

Conformity to Gender Norms as a Moderator of the Association between Intrinsic  
Religious Orientation and Condom Use among Emerging Adults

by

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## **ABSTRACT**

Emerging adults engage in sexual behaviors that may compromise their health (e.g., unprotected sex) and contribute to sexually transmitted infection health disparities. Intrinsic religious orientation has been associated with less involvement in unhealthy behaviors. Additionally, there are mixed findings in regards to religiousness and condom use. Furthermore, conforming less to gender norms appears to be related to engaging in less risky sexual behavior (e.g., condom-protected vaginal sex) suggesting that gender norms may moderate the association between intrinsic religious orientation and risky sexual behavior. To test the hypothesis that the association between intrinsic religiousness and unprotected vaginal sex would be moderated by conformity to gender norms, participants ( $N=222$ ; 18–25 years;  $M=22.9$  years) completed an online survey with measures of religious orientation, conformity to gender norms, and sexual behaviors. Covariate (i.e., age, partner type, condom use self-efficacy) adjusted logistic regression and moderation analyses examined the association between religious orientation, gender norms, and condom use at the most recent sexual encounter ( $n=171$ ). The regression model showed no significant main effects ( $AOR=0.87$ , 95% CI 0.54–1.29), and no significant interaction between feminine gender norms and religious orientation ( $n=87$ ,  $b=0.11$ ,  $p=0.92$ , 95% CI -1.95–2.17) or between masculine gender norms and religious orientation ( $n=102$ ,  $b=0.35$ ,  $p=0.83$ , 95% CI -2.88–3.58) in predicting condom use at the most recent sexual encounter. Although, religious orientation and gender norms were not significantly associated with condom use at the last encounter, partner type (steady vs. non-steady) was significantly associated ( $b= -1.39$ ,  $p=0.01$ , 95% CI -2.38– -0.39) when feminine

gender norms was used as a moderator. Further research is needed to identify other variables that may play a role in the relation between religious orientation and risky sexual behaviors (e.g., sexual health knowledge).

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## **CHAPTER I**

### **INTRODUCTION**

Emerging adulthood is a period of time (generally defined as between the ages of 18 and 25) in which individuals are questioning and evaluating their beliefs (e.g., religiousness, sexual exploration; Arnett, 2000). Emerging adults typically have less parental supervision and are likely to engage in behaviors that may put their health at risk (Arnett, 2000, 2007). One study found that religious participation (Stolzenberg, Blair-Loy, & Waite, 1995) increased with age, while another found that it decreased with age (Lefkowitz, 2005). However, intrinsic religiousness was found to increase with age (De Haan & Schulenberg, 1997), and religious beliefs become stronger or more important after transitioning to college (Lefkowitz, 2005). Overall, emerging adults construct their own religious beliefs (Arnett & Jensen, 2002). Further, those who had been in college longer than incoming students had become more liberal and reported changes to their attitudes and perceptions about sex (Lefkowitz, 2005).

Additionally, the majority (70%) of emerging adults engaged in sex with at least one partner, and some (40%) engaged in sex without contraception. Emerging adults tend to be more sexually active, are less likely to engage in condom-protected sex (Arnett, 1996), and tend to be more comfortable engaging in casual sex than high school aged individuals (Chara & Kuennen, 1994). The majority (60%) will likely engage in casual sex (e.g., friends with benefits; Bisson & Levine, 2009; Claxton & van Dulmen, 2013).

One variable particularly relevant to the public health of emerging adults is unprotected sex. Emerging adults are at higher risk than other age groups of

contracting a sexually transmitted infection (STI; Centers for Disease Control and Prevention [CDC], 2014; Panchaud, Singh, Feivelson, & Darroch, 2000). For example, rates of chlamydia and gonorrhea are high, with 39% and 34% of reported cases being among emerging adults, respectively (CDC, 2014). Partner type may influence engaging in condom-protected vaginal sex. Research has demonstrated that those whose most recent sexual encounter was with a steady or more serious partner were less likely to engage in condom-protected sex than those who were having casual sex (Milhausen, et al., 2013). Another factor that may play a role in sexual risk behavior engagement and elevated STI rates is religious practices. As of 2016, 89% of Americans reported that they believe in God or a universal spirit, 53% consider religion to be very important, and 55% report belonging to a church or synagogue (Gallup, 2016). Given the prevalence and importance of religion in American society it is reasonable to consider aspects of religion may be influential in sexual behavior. Thus, an examination of the association between religious orientation and engagement in unprotected sexual intercourse among emerging adults has the potential to shed light on potential risk (e.g., adherence to gender norms) and protective factors related to risky sexual behavior.

### **Religiousness and Health**

Definitions of religiousness vary in research. Within the broader health literature, religious service attendance has frequently been used to operationalize this construct (McCullough, Hoyt, Larson, Koenig, & Thoresen, 2000).

**Religious Service Attendance and Sexual Behaviors.** Religious service attendance has been a measure of religiousness widely used in relation to health.

Previous research has indicated a negative relationship between frequency of religious service attendance and vaginal sex (de Visser, Smith, Richters, & Rissel, 2007;  $N = 19,307$ ; Edwards, Fehring, Jarrett, & Haglund, 2008;  $n = 973$ ), number of lifetime partners, and partners within the past 12 months among 16-to 59-year old and 15-to 22-year old women and men (Edwards et al., 2008). Although there seems to be a clear association between frequency of religious service attendance and vaginal sex, there is no consensus regarding the relation between frequency of religious service attendance and condom use among 14-to 20-year old and 15-to 45-year old women (Koniak-Griffin, Lesser, Uman, & Nyamathi, 2003;  $N = 572$ ; Oddens & Lehert, 1997;  $N = 1,449$ ).

There are some limitations to these studies. For example, the age of the participants differed considerably (e.g., 16 to 59; de Visser et al., 2007; 15 to 45; Oddens & Lehert, 1997). Studying samples with such diverse ages could introduce cohort effects such as differences in religious beliefs and practices due to generational variance. Moreover, emerging adults are a group most at risk for STI transmission, and focusing on this age group may be especially relevant to public health.

Furthermore, among these studies, frequency of religious service attendance was measured differently (e.g., dichotomized into frequent attendance and not frequent religious service attendance; 9-point ordinal scale - never attends to attends several times a week; once or more weekly, monthly, less than monthly or never). The various ways in which religious service attendance was measured could explain the inconsistency in previous research. The present study utilized an established measure of religious orientation rather than variations of a single item.

Similarly, sexual behavior was also measured in diverse ways (e.g., frequency during the past three months; dichotomized into ever having sexual intercourse or never). Participants attempting to recall the number of times they engaged in vaginal sex or number of times they used a condom could have resulted in recall errors. This limitation was addressed by focusing solely on a single, recent event (Schroder, Carey, & Venable, 2003).

Even though religious service attendance has frequently been used to operationalize religiousness (McCullough, Hoyt, Larson, Koenig, & Thoresen, 2000), service attendance does not explain an individual's motivation for religious beliefs.

**Religious Orientation.** Religious orientation represents the motivating force for religiousness. Among individuals who are religious, religious orientation helps differentiate between different motivations (Francis, 2007). There are three aspects of religious orientation: intrinsic, extrinsic, and quest orientations. Intrinsic orientation pertains to religiousness as an end in and of itself. To those who are intrinsically oriented religion is a personal experience between them and a higher power. Further, they tend to live their lives according to their beliefs and seek religion as their most central motive in life (Allport & Ross, 1967; Francis, 2007). Individuals who are high on intrinsic orientation were found to be characterized by three attributes: importance of public religious practice signifying their commitment to God, development of a personal relationship with God, and generalizability of their faith into all parts of their lives (Allport & Ross, 1967; Donahue, 1985; Francis, 2007). Extrinsic religiousness is when religiousness is a means to an end, using religion to achieve personal nonreligious goals (e.g., social interaction, social status, solace; Allport & Ross,

1967). Individuals who are high on extrinsic orientation have been characterized by three attributes: importance of social support from religious involvement, importance of personal support from personal religious practices, and their religious faith not generalizing into other parts of their lives (Allport & Ross, 1967; Donahue, 1985; Francis, 2007). Quest orientation highlights a willingness and openness to handle existential questions that may arise from an individual's religious beliefs (Francis, 2007). Those who are high on quest orientation were found to be characterized by three attributes: willingness to accept existential questions, openness to both change and acceptance of possible new perspectives, and favorably viewing self-criticism and doubt (Francis, 2007). For the purposes of this study, intrinsic religious orientation was the focus.

Religious orientation (e.g., intrinsic and extrinsic religious orientation) may provide more information relevant to health than an individual's behavior of attending a religious service. Previous studies have found that individuals who had an intrinsic orientation toward religion experienced fewer anxiety symptoms (Bergin, Masters, & Richards, 1987) and were less likely to engage in unhealthy behaviors (e.g., consuming alcohol, smoking tobacco; Masters & Knestel, 2011) than those who were extrinsically oriented. Overall, intrinsic religious orientation highlights the permeating presence of religious influence in an individual's daily life.

**Religiousness and Risky Sexual Behavior.** Frequency of religious service attendance has often been utilized in the broader health literature, but it merely captures the act of attending a religious service. Religious orientation offers a better

explanation of an individual's motivation for religious beliefs. Three studies conducted with college students investigated religious orientation in association to sexual behavior and sexual permissiveness (Haerich, 1992; Leak, 1993; Zaleski & Schiaffino, 2000). In the first study (Haerich, 1992), college students ( $N = 204$ ) from a private university in southern California completed a survey assessing religious orientation and sexual permissiveness. The results from Haerich (1992) overall indicated that increased intrinsic religiousness was associated with decreased premarital sexual permissiveness.

Furthermore, in another study college students ( $N = 84$ ) completed a survey assessing religious orientation, sexual behavior, and sexual attitudes. Results indicated that intrinsic religiousness was not associated with frequency of sexual behavior (behaviors were not defined). However, intrinsic religiousness was inversely related to sexual permissiveness (Leak, 1993). In a third study (Zaleski & Schiaffino, 2000), first year college students ( $N = 231$ ) between the ages of 16 and 20 attending a private Catholic university completed a survey assessing religious orientation, health behaviors, and socioeconomic status (SES). Results suggested that intrinsic religiousness is negatively associated with sexual activity (Zaleski & Schiaffino, 2000). Interestingly, contrary to Zaleski and Schiaffino's (2000) hypotheses based on the broader health literature that suggests those who were more intrinsically religious partook in less unhealthy behaviors (Masters & Knestel, 2011), intrinsic religiousness was negatively associated with condom use.

Allport and Ross's (1967) 20-item measure of religious orientation was used in all three studies. However, the response options differed (i.e., dichotomous response

option – agree or disagree; Haerich, 1992; unclear what response options were provided; Leak, 1993; 6-point Likert-type scale ranging from strongly disagree to strongly agree; Zaleski & Schiaffino, 2000). Moreover, the assessment of sexual behavior also varied. For instance, Zaleski and Schiaffino (2000) used a measure of frequency of vaginal sex and condom use in the past 12 months, and Leak (1993) assessed the number of lifetime sexual partners.

Additionally, the following three studies measured religiousness (e.g., using 4-items assessing frequency of attendance, prayer, talking to others about religious matters, and talking to religious leaders resulting in a total score), and risky sexual behavior (e.g., frequency of condom-protected and unprotected vaginal sex in the past month) by different means (Burris, Smith, & Carlson, 2009; McCree, Wingood, DiClemente, Davies, & Harrington, 2003; Stulhofer, Soh, Jelaska, Bacak, & Landripet, 2011). A study conducted among 14-to 18-year old African American women ( $n = 522$ ) found a positive relation between religiousness and attitudes towards condom use. More specifically, those who were higher on religiousness were 1.6 times more likely to have engaged in condom-protected sex in the past 6 months (McCree, et al., 2003). In addition, studies among predominately White college students have found an inverse relation between religiousness and lifetime number of sexual partners (Burris, et al., 2009;  $N = 353$ ; Stulhofer, et al., 2011;  $n = 1,355$ ; 537; and 775), and frequency of vaginal sex (Burris, et al., 2009). However, there was no significant association between religiousness and condom use (Burris, et al., 2009; Stulhofer, et al., 2011). Similarly, in a more recent study (Bess, 2015) conducted among predominately White emerging adults ( $N = 740$ ), there was no significant relationship

between intrinsic religious orientation and condom use at most recent sexual encounter; however, the analyses included those who identified as religious and those who did not. This may have influenced the results because those who did not identify as religious may have had difficulty responding to the religiousness items, as they would not have applied. Further, this study utilized a commonly used measure of religiousness with its corresponding 5-point scale allowing for variance unlike previous research (Haerich, 1992). Moreover, risky sexual behavior was measured by the engagement of condom-protected vaginal sex at most recent encounter to mitigate recall error.

### **Gender Norms**

**Social Constructionist Theory.** The use of a social constructionist perspective may help in understanding other factors that may play a role in the relationship between intrinsic religious orientation and condom use. Social constructionist theory indicates that people tend to construct their own worldview (Courtenay, 2000b; Gergen, 1985), which is influenced by cultural and situational factors, such as gender norms. Strict adherence to gender norms could limit the range of socially acceptable behaviors available to individuals (e.g., engaging in condom-protected vaginal sex). For example, men with traditional gender norms may perceive themselves as not being vulnerable to disease, and may seek multiple sexual partners (Courtenay, 2000a).

