validity and examine how variations in degree of Christian religious internalization at time of first intercourse may explain variation in outcomes. Given key milestones in sexual development typically span adolescence through emerging adulthood and gendered sexual scripts rooted in purity culture are often enacted during this period, the target population for this study is adults aged 18 to 29 who were socialized as women within purity culture (Arnett et al., 2014). This age range also addresses a limitation in Azim and colleagues’ (2021) study, which examined the relationship between religiosity, sex guilt, and painful sex in adolescents but excluded individuals over age 20 and those in marital relationships. Age of first intercourse, which has been shown to influence multiple dimensions of sexual health, will be examined as a mediating variable. Additionally, relationship status, which has been linked to sexual satisfaction and experiences of guilt and shame, will be explored as a moderating variable in the relationship between exposure to purity culture and sexual health outcomes. Relationship

status has been found to significantly affect the association between religiosity and sexual health outcomes such as pleasure, satisfaction, and function in prior research (see Cruz, 2022; Dew et al., 2020; Hackathorn et al. 2016; Higgins et al., 2010; Peri-Rotem & Skirbekk, 2023), but has yet to be examined within the context of purity culture belief exposure and type and degree of religious internalization at time of first intercourse. Specifically, I expect:

H1: Purity culture belief exposure will be negatively associated with experiences of sexual pleasure and function during the year following first intercourse and be positively associated with likelihood of ever having a STI, an unplanned pregnancy, with age of sexual debut, and with experience of guilt and negative affect at time of first intercourse.

H2: Degree of identification and introjection of Christian religious identity at time of first intercourse will mediate the relationship between exposure to purity culture beliefs in youth and likelihood of ever experiencing an STI or unplanned pregnancy; degree of sexual pleasure and functioning experienced within the first year following first intercourse; degree of guilt and negative affect at time of first intercourse; age at first intercourse; and relationship status at time of first intercourse.

H3: The mediated associations between exposure to purity culture and experiences of sexual guilt and sexual pleasure will be moderated by relationship status (engaged/married versus committed versus uncommitted) with one's sexual partner at the time of first intercourse.

H4: Further, the expected associations in H2 between Christian religious identification and introjection with sexual dysfunction and sexual pleasure are expected to be mediated by age at first intercourse and sexual guilt at time of sexual debut.

Methods

Procedures

This study employed a quantitative, cross-sectional survey design using a self-administered, anonymous, 30-minute Qualtrics survey to examine the mediating and moderating effects of specific variables on the relationship between predictor and outcome variables.

Participants were recruited through two sampling methods: 1) a convenience sample of students attending college in the U.S., and 2) a sample of women recruited by a random sample on the research platform CloudResearch to better represent U.S. emerging adults. Participants recruited from CloudResearch were paid \$4 for completing the survey. The convenience sample was collected by advertising in school newsletters, on social media platforms, in classes, and on dormitory community boards. This design was selected to allow for the efficient collection of numerical data from a diverse sample and to facilitate statistical analysis of mediation effects.

Participants

The population of interest was sexually active emerging adults (aged 18-29) who were socialized as girls. In the self-administered survey, interested parties were first directed to a series of screening questions to determine qualification. Inclusion criteria included being at least 18 years of age but no older than 29; being raised in the United States; being raised as a girl; and having had consensual vaginal penetrative intercourse at least once. Those who did not meet these criteria were screened out of the survey.

A total of 462 responses were collected (225 from snowball sampling, 237 from the panel). A total of 162 answers were removed from the data set due to excessive missingness in responses, resulting in a total of 300 completed surveys used for analysis. Ages ranged from 18 to 29 years ($M = 24.92$, $SD = 3.30$). The sample identified predominantly as White, followed by

Black or African American, Hispanic or Latino/a, Asian or Asian American, and other racial identities. Most of the sample reported currently identifying as women, with a small number identifying as either transgender, agender, genderfluid, genderqueer, or gender questioning. There was sizable diversity in sexual orientation represented in this sample, with only slightly more than half of participants reporting as heterosexual. Most of the participants identified themselves somewhere between working class and middle class. Roughly a third of the sample had attended some college, a technical or trade degree, or an associate's degree, and another third had completed up to a bachelor's degree. Most of the sample reported growing up in a household that practiced some form of Christianity: Catholic was the most frequently reported religious identifier, followed by Christian Nondenominational and Southern Baptist (see Table 1 for detailed demographics).

Table 1

Demographic Characteristics of Participants

Variable	Category	<i>n</i>	<i>%^a</i>
Race	American Indian/Alaska Native	5	2
	Asian or Asian American	16	5
	Black or African American	50	17
	Hispanic or Latino/a	27	9
	White	218	73
	Other	6	2
Gender (current)	Woman	271	90
	Agender	4	1
	Gender Fluid	3	1
	Genderqueer	6	2
	Gender Questioning	2	1
	Man	2	1
	Nonbinary	7	2
	Transgender	6	2
Sexual Orientation	Asexual/Aromantic	7	2
	Bisexual	76	25
	Demisexual	4	1
	Gay	3	1
	Lesbian	21	7

	Pansexual	10	3
	Queer	16	5
	Sexually fluid	4	1
	Heterosexual	162	54
	Other	2	1
Socioeconomic Status	At or below poverty level	12	4
	Working class	84	28
	Lower middle class	54	18
	Middle class	103	34
	Upper middle class	34	11
	Upper class	4	1
Education Level	Less than high school diploma	1	< 1
	High school diploma or equivalent	42	14
	Some college, no degree	76	25
	Technical/trade school	7	2
	Associate's degree	29	8
	Bachelor's degree	100	33
	Master's degree	31	10
Student Status (current)	Professional or doctoral degree	5	2
	High school	1	< 1
	Technical/trade school	2	1
	2- or 4-year degree program	80	27
	Graduate or professional school	32	10
	Not currently a student	176	59
Employment	Not employed, not looking	44	15
	Not employed and looking	37	12
	One job	180	60
	2 or more jobs	29	10
Religion of origin	Atheist/Agnostic	24	8
	Buddhist	1	< 1
	Roman Catholic	89	30
	Southern Baptist	33	11
	United Methodist	28	9
	Church of Jesus Christ of Latter-day Saints	6	2
	Evangelical Lutheran	14	5
	Pentecostal/Assemblies of God	30	10
	Presbyterian	19	6
	Christian (nondenominational)	68	23
	Christian (other)	41	14
	Jewish	3	1
	Muslim	7	2
	Spiritual but not religious	16	5

Religion (current)	Wiccan or Pagan	1	< 1
	Nothing in particular	6	2
	Other	6	2
	Atheist/Agnostic	93	31
	Animist	1	< 1
	Roman Catholic	43	14
	Southern Baptist	10	3
	United Methodist	14	5
	Church of Jesus Christ of Latter-day Saints	3	1
	Evangelical Lutheran	4	1
	Pentecostal/Assemblies of God	12	4
	Presbyterian	4	1
	Christian (nondenominational)	38	13
	Christian (other)	22	7
	Jewish	2	1
	Muslim	5	2
	Other	6	2
	Spiritual but not religious	37	12
	Unitarian/Universalist	3	1
	Wiccan or Pagan	6	2
	Nothing in particular	21	7
Childhood Neighborhood	Rural	80	27
	Suburban	166	55
	Urban	44	15
Childhood Geographic Region	The U.S. Northeast	44	15
	The U.S. South	98	33
	The U.S. Midwest	116	39
	The U.S. West	31	10
	U.S. territory	2	1

^a Represents total percentage of participants who selected each category. Some categories had one participant select multiple responses, so percentages may total to more than 100.

Measures

Predictor Variables

Purity Culture. Purity culture was conceptualized as containing the following tenants, as per Ortiz's (2019) conceptualization: elevation of the status of virginity as a moral "good;" abstinence until marriage taught as the only morally acceptable practice, and sexual activity outside of marriage taught as being sinful; encouragement of the suppression of lustful or sexual thoughts and behaviors, deeming them "impure;" traditional/patriarchal gender roles as being best practice; perpetuation of the sexual double standard; virginity conceived of as a "gift" to be given to one's spouse after marriage; and implicating women as sexual gatekeepers. Specifically, the dimensions of purity culture measured included the following relevant subscales from the Purity Cultural Beliefs Scale (PCBS; Amanda Ortiz, 2019) of "Sexual Double Standard" (5 items; an example is "Women should not have sexual desire"), "Women as Gatekeepers" (3 items; an example is "It is the woman's fault if sexual boundaries are crossed"), "Men Unable to Control Desires/Extreme Modesty" (8 items; an example is "Men cannot be expected to control their sexual desire; women must help them out"), "Virginity as a Gift" (5 items; an example is "Virginity is a gift to give your spouse on your wedding night"), "All or Nothing" (8 items; an example is "You lose a piece of yourself every time you have sex with someone new"), "Guilt and Shame" (5 items; an example is "You should feel ashamed if you have sex outside of marriage"), and "Courting" (5 items; an example is "If you are patient and sexually pure, God will bring you the perfect spouse"). This research project modified the questions of the scale to prompt the participant to respond by considering how much they agree that they received the messaging of each item on the scale while growing up, not by considering how much they currently agree with or previously agreed with each item. Participants indicated their level of

agreement with each item on a scale from 1 (strongly disagree) to 5 (strongly agree). This measure has been tested and found to have adequate internal consistency ($\alpha = .83-.85$), convergent validity, and discriminant validity. The current study found the measure to have adequate internal consistency ($\alpha = .98$). All items were coded and averaged such that higher scores indicated greater exposure to purity culture messages.

Religiosity. To measure religious internalization through introjection versus identification, the 12-item Christian Religious Identity Scale (CRIS; Ryan et al., 1993) was administered through participant ratings of their beliefs and attitudes at the time of first intercourse on a scale from 1 (*never true*) to 4 (*always true*). Hackathorn and colleagues (2016) found this measure to have adequate internal consistency ($\alpha = .87-.95$). The current study also found adequate internal consistency ($\alpha = .90-.95$). Items were averaged to create subscale scores for held introjected religious beliefs and held identified religious beliefs, such that higher scores indicated higher levels of internalization, respectively.

Sexual Timing Variables

Age at First Intercourse. To measure age of sexual debut, the question “How old were you when you had your first consensual sexual vaginal intercourse?” was administered.

Relationship Status at Time of First Intercourse. To measure relationship status, the question “What was your relationship to the person you had your first consensual intercourse with?” was administered, with answers categorized as: married, engaged, in a committed romantic relationship, or not in a committed relationship.

Health of Sexual Functioning

Healthy sexual development was conceptualized as the period of time starting with and following first sexual intercourse experience as it included diagnosis of sexually transmitted

infections, occurrence of unplanned pregnancy, occurrence of sexual dysfunction (including concerns of desire, arousal, lubrication, pain, orgasm, and satisfaction), presence of sexual pleasure, and absence of negative affect indicators such as guilt, shame, or regret.

STI and Unwanted Pregnancy History. The first two measures were yes/no survey questions (i.e., “Have you ever had a sexually transmitted infection? Have you ever had an unintended pregnancy?”).

Sexual Function. To measure sexual function, the 19-item Female Sexual Function Index (FSFI; Rosen et al., 2000) was used, which covers questions on desire (2 items), arousal (3 items), lubrication (4 items), orgasm (3 items), satisfaction (3 items), and pain (3 items). All items were scaled from 1(*low*) to 5 (*high*), with some questions specific to sexual intercourse containing the option to mark 0 for no sexual activity/not applicable. This measure has been tested and found to have adequate internal consistency ($\alpha = .82$ and higher) and discriminant and divergent validity. The current study found adequate internal consistency ($\alpha = .92$). Items across the subscales were coded and averaged such that higher scores indicated higher levels of sexual functioning. Participants were asked to complete this by recalling their sexual experiences during their first year of sexual activity.