**Gender Norms and Risky Sexual Behaviors.** Gender norms are standards or ideas that “guide and constrain masculine and feminine behavior” (Mahalik, et al., 2003, p. 3). Adherence to traditional gender norms may moderate the association between religious orientation and risky sexual behaviors, particularly for women who

conform to feminine norms and men who conform to masculine norms. Women and men are socialized differently, especially in regards to sex. Women are socialized to wait longer than men to engage in sex and are often receiving the message that they are not to engage in premarital sex (Wood & Eagly, 2002). However, if women chose to have sex frequently they are deemed promiscuous, while men who do not engage in sexual behavior frequently are viewed as unmanly (Tiegs, Perrin, Kaly, & Heesacker, 2007). Similarly, consequences such as jeopardizing a woman's reputation can arise if women carry condoms (Hillier, Harrison, & Warr, 1998). Adhering to these norms affords women less power because these norms emphasize submission for women and dominance for men (Haffner, 1998; Hillier, et al., 1998). Therefore, conforming to these expectations further reinforces their engagement in stereotypic feminine/masculine behaviors (Courtenay, 2000a). Furthermore, men who agreed with traditional masculine messages were more likely than other men to use condoms inconsistently (Haffner, 1998; Pleck, Sonestein, & Ku, 1993).

In an influential article, Courtenay (2000a) suggested a relational theory of men's health from a social constructivist stance in an attempt to clarify differences related to health behaviors among women and men. For example, holding very traditional beliefs about manliness has been associated with high risky sexual activity (Courtenay, 2000a). Primarily Black (75%), Canadian, adolescent parents ( $N = 102$ ) between the ages of 16 and 25 ( $M = 19.6$ ; 2.51) completed a survey assessing condom use at last sexual encounter (i.e., anal, oral, vaginal), co-parenting relationship, and attitudes towards gender norms (Nelson, Thach, & Zhang, 2014). Results indicated that about 20% of participants reported engaging in condom-protected sex at the most

recent encounter. Moreover, those who used condoms at their last sexual encounter also tended to have more egalitarian attitudes towards gender than those who did not use a condom.

Additionally, a study was conducted (Francis, 2005;  $N = 496$ ) in which adults between the ages of 50 and 80 completed a survey assessing gender role orientation (utilizing the Bem Sex Role Inventory) and religiousness. Nearly a third reported attending church weekly and 24% reported never attending. Results indicated that women scored higher on the femininity scale, while men scored higher on the masculinity scale. In addition, a positive association between femininity and religiousness and no significant relation between masculinity and religiousness were found. Similarly, Miller and Stark (2002) analyzed data from various secondary sources (i.e., 1972–98 American General Social Survey, World Values Survey, National Jewish Population Survey) regarding traditional gender attitudes and gender differences in religious behaviors and beliefs. They found that women overall were more religious than men. Further, a desire for multiple sexual partners is one of the defining characteristics of masculinity (Mahalik, et al., 2003). In another study (Ward & Cook, 2011), heterosexual undergraduate men ( $N = 154$ ) completed a survey assessing conformity to masculine gender norms as well as a number of religiousness measures (e.g., ROS-R). The majority of participants identified as Christian (77.3%). Results indicated an inverse relationship between masculinity and religious commitment. Moreover, having less desire for casual sexual encounters was associated with more commitment to religious beliefs, practices, and values, as well as intrinsic religious orientation (Ward & Cook, 2011). These findings suggest a possible

moderation by gender norms on the relationship between intrinsic religious orientation and condom use. Thus, there is a need to clarify the role of religious orientation and sexual behaviors, particularly condom use, among a sample of emerging adults.

### **The Present Study**

**Purpose.** In the broader health literature, greater intrinsic orientation has been associated with less involvement in unhealthy behaviors (Masters & Knestel, 2011). Additionally, there are mixed findings in regards to religiousness and condom use (Bess, 2015; Burris, et al., 2009; McCree, et al., 2003; Stulhofer, et al., 2011; Zaleski & Schiaffino, 2000). Furthermore, conforming less to gender norms appears to be related to engaging in less risky sexual behavior (e.g., condom-protected vaginal sex; Nelson, et al., 2014) suggesting that gender norms may moderate the association between intrinsic religious orientation and risky sexual behavior. The present study utilized college women and men as participants, as emerging adults are at greater risk of contracting an STI (CDC, 2014; Panchaud, et al., 2000). A better understanding of factors related to emerging adults' condom use is needed. Emerging adulthood is a stage for exploration and evaluation of beliefs while typically having less supervision from parents or legal guardians (Arnett, 2000, 2007). This creates a need to clarify the role of religious orientation and sexual behaviors, particularly condom use, among a sample of emerging adults. Thus, the purpose of this study is to test the hypothesis that the association between intrinsic religiousness and unprotected vaginal sex would be moderated by conformity to gender norms.

**Strengths.** The present study aimed to strengthen the literature on risky sexual behavior and religious orientation in a number of ways. First, this study focused only

on emerging adults (18 – 25 year olds), a group that is disproportionately affected by STIs, to clarify the association between religious orientation and risky sex. Previous studies examining these variables have included participants whose age varied greatly (e.g., 16 to 59; de Visser et al., 2007; 15 to 45; Oddens & Lehert, 1997) and who are not at a higher risk of contracting STIs. Second, this study utilized a measure of religiousness that assesses the role religious motivation plays when related to sexual behaviors. Third, this study focused on a single, most recent sexual encounter to mitigate potential recall errors (Schroder, et al., 2003). Finally, there is limited research examining the role that conformity to gender norms may play in the relationship between risky sex and religious orientation. This study aimed to address this gap.

**Potential Implications.** Identifying factors related to risky sexual behavior and religious orientation among emerging adults is important for research, psychoeducation, and public health. Risky sexual behaviors contribute to STI health disparities. Thus far conformity to gender norms has not been a variable used when examining the relationship between risky sexual behavior and religious orientation, even though research has suggested that conformity to gender norms has been associated with riskier sex (e.g., inconsistent condom use). Identifying variables (e.g., gender norms) that may influence sexual behavior (e.g., condom use) is essential and could be utilized to create or modify promotion of safer sex practices among emerging adults.

**Proposed Research Questions.** The present study attempted to answer the following research questions:

**RQ1:** Does intrinsic religious orientation have an association with condom-protected sex at most recent sexual encounter among emerging adults?

**RQ2:** Does conformity to gender norms moderate the association between intrinsic religious orientation and condom-protected sex at most recent sexual encounter among a sample of emerging adults?

**Proposed Research Hypotheses.** To examine these research questions, the following research hypotheses were tested:

**H1:** Emerging adults with *greater* intrinsic religious orientation would be *more* likely to have had condom-protected sex at their most recent sexual encounter.

**H2:** Conformity to feminine gender norms among women would moderate the relationship between religious orientation and condom-protected sex at most recent sexual encounter, such that emerging adults with *greater* intrinsic religious orientation who conformed *less* to feminine norms would be *more* likely to use a condom the last time they had vaginal sex (see Figure 1).

**H3:** Conformity to masculine gender norms among men would moderate the relationship between religious orientation and condom-protected sex at most recent sexual encounter, such that emerging adults with *greater* intrinsic religious orientation who conformed *less* to masculine norms would be *more* likely to use a condom the last time they had vaginal sex (see Figure 2).

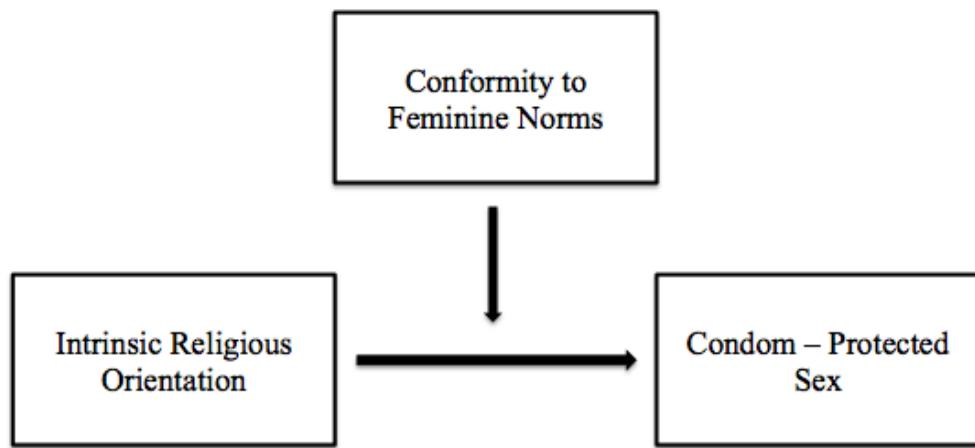


Figure 1. Proposed Hypothesis H2.

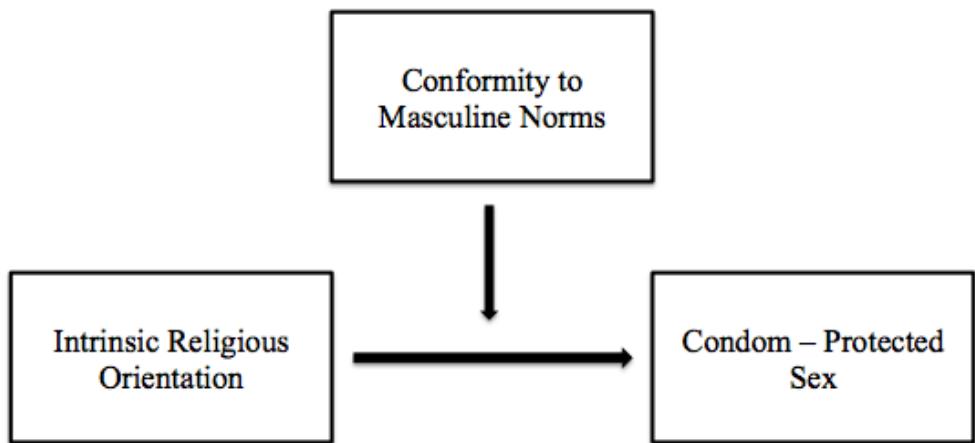


Figure 2. Proposed Hypothesis H3.

## CHAPTER II

### METHODOLOGY

#### **Participants**

**Emerging Adults.** The current study was approved by the Texas Tech University (TTU) institutional review board and was conducted in accordance with the American Psychological Association's Ethical Principles and Codes of Conduct (APA, 2002). Participants were 222 TTU students between 18 and 25 years of age. An *a priori* power analysis of logistic regression using G\*Power (Faul, Erdfelder, Buchner, & Lang, 2009) was used to compute the sample size needed for this study. In addition, based on the guidelines provided by Cohen (1992), it was determined that a minimum of 191 participants would be needed to detect a medium effect size with three predictors, an alpha level of .05, and desired power of .80. Students who were between the ages of 18 and 25 (i.e., emerging adults) were recruited from the Psychological Sciences participation pool. Participation was voluntary and in exchange participants received credit toward research participation for introduction to psychology courses. Participants self-selected to participate in this study from a range of studies available through the department's SONA website as part of the research requirement for undergraduate psychology courses. If students did not wish to complete the research participation requirement, they were able to complete an alternative essay assignment in lieu of research participation.

#### **Measures**

**Demographic Information.** Participant ages ranged from 18 to 25 ( $M = 22.92$ ,  $SD = 2.05$ ). Women comprised 45.0% of the sample and men 55.0%. The majority of participants identified as White/Non-Hispanic Caucasian (73.0%) and

exclusively heterosexual (71.0%). Only 9.5% of participants considered themselves Hispanic/Latinx. Further, the majority reported having a steady partner (57.2%) and engaging in condom-protected sex (53.4%). See Table 1 for further descriptive statistics. A copy of these items can be found in Appendix B.

**Control measure.**

**Partner type.** Partner type at most recent sexual encounter was assessed using the following item: “Your most recent sexual experience was with...” Participants’ response options follow: *primary or “steady” partner, someone you knew well but not a steady partner, a casual acquaintance or anonymous partner, or other*. For the purpose of this study, *primary or “steady” partner* were coded as 1 and all other categories recoded into one category as 0. A copy of this measure is found in Appendix B: Most Recent Sexual Encounter questionnaire.

**Condom Use Self-Efficacy (CUSE).** Exposure to reproductive health education was assessed using the CUSE. It is a 9-item measure, however, for the purpose of this study a 5-item self-report short form was used to measure condom use self-efficacy. This measure has a 5-point response scale with options ranging from 1 (*none*) to 5 (*a lot*) with summed scores ranging from 5 to 25. Higher scores indicate lower condom use self-efficacy. A sample item follows: “How much of a problem would it be for you to put a condom on a hard penis?” The long form CUSE demonstrated internal consistency of  $\alpha = .88$  (DiClemente, et al., 2004). Other psychometric information was not provided. Further, there are limited data for the short form. A copy of this measure can be found in Appendix B.

### **Independent variables.**

***Religious Orientation Scale-Revised (ROS-R).*** The ROS-R is a 14-item self-report scale designed to measure intrinsic (e.g., individuals who live their lives according to their religious beliefs; Allport & Ross, 1967) and extrinsic (e.g., individuals who use religion to achieve personal nonreligious goals; Allport & Ross, 1967) religious orientations. This measure has a five-point response scale with options ranging from 1 (*I strongly disagree*) to 5 (*I strongly agree*). There are two sub-scales: intrinsic (I) and extrinsic (E) orientation. For the purpose of this study only the intrinsic orientation subscale was used. Intrinsic orientation was measured using eight-items with summed scores ranging from 8 to 40. Higher scores on the subscale indicate greater levels of intrinsic religiousness. A sample item from the intrinsic subscale is “My whole approach to life is based on my religion.” In a sample of students who attended secular and religious colleges a two-factor model of religious orientation was identified (i.e., intrinsic and extrinsic). The intrinsic subscale demonstrated internal consistency of  $\alpha = .83$  (Gorsuch & McPherson, 1989) in a sample of college students ( $N = 771$ ) attending both secular and religious colleges, and  $\alpha = .82, .80, .78$ , and  $.85$  (Flere & Lavrič, 2008) in a sample of undergraduate students ( $N = 1786$ ) who identified as Slovenian Catholic, Bosnian Muslim, Serbian Orthodox, and American Protestants, respectively. Test-retest reliability was not provided (Gorsuch & McPherson, 1989). However, evidence for convergent validity was found by large correlations between the intrinsic subscale and similar measures (e.g., importance of religion, religious commitment; Donahue, 1985). A copy of this measure can be found in Appendix B.

**Conformity to Feminine Norms Inventory (CFNI-45).** The CFNI-45 is a multidimensional measure assessing conformity to various feminine norms (Parent & Moradi, 2010). This measure includes nine subscales and a total of 45 items with response items on a 4-point Likert type scale ranging from 0 (*strongly disagree*) to 3 (*strongly agree*). A sample item follows: “I would feel guilty if I had a one-night stand.” Subscale scores can be averaged to create a total score, with higher scores indicating higher levels of conformity to feminine norms.

A confirmatory factor analysis showed evidence for an acceptable model fit of a nine-factor model for the CFNI-45. The CFNI-45 demonstrated a Cronbach’s alpha of .79 for the total scale (Parent & Moradi, 2010). Evidence for convergent validity was found by large correlations between the CFNI-45 and similar measures (e.g., agreeableness) and discriminant validity was found by small correlations between the CFNI-45 and measures believed to be unassociated (i.e., impression management; Parent & Moradi, 2011b). A copy of this measure can be found in Appendix B.

**Conformity to Masculine Norms Inventory (CMNI-46).** The CMNI-46 is a multidimensional measure assessing conformity to various masculine norms (Parent & Moradi, 2009). This measure includes nine subscales. It is comprised of 46 items with response items on a 4-point Likert type scale ranging from 0 (*strongly disagree*) to 3 (*strongly agree*). A sample item follows: “If I could, I would frequently change sexual partners.” Subscale scores can be averaged to create a total score, with higher scores indicating higher levels of conformity to masculine norms.

A confirmatory factor analysis showed evidence for an acceptable model fit of a nine-factor model for the CMNI-46. The CMNI-46 demonstrated internal

consistency of  $\alpha = .88$  (Parent & Moradi, 2009). Evidence for convergent validity was found by large correlations between the CMNI-46 and similar measures (e.g., Male Role Norms Inventory; Levant, Rankin, Williams, Hasan, & Smalley, 2010; Parent & Moradi, 2011a) and discriminant validity was found by small correlations between the CMNI-46 and measures believed to be unassociated (i.e., impression management; Parent & Moradi, 2011a). A copy of this measure can be found in Appendix B.

**Dependent variable.**

***Most Recent Sexual Experience Questionnaire.*** This questionnaire focuses on assessing sexual behaviors during the most recent sexual encounter (Brown & Venable, 2007). Brown and Venable (2007) found that 39% of the sexually active college students they surveyed had reported unprotected vaginal sex at their last sexual encounter. Further, results indicated that those who did report engaging in condom-protected vaginal sex during their last sexual encounter were younger than those who reported engaging in unprotected vaginal sex. Therefore, in their subsequent analyses, age was a controlled variable. Focusing on a single event mitigates the likelihood of recall errors (Schroder et al., 2003). For the purpose of this study, only vaginal/penile sex was assessed using the following dichotomous items: “During your most recent sexual experience did you have vaginal sex?” and “During your most recent sexual experience did you have vaginal sex with a condom?” with response options as follows: *yes* or *no*. Partner type was also assessed with this questionnaire (please see control measure). A copy of this measure can be found in Appendix B.

### **Data Integrity**

Data were exported into IBM SPSS Statistics – 23 (IBM, 2015) and were assessed for integrity. Data were examined for inattentive responding using the following items placed within two measures asking participants to “Please click ‘I tend to agree’” and “Please check ‘false.’” If inattentiveness was detected, then those cases were removed from the data set. Additionally, the data were assessed for missingness. As suggested by Parent (2013), missing data were handled using available item analysis (AIA), a suitable technique for handling low levels of item-level missing data. AIA was used if low-level item-level missingness (i.e., items participants failed to answer from a scale) was detected. Using this technique allows for all available data to be used to compute scale means.

### **Descriptive Statistics**

Among the final sample, AIA (Parent 2013) was used to calculate Cronbach’s alphas and mean scores of the primary measures (i.e., ROS-R, CFNI-45, CMNI-46, CUSE), which are presented in Table 2. In the present study, the alphas for the CFNI-45, CMNI-46, and CUSE were acceptable and consistent with previous research. The alpha for the ROS-R was questionable and not consistent with previous research.

Each measure was assessed to verify that there were no unexplained abnormalities or outliers. Means and standard deviations of the primary measures are included in Table 2 and 3. Overall, there appeared to be no evidence of abnormalities or extreme outliers within the responses on the CUSE, ROS-R, CFNI-45, and CMNI-46. Further, it should be noted that there was a difference in means for the ROS-R and CUSE when excluding participants who identified as atheist and agnostic (see Tables

2 and 3). Despite mean differences in ROS-R and CUSE measures, this effect was not statistically significant across logistic regression and moderation analyses.

Two hundred and thirty-nine participants began the survey procedure. Data were screened for inattentive responding and missingness of more than 25% (Parent, 2013). Eight participants were inattentive in their responding. The final sample of useable data included 222 emerging adults.

In the final sample, not all participants responded to every item resulting in missing data. On the CUSE, 1 of the 1,110 total data points were missing (0.001% missingness). On the ROS-R, 13 of the 1,776 total data points were missing (0.007% missingness). On the CFNI-45, 15 of the 9,990 total data points were missing (0.002% missingness). On the CMNI-46, 24 of the 10,212 total data points were missing (0.002% missingness). On the Most Recent Sexual Encounter Questionnaire, 33 of the 222 participants did not answer, “During your most recent sexual experience did you have vaginal sex with a condom?” Thus, were not included in the analyses. Visual inspection of the dataset determined that data were missing at random with no discernable patterns of missingness. Given the small percentage of missing data in a random pattern, missing data were not considered to be of great impact (Parent, 2013).

### **Analysis Plan**

**Logistic Regression.** To test H1, logistic regression was selected as an appropriate statistical method given that the key independent variable (i.e., intrinsic religiousness) is a continuous variable and the outcome variable (i.e., condom-protected sex) is a dichotomous variable. This analysis was used to assess the

likelihood that participants had condom-protected sex at their most recent sexual encounter.

**Moderation.** To test H2, through H3, the PROCESS macro (Hayes, 2012), a versatile computational tool, was utilized. The PROCESS macro can produce bias-corrected confidence intervals for indirect effects and various measures of effect size. The PROCESS macro was used in a simple moderation model, specifying a linear interaction between intrinsic religious orientation and conformity to gender norms in the model of condom-protected sex at most recent sexual encounter. Simple slopes were analyzed. Condom-protected vaginal sex was entered as the dependent variable, intrinsic religious orientation was entered as the independent variable, conformity to gender norms was entered as the moderator, and age, partner type, and condom use self-efficacy were entered as covariates. By selecting model 1 (the model for moderation), the PROCESS macro created an interaction term between intrinsic orientation and conformity to gender norms. Further exploring the interaction with a continuous moderator (i.e., conformity to gender norms), PROCESS provided the option of using percentiles of the moderator instead of using the mean, and one standard deviation above and below the mean when estimating conditional effects of intrinsic religious orientation.

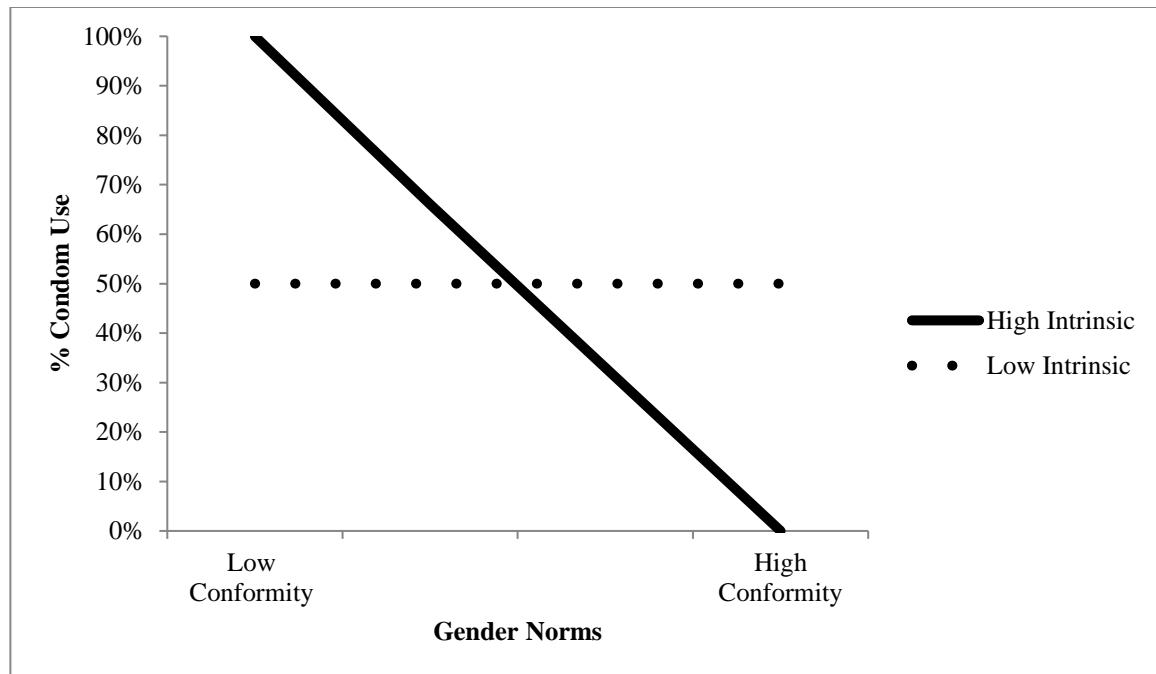


Figure 3. Hypothesized results for conformity to feminine gender norms as a moderator on the relationship between intrinsic religious orientation and condom use at most recent sexual encounter.

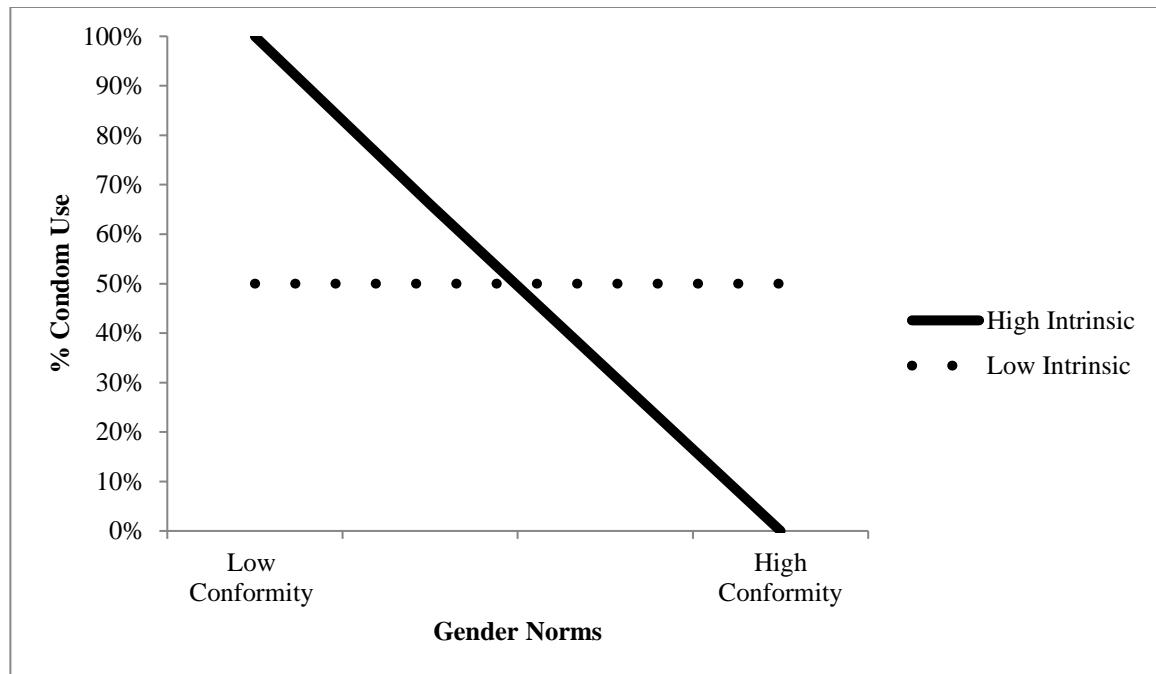


Figure 4. Hypothesized results for conformity to masculine gender norms as a moderator on the relationship between intrinsic religious orientation and condom use at most recent sexual encounter.