Sexual Pleasure. To measure experiences of sexual pleasure, the 3-item Sexual Pleasure Scale (SPS; Pechorro, 2016; Sanchez et al., 2005) was used, which has the participant rate their experiences of sexual intercourse, intimacy, and activities on a scale from 1(*not pleasurable*) to 7 (*very pleasurable*). This measure has been tested and found to have adequate internal consistency ($\alpha = .87- .92$) and convergent and discriminant validity (Pechorro, 2016). The current study found adequate internal consistency ($\alpha = .92$). Items were coded and averaged such that higher

scores indicated higher levels of sexual pleasure. Participants were asked to complete this by recalling their sexual experiences during their first year of sexual activity.

Sexual Guilt. To measure presence of sexual guilt, the 10-item Revised Mosher Sex-Guilt Scale (RMSGGS; Janda & Bazemore 2011) was used, with items scaled from 1 (*strongly disagree*) to 7 (*strongly agree*). The RMSGGS is a shortened version of the 50-item Mosher Sex-Guilt Scale ($\alpha = .93-.95$) and has been found to be significantly correlated with the earlier measure and have adequate internal consistency ($\alpha = .85$; Janda & Bazemore, 2011). The current study found adequate internal consistency ($\alpha = .86$). Items were coded and averaged such that higher scores indicated higher levels of guilt and shame, with participants asked to complete based on their recalled experience at the age of first intercourse rather than their present experience.

Negative Affective Reactions to First Intercourse. To measure negative affective reactions to first intercourse, the 13-item First Coital Affect Reaction Scale (FCARS; Schwartz 1993) was administered, with items scaled from 1 (*not experiencing the feeling at all*) to 7 (*strongly experiencing the feeling*). This measure has been found to have high internal consistency ($\alpha = .90$) and convergent and discriminant validity (Barnett & Moore, 2017). The present study found adequate internal consistency ($\alpha = .91$). Items were coded and averaged such that higher scores indicated higher levels of a negative first intercourse experience, with participants asked to complete based on their recalled experience at the age of first intercourse.

Analysis Plan

Preliminary analysis to examine the normality and missingness of the data, create scale scores, examine the reliability of the measures, and assess bivariate associations was conducted in SPSS. Because all variables were normally distributed (Byrne, 2010), and missingness ranged

from 0%-10%, we used Full Information Likelihood (FIML) in *Mplus* (Muthen & Muthen, 1998-2025a) to test the second and third hypotheses. In the model testing the first hypothesis, WLSMV was used as a robust estimator due to the dichotomous variables of history of STIs and unplanned pregnancy (Finney & DiStefano, 2013). Indirect effects in mediation models were estimated in *Mplus* using bias-corrected bootstrap confidence intervals, providing a robust method for inference under non-normal sampling distributions (Muthén & Muthén, 1998-2025b). Gender and sexual orientation were controlled, given the stringent emphasis in purity culture on “cisgender” and “heterosexual” as being the only acceptable identities to hold (Miller, 2017; Muskrat et al., 2025).

Chapter 3 - Results

Preliminary Analysis

Bivariate associations were examined before conducting multivariate analysis.

Neither sexual orientation nor gender were found to be associated with the outcomes under study, so these controls were not included in the multivariate models.

Predictors with STIs

Independent t-tests were performed to compare exposure to purity culture beliefs, level of identification of Christian religious identity, and level of introjection of Christian religious identity between those who had ever had an STI ($n = 40$) and those who did not ($n = 249$). There was no significant difference in exposure to purity culture beliefs between those who reported ever having an STI ($M = 3.28$, $SD = 1.05$) and those who did not ($M = 3.18$, $SD = 1.04$; $t[287] = -.51$, $p = .31$). There was no significant difference in level of identification of Christian religious identity between those who reported ever having an STI ($M = 1.96$, $SD = 1.04$) and those who did not ($M = 2.09$, $SD = .97$; $t[287] = -.81$, $p = .21$). Although approaching significance, there was also no difference in levels of introjection of Christian religious identity between those who reported ever having an STI ($M = 2.2$, $SD = .91$) and those who did not ($M = 1.97$, $SD = .87$; $t[287] = -1.58$, $p = .06$). These results failed to support the hypothesis that exposure to purity culture beliefs, level of identification, and level of introjection of Christian religious identity would be associated with a history of having an STI. Interestingly, the association between history of STI and level of introjection of Christian religious identity approached significance, such that those who reported a history of an STI had higher levels of introjection on average.

Predictors with Unplanned Pregnancy

Independent t-tests were performed to compare exposure to purity culture beliefs, level of identification of Christian religious identity, and level of introjection of Christian religious identity between those who had ever had an unplanned pregnancy ($n = 38$) and those who did not ($n = 252$). Those who reported ever having an unplanned pregnancy reported significantly higher exposure to purity culture beliefs ($M = 3.56, SD = .97$) than those who did not ($M = 3.10, SD = 1.04; t[288] = -2.32, p = .01$). There was no significant difference in levels of identification of Christian religious identity between those who reported ever having an unplanned pregnancy ($M = 2.29, SD = 1.04$) and those who did not ($M = 2.03, SD = .96; t[288] = -1.51, p = .07$), but those who reported ever having an unplanned pregnancy did report significantly higher introjection of Christian religious identity ($M = 2.24, SD = .95$) than those who did not ($M = 1.96, SD = .85; t[288] = -1.89, p = .03$). These results supported the hypothesis that exposure to purity culture beliefs and level of introjection of Christian religious identity would be associated with a history of unplanned pregnancy. The association between levels of identification of Christian religious identity and having a history of experiencing an unplanned pregnancy approached significance.

Predictors with Relationship Status at Time of First Intercourse

A one-way ANOVA was conducted to compare the effect of purity culture beliefs exposure on relationship status at the time of first intercourse. The sample included 25 participants that reported being married at time of intercourse ($M = 3.76, SD = .53$), three that reported being engaged ($M = 2.93, SD = .08$), 183 that reported being in a committed relationship ($M = 3.16, SD = 1.07$), and 89 that reported not being in a committed relationship ($M = 3.16, SD = 1.11$). The assumption of homogeneity of variances was examined through Levene's test, revealing significant heterogeneity in variances across groups ($F[3, 296] =$

8.46, $p < .01$), so a Welch's test was conducted, which indicated exposure to purity culture beliefs varied significantly by the relationship status at time of first intercourse: $F(3, 40.24) = 17, p < .01$. A Games-Howell post hoc test was used to compare the group means. The results indicated people who were married at the time of first intercourse reported significantly higher exposure to purity culture beliefs than people who were engaged ($p < .01$), in a committed relationship ($p < .01$), or not in a committed relationship at the time of their first intercourse ($p < .01$).

A second one-way ANOVA examining average levels of identification of Christian religious identity across relationship statuses revealed significant differences: $F(3, 296) = 7.52, p < .01, \eta^2 = .07$. Post-hoc comparisons using Tukey's HSD indicated that people who were married at the time of their first intercourse ($M = 2.8, SD = .96$) reported significantly higher identification as compared to those in the committed relationship group ($M = 2.05, SD = .94, p < .01$) and those who were not in a committed relationship at time of intercourse ($M = 1.84, SD = .94, p < .01$). A third one-way ANOVA examining difference in average levels of introjection of Christian religious identity across relationship statuses at the time of first intercourse indicated no statistically significant differences: $F(3, 296) = .56, p = .64$.

Correlations

Pearson product-moment correlations were computed to assess associations between the predictors and continuous outcome variables in the hypothesized models (see Table 2). Most associations were significant and in the hypothesized directions, except for identification of Christian religious identity with sexual functioning and identification of Christian religious identity with first coital affect, which were nonsignificant. Surprisingly, identification of Christian religious identity was positively associated with sexual pleasure and satisfaction.

Table 2*Correlations between Predictors and Outcomes*

Variable	1	2	3	4	5	6	7
1. Purity Culture Beliefs Exposure	—						
2. Introjection	.49**	—					
3. Identification	.15**	—	—				
4. Sexual Pleasure	-.17**	-.16*	.17**	—			
5. Sexual Functioning	-.23**	-.20**	.08	—	—		
6. First Coital Affect ^b	.18**	.30**	-.07	—	—	—	
7. Sexual Guilt	.28**	.35**	.36**	—	—	—	—

^b A higher score means more negative first coital affective experience.

* $p < .05$. ** $p < .01$.

Path Models

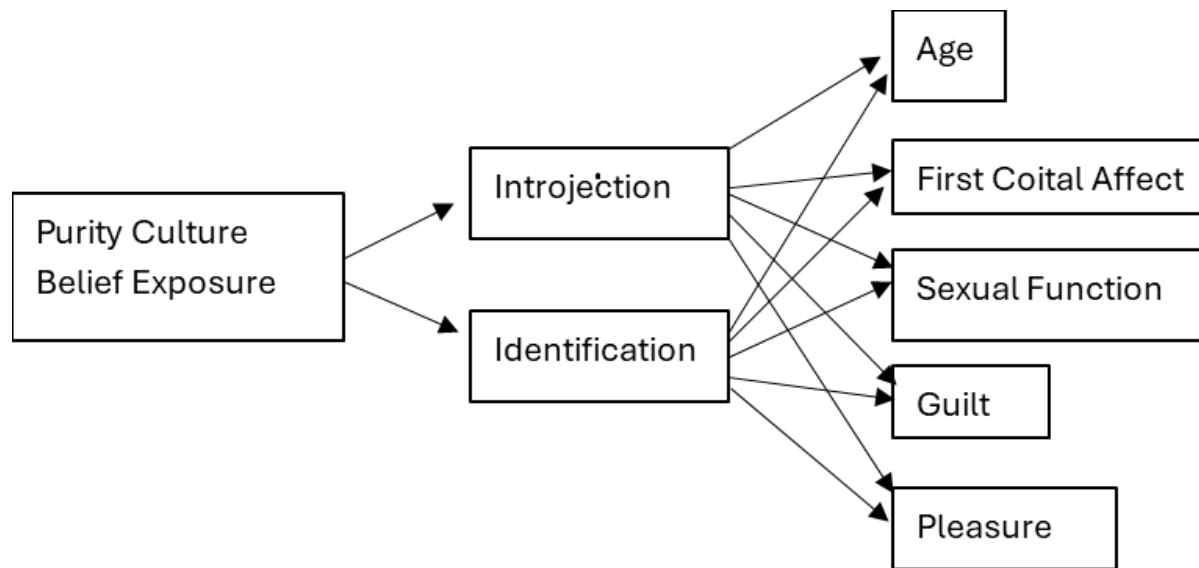
Purity Culture Belief Exposure's Effect on Sexual Health

In the first model, exposure to purity culture beliefs was used as a predictor of history of having an STI, history of experiencing an unplanned pregnancy, level of pleasure within the first year after sexual debut, experiences of sexual dysfunction within the first year after sexual debut, level of guilt held in relation to sexuality at time of sexual debut, relationship status at time of first intercourse, and age at first intercourse, indirectly through levels of introjection and identification with Christian religious identity. Including relationship status at the time of first intercourse resulted in poor fit of the model; thus, it was removed from the analysis. The resulting hypothesized model was an adequate fit for the data: $\chi^2(7) = 24.77$, $p < .01$, CFI = .95, RMSEA = .09, SRMR = .08. Neither STI nor unplanned pregnancy was predicted by the model, although the effect of introjection of Christian religious identity on history of having an STI ($\beta = .19$, $p = .06$), the total indirect effect from purity culture belief exposure to unplanned pregnancy ($\beta = .11$, $p = .06$), and the indirect effect from purity culture belief exposure to STI through

introjection of Christian religious identity ($\beta = .11, p = .07$) were approaching significance. Given these outcomes were non-significant, they were removed for parsimony (see Figure 1), resulting in a final model fit of: $\chi^2(5) = 17.69, p < .01, CFI = .98, RMSEA = .09, SRMR = .04$.

Figure 1

The Effects of Exposure to Purity Culture Beliefs Through Internalization



Direct Effects.

Purity culture belief exposure was positively associated with both identification and introjection of Christian religious identity. Introjection of Christian religious identity was positively associated with having a negative affect at the time of first intercourse and with guilt, and negatively associated with sexual pleasure and with positive sexual functioning. Identification of Christian religious identity was positively associated with older age at first intercourse, sexual pleasure, guilt, and positive sexual functioning; identification of Christian religious identity was negatively associated with having a negative affect at the time of first intercourse.