**Table 1**  
*Descriptive Statistics: Frequency Counts and Percentages (N=222)*

Measure	22.92	2.05
	Frequency	Percentage
Age	22.92	2.05
Gender		
Woman	100	45.0
Man	122	55.0
Race/Ethnicity		
White/Non-Hispanic Caucasian	162	73.0
Black/African American	20	9.0
Latino/Hispanic	19	8.6
Asian/Asian American/Pacific Islander	27	12.2
Middle Eastern/East Indian	2	0.9
Native American/American Indian	4	1.8
Other	3	1.4
Hispanic/Latinx Identity		
No	199	90.5
Yes	21	9.5
Puerto Rican	3	16.7
Dominican	---	---
Mexican/Mexicano/Mexican American	9	50.0
Cuban/Cuban American	1	5.6
Central or South American	3	16.7
Latino American	1	5.6
Other Hispanic	1	5.6
Current Sexual Orientation		
Exclusively Gay/Lesbian	2	0.9
Primarily Gay/Lesbian	2	0.9
Bisexual	16	7.2
Primarily Heterosexual	44	19.9
Exclusively Heterosexual	157	71.0
Queer	2	0.9
Unlabeled/Questioning	2	0.9
No Sexual Interest	1	0.5
Current Religious Affiliation		
Atheist	53	23.9
Agnostic	56	25.2
Buddhist	2	0.9
Christian (any denomination)	89	40.1
Hindu	7	3.2
Jewish	4	1.8
Muslim	5	2.3
Other	9	4.1

Table 1, Continued

Education

Less than High School	1	0.5
High School Diploma/GED	33	14.9
Some College	77	34.7
Associate's (2-year) Degree	29	13.1
Bachelor's (4-year) Degree	67	30.2
Some Graduate School	9	4.1
Master's Degree	6	2.7
Doctoral Degree	---	---
Other	---	---

Socio-economic Status (SES)

Working Class	38	17.1
Lower Middle Class	50	22.5
Middle Class	98	44.1
Upper Middle Class	34	15.3
Upper Class	2	0.9

Partner Type

Steady	127	57.2
Non-Steady	95	42.8

Condom Protected Sex

No	88	46.6
Yes	101	53.4

Table 2  
*Means, Standard Deviations, Cronbach's Alphas, and Bivariate Correlations*

Measure	1	2	3	4	M	SD	$\alpha$
1. IRO					2.65	0.75	0.67
2. CFNI	0.27**				2.47	0.25	0.72
3. CMNI	0.20**	0.52**			2.32	0.24	0.71
4. CUSE	0.17*	0.21**	0.23**		1.75	0.92	0.95

Note. \*\* $p = 0.01$ , \* $p = 0.05$ ; IRO = intrinsic religious orientation; CFNI = conformity to feminine norms inventory-45; CMNI = conformity to masculine norms inventory-46; CUSE = condom use self-efficacy

Table 3

*Means, Standard Deviations, Cronbach's Alphas, and Bivariate Correlations Excluding Atheist/Agnostic*

Measure	1	2	3	4	M	SD	$\alpha$
1. IRO					3.01	0.79	0.82
2. CFNI	0.22*				2.50	0.23	0.68
3. CMNI	0.09	0.49**			2.36	0.25	0.75
4. CUSE	0.03	0.10	0.11		1.92	1.00	0.95

Note. \*\* $p=0.01$ , \* $p=0.05$ ; IRO = intrinsic religious orientation; CFNI = conformity to feminine norms inventory-45; CMNI= conformity to masculine norms inventory-46; CUSE = condom use self-efficacy

## CHAPTER III

### RESULTS

#### Data Analyses

**H1:** Logistic regression analysis was conducted to test the hypothesis (H1) that emerging adults with *greater* intrinsic orientation would be *more* likely to have had condom-protected sex at their most recent sexual encounter. The covariate (i.e., age, partner type, and CUSE) adjusted logistic regression model ( $n=171$ ) showed no significant main effects (AOR=0.87, 95% CI 0.54–1.29; see Table 4).

Logistic regression analysis was also conducted excluding participants who identified as atheist or agnostic. The covariate (i.e., age, partner type, and CUSE) adjusted logistic regression model ( $n=85$ ) showed no significant main effects (AOR=0.69, 95% CI 0.39–1.22; see Table 5).

**H2:** The PROCESS macro was used in a simple moderation model to test the hypotheses (H2) that conformity to feminine gender norms among women would moderate the relationship between religious orientation and condom-protected sex at most recent sexual encounter, such that emerging adults with *greater* intrinsic religious orientation who conformed *less* to feminine norms would be *more* likely to use a condom the last time they had vaginal sex. Covariate (i.e., age, partner type, and CUSE) moderation analysis ( $n=87$ ) showed no significant interaction between feminine gender norms and religious orientation ( $b=0.11$ ,  $p=0.92$ , 95% CI -1.95 – 2.17; see Table 6) in predicting condom use at the most recent sexual encounter. However, partner type was significantly associated ( $b=-1.39$ ,  $p=0.01$ , 95% CI -2.38 – -0.39).

Another moderation analysis was conducted excluding participants who identified as atheist or agnostic. Covariate (i.e., age, partner type, and CUSE) moderation analysis ( $n=49$ ) showed no significant interaction between feminine gender norms and religious orientation ( $b=1.05, p=0.46, 95\% \text{ CI } -1.71 - 3.81$ ; see Table 7) in predicting condom use at the most recent sexual encounter. However, age was significantly associated ( $b= 0.39, p=0.04, 95\% \text{ CI } 0.02 - 0.76$ ).

**H3:** The PROCESS macro was used in a simple moderation model to test the hypotheses (H3) that conformity to masculine gender norms among men would moderate the relationship between religious orientation and condom-protected sex at most recent sexual encounter, such that emerging adults with *greater* intrinsic religious orientation who conformed *less* to masculine norms would be *more* likely to use a condom the last time they had vaginal sex. Covariate (i.e., age, partner type, and CUSE) moderation analysis ( $n=102$ ) showed no significant interaction between masculine gender norms and religious orientation ( $b=0.35, p=0.83, 95\% \text{ CI } -2.88 - 3.58$ ; see Table 8) in predicting condom use at the most recent sexual encounter.

Another moderation analysis was conducted excluding participants who identified as atheist or agnostic. Covariate (i.e., age, partner type, and CUSE) moderation analysis ( $n=46$ ) showed no significant interaction between masculine gender norms and religious orientation ( $b=1.95, p=0.48, 95\% \text{ CI } -3.45 - 7.35$ ; see Table 9) in predicting condom use at the most recent sexual encounter.

Table 4

*H1: Logistic Regression Model Examining the Relationship Between Intrinsic Religious Orientation and Condom Protected Sex among Emerging Adults (n = 171).*

Independent Variables	AOR	SE	95% CI	p
Covariates				
Age	1.02	0.08	0.87 – 1.20	0.80
Partner type	2.16	0.33	1.14 – 4.11	0.02
CUSE	1.28	0.19	0.89 – 1.86	0.19
IRO	0.87	0.22	0.54 – 1.29	0.42
Overall $\chi^2$ =	8.20			0.08

Note: AOR = adjusted odds ratio; SE = standard error; 95% CI = 95% confidence interval; CUSE = condom use self-efficacy; IRO = Intrinsic religious orientation

Table 5

*H1: Logistic Regression Model Examining the Relationship Between Intrinsic Religious Orientation and Condom-Protected Sex among Emerging Adults Excluding Atheist/Agnostic (n = 85).*

Independent Variables	AOR	SE	95% CI	p
Covariates				
Age	1.25	0.12	0.99 – 1.58	0.06
Partner type	1.31	0.48	0.52 – 3.34	0.57
CUSE	1.33	0.25	0.81 – 2.19	0.26
IRO	-0.38	0.29	0.39 – 1.22	0.20
Overall $\chi^2$ =	7.49			0.11

Note: AOR = adjusted odds ratio; SE = standard error; 95% CI = 95% confidence interval; CUSE = condom use self-efficacy; IRO = Intrinsic religious orientation

Table 6

*H2: Conformity to Feminine Norms Moderating the Relationship Between Intrinsic Religious Orientation and Condom-Protected Sex among Emerging Adults (n = 87).*

Independent Variables	AOR	SE	95% CI	p
<b>Covariates</b>				
Age	0.08	0.12	-0.16 – 0.32	0.52
Partner type	-1.39	0.51	-2.38 – -0.39	0.01
CUSE	0.24	0.25	-0.24 – 0.72	0.33
<b>Moderator</b>				
CFNI	0.92	3.47	-5.89 – 7.72	0.79
<b>Independent Variable</b>				
IRO	-0.09	2.70	-5.38 – 5.20	0.97
IRO x CFNI	0.11	1.05	-1.95 – 2.17	0.92

Note: AOR = adjusted odds ratio; SE = standard error; 95% CI = 95% confidence interval; CUSE = condom use self-efficacy; IRO = Intrinsic religious orientation

Table 7

*H2: Conformity to Feminine Norms Moderating the Relationship Between Intrinsic Religious Orientation and Condom-Protected Sex among Emerging Adults Excluding Atheist/Agnostic (n = 49).*

Independent Variables	AOR	SE	95% CI	p
Covariates				
Age	0.39	0.19	0.02 – 0.76	0.04
Partner type	-1.26	0.71	-2.65 – 0.13	0.08
CUSE	0.57	0.36	-0.13 – 1.27	0.11
Moderator				
CFNI	-3.34	5.15	-13.43– 6.76	0.52
Independent Variable				
IRO	-2.79	3.65	-9.94– 4.35	0.44
IRO x CFNI	1.05	1.41	-1.71 – 3.81	0.46

Note: AOR = adjusted odds ratio; SE = standard error; 95% CI = 95% confidence interval; CUSE = condom use self-efficacy; IRO = Intrinsic religious orientation

Table 8

*H3 Conformity to Masculine Norms Moderating the Relationship Between Intrinsic Religious Orientation and Condom-Protected Sex among Emerging Adults (n = 102).*

Independent Variables	AOR	SE	95% CI	p
Covariates				
Age	-0.11	0.12	-0.35 – 0.12	0.35
Partner type	-0.43	0.43	-1.27 – 0.41	0.31
CUSE	0.25	0.29	-0.33 – 0.82	0.40
Moderator				
CMNI	-1.77	4.47	-10.52 – 6.99	0.69
Independent Variable				
Intrinsic religious orientation				
(IRO)	-1.22	3.91	-8.89 – 6.44	0.75
IRO x CMNI	0.35	1.65	-2.88 – 3.58	0.83

Note: AOR = adjusted odds ratio; SE = standard error; 95% CI = 95% confidence interval; CUSE = condom use self-efficacy; IRO = Intrinsic religious orientation

Table 9

*H3: Conformity to Masculine Norms Moderating the Relationship Between Intrinsic Religious Orientation and Condom-Protected Sex among Emerging Adults Excluding Atheist/Agnostic (n = 46).*

Independent Variables	AOR	SE	95% CI	p
Covariates				
Age	0.09	0.17	-0.24 – 0.43	0.59
Partner type	0.51	0.66	-0.78 – 1.80	0.44
CUSE	-0.10	0.39	-0.86 – 0.66	0.80
Moderator				
CMNI	-6.47	8.41	-22.95 – 10.00	0.44
Independent Variable				
Intrinsic religious orientation				
(IRO)	-5.36	6.65	-18.39 – 7.68	0.42
IRO x CMNI	1.95	2.76	-3.45 – 7.35	0.48

Note: AOR = adjusted odds ratio; SE = standard error; 95% CI = 95% confidence interval; CUSE = condom use self-efficacy; IRO = Intrinsic religious orientation

## **CHAPTER IV**

### **DISCUSSION**

The present study utilized a sample of emerging adults from a large southwestern university in the United States to explore the associations between intrinsic religious orientation, conformity to gender norms, and condom-protected sex at most recent sexual encounter. The aim of this study was to identify variables (i.e., gender norms) that may influence condom use among emerging adults. The current study examined whether or not conformity to gender norms (feminine and masculine) moderated the relationship between intrinsic religious orientation and condom-protected sex at most recent sexual encounter.

#### **Hypotheses**

Overall, the findings did not support the hypotheses. It was hypothesized that emerging adults with *greater* intrinsic orientation would be *more* likely to have had condom-protected sex at their most recent sexual encounter. There were no significant association between intrinsic religious orientation and condom-protected sex at the most recent sexual encounter. However, partner type (steady vs. non-steady) revealed a significant association with condom-protected sex at most recent sexual encounter, such that having a steady partner was associated with a decrease in condom-protected vaginal sex.

It seems that intrinsic religious orientation may not have been as important a variable because the majority of the sample identified as either atheist or agnostic. After excluding those who identified as atheist/agnostic the sample size decreased significantly suggesting that there may not have been enough power to detect an

effect. Alternatively, it may be that the demographics are shifting for emerging adults attending college, such that in general, emerging adults may be less religious than the US population at large.

Further, it was hypothesized that conformity to gender norms would moderate the relationship between religious orientation and condom-protected sex at most recent sexual encounter, such that emerging adults with *greater* intrinsic religious orientation who conformed *less* to gender norms would be *more* likely to use a condom the last time they had vaginal sex (H2 & H3). Both conformity to feminine norms and conformity to masculine norms did not moderate the relationship between intrinsic religious orientation and condom-protected sex at most recent sexual encounter. There were no main effects of intrinsic religious orientation and conformity to feminine/masculine norms and no interaction between intrinsic religious orientation and conformity to feminine/masculine norms. Similarly to the findings in H1, there was a significant association between partner type and engaging in condom-protected vaginal sex. However, in the moderation analysis (H2) having a steady partner was associated with an increase in condom-protected vaginal sex among women but not men. Further, in the moderation analysis (H2) excluding those who identified as atheist and agnostic, age was associated with an increase in condom-protected vaginal sex among women but not men.

### **Implications.**

Despite the fact that the hypotheses were not statistically significant, the present findings corroborate that women are more likely to engage in more healthy behaviors than men (e.g., engaging in condom-protected sex; Courtenay, 2000a).

Even though this information is not new, it provides more evidence to promote psychoeducation and public health interventions targeted at sexually active men as well as women who are sexually active with a non-steady partner(s). From the literature it is clear that emerging adults are at higher risk for contracting STIs (CDC, 2014; Panchaud, et al., 2000). Further, given that conformity to gender norms did not moderate the relationship between religious orientation and condom-protected sex, it seems that conformity to gender norms may not be an influential variable when considered condom use.

**Limitations.**

The percentage identifying with a religious affiliation does not mirror the national average (Jones & Cox, 2017), suggesting that these participants were less religiously affiliated (i.e., atheist and agnostic were 49.1%) than the U.S. as a whole (i.e., atheist and agnostic 24%; Jones & Cox, 2017). Further, the study methodology did not provide a means for objective verification of reports regarding sensitive behaviors (e.g., condom protected vaginal sex), as there was no practical or ethical means of directly observing these behaviors. Similarly, verifying correct condom use was only assessed using a self-report measure. Hence, the present study was not able to assess whether the reported behaviors or skill set were in fact characteristic of the participants' actual behavior. Additionally, this study focused solely on individuals who self-identified as either primarily or exclusively heterosexual and who partook in a specific heterosexual sexual behavior; thus, excluding the possibility of finding potential differences for same sex behaviors. Moreover, participants self-selected to participate in this study assessing sensitive health behaviors (i.e., attitudes and

behaviors related to religion and past sexual experiences). Therefore, these emerging adults may already feel more comfortable disclosing information about sexual behaviors than others. Furthermore, there may be other variables (e.g., sexual health knowledge) that could predict risky sexual behavior among this sample that was not included in the analyses.