Table 3*Direct Associations Between Predictor and Outcome Variables*

Predictor Variable	Outcome Variable	<i>b</i>	β	<i>p</i>
Purity Culture Belief Exposure	Introjection	.41	.49	.00
	Identification	.14	.15	.01
Introjection	Age At First Intercourse	-.20	-.07	.24
	First Coital Affect	.57	.37	.00
	Pleasure	-.44	-.24	.00
	Guilt	.38	.25	.00
	Sexual Function	-.25	-.25	.00
Identification	Age At First Intercourse	.83	.31	.00
	First Coital Affect	-.23	-.19	.00
	Pleasure	.34	.20	.00
	Guilt	.37	.27	.00
	Sexual Function	.15	.17	.01

Indirect Effects.

Indirect Effects. In terms of indirect associations, purity culture belief exposure was positively associated with age at first intercourse through identification but not introjection of Christian religious identity. Conversely, purity culture belief exposure was positively associated with negative first coital affect through introjection of Christian religious identity, but had a negative association through identification of Christian religious identity. It also had a negative association with sexual pleasure through introjection, but a positive association through identification. Purity culture belief exposure was positively associated with levels of guilt through both introjection and identification. Purity culture belief exposure was negatively associated with sexual functioning through introjection and was approaching a significant positive association through identification with positive sexual functioning.

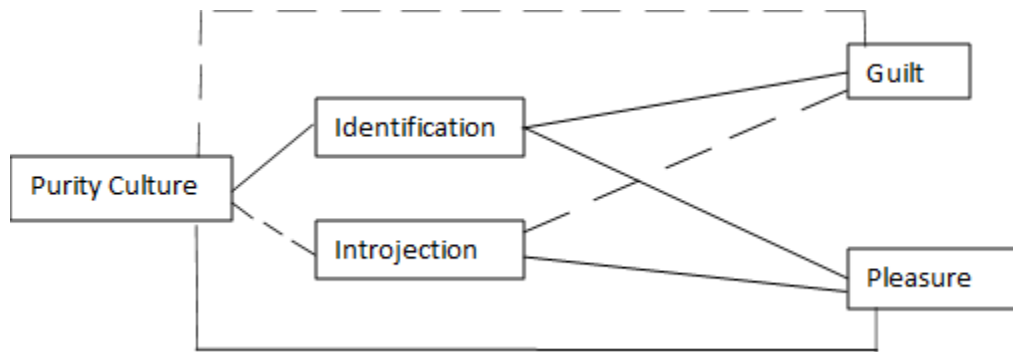
Table 4*Indirect Associations Between Predictor and Outcome Variables*

Predictor Variable	Mediator	Outcome Variable	<i>b</i>	β	<i>p</i>
Purity Culture Belief Exposure	Introjection	Age At First Intercourse	-.08	-.03	.25
		First Coital Affect	.23	.18	.00
		Pleasure	-.18	-.12	.00
		Guilt	.16	.13	.00
		Sexual Function	-.10	-.13	.00
	Identification	Age At First Intercourse	.12	.05	.02
		First Coital Affect	-.04	-.03	.04
		Pleasure	.05	.03	.04
		Guilt	.05	.04	.02
		Sexual Function	.02	.03	.05

Moderated Associations by Relationship Status at Time of First Intercourse

In the second model, exposure to purity culture beliefs was used as a predictor of sexual guilt and sexual pleasure in the first year of intercourse through introjection and identification of Christian religious identity, with relationship status at time of intercourse as a moderator (see Figure 2). Due to the small number of participants who reported being engaged at the time of first intercourse ($n = 3$), they were coded to be incorporated into the married group, and the model considers three groups instead of four. The fully unconstrained model was just identified, so no fit indices were provided ($\chi^2_{\text{diff}}[0] = 0$). Paths were then sequentially constrained to test whether they were moderated by relationship status at the time of first intercourse. The path from introjection of Christian religious identity to guilt ($\chi^2_{\text{diff}}[2] = 5.46$, $p = .07$) approached significance, and the paths from purity culture belief exposure to guilt ($\chi^2_{\text{diff}}[2] = 10.49$, $p < .01$) and purity culture belief exposure to introjection of Christian religious identity ($\chi^2_{\text{diff}}[2] = 7.62$, $p < .05$) were significantly moderated. The remaining associations were not moderated.

Moderating and Mediating Variables Between Exposure to Purity Culture Beliefs and Outcomes



Note: The dotted lines indicate moderated paths by relationship status at time of first intercourse.

Accordingly, I tested specific differences between relationship status groups for the three paths where moderation was indicated. Introjection of Christian religious identity had an association with guilt for people in committed relationships ($b = .470, p < .001$) whereas it had no association with guilt for people in uncommitted relationships ($b = .052, p = .757; \chi^2_{\text{diff}}[1] = 3.91, p < .05$). Purity culture belief exposure had an association with guilt for people in uncommitted relationships ($b = .451, p < .001$), but not for people in committed relationships ($b = -.017, p = .86; \chi^2_{\text{diff}}[1] = 7.925, p < .01$). It is interesting to note that the moderation of purity culture belief exposure's association with guilt was approaching significant difference between people who were married ($b = .94, p = .05$) and people who were committed at time of first intercourse ($b = -.02, p = .86; \chi^2_{\text{diff}}[1] = 3.64, p = .06$). The association between purity culture belief exposure and introjection of Christian religious identity was significantly stronger for people who were married at the time of first intercourse ($b = 1.11, p < .001$) than those in committed relationships ($b = 0.40, p < .001; \chi^2_{\text{diff}}[1] = 7.51, p < .01$), and those in uncommitted relationships ($b = 0.39, p < .001; \chi^2_{\text{diff}}[1] = 7.35, p < .01$). These findings did not fully support the hypothesis that relationship status at time of first intercourse moderates the mediated

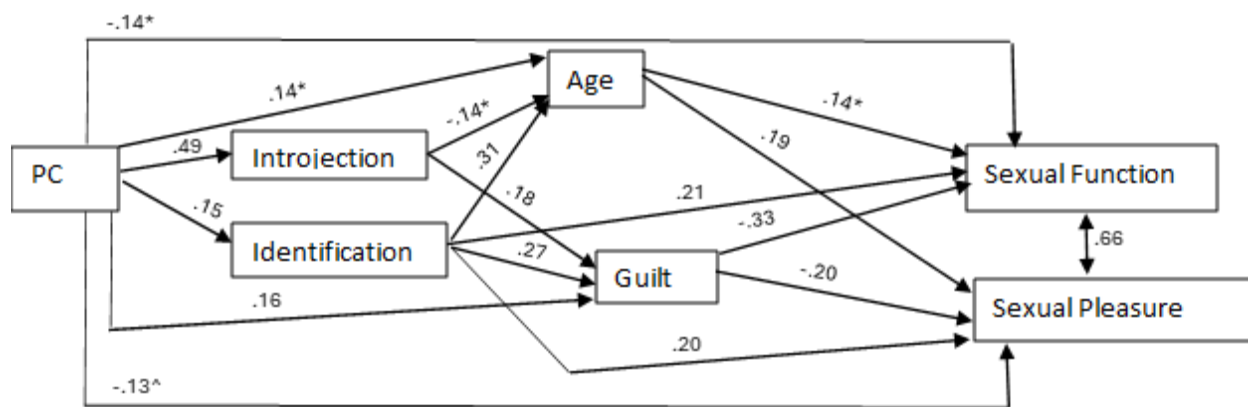
outcome variables of sexual functioning and sexual pleasure. Rather, it shows that relationship status moderates the associations between exposure to purity culture belief and guilt, between introjection of Christian religious identity and guilt, and between exposure to purity culture belief and introjection with Christian religious identity.

Mediation by Age at First Intercourse and Guilt

In the third model, sexual function and pleasure are examined as outcome variables. Exposure to purity culture belief is used as a predictor both directly and indirectly through identification and introjection of Christian religious identity, followed by age at first intercourse and guilt at time of first intercourse. All direct associations were significant, barring introjection's direct effect on the outcome variables (see Figure 3).

Figure 3

Exploration of Additional Mediators of Sexual Pleasure and Function



Note: Standardized Betas are shown.

All direct associations were significant at $p < .01$ unless indicated as $*p < .05$. Nonsignificant pathways are not shown.

^ approached significance at $p = .05$.

PC = Purity Culture Beliefs Exposure

Indirect Effects.

Purity culture exposure was indirectly negatively associated with both sexual pleasure and function through the paths of introjection of Christian religious identity to guilt and through identification of Christian religious identity to guilt (see Table 5). A positive association approached significance when looking at purity culture belief exposure on pleasure through the path of identification through age. A positive association between exposure to purity culture belief and sexual pleasure approached significance through the path of age. Exposure to purity culture belief was negatively associated with both sexual functioning and pleasure through the path of guilt. Purity culture belief exposure was positively associated with sexual function through the path of identification of Christian religious identity and approached significance through the same path to sexual pleasure.

Table 5

Indirect Associations for Figure 3

Predictor	Path 1	Path 2	Outcome	<i>b</i>	β	<i>p</i>
Purity Culture	Introjection	Age	Function	-.01	-.01	.10
			Pleasure	-.02	-.01	.09
		Guilt	Function	-.02	-.03	.01
			Pleasure	-.03	-.02	.03
	Identification	Age	Function	.01	.01	.08
			Pleasure	.01	.01	.06
		Guilt	Function	-.01	-.01	.03
			Pleasure	-.01	-.01	.06
Purity Culture	Age		Function	.02	.02	.10
			Pleasure	.04	.03	.07
	Guilt		Function	-.04	-.05	.02
			Pleasure	-.05	-.03	.04
Purity Culture	Introjection		Function	-.04	-.05	.16
			Pleasure	-.09	-.06	.10
	Identification		Function	.03	.03	.03
			Pleasure	.05	.03	.04

Chapter 4 - Discussion

The present study used a retrospective, cross-sectional design to examine the relationship between exposure to purity culture beliefs in childhood and sexual health outcomes in emerging adult women. Drawing from SDT (Ryan et al., 1993), the impact of the different ways youth may internalize Christian religious identity was used as a mediating variable. As of the submission of this paper, there are no other studies to my knowledge that explore how exposure to purity culture in childhood and how one internalizes Christian messages based on identification (self-congruent values) vs. introjection (values imposed by others) impact a wide range of sexual health indicators. It is interesting that exposure to purity culture beliefs was associated with both types of internalization of Christian religious identity, but significantly more so with introjection. This makes sense, as much of purity culture's language carries guilt-based connotations (Ortiz, 2019), which correspond with the introjected type of internalization (Ryan et al., 1993). Accordingly, this study sought to further examine findings from Hackathorn and colleagues (2016) that guilt mediated sexual satisfaction in unmarried women but not married women—as such, I examined relationship status as a potential moderator for guilt and pleasure. Overall, I found that exposure to purity culture beliefs in childhood is associated with poorer sexual health outcomes in emerging adult women, particularly when religious identity is internalized through introjection rather than identification. Guilt was identified as a mediating factor in sexual health outcomes, and relationship status was found to moderate associations between exposure to purity culture belief and introjection of Christian religious identity, purity culture belief exposure and guilt, and introjection of Christian religious and guilt.

Purity Culture, Religious Internalization and STIs

Based on the current literature formerly mentioned, I hypothesized a number of associations between level of exposure to purity culture beliefs, levels of introjection and identification of Christian religious identity, and sexual health outcomes. First, the association between exposure to purity culture and type of Christian religious internalization of identity on lifetime occurrence of STIs was difficult to predict, as high levels of each predictor variable are often associated with delayed onset of first intercourse, which is in and of itself a protective factor towards contracting an STI. However, purity culture's "abstinence only" messaging has been found to correspond with decreased contraceptive use when individuals do begin to have sex (Santelli et al., 2017), which would increase risk. Ultimately, there was no association found between degree of purity culture belief exposure in youth, type of Christian religious internalization, and history of STIs, lending credence to the idea that neither exposure to purity culture nor levels of identification impact overall likelihood of contracting an STI. The association between a history of STI and levels of introjection approached significance, however, so it is possible that a larger sample size would be able to capture significance at $p < .05$.

This might be explained by the difference between introjection and identification, in that those who tend to introject beliefs uphold external regulations but may not hold them as their own (Ryan et al., 1993). As such, they may also be susceptible to external pressure from their partner to not use a condom (i.e., they are more impressionable, seeking approval from others rather than abiding by internal motivation), making them more susceptible to contracting an STI. Alternatively, those with identified beliefs may feel more confident in making autonomous, self-endorsed decisions (Ryan et al., 1993), and, as such, they may be less susceptible to external pressure not to wear a condom. Other elements to consider are age at first intercourse and

number of partners. Regarding the former, identification of Christian religious identity was associated with an older age at first intercourse whereas introjection of Christian religious identity was not. As aforementioned, younger age has been identified as a risk factor for history of STIs (Epstein et al., 2014; Kugler et al., 2017; Peragine et al., 2022), so that fact that introjection is not associated with age but is potentially associated with history of STIs—while identification is associated with age and not associated with a history of STIs—makes intuitive sense. Unfortunately, this study did not capture how many partners participants have had since their time of first intercourse, but this may also be a significant explanatory factor to explore in future research.

Purity Culture, Religious Internalization and Unplanned Pregnancy

The occurrence of unplanned pregnancy has also been of interest to researchers as it relates to purity culture's abstinence-only policy and virginity pledges (Santelli et al., 2017). Kalmijn (2016) found that abstinence pledges resulted in a higher chance of nonmarital pregnancy. I found in my preliminary analyses that both purity culture belief exposure and levels of introjection of Christian religious identity were positively associated with a history of unplanned pregnancy, while identification of Christian religious identity approached significance. The phenomenon of abstinence-only education correlating with higher rates of unplanned pregnancy (Kalmijn, 2016; Santelli et al., 2017) has been suggested to be explained by its typical lack of complementary comprehensive sexual health education for adolescents, resulting in young people not knowing how to prevent pregnancy when they do begin having sex. Also, some sects of Christianity discourage contraception and deem it as sinful (Hollinger, 2013), which could further explain the association with unplanned pregnancy.

Purity Culture, Religious Internalization and Relationship Status at Time of First Intercourse

Third, as hypothesized, those who were more exposed to purity culture in youth were more likely to be married at the time of first intercourse. Also, those who were married at the time of first intercourse had higher levels of Christian religious identity identification than those who were in committed or uncommitted relationships. This corresponds with purity culture's messages that sex is only for marriage, and thus those who grew up with this messaging are more likely to abide by these rules. It is interesting to note that, when looking at levels of Christian religious identity internalization, the association was only directly significant for those with identified beliefs, not for those with introjected beliefs. This suggests that those who find personal importance in and consciously value Christian beliefs are more likely to wait until marriage than those who feel internal guilt or anxiety regarding practicing their Christian faith. These findings are also interesting when considering the varying success rate found in previous research as related to virginity pledges (Bearman & Brückner, 2001; Landor & Simons, 2014; Rosenbaum, 2009), as the variables of purity culture exposure in youth and level and type of religious internalization may explain differing success levels in maintaining these pledges.

The Important Mediating Role of Internalization

Introjection of Christian religious identity was found to mediate the association between exposure to purity culture beliefs and sexual health outcomes, such that higher levels of introjection corresponded with higher levels of guilt and negative affect, and lower levels of sexual functioning and pleasure. Conversely, identification of Christian religious identity was found to mediate the association between exposure to purity culture beliefs and sexual health outcomes such that higher levels of identification resulted in an older age at first intercourse,

more sexual pleasure, a more positive first coital affect, but also more guilt. The positive association of sexual pleasure with identification and the negative association of sexual pleasure with introjection may be due to the phenomenon of the “sacred marriage bed”—the idea that marriage sanctifies sexual activity for religious individuals (Hackathorn et al., 2016). The phenomenon of identification with Christian religious identity resulting in greater pleasure and affect also corroborates findings from Dew and colleagues (2020), who found that while church attendance did not impact levels of sexual satisfaction in married couples, the endorsement of marriage as sacred (marital sanctification) did improve sexual satisfaction. Using SDT, endorsement of marital sex as sacred may be conceptualized as a primarily identified—rather than introjected—belief (i.e., more self-endorsed, rather than internalized in an attempt to please others). As such, it is more likely to allow for a congruent and positive evaluation of one’s own actions (Ryan et al., 1993). Although identification was not found to be significantly correlated with first coital affect directly, the fact that it mediates the association between exposure to purity culture beliefs on this outcome positively is worthy of comment. It is important to note that, considering these results, identification of Christian religious identity seems to mediate exposure to purity culture in such a way that outcomes are more desirable than introjection’s mediating impact, and that without identification, purity culture beliefs exposure is negatively associated with women’s sexual health outcomes in bivariate analyses; however, both types of internalization are associated with higher levels of guilt. How guilt mediates sexual health outcomes is examined in a later model.

According to sexual script theory (Wiederman et al., 2015), introjection may be read as a passive, non-critical adoption of the script formulated by purity culture. Abiding by prescribed behaviors from purity culture may be due to a sense of obligation or fear of

rejection/condemnation. When individuals internalize rigid, guilt-based cultural scripts through introjection, such as “women should not have sexual desire,” “sex outside of marriage is a sin,” and “women are at fault if sexual boundaries are crossed” (Ortiz, 2019), they may experience cognitive dissonance and emotional distress, which reduces sexual pleasure and function (Cruz, 2022). Alternatively, when individuals *identify* with purity culture beliefs, they may delay sexual activities until they align with said values, which may then increase the chances of emotionally positive reactions and satisfaction. However, guilt seems to be an inherent part of the purity culture script, as it is seen in both kinds of internalization. Considering guilt’s inevitability, Hackathorn and colleagues’ (2016) finding that guilt negatively influences sexual satisfaction for non-married individuals but not for married individuals carries important implications surrounding how the negative aspects of this guilt may be mitigated. The interaction between relationship status and introjection and identification is examined in the following model.

Relationship Status as a Moderator

The hypothesis that levels of pleasure and guilt would be moderated by relationship status while accounting for the mediation of identification and introjection of Christian religious identity was partially supported. Moderation by relationship status was found to act on the association between introjection and guilt, but also on the association between purity culture belief exposure and guilt and between purity culture belief exposure and introjection. The fact that introjection had more of an impact on guilt levels for those in a committed relationship at the time of first intercourse than it did for those in uncommitted relationships is interesting. According to sexual script theory (Simon and Gagnon, 2003), the mechanism of this moderation may lie in cultural scripts, interpersonal scripts, and/or intrapersonal scripts. From a broader social perspective, one explanation for this difference is that while partners may be able to take

comfort in the idea that their sexual behavior is within a committed relationship (i.e., culturally sanctioned), there is a possibility that these individuals were hoping to wait until marriage (which is specific to purity culture) and were unable to within their committed relationship, inciting the shame that comes with sex outside of marriage. Those who had first intercourse with an uncommitted partner may not have had as strong aspirations to follow the purity cultural script of waiting until marriage. Alternatively, on an interpersonal level, how sexual behavior was negotiated within the relationship may have had a substantial impact on whether or not the individual felt more or less guilt (for an evaluation of how heterosexual couples grapple with cultural-level sexual scripts, see Masters et al., 2013). This factor would not be relevant for uncommitted individuals, who may place less or no value on an uncommitted partner's thoughts and feelings. Further investigation into the cognitive process difference between these two groups may prove enlightening, and possibly show that the two groups were following two entirely different scripts, or placed more or less value on prevailing social scripts, explaining the difference in outcome.

In the second path of moderation, there was a difference again between committed and uncommitted individuals at time of first intercourse in the association between purity culture belief exposure and guilt. Because purity culture belief exposure and introjection were found to be substantially correlated, it is likely that the same or similar script interpretations that moderated the association of introjection to guilt also moderated this association. The fact that the model approached significance when comparing those married to those in committed relationships at the time of first intercourse is of further interest. It would be reasonable to assume that, because of purity culture's strong emphasis on waiting until marriage (Ortiz, 2019), those who failed to do so would hold more guilt specifically regarding not being married at time

of intercourse. Alternatively, those who waited until marriage could be internalizing a higher level of guilt around sex in general, and are for some reason not able to discard this guilt even after marriage (Cruz, 2022). This would indicate that those in committed relationships for their first intercourse may have less strongly internalized guilt surrounding sex, ultimately leading to less rigid standards about the context of their first intercourse.

Regarding the association between purity culture belief and introjection, differences were found between people who were married versus those who were committed and uncommitted at time of first intercourse. This is curious, because in the ANOVA analysis, identification was found to be significantly higher in those who waited until marriage compared to those who did not, while introjection was not found to differ between groups. This could suggest that other factors not captured in this model are more heavily influencing levels of introjection for people who did not wait until marriage. Further study of what leads to introjection of religious beliefs is warranted to identify other important contributing factors. For example, the mechanism by which religious and/or purity culture messages were propagated to individuals during youth may have a significant impact on how these messages became internalized. Modeling by parents, other important figures of authority outside of the home, peers, extended family, and media and entertainment could all be potential avenues for the communication of scripts and values.

Mediation of Age at First Intercourse and Sexual Guilt

The final hypothesis—that the expected associations between Christian religious identity internalization with sexual function and sexual pleasure would be mediated by age at first intercourse and sexual guilt at the time of sexual debut—was partially supported. Specifically, exposure to purity culture beliefs influenced sexual outcomes through both introjection and

identification of Christian religious identity, with guilt playing a key mediating role. The pathway from purity culture belief exposure through introjection and guilt was associated with poorer sexual functioning during the first year of intercourse and lower sexual satisfaction and pleasure, while the pathway through identification and guilt also led to worse sexual functioning and approached significance for decreased satisfaction and pleasure. Notably, the effect size of the negative impact on sexual function and pleasure through guilt via introjection was larger than through identification. In this model, identification had a direct positive effect on sexual pleasure and functioning, whereas introjection's direct effect was nonsignificant, and purity culture belief exposure had a direct negative effect.

When guilt was not incorporated as a mediator, the association between purity culture and the outcome variables by identification resulted in positive outcomes. However, when guilt was accounted for as a mediating mediator, the outcomes became negative. This suggests that while identification of Christian religious identity may buffer against the negative impact of purity culture beliefs, it cannot fully protect against them due to its association with guilt. As discussed above, according to Self-Determination Theory (Ryan et al., 1993), individuals who identify with their religious values tend to have a more integrated and self-endorsed understanding of their faith, which may facilitate less inhibition and more positive affect regarding sexual onset. In contrast, introjected individuals are more externally motivated and may adopt religious values to gain acceptance, making them more susceptible to conflicting cultural messages and interpersonal scripts. Although these results show that exposure to purity culture beliefs broadly harm women's sexual wellbeing, those who identify with Christian beliefs rather than introject them appear to be less adversely affected. It may be that in values-aligned contexts, guilt is culturally expected, but pleasure is permitted, even though guilt works

against it and is compounded upon by exposure to purity culture beliefs. Whereas, introjected individuals may not feel their values align with their sexual debut circumstances, leaving them without a script that allows for pleasure—or they may be too anxious or distressed to experience it. This interpretation is supported by findings from the first model, where the indirect effect of purity culture belief exposure through introjection was linked to higher levels of negative first coital affect.

These findings are in alignment with the research of Leonhardt and colleagues (2023), who found that religiosity was associated with lower sexual satisfaction when sexual sanctification was low, but not when sexual sanctification was high. It is possible that those with high levels of purity culture belief exposure in youth lack the protective ability to view their sexual behavior as “sanctified” when they do not have high levels of identification of Christian identity. Further, my research augments the findings of Coates and colleagues (2025) that purity culture exposure in youth is associated with decreased sexual satisfaction in women, and that this relationship is mediated by shame.