### **Future Research Directions**

Examining the different domains of the CFNI-45 and CMNI-46 may provide a link between intrinsic religious orientation and risky sexual behaviors that may have been undetectable utilizing the measures in their entirety. For example, examining the Sexual Fidelity subscale of the CFNI-45 as a moderator. The Sexual Fidelity subscale has been correlated highly with a sexual attitudes and permissiveness questionnaire (Parent & Moradi, 2011). Additionally, using the Playboy and Risk-taking subscales in the CMNI-46 as moderators. These subscales assess behaviors more inline with the present study (e.g., sexual permissiveness, sexual risk taking).

Further research is needed to identify other variables that may play a role in the relationship between intrinsic religious orientation and risky sexual behaviors (e.g., sexual health knowledge) among emerging adults. For example, sexual health knowledge may be a contributing factor that moderates the association between religious orientation and risky sexual behaviors. Coleman and Testa (2008) found that high school students who identified as religious had less sexual health knowledge than students who reported no religious affiliation. Similarly, among college students, an inverse relationship has been found between religiousness and sexual health knowledge (Stulhofer et al., 2011). Further, an increase in sexual health knowledge

has been associated with an increased likelihood of engaging in condom protected sex among college students (Milhausen et al., 2013). Likewise, lower sexual health knowledge has been associated with a higher intention of engaging in unprotected sex among adolescent Taiwanese girls between the ages of 12 and 15 (Pai & Lee, 2012). Additionally, among high school students, those who had more knowledge about human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) were more likely to report consistent condom use (Anderson, et al., 1990; Berten & Van Rossem, 2009) and be less sexually active (Berten & Van Rossem, 2009). Moreover, a negative relation between HIV knowledge and risky sexual behavior (calculated by combining the number of sexual partners and condom use) was found among community clinic workers in Chile (Cabieses, Ferrer, Villarroel, Tunstall, & Norr, 2010). These findings suggest a possible moderating effect of sexual health knowledge on the relationship between religious orientation and condom use.

Alcohol use among emerging adults may be a potential moderator in the relationship between intrinsic religious orientation and risky sexual behaviors. Previous research has found religion, as defined by denomination, to be associated to unprotected sex at the most recent encounter while being under the influence of alcohol (Mbulo, Newman, & Shell, 2007). Additionally, religious involvement has been negatively associated with alcohol use prior to the most recent sexual encounter (Horton, Ellison, Loukas, Downey, & Barrett, 2012). Further, another study (Walsh, Fielder, Carey, & Carey, 2014) found a negative relationship between the number of alcoholic beverages consumed and the likelihood of engaging in condom-protected sex. It may be that emerging adults who are more intrinsically oriented consume less

alcohol prior to a sexual encounter and are more likely to engage in condom-protected sex.

The use of other contraceptive methods (e.g., Depo-Provera injection, intrauterine devices [IUD], oral) may also contribute to the lack of condom use among emerging adults. The present study assessed only condom use and not other contraceptive methods. It may be that emerging adults are actively trying to prevent pregnancy and may not be worried about potentially acquiring an STI. Previous research (Critelli & Suire, 1998) found an increase in condom use among those who did not use another form of contraception, or those who were in a casual relationship. Perhaps those engaging in condom-protected sex were merely trying to prevent an unplanned pregnancy. Further, type of contraceptive could also contribute to the likelihood of engaging in condom-protected sex. For example, those who used oral contraceptives were more likely to have engaged in condom-protected sex than those using long-acting reversible contraception, such as IUDs (Steiner, Liddon, Swartzendruber, Rasberry, & Sales, 2016).

Other variables that may play a role in the relation between intrinsic religious orientation and risky sexual behaviors are parental religiousness and religious upbringing (e.g., degree of religiousness of family of origin). Regnerus (2005) found that parents of adolescents who were very religious, as measured by frequency of religious service attendance, were less inclined to discuss both contraception and sex with their children. Further, when these parents communicated with their children it would tend to be in regards to sexual values (Regnerus, 2005). Other studies (Aspy, Vesely, Oman, Rodine, Marshall, & McLeroy, 2007; Hutchinson, Jemmott, Jemmott,

Braverman, & Fong, 2003; Whitaker & Miller, 2000) found parent-child discussions about HIV/AIDS and condom use have been associated with safer sexual behavior. The messages (e.g., abstinence until marriage) communicated to individuals as adolescents may become ingrained in their worldview, potentially influencing their sexual behavior (e.g., not engaging in condom-protected sex) as emerging adults.

Another variable to consider are peer norms and how these may influence the decision to engage in condom-protected sex. It is well documented that perceived peer norms regarding sexual behaviors and attitudes have been associated with engagement in risky sexual behavior (e.g., DiClemente, 1991). The present study did not assess for perceived peer norms. Nearly half of the participants in the present study reported not using a condom at the most recent sexual encounter. It may be that the participants perceived their peers as not engaging in condom-protected sex and therefore did not engage in condom-protected sex themselves. Further, developmentally, it seems that peer norms are more likely to influence the likelihood of engaging in condom protected sex among adolescents and young adults than adults 24-years or older (Gardner & Steinberg, 2005). Perhaps examining differences in age among emerging adults may provide a better understanding about how peer norms may play a role in the decision to engage in condom-protected sex.

Given the importance of identifying characteristics of individuals who do and do not engage in condom-protected sex, personality traits may be important to examine. For example, conscientiousness may be a predictor of condom use, as similar constructs (e.g., self-control) have been linked to condom use (Hernandez & DiClemente, 1992). Conscientiousness has also shown to be related to several other

health-related behaviors, such as risky sex and excessive alcohol use (Bogg & Roberts, 2004). Because conscientiousness has also been linked to religiousness (e.g., Saroglou, 2002), it may be that conscientiousness moderates the relationship between religiousness and engagement in condom-protected sex. Additionally, conscientiousness has also been linked to protective behavioral strategies (Martens et al., 2009), and condom-related protective behavioral strategies have been found to be associated with increased condom use (Lewis, Kaysen, Rees, & Woods, 2010). Therefore, conscientiousness may be an important trait when examining condom-protected sex among emerging adults.

### **Conclusion**

The present study adds to the existing risky sexual behavior and religiousness literature by exploring the role of conformity to gender norms. In general, religiousness and engaging in condom protected sex were not associated, and this relationship was not moderated by conformity to gender norms. However, among women only, being with a steady partner was associated with an increase in condom-protected vaginal sex. Religious orientation merits scholarly attention as it captures more than a mere behavior (e.g., religious service attendance), especially among emerging adults who experience STI health disparities. It is important to continue exploring possible factors that may contribute to engaging in condom-protected sex.

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## **APPENDIX A**

### **EXTENDED LITERATURE REVIEW**

Emerging adulthood is a time when 18-to 25-year olds typically obtain greater independence from their parents. They are still exploring and learning to navigate the world in an attempt to find their place (Arnett, 2000, 2007). Emerging adults are an important group to examine in terms of risky sexual behavior (e.g., unprotected vaginal sex). Seven studies (Arnett, 1996; Arnett & Jensen, 2002; Bisson & Levine, 2009; Chara & Kuennen, 1994; Claxton & van Dulmen, 2013; De Haan & Schulenberg, 1997; Lefkowitz, 2005) and a review (Claxton & van Dulmen, 2013) investigated the exploration that tends to occur during this developmental period, namely religious and sexual.

In the first study (Arnett & Jensen, 2002), participants ( $N = 140$ ; 47% women; 53% men) were emerging adults (21-28) living in a medium-sized city in the Midwest. The majority of participants were White (90%) and 60% were married. Participants were interviewed and completed a questionnaire including items regarding religious attendance and beliefs. Results indicated that women were more likely than men to report that religious faith, and religious service attendance were important. Further, women were also more likely to identify as liberal Christians and less likely to identify as either agnostic or atheist than men. Compared to single individuals, those who were married also reported attending religious services more frequently and reporting that religious beliefs were important. Additionally, participants reported religious beliefs to be more important than religious service attendance. In general, participants' identified as agnostic/atheist, deist, liberal Christian, or conservative Christian. This study found

that exposure to different faiths from friends or school, for example, contributed to individuals constructing their own set of beliefs.

In a second study (De Haan & Schulenberg, 1997), college students ( $N=209$ ; 70% women; 30% men) completed a self-report questionnaire measuring levels of religious involvement, religious beliefs, ego-identity status, and political preferences. Results indicated that college seniors were more religiously intrinsic than their younger peers.

In a longitudinal study (Stolzenberg, Blair-Loy, & Waite, 1995), high school seniors ( $N=19,001$ ) completed comprehensive surveys including measures of religious participation at each time point (i.e., 1972, 1973, 1974, 1976, 1979, and 1986). At the first time point, participants were 18 years old and 32 by the end of the study. Relevant results indicated that age was associated with an increase in religious participation (i.e., church attendance).

In a fourth study (Lefkowitz, 2005), participants ( $N = 205$ ; 61% women; 39% men) were emerging adults (18-25) attending a large university in Pennsylvania. The majority of participants identified as European American (78%). They responded to open-ended questions regarding changes in their views about religion and sex, and their relationships with their parents since the start of college. Results indicated that more participants attended religious services less frequently, and their religious beliefs became either stronger or more important after transitioning to college. Further, most of those who reported no change in their religious views were more likely to be in their first year of college than further along. Those who reported changes in their faith had been in college longer than those who reported no change. These changes were

also viewed more positively for those who had been at college longer than those who had recently started college. Regarding views about sex, participants who had been in college longer were found to become slightly more liberal, reported engaging in sex for the first time, and reported changes in their attitudes and perceptions about sex than those who had recently started college. Overall, it appears that those who had been at college longer described positive changes in their religious and sexual views.

In part 1 of another study (Arnett, 1996), adolescents ( $N = 133$ ; 70 girls; 63 boys) between 17 and 18 years of age participated in a study assessing reckless behavior, sensation seeking, and aggressiveness. Nearly (>95%) all participants were White. In part 2 of the Arnett (1996) study, college students ( $N = 346$ ; 47% women; 53% men) between 18 and 23 years old participated in a study assessing reckless behavior, sensation seeking, and aggressiveness. Participants were predominately White (90%). Results indicated that in the past year, 25% of participants reported engaging in sex without contraception (contraception was not defined), and 15% reported engaging in casual sex. Further, sensation seeking was associated with engaging in casual sex. Regarding college students, results indicated that in the past year more than 70% of participants had at least one sexual partner, 34% reported more than one partner, 40% engaged in sex without contraception (contraception was not defined) at least one, 12% engaged in sex without contraception more than 10 times, and 34% reported having casual sex at least once. Overall, compared to high school students, emerging adults are more likely to engage in sex.

A sixth study (Chara & Kuennen, 1994), assessed sexual attitudes among students including 24 in the 7th grade, 26 in the ninth grade, 44 in the 12th grade, 47

college freshmen, and 45 college seniors. Ages ranged from 12 to 23. Results indicated that those in 7th and 9th grades were less comfortable engaging in casual sex than those in 12th grade, college freshmen, and college seniors. Further, there were gender differences from 12th grade through college, such that women were less likely to endorse engagement in casual sex.

In another study (Bisson & Levine, 2009) college students ( $N= 125$ ; 65 women; 60 men) between 18-to 40-years old completed a questionnaire with open-ended questions. Results indicated that at some point in their lives, most (60%) participants reported having a friend with benefits and 36% reported currently having one.

In a review (Claxton & van Dulmen, 2013), casual sex experiences were found to be common among college populations with a prevalence of over 50% (Claxton & van Dulmen, 2013). Further, research has shown the rates of engagement in casual sex were not significantly different between women and men, and most emerging adults had at least one casual sex experience (Claxton & van Dulmen, 2013). During emerging adulthood, individuals tend to explore a variety of experiences. Emerging adults may explore their religious beliefs and experiment with sexual behaviors in an attempt to explore their identity (Claxton & van Dulmen, 2013). Those who attend religious services more frequently tend to be less likely to engage in casual experiences.

It is evident overall in the studies above, emerging adults construct their own religious beliefs (Arnett & Jensen, 2002). One study found that religious participation (Stolzenberg, Blair-Loy, & Waite, 1995) increased with age, while another found it

decreased with age (Lefkowitz, 2005). However, intrinsic religiousness was found to increase with age (De Haan & Schulenberg, 1997), and religious beliefs become stronger or more important after transitioning to college (Lefkowitz, 2005). Further, those who had been in college longer had become more liberal and reported changes to their attitudes and perceptions about sex (Lefkowitz, 2005). Additionally, the majority (70%) of emerging adults engaged in sex with at least one partner, and some (40%) engaged in sex without contraception. Compared to high school students, emerging adults were more likely to engage in sex (Arnett, 1996). Those who were younger (i.e., 7<sup>th</sup> and 9<sup>th</sup> grade) were less comfortable than older individuals (i.e., 12<sup>th</sup> grade, college freshman and seniors) engaging in casual sex (Chara & Kuennen, 1994). The majority (60%) will likely engage in casual sex (e.g., friends with benefits; Bisson & Levine, 2009).