Interestingly, the path from purity culture beliefs exposure through identification and age approached significance resulting in higher levels of pleasure. This might be explained by an identified individual’s self-determined choice to wait until an older age before having sex, which would thus allow for greater enjoyment of the experience. This may also explain why purity culture through identification resulted in higher levels of pleasure and sexual function in the year following first intercourse—the script that identified individuals followed were understood as self-chosen and thus there was less reason for distress regarding their first intercourse. It is interesting to note that the more direct effect of purity culture through age only approached significance to higher levels of pleasure. Upon conducting a Pearson product-moment correlation

with age and sexual pleasure, I found a positive association: $r[267] = .22, p < .001$. My findings suggest that purity culture beliefs exposure may work against the positive impact of older age at time of first intercourse, reducing its significance. I think it is important to reemphasize that purity culture does not indicate age at all as a meaningful parameter regarding appropriateness of sex—rather, it only emphasizes marriage/relationship status. Although individuals exposed to purity culture beliefs at an early age may wait longer to have sex than their peers—which results in potential better sexual health outcomes—this is a fortunate byproduct in spite of purity culture messaging, and may explain positive sexual health outcomes more than relationship status does. Future studies may benefit from controlling for age and relationship status at time of first intercourse when examining the impact of purity culture.

The finding that older age at sexual debut corresponds with more pleasure runs contrary to Peragine and colleague's (2022) finding that relatively younger age of sexual debut is associated with better orgasmic functioning in women. This could be explained by the difference in sample demographics, meaning that the population I captured in my sample is fundamentally different from the population captured in Peragine and colleagues (2022). For example, Peragine and colleagues' (2022) study participants were Canadian, and unlike in my study, those who had experienced non-consensual first intercourse were screened out of the sample. Further, religiosity at time of first intercourse was not controlled for in.

Implications for Policy, Practice, and Research

The findings of this research encourage discourse in the public health and education arenas, and can inform mental and physical health providers who may encounter patients who have grown up with exposure to purity culture beliefs. The findings underscore the need for comprehensive, evidence-based sex education policies that move beyond abstinence-only

approaches. Policymakers should prioritize curricula that address emotional, relational, and physical aspects of sexuality. Collaboration between public health agencies and faith-based organizations could help disseminate accurate sexual health information while respecting religious values. Additionally, policies should support mental health programs that address guilt and shame related to sexual debut, particularly for individuals raised in purity culture environments. Furthermore, religious leaders should take heed of the evidence of harm done to women through purity culture's messaging, and may benefit from a richer understanding of how to cultivate self-endorsed and congruent values in the youth of their congregations.

This study sets the stage for further exploration surrounding what factors contribute to the development of introjection differentially from identification of religious identity in young people. Future studies should explore the mechanisms that lead individuals to adopt beliefs through introjection rather than identification, with particular attention to family dynamics, parental modeling, and religious education practices. Longitudinal research could examine whether the effects of purity culture exposure persist or change across the lifespan. Additionally, targeted intersectional analyses considering race, gender and sexual orientation, and denominational differences would provide a more nuanced understanding of these associations. Finally, research should identify protective factors that promote healthier forms of religious internalization without reinforcing harmful purity culture messaging.

Limitations

As is the case with any social research study, this design carries limitations. Due to the use of a convenience sample, as opposed to random sampling, the results of this study are limited in generalizability to the greater population of emerging adults. Also, because the survey relies on participants' memory, the responses may be subject to recall bias, and as such may not

accurately or perfectly reflect the true lived experience of each participant. It is important to note that sexual development is a process, and that one cannot measure it comprehensively using only one or a few markers. Elements of sexual health that are not directly related to intercourse itself are not measured in this study, leaving a knowledge gap. Another important limitation in this research is that information on the characteristics and influence of the partner at the first time of intercourse was not collected; a significant amount of variation in sexual health outcomes may be explained by the way that interpersonal scripts are uniquely formed by partners, and how these contribute to intrapersonal scripts. Future studies may incorporate further dimensions of sexual health and development into their research design. The sample had a relatively low number of participants who reported waiting until marriage for their first intercourse, so a future study with a larger sample size or an oversampling of this subpopulation may yield more insight. Finally, cross-sectional data cannot determine directionality of associations; a longitudinal study, which follows teens from onset of puberty through to full maturity, may be able to capture changes over time in variable interactions that this current study is not able to capture.

Conclusion

This research has explored outcomes in emerging adult women as it relates to sexual health and well-being and contributes important information to any field that may involve working with this population. Findings support previous research that purity culture's abstinence-only-until-marriage messaging does not decrease an individual's likelihood of having a history of STIs and may in fact increase risk of a history of unintended pregnancy (Guttmacher Institute, 2017). Internalization of Christian religiosity is associated with waiting until marriage for sexual debut, and it also associated with experiences of guilt at time of first intercourse. High exposure to purity culture beliefs in childhood corresponds with higher levels of internalization

of Christian religiosity, but more so for introjection than identification. Purity culture belief exposure during childhood and introjection of Christian religious identity at time of first intercourse both are negatively associated with a variety of sexual health outcomes in women. Alternatively, identification of Christian religious identity is associated with better outcomes, although its protective effect is reduced when it mediates the overall effect of exposure to purity culture beliefs. Relationship status does moderate associations among purity culture, introjection, and guilt, and further research is needed to explain these interactions and how they may influence differences in outcomes of sexual health. Guilt was found to mediate experiences of sexual functioning and of pleasure, but to a differing degree depending upon a woman's level of introjection vs. identification. The implications of this study underscore the harmful impacts of purity culture and call for evidence-based sex education, mental health support, and collaborative efforts between public health, policymakers, and faith communities, while paving the way for future studies on religious identity formation and protective factors against shame-based messaging.

References

- Abma, J. C., & Martinez, G. M. (2017). *Sexual activity and contraceptive use among teenagers in the United States, 2011–2015* (National Health Statistics Reports No. 104). Centers for Disease Control and Prevention. <https://www.cdc.gov/nchs/data/nhsr/nhsr104.pdf>
- Arnett, J. J. (2024). *Emerging adulthood: The winding road from the late teens through the twenties* (3rd ed.). Oxford University Press.
- Arnett, J. J., Zukauskienė, R., & Sugimura, K. (2014). The new life stage of emerging adulthood at ages 18-29 years: Implications for mental health. *The Lancet Psychiatry*, 1(7), 569–576. [https://doi.org/10.1016/S2215-0366\(14\)00080-7](https://doi.org/10.1016/S2215-0366(14)00080-7)
- Azim, K. A., Happel-Parkins, A., & Moses, A. (2020). Epistles of dyspareunia: Storying Christian women's experiences of painful sex. *Culture, Health & Sexuality*, 23(5), 644–658. <https://doi.org/10.1080/13691058.2020.1718759>
- Azim, K. A., Happel-Parkins, A., Moses, A., & Haardorfer, R. (2021). Exploring relationships between genito-pelvic pain/penetration disorder, sex guilt, and religiosity among college women in the U.S. *Journal of Sexual Medicine*, 18(4), 770–782. <https://doi.org/10.1016/j.jsxm.2021.02.003>
- Barnett, M. D., & Moore, J. M. (2017). The construct validity of the First Coital Affective Reaction Scale and Virginity Beliefs Scale. *Personality and Individual Differences*, 109, 102–110. <https://doi.org/10.1016/j.paid.2016.12.043>
- Bearman, P. S., & Brückner, H. (2001). Promising the future: Virginity pledges and first intercourse. *The American Journal of Sociology*, 10(4), 859–912. <https://doi.org/10.1086/320295>

- Bersamin, M. M., Walker, S., Waiters, E. D., Fisher, D. A., & Grube, J. W. (2005). Promising to wait: Virginity pledges and adolescent sexual behavior. *Journal of Adolescent Health*, 36(5), 428–436. <https://doi.org/10.1016/j.jadohealth.2004.09.016>
- Brody, S., & Costa, R. M. (2009). Satisfaction (sexual, life, relationship, and mental health) is associated directly with penile-vaginal intercourse, but inversely with other sexual behavior frequencies. *Journal of Sexual Medicine*, 6(7), 1947–1954. <https://doi.org/10.1111/j.1743-6109.2009.01303.x>
- Byrne, B. M. (2010). *Structural Equation Modeling with AMOS: Basic Concepts, Applications, and Programming* (2nd ed.). New York: Routledge.
- Carcedo, R. J., Fernández-Rouco, N., Fernández-Fuertes, A. A., & Martínez-Álvarez, J. L. (2020). Association between sexual satisfaction and depression and anxiety in adolescents and young adults. *International Journal of Environmental Research and Public Health*, 17(3), 841. <https://doi.org/10.3390/ijerph17030841>
- Centers for Disease Control and Prevention. (2024, April 3). *Sexually transmitted infections prevalence, incidence, and cost estimates in the United States*. <https://www.cdc.gov/sti/php/communication-resources/prevalence-incidence-and-cost-estimates.html>
- Claster, P. N., & Blair, S. L. (Eds.). (2017). *Gender, sex, and sexuality among contemporary youth* (Vol. 23, pp. 16–41). Emerald Publishing Limited. <https://doi.org/10.1108/S1537-466120170000023013>
- Coates, A. G., Metcalfe, K., Ensign, A., Abdalla, S., & Meston, C. (2025). Being pure and being ashamed: The role of purity culture in sexual wellbeing. *The Journal of Sexual Medicine*, 22, i32. [Abstract]. <https://doi.org/10.1093/jsxmed/qdaf068.049>

- Cruț, L. (2021). I'm taking back my body (The female body in the 'purity' culture). *Linguaculture*, 12(1), 117–128. <https://doi.org/10.47743/lincu-2021-1-0191>
- Cruz, R. V. (2022). The role of sex guilt as a mediating variable in the association of relationship and sexual satisfaction: An intersectional approach. *Sexuality & Culture*, 26(2), 616–639. <https://doi.org/10.1007/s12119-021-09912-y>
- Davidson, J. K., Moore, N. B., & Ullstrup, K. M. (2004). Religiosity and sexual responsibility: Relationships of choice. *American Journal of Health Behavior*, 28(4), 335–356. <https://doi.org/10.5993/AJHB.28.4.5>
- Dew, J. P., Uecker, J. E., & Willoughby, B. J. (2020). Joint Religiosity and Married Couples' Sexual Satisfaction. *Psychology of Religion and Spirituality*, 12(2), 201–212. <https://doi.org/10.1037/rel0000243>
- Donders, G. G. G., Folens, S., Peperstraete, B., & Bellen, G. (2011). Age of sexual debut and central introital dyspareunia. *European Journal of Obstetrics & Gynecology and Reproductive Biology*, 158(1), 90–92. <https://doi.org/10.1016/j.ejogrb.2011.04.016>
- Durant, S. (2023, October 11). *Current trends in adolescent sexual and reproductive health*. Association of State and Territorial Health Officials. <https://www.astho.org/topic/brief/current-trends-in-adolescent-sexual-reproductive-health/>
- Epstein, M., Bailey, J. A., Manhart, L. E., Hill, K. G., Hawkins, J. D., Haggerty, K. P., & Catalano, R. F. (2014). Understanding the link between early sexual initiation and later sexually transmitted infection: Test and replication in two longitudinal studies. *Journal of Adolescent Health*, 54(4), 435–441. <https://doi.org/10.1016/j.jadohealth.2013.09.016>

- Estrada, L. L. (2022). Clinical considerations of the evangelical purity movement's impact on female sexuality. *Journal of Sex & Marital Therapy*, 48(2), 121–132.
<https://doi.org/10.1080/0092623X.2021.1977445>
- Fahs, B. (2010). Daddy's little girls: On the perils of chastity clubs, purity balls, and ritualized abstinence. *Frontiers*, 31(3), 116-144. <https://www.proquest.com/scholarly-journals/daddys-little-girls-on-perils-chastity-clubs/docview/822042549/se-2>
- Fallis, E. E., Rehman, U. S., Woody, E. Z., & Purdon, C. (2016). The longitudinal association of relationship satisfaction and sexual satisfaction in long-term relationships. *Journal of Family Psychology*, 30(7), 822–831. <https://doi.org/10.1037/fam0000205>
- Finney, S. J., & DiStefano, C. (2013). Nonnormal and categorical data in structural equation modeling. In G. R. Hancock & R. O. Mueller (Eds.), *Structural equation modeling: A second course* (pp. 439–492). IAP Information Age Publishing.
- Fisher, W. A., & Fisher, J. D. (1998). Understanding and promoting sexual and reproductive health behavior: Theory and method. *Annual Review of Sex Research*, 9, 39-76.
- Gruskin, S., & Kismödi, E. (2020). A call for (renewed) commitment to sexual health, sexual rights, and sexual pleasure: A matter of health and well-being. *American Journal of Public Health*, 110(2), 159–160. <https://doi.org/10.2105/AJPH.2019.305497>
- Guttmacher Institute. (2017, December). *American adolescents' sources of sexual health information* [Fact sheet]. Guttmacher Institute.
<https://www.guttmacher.org/sites/default/files/factsheet/facts-american-teens-sources-information-about-sex.pdf>

- Hackathorn, J. M., Ashdown, B. K., & Rife, S. C. (2016). The sacred bed: Sex guilt mediates religiosity and satisfaction for unmarried people. *Sexuality & Culture*, 20(1), 153–172. <https://doi.org/10.1007/s12119-015-9315-0>
- Hackett, C. (2016, March 22). *The gender gap in religion around the world*. Pew Research Center. <https://www.pewresearch.org/religion/2016/03/22/the-gender-gap-in-religion-around-the-world/>
- Haffner, D. W. (1995). *Facing facts: Sexual health for America's adolescents*. Sexuality Information and Education Council of the United States.
- Haffner, D. W. (1996). Sexual health for America's adolescents. *Journal of School Health*, 66(4), 151–152. <https://doi.org/10.1111/j.1746-1561.1996.tb08237.x>
- Higgins, J. A., Trussell, J., Moore, N. B., & Davidson, J. K. (2010). Virginitly lost, satisfaction gained? Physiological and psychological sexual satisfaction at heterosexual debut. *Journal of Sex Research*, 47(4), 384–394. <https://doi.org/10.1080/00224491003774792>
- Hollinger, D. P. (2013). The ethics of contraception: A theological assessment. *Journal of the Evangelical Theological Society*, 56(4), 683.
- Janda, L. H., & Bazemore, S. D. (2011). The Revised Mosher Sex-Guilt Scale: Its psychometric properties and a proposed ten-item version. *Journal of Sex Research*, 48, 392. <https://doi.org/10.1080/00224499.2010.482216>
- Kalmijn, M. (2017). Relationships between fathers and adult children: The cumulative effects of divorce and repartnering. *Journal of Marriage and Family*, 79(4), 1104–1116. <https://doi.org/10.1111/jomf.12279>

- Koletić, G., Landripet, I., Tafro, A., Jurković, L., Milas, G., & Štulhofer, A. (2021). Religious faith and sexual risk taking among adolescents and emerging adults: A meta-analytic review. *Social Science & Medicine (1982)*, 291, 114488–114488.
<https://doi.org/10.1016/j.socscimed.2021.114488>
- Komlenac, N., Pittl, M., Perkhofer, S., Tucek, G., & Hochleitner, M. (2022). Links between virginity beliefs, negative feelings after virginity loss and sexual performance anxiety in a sample of German-speaking heterosexual-identified women and men. *Journal of Sex & Marital Therapy*, 48(1), 47–64. <https://doi.org/10.1080/0092623X.2021.1958963>
- Kugler, K. C., Vasilenko, S. A., Butera, N. M., & Coffman, D. L. (2017). Long-term consequences of early sexual initiation on young adult health: A causal inference approach. *The Journal of Early Adolescence*, 37(5), 662-676.
<https://doi.org/10.1177/0272431615620666>
- Landor, A. M., & Simons, L. G. (2014). Why virginity pledges succeed or fail: The moderating effect of religious commitment versus religious participation. *Journal of Child and Family Studies*, 23(6), 1102–1113. <https://doi.org/10.1007/s10826-013-9769-3>
- Lefevor, G. T., Sorrell, S. A., & Skidmore, S. T. (2024). How and why religiousness influences sexual health: A review. *Current Sexual Health Reports*, 16(3), 185–194.
<https://doi.org/10.1007/s11930-024-00390-5>
- Lefkowitz, E. S., Boone, T. L., & Shearer, C. L. (2004). Communication with best friends about sex-related topics during emerging adulthood. *Journal of Youth and Adolescence*, 33(4), 339–351. <https://doi.org/10.1023/B:JOYO.0000032642.27242.c1>
- Leonhardt, N. D., Clarke, R. W., & Leavitt, C. E. (2023). Religiosity, Sexual Satisfaction, and Relationship Satisfaction: The Moderating Role of Sexual Mindfulness and Sexual

- Sanctification. *Journal of Sex & Marital Therapy*, 49(2), 155–171.
<https://doi.org/10.1080/0092623X.2022.2080132>
- Marcinechova, D., & Zahorcova, L. (2020). Sexual satisfaction, sexual attitudes, and shame in relation to religiosity. *Sexuality & Culture*, 24(6), 1913–1928. <https://doi.org/10.1007/s12119-020-09727-3>
- Masters, N. T., Casey, E., Wells, E. A., & Morrison, D. M. (2013). Sexual scripts among young heterosexually active men and women: continuity and change. *Journal of sex research*, 50(5), 409–420. <https://doi.org/10.1080/00224499.2012.661102>
- McCormick, N. B. (2010). Sexual scripts: Social and therapeutic implications. *Sexual and Relationship Therapy*, 25(1), 96–120. <https://doi.org/10.1080/14681990903550167>
- McKenna, N. C., Nedelec, J. L., Pierce, K., & Knox, K. N. (2024). Helpful or harmful? The gendered effect of virginity pacts on later sexual victimization. *Crime and Delinquency*, 70(13–14), 3631–3657. <https://doi.org/10.1177/00111287241261326>
- Meier, A. M. (2003). Adolescents’ transition to first intercourse, religiosity, and attitudes about sex. *Social Forces*, 81(3), 1031–1052. <https://doi.org/10.1353/sof.2003.0039>
- Miller, J. (2017). Queering the Virgin: Evangelical World-Making and the Heterosexual Crisis. *European Journal of American Studies*, 11(3), 1-14.
<https://doi.org/10.4000/ejas.11818>
- Moreau, C., Kågesten, A. E., & Blum, R. W. (2016). Sexual dysfunction among youth: An overlooked sexual health concern. *BMC Public Health*, 16(1), 1–10.
<https://doi.org/10.1186/s12889-016-3835-x>
- Muskrat, T. Y., Porcaro, A. K., Worley, M. G., Franco, A. E., Parmenter, J. G., & Sánchez, F. J. (2025). “Being yourself is a sin”: The impact of evangelical purity culture on sexual and

- gender minority people socialized as women. *The Counseling Psychologist*, 53(5), 672–699. <https://doi.org/10.1177/00110000251352578>
- Muthén, L. K., & Muthén, B. O. (1998–2025a). Mplus (Version 9) [Computer software]. Los Angeles, CA: Muthén & Muthén.
- Muthén, L. K., & Muthén, B. O. (1998–2025b). Mplus User’s Guide (Version 9). Los Angeles, CA: Muthén & Muthén.
- Natarajan, M., Wilkins-Yel, K. G., Sista, A., Anantharaman, A., & Seils, N. (2022). Decolonizing purity culture: Gendered racism and white idealization in evangelical Christianity. *Psychology of Women Quarterly*, 46(3), 316–336. <https://doi.org/10.1177/03616843221091116>
- National Center for Health Statistics. (2017). *Key statistics from the National Survey of Family Growth – S listing*. Centers for Disease Control and Prevention. https://www.cdc.gov/nchs/nsfg/key_statistics/s.htm#sexualactivity
- Ortiz, A. M. (2019). Developing a measure of purity culture: Sexual messages in evangelical Christian culture [Doctoral dissertation, ProQuest Dissertations Publishing].
- Ott, M. A., Hoopes, A. J., Sucato, G. S., Leroy-Melamed, M., & Committee on Adolescence. (2025). Contraception for adolescents: Policy statement. *Pediatrics*, 156(1), e2025072217. <https://doi.org/10.1542/peds.2025-072217>
- Pearson, J. (2018). High school context, heterosexual scripts, and young women’s sexual development. *Journal of Youth and Adolescence*, 47(7), 1469–1485. <https://doi.org/10.1007/s10964-018-0863-0>

- Pechorro, P. (2016). Initial validation of the Sexual Pleasure Scale in clinical and non-clinical samples of partnered heterosexual people. *Journal of Sexual Medicine*, 13(9), 1408–1413.
- Peragine, D. E., Skorska, M. N., Maxwell, J. A., Impett, E. A., & VanderLaan, D. P. (2022). The risks and benefits of being “early to bed”: Toward a broader understanding of age at sexual debut and sexual health in adulthood. *Journal of Sexual Medicine*, 19(9), 1343–1358. <https://doi.org/10.1016/j.jsxm.2022.06.005>
- Peri-Rotem, N., & Skirbekk, V. (2023). Religiosity, Sex Frequency, and Sexual Satisfaction in Britain: Evidence from the Third National Survey of Sexual Attitudes and Lifestyles (Natsal). *The Journal of Sex Research*, 60(1), 13–35. <https://doi.org/10.1080/00224499.2022.2108745>
- Pew Research Center. (2015, May 12). *America’s changing religious landscape*. <https://www.pewresearch.org/religion/2015/05/12/americas-changing-religious-landscape/>
- Pew Research Center. (2025). *2023-24 U.S. Religious Landscape Study Interactive Database*. <https://doi.org/10.58094/3zs9-jc14>
- Raboch, J., Barták, V. (1983). Coitarche and orgasmic capacity. *Archives of Sexual Behavior*, 12(5), 409–413. <https://doi.org/10.1007/BF01542884>
- Rosen, R., Brown, C., Heiman, J., Leiblum, S., Meston, C., Shabsigh, R., Ferguson, D., & D’Agostino, R. (2000). The Female Sexual Function Index (FSFI): A multidimensional self-report instrument for the assessment of female sexual function. *Journal of Sex & Marital Therapy*, 26, 191–208.

- Rosenbaum, J. (2009). Patient teenagers? A comparison of the sexual behavior of virginity pledgers and matched nonpledgers. *Pediatrics*, 123 (1): e110–e120.
<https://doi.org/10.1542/peds.2008-0407>
- Rosenbaum, J. E., & Weathersbee, B. (2013). True love waits: Do southern Baptists? Premarital sexual behavior among newly married southern Baptist Sunday school students. *Journal of Religion and Health*, 52(1), 263–275. <https://doi.org/10.1007/s10943-010-9445-5>
- Rowatt, W. C., & Schmitt, D. P. (2003). Associations between religious orientation and varieties of sexual experience. *Journal for the Scientific Study of Religion*, 42(3), 455–465.
<https://doi.org/10.1111/1468-5906.00194>
- Ryan, R. M., & Deci, E. L. (2017). *Self-determination theory: Basic psychological needs in motivation, development, and wellness*. Guilford Publications.
<https://doi.org/10.1521/978.14625/28806>
- Ryan, R. M., Rigby, S., & King, K. (1993). Two types of religious internalization and their relations to religious orientations and mental health. *Journal of Personality and Social Psychology*, 65(3), 586–596. <https://doi.org/10.1037/0022-3514.65.3.586>
- Sanchez, D. T., Crocker, J., & Boike K. R. (2005). Doing gender in the bedroom: Investing in gender norms and the sexual experience. *Personality & Social Psychology Bulletin*, 31(10), 1445–1455. <https://doi.org/10.1177/0146167205277333>
- Sandfort, T. G. M., Orr, M., Hirsch, J. S., & Santelli, J. (2008). Long-term health correlates of timing of sexual debut: Results from a national US study. *American Journal of Public Health* (1971), 98(1), 155–161. <https://doi.org/10.2105/AJPH.2006.097444>