Emerging adults are among the most at risk age group for contracting sexually transmitted infection (STI; Centers for Disease Control and Prevention [CDC], 2014a; Panchaud, Singh, Feivelson, & Darroch, 2000). Chlamydia and gonorrhea are particularly prevalent STIs that are transmitted via anal, oral, or vaginal sex (CDC, 2014a). As of 2012, the prevalence rates in the United States (U.S.) per 100,000 were 456 and 107 for chlamydia and gonorrhea, respectively (CDC, 2014a). Of the reported chlamydia and gonorrhea cases, 39% and 34%, respectively, were reported among 20 to 24 year olds (CDC, 2014a). Regrettably, most who have been infected with chlamydia or gonorrhea are unaware of their status because they may not have experienced any symptoms (CDC, 2014a). Nevertheless, both chlamydia and gonorrhea can be treated/cured with medication. However, if those infected do not

seek medical attention, they may experience serious health problems (e.g., infertility; CDC, 2014a). Furthermore, being infected with an STI also increases an individual's biological vulnerability to the human immunodeficiency virus (HIV) infection (CDC, 2014b). Besides abstinence, the use of male condoms has been the most efficacious way to diminish risk of STI acquisition and transmission (World Health Organization [WHO], 2007). Hence, condom use practices and factors that may influence the use of condoms when engaging in sexual intercourse is an area of research that deserves further study among emerging adults. Partner type may influence engaging in condom-protected vaginal sex. Research has demonstrated that those whose most recent sexual encounter was with a steady or more serious partner were less likely to engage in condom-protected sex than those who were having casual sex (Milhausen, et al., 2013).

Another factor that may play a role in risky sexual behavior and the elevated STI rates is religious practices. As of 2016, 89% of Americans reported that they believe in God or a universal spirit, 53% consider religion to be very important and 55% report belonging to a church or synagogue (Gallup, 2016). Given the prevalence and importance of religion in American society, it is reasonable to consider aspects of religion that may be influential in sexual behavior. Emerging adults are re-evaluating their religious beliefs as well as experiencing more freedom and potentially engaging in risky behaviors with this newly found freedom (Arnett, 2000). Religion, or especially religious orientation (described below), may play a significant role in an individual's sexual behaviors.

## **Religiousness and Health**

Religious service attendance has been used to measure religiousness in the broader health literature. For instance, in a meta-analysis (McCullough, Hoyt, Larson, Koenig, & Thoresen, 2000) investigating the association between religious involvement and mortality, 17 of the 42 studies that were included used religious service attendance as their measure of religious involvement. Among those studies there was variation in how frequency was measured; for example, in the past 2 weeks or in the past year.

### **Religious Service Attendance and Sexual Behavior**

As previously mentioned, religious service attendance has been a measure of religiousness commonly used in relation to health behaviors. Several studies have investigated the association between religious service attendance and sexual behaviors (Burdette & Hill, 2009; de Visser, Smith, Richters, & Rissel, 2007; DuRant, Seymore, Pendergrast, & Beckman, 1990; Edwards, Fehring, Jarrett, & Haglund, 2008; Scott, Munson, McMillen, & Ollie, 2006). These studies suggest an inverse relationship between frequency of religious service attendance and vaginal sex, number of lifetime partners, and partners within the past 12 months (Edwards et al., 2008). Additionally, in a study conducted with a national sample of college women ( $N = 919$ ) there was an association between delays in sexual debut and sexual touching and increased frequency in religious service attendance (Burdette & Hill, 2009). Similarly, in another study with sexually active Hispanic women ( $N = 85$ ) between the ages of 15 and 19, more frequent religious service attendance was also associated with the use of more efficacious contraceptives (DuRant, Seymore, et al., 1990). Moreover, a study conducted with African American and White adolescents ( $N = 383$ ), with an average

age of 17, found that as religious service attendance increased there was a 17% reduction in the odds of engaging in sexual intercourse during the past two months. (Scott, et al., 2006).

Even though there appears to be a correlation between frequency of religious service attendance and vaginal sex, no consensus regarding the association between frequency of religious service attendance and condom use has been reached (Koniak-Griffin, Lesser, Uman, & Nyamathi, 2003; Oddens & Lehert, 1997). For example, a study among predominately Hispanic women ( $N = 572$ ) between the ages of 14 and 20 observed an inverse relation between frequency of religious service attendance and use of condoms in the past three months (Koniak-Griffin et al., 2003). Another study conducted with British and German women ( $N = 1,449$ ) between the ages of 15 and 45 found a positive relation between frequency of religious service attendance and use of condoms (Oddens & Lehert, 1997).

Together, these studies indicate a negative association between frequency of religious service attendance and engagement in premarital vaginal sex. The relation between frequency of religious service attendance and condom use, however, is unclear. The inconsistency in these findings may be due to some of the limitations of the reviewed studies. For example, the age of the participants differed considerably (e.g., 16 to 59; de Visser et al., 2007; 15 to 45; Oddens & Lehert, 1997). Studying samples with such diverse ages could introduce cohort effects such as differences in religious beliefs and practices due to generational variance. Further, emerging adults are a group most at risk for STI transmission, thus focusing on this age group seems more relevant than including individuals who are not at such risk.

Additionally, frequency of religious service attendance was measured differently (e.g., dichotomized into frequent attendance and not frequent religious service attendance; 9-point ordinal scale - never attends to attends several times a week; once or more weekly, monthly, less than monthly or never). The various ways in which religious service attendance was measured could explain the inconsistency in previous research. The present study utilized an established measure of religious orientation rather than variations of a single item.

Finally, sexual behavior was also measured in diverse ways (e.g., frequency during the past three months; dichotomized into ever having sexual intercourse or never). Asking participants to recall the number of times they engaged in specific sexual behaviors in the past three months, for example, may have contributed to inconsistencies due to recall error. The present study addressed this limitation by focusing solely on a single, recent event (Schroder, Carey, & Venable, 2003).

Measuring frequency of religious service attendance does not help explain an individual's motivation for religious beliefs; it only measures the act of attending a service. However, religious orientation (e.g., intrinsic an extrinsic religious orientation) provides more information over and above simply tallying whether or not an individual attends a religious service. Thus, religious orientation was the focus.

### **Religious Orientation**

Religious orientation represents the motivating force for religiousness. Among individuals who are religious, religious orientation helps differentiate between different motivations (Francis, 2007). Historically, religious orientation was classified as either mature or immature, which subsequently evolved into intrinsic and extrinsic

religious orientations (Allport & Ross, 1967). Later a third category, quest orientation, was proposed (Batson, 1976). The three recognized aspects of religious orientation are intrinsic, extrinsic, and quest orientations.

Intrinsic orientation pertains to religiousness as an end in and of itself. To those who are intrinsically oriented religion is a personal experience between them and a higher power. Further, they tend to live their lives according to their beliefs and seek religion as their most central motive in life (Allport & Ross, 1967; Francis, 2007). Individuals who are high on intrinsic orientation were found to be characterized by three attributes: importance of public religious practice signifying their commitment to God, development of a personal relationship with God, and generalizability of their faith into all parts of their lives (Allport & Ross, 1967; Donahue, 1985; Francis, 2007).

Extrinsic religiousness is when religiousness is a means to an end, using religion to achieve personal nonreligious goals (e.g., social interaction, social status, solace; Allport & Ross, 1967). Individuals who are high on extrinsic orientation have been characterized by three attributes: importance of social support from religious involvement, importance of personal support from personal religious practices, and lack of their religious faith generalizing into other parts of their lives (Allport & Ross, 1967; Donahue, 1985; Francis, 2007).

Quest orientation highlights a willingness and openness to handle existential questions that may arise from an individual's religious beliefs (Francis, 2007). Those who are high on quest orientation were characterized by three attributes: willingness to accept existential questions, openness to both change and acceptance of possible new

perspectives, and favorably viewing self-criticism and doubt (Francis, 2007). For the purposes of this study, intrinsic religious orientation was the focus.

Based on this understanding of religious orientation, intrinsic religious orientation seems to be the more appropriate aspect on which to focus. Intrinsic religious orientation emphasizes generalizing their commitment to God and their beliefs into *all* aspects of their lives, which would include sexual behaviors; whereas, extrinsic religious orientation does not seem to manifest into *all* parts of individuals' lives (Allport & Ross, 1967; Francis, 2007). Quest religious orientation addresses the extent to which individuals attempt to answer existential questions, which is not a relevant aspect in the scope of this study. Accordingly, intrinsic religious orientation was the focus.

Religious orientation may provide more information relevant to health than an individual's behavior of attending a religious service. Previous studies have found that individuals who were intrinsically oriented, overall, were healthier. A study (Bergin, Masters, & Richards, 1987) examined the association between religious orientation and mental health among university students ( $N = 119$ ). Researchers assessed religious orientation (using the Religious Orientation Scale; ROS), depression, irrational beliefs, personality, anxiety, and self-control. Results suggested that intrinsic religious orientation had an inverse relation with anxiety and a positive relation with self-control. Further, intrinsic orientation was also associated with positive personality traits (e.g., responsibility, sociability). This study did not find significant associations with either depression or irrational beliefs. Another study (Masters & Knestel, 2011), examining religious orientation, as measured by the

Religious Orientation Scale – Revised (ROS-R), reported health status (e.g., body mass index [BMI]), and health behaviors (i.e., alcohol and tobacco use, and exercise) surveyed 157 adults between the ages of 19 and 87. Results indicated that those who were intrinsically oriented reported lower BMIs than those who were not intrinsically oriented. In addition, those who were intrinsically oriented were also least likely to engage in drinking or smoking behaviors. Overall, intrinsic religious orientation highlights the permeating presence of religious influence in an individual's daily life.

### **Religiousness and Risky Sexual Behavior**

Frequency of religious service attendance has often been utilized in the broader health literature, but it merely captures the act of attending a religious service. Religious orientation offers a better explanation of an individual's motivation for religious beliefs. Hence, it is essential to consider the role religious motivation/orientation plays in an individual's life in terms of sexual behaviors. Three studies conducted with college students investigated religious orientation in association to sexual behavior and sexual permissiveness (Haerich, 1992; Leak, 1993; Zaleski & Schiaffino, 2000). Allport and Ross's (1967) 20-item measure of religious orientation was used in all three studies, however, the response options differed (i.e., agree or disagree; Haerich, 1992; unclear what response options were provided; Leak, 1993; 6-point Likert-type scale ranging from strongly disagree to strongly agree; Zaleski & Schiaffino, 2000). Moreover, the assessment of sexual behavior also varied. For instance, Zaleski and Schiaffino (2000) used a measure of frequency of vaginal sex and condom use in the past 12 months, and Leak (1993) assessed the number of lifetime sexual partners.

In the first study (Haerich, 1992), 204 college students from private university in southern California completed a survey consisting of Allport and Ross' (1967) Religious Orientation Scale, two variations of Sprecher's revision of the 12-item Reiss Premarital Sexual Permissiveness Scale (i.e., assessing normative sexual attitudes and sexual behaviors), two items about religiousness (i.e., frequency of religious service attendance, and extent to which participants considered themselves to be religious), and demographic variables (i.e., age, ethnic affiliation, and gender). The results indicated that increased religious service attendance and intrinsic religiousness were associated with decreased premarital sexual permissiveness.

In a second study (Leak, 1993) of 84 predominantly Catholic (75%) college students, participants completed a survey assessing religious orientation, sexual behavior (frequency and number of sexual partners), and sexual attitudes (attitudes regarding sexual permissiveness, communion, conventionality, instrumentality, and responsibility). Results suggested that intrinsic religiousness was not associated with frequency of sexual behavior (behaviors were not defined). However, intrinsic religiousness was inversely related to sexual permissiveness.

In a third study (Zaleski & Schiaffino, 2000), 231 first year college students attending a private Catholic university between 16 and 20 years of age completed a survey including Allport and Ross' (1967) Religious Orientation Scale, health-related behaviors (i.e., frequency of sexual intercourse and condom use in the past year), and socioeconomic status (SES). Findings indicated that less than half of participants had ever engaged in sexual intercourse. Further, intrinsic religiousness was negatively associated with both sexual activity and condom use, such that those with high levels

of intrinsic religiousness reported less frequent condom use. Interestingly, contrary to Zaleski and Schiaffino's (2000) hypotheses based on the broader health literature that suggest those who were more intrinsically religious partook in less unhealthy behaviors (Masters & Knestel, 2011), intrinsic religiousness was negatively associated with condom use. In fact, of participants who had previous sexual experience, 64% reported consistent condom use.

The inconsistency in response options found in these three studies may have affected the ways in which participants' responded to the items. Allport and Ross's (1967) original 20-item measure of religious orientation uses a 4-point Likert scale ranging from "I definitely disagree" to "I definitely agree." Additionally, the way in which sexual behaviors were assessed in the Zaleski and Schiaffino (2000) study, poses the risk of recall errors. Attempting to recall the number of times an individual engaged in each of these behaviors over the past 12 months may influence with the accuracy of participants' responses. The present study utilized the ROS-R's five-point Likert scale response options ranging from "I strongly disagree" to "I strongly agree." Moreover, the current study also asked participants to recall their *most recent* vaginal sex encounter in an attempt to reduce recall error.

Additionally, the following four studies measured religiousness (e.g., using 4-items assessing frequency of attendance, prayer, talking to others about religious matters, and talking to religious leader resulting in a total score), and risky sexual behavior (e.g., frequency of condom-protected and unprotected vaginal sex in the past month) by different means (Bess, 2015; Burris, Smith, & Carlson, 2009; McCree,

Wingood, DiClemente, Davies, & Harrington, 2003; Stulhofer, Soh, Jelaska, Bacak, & Landripet, 2011).

In the first study (Bess, 2015), predominately White emerging adults ( $N = 740$ ) at a Southwestern university completed a self-report survey assessing religious orientation (using the ROS-R), and risky sexual behavior (i.e., unprotected vaginal sex at the most recent sexual encounter during the past month). Results indicated that those with greater intrinsic religious orientation were more likely to report a decreased likelihood of previous vaginal sex. Furthermore, there was no significant relation between intrinsic religious orientation and condom use at most recent sexual encounter; however, the analyses included both those who identified as religious and those who did not. This may have influenced the results because those who did not identify as religious may have had difficulty responding to the religiousness items, as they would not have applied.

In the second study (Burris, et al., 2009), 353 college students at a public university (61% women) between the ages of 17 and 29 years old completed a cross-sectional, self-report survey regarding religiousness, spirituality, and sexual practices. Religiousness was measured using the Religious Commitment Inventory–10, which assesses the degree to which participants adhere to their beliefs (some of the items are similar to ROS-R). Spirituality was measured by the Spiritual Transcendence Scale, and sexual practices were measured by the following two items: “In the past month, how many times have you done each of the following? (a) Had vaginal sex with a condom, (b) Had vaginal sex without a condom?” with response options ranging from 0 (none) to 6 (13 or more times). Results indicated an inverse relation between

religiousness and lifetime number of sexual partners, and frequency of vaginal sex. However, no significant association between religiousness and condom use was found.