- Santelli, J., Ott, M. A., Lyon, M., Rogers, J., Summers, D., & Schleifer, R. (2006). Abstinence and abstinence-only education: A review of U.S. policies and programs. *Journal of Adolescent Health*, 38(1), 72–81. <https://doi.org/10.1016/j.jadohealth.2005.10.006>
- Santelli, J. S., Kantor, L. M., Grilo, S. A., Speizer, I. S., Lindberg, L. D., Heitel, J., Schalet, A. T., Lyon, M. E., Mason-Jones, A. J., McGovern, T., Heck, C. J., Rogers, J., & Ott, M. A. (2017). Abstinence-only-until-marriage: An updated review of U.S. policies and programs and their impact. *Journal of Adolescent Health*., 61(3), 273–280. <https://doi.org/10.1016/j.jadohealth.2017.05.031>
- Schnabel, L. (2015). How religious are American women and men? Gender differences and similarities. *Journal for the Scientific Study of Religion*, 54(3), 616–622. <https://doi.org/10.1111/jssr.12296>
- Schwartz, I. M. (1993). Affective reactions of American and Swedish women to their first premarital coitus: A cross-cultural comparison. *The Journal of Sex Research*, 30(1), 18–26. <https://doi.org/10.1080/00224499309551674>
- Simon, W., & Gagnon, J. H. (2003). Sexual scripts: Origins, influences and changes. *Qualitative Sociology*, 26(4), 491–497. <https://doi.org/10.1023/B:QUAS.0000005053.99846.e5>
- Smith, G. A., Cooperman, A., Alper, B. A., Mohamed, B., Rotolo, C., Tevington, P., Nortey, J., Kallo, A., Diamant, J., & Fahmy, D. (2025, February 26). *Decline of Christianity in the U.S. has slowed, may have leveled off*. Pew Research Center. <https://www.pewresearch.org/religion/2025/02/26/decline-of-christianity-in-the-us-has-slowed-may-have-leveled-off/>
- Sprecher, S., O’Sullivan, L. F., Drouin, M., Verette-Lindenbaum, J., & Willetts, M. C. (2022). Perhaps it was too soon: College students’ reflections on the timing of their

- sexual debut. *The Journal of Sex Research*, 59(1), 39–52.
<https://doi.org/10.1080/00224499.2021.1885599>
- Stanger-Hall, K. F., Hall, D. W., & Vitzthum, V. J. (2011). Abstinence-only education and teen pregnancy rates: Why we need comprehensive sex education in the U.S. *PloS One*, 6(10), e24658–e24658. <https://doi.org/10.1371/journal.pone.0024658>
- Tannahill, R. (1982). The Christian church. In *Sex in history* (pp. 136–161). Briarcliff Manor, NY: Stein and Day.
- U.S. Department of Health and Human Services, Office of Population Affairs. (2024). *Data and statistics on adolescent sexual and reproductive health*. <https://opa.hhs.gov/adolescent-health/adolescent-sexual-and-reproductive-health/data-and-statistics-on-adolescent-sexual-and-reproductive-health>
- Vasilenko, S. A., & Espinosa, H. G. (2019). Multidimensional profiles of religiosity among adolescents: Associations with sexual behaviors and romantic relationships. *Journal of Research on Adolescence*, 29(2), 414–428. <https://doi.org/10.1111/jora.12444>
- Wellings, K., Mitchell, K., & Collumbien, M. (2012). *Sexual health: A public health perspective*. McGraw-Hill Education.
- Whitehead, A. L., & Perry, S. L. (2015). A more perfect union? Christian nationalism and support for same-sex unions. *Sociological Perspectives*, 58(3), 422–440.
<https://doi.org/10.1177/0731121415577724>
- Wiederman, M. W., DeLamater, J., & Plante, R. F. (2015). Sexual script theory: Past, present, and future. *Handbook of the Sociology of Sexualities* (pp. 7–22). Springer International Publishing. https://doi.org/10.1007/978-3-319-17341-2_2

- Wight, D., Parkes, A., Strange, V., Allen, E., Bonell, C., & Henderson, M. (2008). The quality of young people's heterosexual relationships: A longitudinal analysis of characteristics shaping subjective experience. *Perspectives on Sexual and Reproductive Health*, 40(4), 226–237. <https://doi.org/10.1363/4022608>
- Williams, C. J. (2011). Battling a 'sex-saturated society': The abstinence movement and the politics of sex education. *Sexualities*, 14(4), 416–443. <https://doi.org/10.1177/1363460711406460>
- Woo, J. S. T., Morshedian, N., Brotto, L. A., & Gorzalka, B. B. (2012). Sex guilt mediates the relationship between religiosity and sexual desire in east Asian and Euro-Canadian college-aged women. *Archives of Sexual Behavior*, 41(6), 1485–1495. <https://doi.org/10.1007/s10508-012-9918-6>
- World Association for Sexual Health. (2021). *WAS declaration on sexual pleasure*. <https://www.worldsexualhealth.net/was-declaration-on-sexual-pleasure>
- Yeh, H. C., Lorenz, F. O., Wickrama, K. A. S., Conger, R. D., & Elder, G. H. (2006). Relationships among sexual satisfaction, marital quality, and marital instability at midlife. *Journal of Family Psychology*, 20(2), 339–343. <https://doi.org/10.1037/0893-3200.20.2.339>

Appendix A - Purity Culture Belief Scale (PCBS)

First, we are interested in learning about the messages that you received about sex and dating while you grew up. There will be 4 pages of messages to consider. Thinking back on your childhood through adolescence, please indicate how much you agree that each statement was taught to you directly or indirectly. Note that we are not asking if you currently or previously agree[d] with each message; we are only asking if you agree that these messages were present in your upbringing.

“Growing up, I was taught by important figures in my life that. . .”

Appendix Figure A.1. PCBS

	Strongly Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Strongly Agree
It is normal for a man to struggle with pornography, but not normal for a woman.	☐	☐	☐	☐	☐
Women are responsible for setting sexual boundaries in dating relationships.	☐	☐	☐	☐	☐
Women should dress modestly to avoid sexually tempting men.	☐	☐	☐	☐	☐
Virginity is a gift to give your spouse on your wedding night.	☐	☐	☐	☐	☐
You lose a piece of yourself every time you have sex with someone new.	☐	☐	☐	☐	☐
Having sex outside of marriage is one of the worst sins a person can commit.	☐	☐	☐	☐	☐

You should only date when you are ready to get married.	☐	☐	☐	☐	☐
Men have a bigger problem with lust than women do.	☐	☐	☐	☐	☐
Women must be responsible for guarding purity, because men cannot help themselves.	☐	☐	☐	☐	☐
A woman who dresses immodestly causes her brothers to stumble.	☐	☐	☐	☐	☐
Waiting to have sex until marriage will make the wedding night and future sex life that much better.	☐	☐	☐	☐	☐
Having premarital sex will make you unattractive to your future spouse.	☐	☐	☐	☐	☐
When sexual boundaries are crossed, you should repent and feel guilty.	☐	☐	☐	☐	☐
Courting is preferable to dating.	☐	☐	☐	☐	☐
Since women don't have desire, they do not struggle with pornography.	☐	☐	☐	☐	☐
It is the women's fault if sexual boundaries are crossed in a dating relationship.	☐	☐	☐	☐	☐
A woman who flaunts her body is hard to respect.	☐	☐	☐	☐	☐
Virginity is the most important thing a	☐	☐	☐	☐	☐

woman can give to her husband.					
Sex outside of marriage will make you damaged goods.	☐	☐	☐	☐	☐
You should feel ashamed if you have sex outside of marriage.	☐	☐	☐	☐	☐
When dating, sexual purity should be the top priority.	☐	☐	☐	☐	☐
It is more acceptable for a man to not be a virgin on his wedding night than a woman.	☐	☐	☐	☐	☐
Men cannot be expected to control their desire; women must help them out.	☐	☐	☐	☐	☐
If you remain a virgin until marriage, God will bless you and your spouse with a great sex life.	☐	☐	☐	☐	☐
It will be difficult for your future spouse to forgive you if you have sex with someone else before marriage.	☐	☐	☐	☐	☐
Sexual thoughts and feelings outside of marriage should cause guilt.	☐	☐	☐	☐	☐
You should focus on same-sex friendships until you are ready to get married.	☐	☐	☐	☐	☐
Women should not have sexual desire.	☐	☐	☐	☐	☐

You should try to avoid being sexually aroused, as it can lead to sinful behavior.	☐	☐	☐	☐	☐
Purity is primarily about my virginity.	☐	☐	☐	☐	☐
Those who remain virgins until marriage are more righteous than those who don't wait.	☐	☐	☐	☐	☐
If you have had sex outside of marriage, you should hide that from others, especially at church.	☐	☐	☐	☐	☐
If you are patient and sexually pure, God will bring you the perfect spouse.	☐	☐	☐	☐	☐
Side hugs are more appropriate than full hugs.	☐	☐	☐	☐	☐
All sexual thoughts and feelings must be avoided until marriage.	☐	☐	☐	☐	☐
A woman who is covered up is more attractive than a woman who dresses immodestly.	☐	☐	☐	☐	☐
God created us as sexual beings, but that part of ourselves must be reserved for marriage.	☐	☐	☐	☐	☐
Women should cover themselves up; men can wear whatever clothing they choose.	☐	☐	☐	☐	☐
Once you have sex outside of marriage, you are irreparably damaged.	☐	☐	☐	☐	☐

Note: This scale was adapted from the Ortiz (2019) Purity Culture Belief Scale. The “Benevolent Sexism” and “Control” item subscales were not included in this administration of the scale.

Appendix B - Christian Religious Identity Scale (CRIS)

We would now like to ask about your religiosity and relationship with God at the time that you first had sexual intercourse. This will require you to rely on your memory of what you believed at the time. Please do the best you can considering what you remember. Please reference the first time that you had consensual vaginal intercourse for the remainder of the survey. Thinking back to the time that you first had consensual vaginal intercourse, please rate how true the following statements were for you on a scale of 1 (never true) to 4 (always true).

Appendix Figure B.1. CRIS

	Never true	Sometimes true	Often true	Always true
I thought it was important to actively share my faith with others because God was important to me and I'd have liked for other people to know about Him too.	☐	☐	☐	☐
When I turned to God, I most often did it because I enjoyed spending time with Him.	☐	☐	☐	☐
I thought praying by myself was important because if I didn't, God would disapprove of me.	☐	☐	☐	☐
An important reason why I attended church was because one is supposed to go to church.	☐	☐	☐	☐

I thought it was important to actively share my faith with others because I would feel bad about myself if I didn't.

☐☐☐☐

When I turned to God, I most often did it because I would feel guilty if I didn't.

☐☐☐☐

I thought praying by myself was important because I enjoyed praying.

☐☐☐☐

An important reason why I attended church was that, by going to church, I learned new things.

☐☐☐☐

I thought it was important to actively share my faith with others because I wanted other Christians to approve of me.

☐☐☐☐

When I turned to God, I most often did it because I found it satisfying to me.

☐☐☐☐

I thought praying by myself was important because I found prayer satisfying.

☐☐☐☐

An important reason why I attended church was because others would disapprove of me if I didn't.

☐☐☐☐

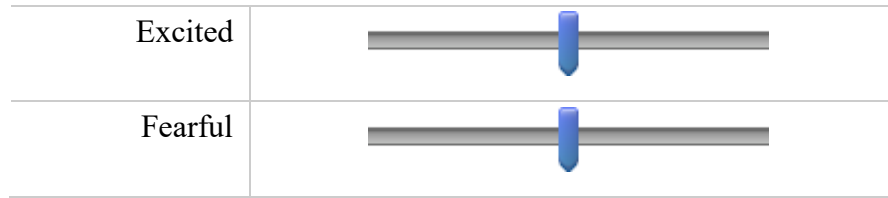
Note: Originally created by Ryan and colleagues (1993).

Appendix C - First Coital Affect Reaction Scale (FCARS)

Below is a list of common emotions people feel after experiencing sexual intercourse for the first time. Please indicate how much each of these emotions represents how you felt when you had intercourse for the first time (1= you didn't feel this way at all; 7 = you very much felt this way). "At the time of my first sexual intercourse, I felt. . ."

Appendix Figure C.1. FCARS



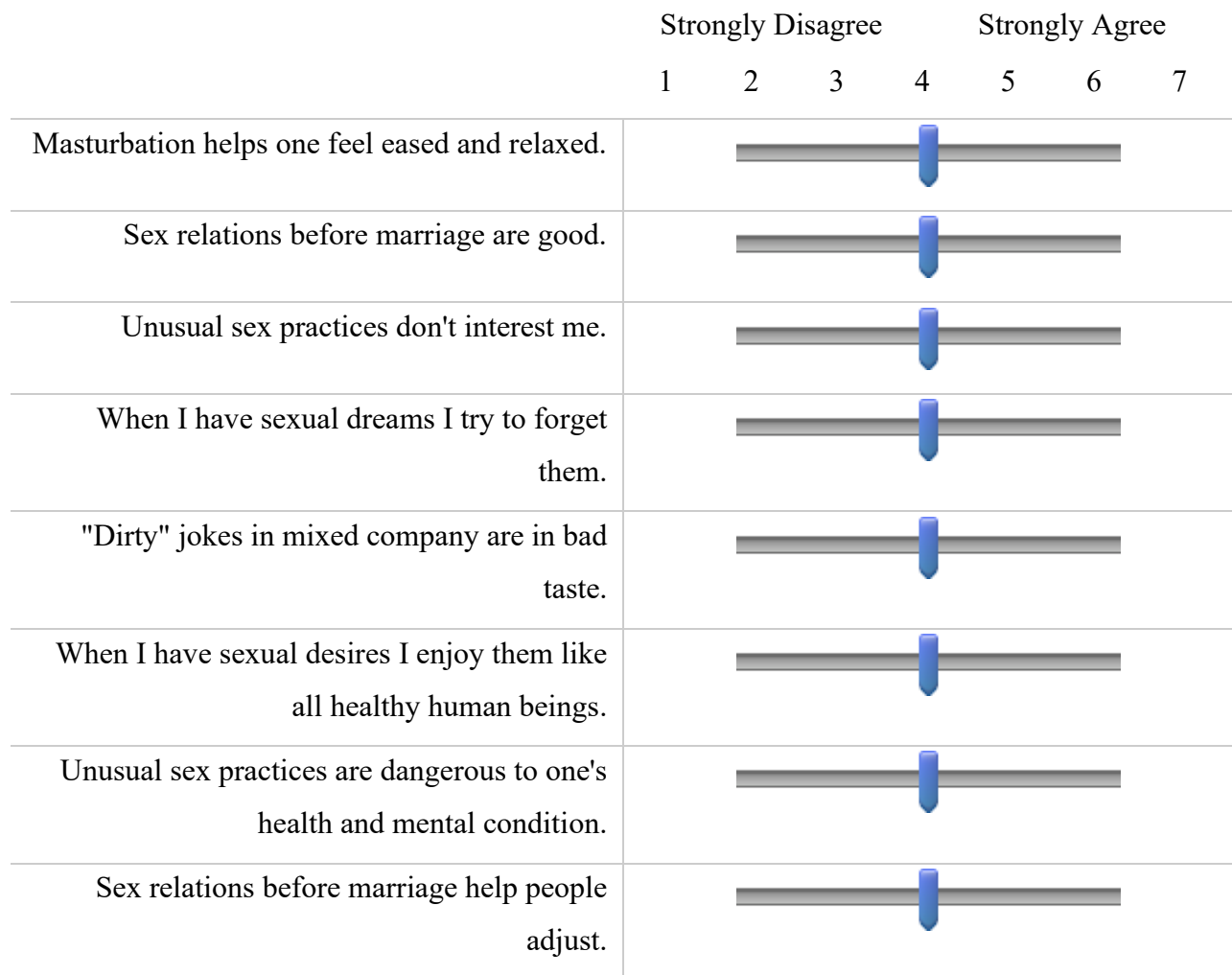


Note: Adapted from Schwartz (1993)

Appendix D - Revised Mosher Sex-Guilt Scale (RMSGs)

Continuing to reflect upon your experience at the time of your first consensual vaginal intercourse, please indicate how much you would have, at the time, agreed or disagreed with each of the following beliefs about sex. Your thoughts and opinions may have changed since this time, so as a reminder, we are primarily interested in what your beliefs about sex were at the time of your first intercourse. Rank what your level of agreement would have been on a scale of 1 to 7, with "1" being completely disagreeing, and "7" being completely agreeing. "At the time I first had sexual intercourse, I believed that..."

Appendix Figure D.1. RMSGs



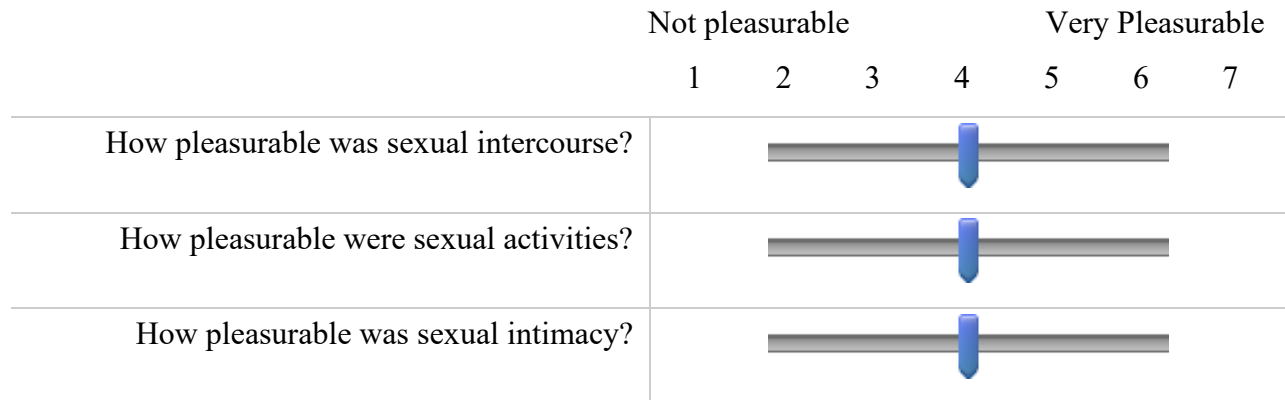
Sex relations before marriage should not be recommended.	
Unusual sex practices are all right if both partners agree.	

Note: Adapted from Janda and Bazemore (2011)

Appendix E - Sexual Pleasure Scale (SPS)

Reflecting on your experiences during the year following your first vaginal intercourse, please answer the following questions using a 7-point scale, where "1" is not pleasurable, and "7" is very pleasurable.

Appendix Figure E.1. SPS



Note: This scale was adapted from Sanchez and colleagues (2005). Participants had an options to select not applicable as needed.

Appendix F - Female Sexual Function Index (FSFI)

We will now ask you questions regarding your recalled experience during the year following your first vaginal intercourse. In answering these questions, the following definitions apply: “Sexual activity” can include caressing, foreplay, masturbation, and vaginal intercourse. “Sexual intercourse” is defined as penile penetration (entry) of the vagina. “Sexual stimulation” includes situations like foreplay with a partner, self-stimulation (masturbation), or sexual fantasy. “Sexual desire” or interest is a feeling that includes wanting to have a sexual experience, feeling receptive to a partner's sexual initiation, and thinking or fantasizing about having sex.

How often did you feel sexual desire or interest. . .

	In the year after your first intercourse?
Almost always or always	☐
Most times (more than half the time)	☐
Sometimes (about half the time)	☐
A few times (less than half the time)	☐
Almost never or never	☐

How would you rate your level (degree) of sexual desire or interest. . .

	In the year after your first intercourse?
Very high	☐
High	☐
Moderate	☐
Low	☐
Very low or none at all	☐

How long has it been since your first consensual vaginal intercourse?

- ☐ Less than a year
- ☐ 1-2 years
- ☐ 2-4 years
- ☐ 4 years+

Have you ever engaged in sexual activity with a partner after your first consensual sexual intercourse?

- ☐ Yes
- ☐ No

“Sexual arousal” is a feeling that includes both physical and mental aspects of sexual excitement. It may include feelings of warmth or tingling in the genitals, lubrication (wetness), or muscle contractions.

How often did you feel sexually aroused ("turned on") during sexual activity or intercourse. . .

	In the year after your first intercourse?
Almost always or always	☐
Most of the time (more than half the time)	☐
Sometimes (about half the time)	☐
A few times (less than half the time)	☐
Almost never or never	☐
Not applicable	☐

How confident were you about your ability to become sexually aroused during sexual activity or intercourse. . .

	In the year after your first intercourse?
Very high confidence	☐
High confidence	☐
Moderate confidence	☐
Low confidence	☐
Very low or no confidence	☐
Not applicable	☐

How often were you satisfied with your arousal (excitement) during sexual activity or intercourse. . .

	In the year after your first intercourse?
Almost always or always	☐
Most times (more than half the time)	☐
Sometimes (about half the time)	☐
A few times (less than half the time)	☐
Almost never or never	☐
Not applicable	☐

How often did you become lubricated ("wet") during sexual activity or intercourse. . .

	In the year after your first intercourse?
Almost always or always	☐
Most times (more than half the time)	☐
Sometimes (about half the time)	☐
A few times (less than half the time)	☐
Almost never or never	☐
Not applicable	☐

How difficult was it to become lubricated ("wet") during sexual activity or intercourse. . .

	In the year after your first intercourse?
Extremely difficult or impossible	☐
Very difficult	☐
Difficult	☐
Slightly difficult	☐
Not difficult	☐
Not applicable	☐

How often did you maintain your lubrication ("wetness") until completion of sexual activity or intercourse. . .

	In the year after your first intercourse?
Almost always or always	☐
Most times (more than half the time)	☐
Sometimes (about half the time)	☐
A few times (less than half the time)	☐
Almost never or never	☐
Not applicable	☐

How difficult was it to maintain your lubrication ("wetness") until completion of sexual activity or intercourse. . .

	In the year after your first intercourse?
Extremely difficult or impossible	☐
Very difficult	☐
Difficult	☐
Slightly difficult	☐
Not difficult	☐
Not applicable	☐

When you had sexual stimulation or intercourse, how often did you reach orgasm (climax). . .

	In the year after your first intercourse?
Almost always or always	☐
Most times (more than half the time)	☐
Sometimes (about half the time)	☐
A few times (less than half the time)	☐
Almost never or never	☐
Not applicable	☐

When you had sexual stimulation or intercourse, how difficult was it for you to reach orgasm (climax). . .

	In the year after your first intercourse?
Extremely difficult or impossible	☐
Very difficult	☐
Difficult	☐
Slightly difficult	☐
Not difficult	☐
Not applicable	☐

On a scale of 1 to 5 (with "1" being very satisfied and "5" being very dissatisfied), please answer the following questions about your satisfaction with your sexual experiences, on average, with any sexual partners you had. . .

	Very satisfied	Moderately satisfied	About equally satisfied and dissatisfied	Moderately dissatisfied	Very dissatisfied	Not applicable
How satisfied were you with your ability to reach orgasm (climax) during sexual activity or intercourse in the year following your first vaginal intercourse?	☐	☐	☐	☐	☐	☐
How satisfied had you been with the amount of emotional closeness during sexual activity between you and your partner(s) in the year following your first vaginal intercourse?	☐	☐	☐	☐	☐	☐

How satisfied had you been with your sexual relationship with your partner(s) in the year following your first vaginal intercourse?

☐☐☐☐☐☐

How satisfied were you with your overall sex life in the year following your first vaginal intercourse?

☐☐☐☐☐☐

How often did you experience discomfort or pain during vaginal penetration. . .

	In the year after your first intercourse?
Almost always or always	☐
Most times (more than half the time)	☐
Sometimes (about half the time)	☐
A few times (less than half the time)	☐
Almost never or never	☐
N/A; No vaginal penetration	☐

How often did you experience discomfort or pain following vaginal penetration. . .

	In the year after your first intercourse?
Almost always or always	☐
Most times (more than half the time)	☐
Sometimes (about half the time)	☐
A few times (less than half the time)	☐
Almost never or never	☐
Not applicable; No vaginal penetration	☐

How would you rate your level (degree) of discomfort or pain during or following vaginal penetration. . .

	In the year after your first intercourse?
Very high	☐
High	☐
Moderate	☐
Low	☐
Very low or none at all	☐
Not applicable; No vaginal penetration	☐

Note: This measure was adapted from Rosen and colleagues (2000).