In the third study (McCree, et al., 2003), African American women ( $n = 522$ ) between the ages of 14 and 18 completed a self-administered survey assessing religiousness as well as participated in a structured interview conducted by an African American woman assessing sexual behavior (e.g., behaviors towards sex, negotiation of safer sex). In this study, religiousness was assessed by the frequency of engaging in religious or spiritual activities (i.e., frequency of attendance, prayer, talking to others about religious matters, and talking to religious leaders). Results indicated a positive relation between religiousness and attitudes towards condom use. More specifically, those who were higher on religiousness were 1.6 times more likely to have engaged in condom-protected sex in the past 6 months. Further, women who were higher on religiousness were more likely to communicate with a steady partner about sex, more likely to refuse unsafe sexual experience, and more likely to communicate with their partners about STIs and pregnancy prevention than those lower on religiousness.

In a fourth study (Stulhofer, et al., 2011) conducted in three waves, 1998 ( $n = 1,355$ ), 2003 ( $n = 537$ ), and 2008 ( $n = 775$ ), first year Croatian college students completed a self-report survey assessing sexual literacy (i.e., sexual health knowledge using the Index of Sexual Literacy 10-item measure), sexual experiences and behaviors, and sexual attitudes and beliefs. The results demonstrated that men reported sexual debut at a younger age, and had more sexual partners than women. Moreover, more men reported condom use than women. For women only, having a religious upbringing reduced the odds of sexual debut. Additionally, only among

women, there was an inverse relation between religiousness and reporting more than 1 lifetime sexual partner. There was no significant relation between religiousness and condom use.

It is evident overall in the studies above, the relationship between intrinsic religiousness and sexual behavior is not clearly established. Nevertheless, there seems to be an inverse relation between intrinsic religiousness and premarital sexual permissiveness (Haerich, 1992; Leak, 1993) and lifetime sexual partners (Burris, et al., 2009; Stulhofer, et al., 2011). Further, there were mixed findings regarding sexual behaviors. One study found no significant association between intrinsic religiousness and sexual behavior (which was not defined; Leak, 1993). Other studies found an inverse relation between intrinsic religiousness and sexual activity (Zaleski & Schiaffino, 2000), frequency of vaginal sex (Burris, et al., 2009) and previous engagement in vaginal sex (Bess, 2015). Five of these studies (Bess, 2015; Burris, et al., 2009; McCree, et al., 2003; Stulhofer, et al., 2011; Zaleski & Schiaffino, 2000) examined the relationship between religiousness and condoms. One study (McCree, et al., 2003) found a positive association between religiousness and attitudes towards condoms. Three studies found no significant association between religiousness and condom use (Bess, 2015; Burris, et al., 2009; Stulhofer, et al., 2011), and another found an inverse relation between intrinsic religiousness and condom use (Zaleski & Schiaffino, 2000).

### **Gender Norms**

Gender norms are standards or ideas that “guide and constrain masculine and feminine behavior” (Mahalik, et al., 2003, p. 3). Gender norms come into play

because of the way women and men are socialized. For instance, in general, women were more likely to be encouraged to stay away from risk taking behaviors, while men hear the opposite message (Courtenay, 2000a). However, when it comes to sexual behavior, both women and men seem to be hearing the same message but for different reasons as explained in the sections below.

Adherence to traditional gender norms may be a contributing factor that moderates the association between religious orientation and risky sexual behaviors, particularly women who conform to feminine norms and men who conform to masculine norms. Women and men are socialized differently, especially in regards to sex. Women are socialized to wait longer than men to engage in sex and are often receiving the message that they are not to engage in premarital sex (Wood & Eagly, 2002). However, if women chose to have sex frequently they are deemed promiscuous, while men who do not engage in sexual behavior frequently are viewed as unmanly (Tiegs, Perrin, Kaly, & Heesacker, 2007). Similarly, consequences such as jeopardizing a woman's reputation can arise if women carry condoms (Hillier, Harrison, & Warr, 1998). Adhering to these norms affords women less power because women should be submissive and men dominant (Haffner, 1998; Hillier, et al., 1998). Therefore, conforming to these expectations further reinforces their engagement in stereotypic feminine/masculine behaviors (Courtenay, 2000a). In addition, men who agreed with traditional masculine messages were more likely than other men to use condoms inconsistently (Haffner, 1998; Pleck, Sonenstein, & Ku, 1993). In an influential article, Courtenay (2000a) suggested a relational theory of men's health from a social constructivist stance in an attempt to clarify differences related to health

behaviors among women and men. For example, holding very traditional beliefs about manliness has been associated with high risky sexual activity (Courtenay, 2000a).

Primarily Black (75%), Canadian, adolescent parents ( $N = 102$ ) between the ages of 16 and 25 ( $M = 19.6; 2.51$ ) completed a survey assessing condom use at last sexual encounter (i.e., anal, oral, vaginal), co-parenting relationship, and attitudes towards gender norms (Nelson, Thach, & Zhang, 2014). Results indicated that about 20% of participants reported engaging in condom-protected sex at the most recent encounter. Moreover, those who used condoms at their last sexual encounter also tended to have more egalitarian attitudes towards gender than those who did not have condom-protected sex. Additionally, a study was conducted (Francis, 2005;  $N = 496$ ) in which adults between the ages of 50 and 80 completed a survey assessing gender role orientation (utilizing the Bem Sex Role Inventory) and religiousness. Nearly a third reported attending church weekly and 24% reported never attending. Results indicated that women scored higher on the femininity scale, while men scored higher on the masculinity scale. Further, a positive association between femininity and religiousness, and no significant relation between masculinity and religiousness were found. Similarly, Miller and Stark (2002) analyzed data from various secondary sources (i.e., 1972–98 American General Social Survey, World Values Survey, National Jewish Population Survey) regarding traditional gender attitudes and gender differences in religious behaviors and beliefs. They found that women overall were more religious than men.

Furthermore, a desire for multiple sexual partners is one of the defining characteristics of masculinity (Mahalik, et al., 2003). In another study (Ward & Cook, 2011), heterosexual undergraduate men ( $N = 154$ ) completed a survey assessing conformity to masculine gender norms as well as a number of religiousness measures (e.g., ROS-R). The majority of participants identified as Christian (77.3%). Results indicated an inverse relationship between masculinity and religious commitment. Moreover, having less desire for casual sexual encounters was associated with more commitment to religious beliefs, practices, and values, as well as intrinsic religious orientation (Ward & Cook, 2011). These findings suggest a possible moderation by gender norms on the relationship between intrinsic religious orientation and condom use. Thus, there is a need to clarify the role of religious orientation and sexual behaviors, particularly condom use, among a sample of emerging adults.

### **Social Constructionist Theory**

According to the social constructionist theory, individuals are prone to construct their own worldview (Courtenay, 2000b; Gergen, 1985). These worldviews may be influenced by sociocultural factors, cultural and situational factors, namely, gender norms. The use of a social constructionist perspective may help in understanding other factors that may play a role in the relationship between intrinsic religious orientation and condom use. Adherence to strict gender norms may limit a person's perspective on socially acceptable behaviors (e.g., engaging in condom-protected vaginal sex). For instance, women who adhere to strict gender norms may be less inclined to carry condoms for fear of being perceived as promiscuous (Hillier, et al., 1998). In addition, men who adhere to more strict gender norms may seek out

multiple sexual partners and engage in unprotected sex because they regard themselves as insusceptible to STIs (Courtenay, 2000a).

### **Feminine Gender Norms and Risky Sexual Behavior**

Five studies examined the role of feminine gender norms and sexual behavior (East, Jackson, O'Brien, & Peters, 2011; Hynie, & Lydon, 1995; Hynie, Lydon, Côté, & Wiener, 1998; Schick, Zucker, & Bay-Cheng, 2008; Soler, et al., 2000). In the first study (East, et al., 2011), the stories of women ( $N = 10$ ) who contracted an STI (excluding HIV and hepatitis) via heterosexual vaginal or anal sex between the ages of 21 and 39 were recruited for online interviews. These women reported having human papillomavirus, herpes, or chlamydia. Three themes emerged from the interviews. The first theme was condoms were negotiated prior to STI infection. These heterosexual women expressed an uneven distribution of power in the relationship, and/or described condom use as something easier for their partner to initiate. The second theme was trust. These women were under the impression that they were in a STI-free monogamous relationship. And the third theme was condom negotiation after STI infection. These women were in abusive relationships and felt disempowered resulting in not having the confidence to negotiate condom use even with other partners.

In a second study (Hynie & Lydon, 1995), 63 undergraduate women between the ages of 17 and 30 were recruited. Each participant read two diary entries; after each entry they completed an attitudes questionnaire, and completed a free recall memory test. There were three different contraceptive scenarios: the woman provided a condom; the man provided the condom; and a no condom scenario. Participants

rated the woman diary owner on 18 bipolar personality dimensions (e.g., mature-immature, wise-foolish, warm-cold). The participants' reactions to the diary author's behavior were also assessed (e.g., totally inappropriate to totally appropriate). For the free recall portion, participants were asked to list as many facts about the diary entry as they could remember. Results indicated that participants rated the woman as less appropriate when she provided the condom than when the man provided it. Overall, when the woman was prepared with a condom she was viewed more negatively by participants than if she would have engaged in unprotected sex. Further, participants anticipated the woman to have felt worse about being prepared than if she had engaged in unprotected sex. Additionally, participants anticipated the woman's partner to feel less positively about her for providing a condom than if she had engaged in unprotected sex.

In a third study (Hynie, et al., 1998), college students (36 women and 30 men) between the ages of 18 and 25 were recruited. Participants read a two-page story about a heterosexual couple who had just spent an evening together and asked the participants to rate the likelihood of the couple engaging in sexual intercourse using a 7-point scale (i.e., 1 = extremely unlikely, 7 = extremely likely). Then participants were asked to imagine the couple had engaged in sex and continue the story, again rating how committed the couple was in continuing the relationship. There were three categories: no condom mentioned; condom mentioned but not used; and condom mentioned and used. The analyses were based on two of the categories: condom used and condom not used. Results indicated that the median number of sex partners for women was one and for men, three. Overall, the woman in the story was

characterized as being more relational than the man in the story. The women participants generally depicted the woman in the story as being more relational and committed to the relationship than the man, while the men participants were inclined to portray both the men and women in the story as being equally relational. Moreover, participants had difficulty incorporating condom use in their scripts, even though they reported knowing that a condom should have been used.

In a fourth study (Schick, et al., 2008), undergraduate women ( $N = 424$ ) between the ages of 18 and 30, who had a previous sexual encounter with a man or intended to in the future completed an online survey. Participants completed a questionnaire measuring the following: Feminist Perspectives Scale, which measured feminist ideology by rating the endorsement of five statements (e.g., “The government is responsible for making sure that all women receive an equal chance at employment and education”); sexual subjectivity was measured by combining subscales from the Sexual Awareness Questionnaire and subscales of the Sexual Self-Efficacy Scale; Condom Use Self-Efficacy Scale was used to assess their ability to negotiate condom use with a partner; the Perceived Locus of Causality for Sex was used to measure sexual motivation (e.g., extrinsic = for partner vs. intrinsic = for own pleasure; and the Sexuality Scale to assess sexual satisfaction. Results indicated that participants had an average of five lifetime partners. Overall, there was a positive indirect association with feminist ideology and condom use self-efficacy, sexual motivation, and sexual satisfaction, as well as a direct association between sexual motivation and sexual satisfaction. Participants who subscribed to feminist beliefs tended to engage in sexual activity for their own desire rather than for their partner’s sake.

In a fifth study (Soler, et al., 2000), diverse low-income Hispanic, non-Hispanic black, and White women ( $N = 393$ ) living in Miami were interviewed between 1994 and 1995 to assess frequency of condom use in the past month during vaginal sex with their main partner. Participants were asked a variety of questions regarding relationship dynamics (e.g., "How comfortable are you talking with your main man about using condoms?") with response options on a 4-point scale (extremely comfortable to extremely uncomfortable). They also answered questions regarding who made financial and family planning decisions. Results indicated that three themes in condom use emerged: nonusers, occasional users (i.e., used a condom at least once, but not every time), and consistent users (i.e., used a condom every time they had vaginal sex). Overall, Hispanic and non-Hispanic black women reported a higher level of consistent condom use as compared to White women. Non-Hispanic black and White women reported feeling either extremely or somewhat comfortable discussing sex with their partners compared to Hispanic women. Further, more Hispanic women indicated making joint decisions regarding contraceptive use than Black or White women. In addition, participants who reported strong confidence in their condom negotiation skills were six times more likely to use condoms consistently than women who reported little to no confidence in condom negotiation. Similarly, those who were concerned about getting AIDS were more likely to report consistent condom use than women who reported not being worried. Furthermore, women who reported being concerned about not having a man in their lives were less likely, by approximately 70%, to use condoms consistently. Moreover, women who had a history of STIs were more likely to engage in consistent or occasional condom-

protected sex than to have unprotected sex. Results also indicated that women who had friends who reported asking their partners to engage in condom-protected sex were more likely to also engage in consistent condom-protected sex than other women.

Collectively, these findings suggest that it is the man's responsibility to provide condoms (East, et al., 2011), that women who initiate condom negotiation were perceived negatively (Hynie & Lydon, 1995), and women were typically perceived as more invested in their relationships (Hynie, et al., 1998). Also, there seems to be a positive association between feminist ideology and condom self-efficacy among women (Schick, et al., 2008). Women who felt confident to negotiate condom use were more likely to be consistent users than those with less confidence. Additionally, women with a history of STIs or those with friends who negotiated condom use were also more likely to have condom-protected sex than other women (Soler, et al., 2000). However, women who believed they were in monogamous relationships or were in abusive or non-egalitarian relationships were less likely to use condoms or negotiate their use (East, et al., 2011). These findings suggest that women perceive other women who were prepared with contraceptives to be inappropriate and seem to prefer for other women to engage in unprotected sex instead. Further, these results also suggest that men are the ones responsible for providing condoms even though both parties involved were engaging in the sexual behavior. All of this appears to suggest that gender norms are guiding individuals' decisions and perceptions about engaging in condom-protected sex.

### **Masculine Gender Norms and Risky Sexual Behavior**

Six studies examined the role of masculine gender norms and health behaviors (Berger, Addis, Green, Mackowiak, & Goldberg, 2013; Green & Addis, 2012; Iwamoto, & Smiler, 2013; Levant, Wimer, Williams, Smalley, & Noronha, 2009; Mahalik, & Burns, 2011; Parent, Torrey, & Michaels, 2012). In the first study (Berger, et al., 2013), men ( $N = 85$ ) between the ages of 19 and 77, who nearly all (97.5%) self-identified as heterosexual, participated in recorded semi-structured interviews. They were screened for symptoms of depression (using the Harvard National Depression Screening Scale), anxiety, social phobia, obsessive-compulsive disorder, agoraphobia, post-traumatic stress disorder, and panic disorder (using the Psychiatric Diagnostic Screening Questionnaire). Moreover, participants completed the Response to Mental Health Rating System (RMHRS), which assessed verbal reactions to therapy, psychotropic medication, seeking informal help (e.g., friends), and other forms of help (e.g., physician). They also completed the Articulated Thoughts in Simulated Situations (ATSS) paradigm assessing men's readiness to seek help dependent on the source that suggested help-seeking behavior. Participants listened to three recordings (i.e., medical doctor, romantic partner, or therapist) suggesting the participant seek mental health service for either their anxiety or depressive symptoms. In addition to the RMHRS and ATSS, participants also completed the Beck Anxiety Inventory and Beck Depression Inventory-II to assess level of clinical distress, Conformity to Masculine Norms Inventory (CMNI-55), Perceived Problems in Living assessing reactions to mental health labels, and the Help-Seeking Behavior Scale assessing past, current, and future help-seeking behavior. Results indicated that men found therapy to be an acceptable and preferred

form of help-seeking when compared to medication and other forms of help-seeking. Furthermore, men were more accepting of the label anxiety than depression. Additionally, men seemed to respond more favorably to suggestions from a therapist than from a physician or romantic partner. There was also an inverse relation between acceptance towards therapy and the playboy subscale of the CMNI. Overall, conformity to masculine gender norms appears to be related to negative reaction towards professional help-seeking (e.g., therapy, medication). Further, men who adhered to the self-reliance norm responded less favorably to the idea of being prescribed medication.

In a second two-part study (Green & Addis, 2012), men between the ages of 18 and 30 from a northeastern university were recruited. In study 1, 11 participants watched an eight-minute movie clip depicting a man violating masculine gender norms (e.g., crying) in the presence of another man. They responded to the following question six times at different points throughout the movie clip: “How common is it for a man to express emotion in this way?” Participants responded by saying that this behavior was “very uncommon,” “uncommon,” “common,” or “very common.” Results indicated that the most frequent response was that it was uncommon for men to express emotion in the manner depicted in the film. In study 2, 36 men participants completed the CMNI, the Masculine Gender Role Stress Scale, Positive and Negative Affect Schedule, as well as psychophysiological measures (e.g., heart rate). Participants watched two-minutes of a neutral stimuli to establish a baseline for their physiological state, followed by the eight-minute movie clip shown in study 1. From this point forward the procedures were identical to those of study 1. The results of

study 2 indicated that men who adhered to masculine gender norms were more likely to exhibit either fear or avoidant responses when masculine gender norms were violated (e.g., expressing negative affect) by other men.

In a third study (Iwamoto & Smiler, 2013), high school seniors ( $n = 124$  women, 138 men) between the ages of 16 and 19 completed a questionnaire regarding conformity to masculine gender norms (utilizing the CMNI), general conformity, peer pressure, and alcohol use. Results indicated that among boys, greater conformity to playboy, heterosexual display, and risk-taking norms were direct correlates of greater alcohol use. Among girls, only the risk-taking norm was associated with greater alcohol use.

In a fourth study (Levant, et al., 2009), men ( $N = 137$ ) from a Midwestern university between 17 and 66 years of age, who self-identified as White (86.1%), heterosexual (91.2%), and single (40.9%) completed an online survey. Participants completed the following measures: CMNI, Male Role Norms Inventory-Revised, Gender Role Conflict Scale, Health Risk Questionnaire, and Attitudes Toward Seeking Professional Psychological Help Scale. Results indicated that overall, there was an inverse relation between the masculinity variables and attitudes towards psychological help-seeking. However, the CMNI did not have a significant relation to health behaviors.

In a fifth study (Mahalik & Burns, 2011), college men ( $N = 161$ ) at a northeastern university, who predominantly self-identified as White and heterosexual, completed a questionnaire assessing their masculinity (CMNI), health beliefs, heart healthy behaviors (e.g., medical screenings), and their perceptions of normative health

behaviors in other men. Results indicated an inverse relation between conformity to masculine gender norms and engagement in heart healthy behaviors only if they perceived barriers to engaging in heart healthy behaviors. Also, if men perceived healthy behaviors to be common among other men they were more likely to engage in those behaviors.

In a sixth study (Parent, et al., 2012), seronegative men who have sex with men, or men ( $N = 170$ ) who did not know their HIV status completed questionnaire regarding HIV testing in the past year, number of sexual partners, and conformity to masculine gender norms, utilizing the CMNI-46. Results indicated the Heterosexual Self-presentation subscale of the CMNI-46 was the only subscale associated with HIV testing in the past year. Specifically, results suggested that those who scored higher on the Heterosexual Self-presentation subscale were less likely to have been tested for HIV in the past year.

Collectively, these findings suggest that greater adherence to masculine gender norms lends itself to being less likely to seek help, and more likely to engage in unhealthy behaviors (Berger, et al., 2013; Levant, et al., 2009; Mahalik & Burns, 2011; Parent, et al., 2012), as well as more likely to feel discomfort at the expression of emotion by another man and consume large quantities of alcohol (Green & Addis, 2012; Iwamoto & Smiler, 2013). These findings suggest that conformity to masculine gender norms is negatively associated with men's health behaviors. Conformity to masculine gender norms likely plays a role in engaging in condom-protected sex.

Two studies examined the role of masculine gender norms and sexual behavior (Pleck, et al., 1993; Tiegs, et al., 2007). In the first study (Tiegs, et al., 2007),

predominately White college students ( $N = 380$ ) completed a questionnaire regarding sexual behavior and attitudes on a 9-point scale. Results indicated that men were more likely to partake in risky sexual behaviors than women. Further, men perceived that engagement in risky sexual behaviors were more desirable. Men were also more likely than women to believe that being sexually active had fewer consequences.

Another study (Pleck, et al., 1993) analyzed data from the National Survey of Adolescent Males. Participants were adolescent men ( $N = 1880$ ) between the ages of 15 to 19. The adolescents were interviewed in person and interviews lasted approximately 75 minutes. Participants were asked about male role attitudes, gender role attitudes, sexual attitudes and behaviors (e.g., number of partners, partner type), condom use, and attitudes towards condoms. Results indicated that adolescent men who held more traditional attitudes towards masculinity were more likely to have a greater number of sexual partners in the past 12 months. In addition, those who conformed to traditional masculine norms engaged in casual sex. Traditional attitudes were also related to less consistent use of condoms, and less favorable attitudes towards condoms.

Collectively, these studies suggest that men who adhere to masculine gender norms tend to engage in risky sexual behaviors. These men also seem to perceive that engagement in risky behaviors is desirable and manly (Tiegs, et al., 2007). Additionally men who conform to traditional gender norms were more likely to have multiple sexual partners in a 12 month period, engage in casual sex, and less likely to engage in consistent condom-protected sex (Pleck, et al., 1993). These findings are

indicative of adherence to masculine gender norms being detrimental to men's sexual health.

### The Present Study

In the broader health literature, greater intrinsic orientation has been associated with less involvement in unhealthy behaviors (Masters & Knestel, 2011).

Additionally, there were mixed findings in regards to religiousness and condom use (Bess, 2015; Burris, et al., 2009; McCree, et al., 2003; Stulhofer, et al., 2011; Zaleski & Schiaffino, 2000). Furthermore, conforming less to gender norms appears to be related to engaging in less risky sexual behavior (e.g., condom-protected vaginal sex; Nelson, et al., 2014) suggesting that gender norms may moderate the association between intrinsic religious orientation and risky sexual behavior. Conformity to gender norms is an important variable to examine as it is proposed to influence the relationship between religious orientation and condom-protected sex. The present study utilized college women and men as participants, as emerging adults are at greater risk of contracting an STI (CDC, 2014; Panchaud, et al., 2000). A better understanding of factors related to emerging adults' condom use is needed. Emerging adulthood is a stage for exploration and evaluation of beliefs while typically having less supervision from parents or legal guardians (Arnett, 2000, 2007). This creates a need to clarify the role of religious orientation and sexual behaviors, particularly condom use, among a sample of emerging adults. Thus, I proposed a study to test the hypothesis that the relationship between religious orientation and risky sexual behavior (i.e., unprotected vaginal sex) would be moderated by conformity to gender norms (i.e., masculine, or feminine). I predicted that emerging adults with *greater*

intrinsic religious orientation who conformed *less* to masculine or feminine norms would be *more* likely to use a condom the last time they had vaginal sex, while emerging adults with *greater* intrinsic religious orientation who conformed *more* to masculine or feminine norms would be *less* likely to use a condom the last time they had vaginal sex.

**APPENDIX B  
MEASURES  
DEMOGRAPHIC ITEMS**

**Demographic Questionnaire**

Please select or fill in the response that is most accurate for you.

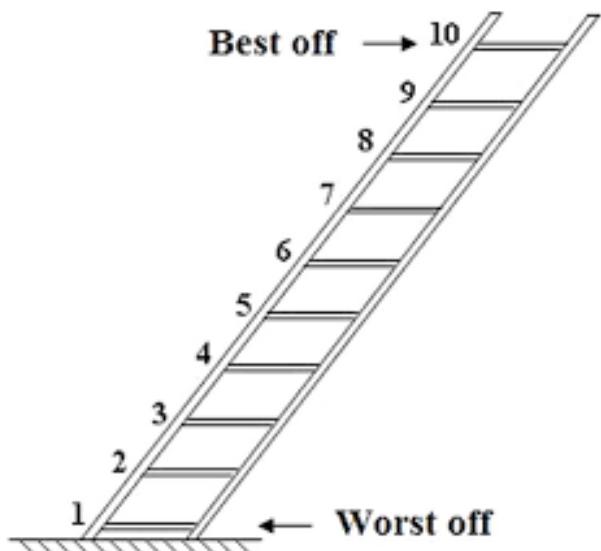
1. Gender:
  - a. Woman
  - b. Man
  - c. Transgender
  
2. Current Religious Affiliation:
  - a. Atheist (Do not believe in a God)
  - b. Agnostic (Unsure / Believe that one cannot know / Don't care)
  - c. Buddhist
  - d. Christian (Any denomination - e.g., Catholic, Protestant, Baptist)
  - e. Hindu
  - f. Jewish
  - g. Muslim
  - h. Other: \_\_\_\_\_
  
3. Do you currently live in the United States of America for the majority of the time
  - a. No
  - b. Yes
  
4. If you live in the U.S., what state / province do you live in most of the time?  
\_\_\_\_\_
  
5. Age: \_\_\_\_\_
  
6. How frequently do you attend a religious service?
  - a. More than once a week
  - b. About once a week
  - c. A few times a month
  - d. A few times a year
  - e. Not at all
  
7. Which of the following best describe(s) your race/ethnicity? Select all that apply:
  - a. White / Non-Hispanic Caucasian
  - b. Black / African American
  - c. Latino / Hispanic
  - d. Asian / Asian American / Pacific Islander
  - e. Middle Eastern / East Indian

- f. Native American / American Indian  
g. Other, please specify: \_\_\_\_\_
8. Do you consider yourself Hispanic/Latino?  
a. No  
b. Yes
9. If yes, which best describes your Hispanic/Latino identity? Select all that apply:  
a. Puerto Rican  
b. Dominican  
c. Mexican/Mexicano/  
d. Chicano  
e. Cuban/  
f. Cuban American  
g. Central or South American  
h. Latin American  
i. Latin American  
j. Other Hispanic: \_\_\_\_\_
10. In your lifetime, how would you have described your sexual orientation?  
a. Exclusively gay/lesbian  
b. Primarily gay/lesbian  
c. Bisexual  
d. Primarily heterosexual  
e. Exclusively heterosexual  
f. Queer  
g. Unlabeled/questioning  
h. No sexual interest
11. Highest level of education you have completed:  
i. Less than high school  
j. Some high school  
k. High school diploma / GED  
l. Some college  
m. Associate's (2-year) degree  
n. Bachelor's (4-year) degree  
o. Some graduate school  
p. Master's degree  
q. Doctoral degree (e.g., Ph.D., M.D., J.D.)  
r. Other, please specify: \_\_\_\_\_
12. How would you identify your socio-economic status (select one):

- a. Working class
- b. Lower middle class
- c. Middle class
- d. Upper middle class
- e. Upper class

13. Think of the scale below as representing where people stand in the United States, with regard to wealth, income, and jobs. On the right are people who are the best off—those who have the most money, most education, and most respected jobs. At the left are the people who are the worst off—who have the least money, least education, and least respected job or no job.

Where would you rank yourself on this scale (visual analogue scale, ranging 1-10)?



14. Are you currently employed?

- a. No
- b. Yes

15. How would you describe your current sexual orientation?

- a. Exclusively gay/lesbian
- b. Primarily gay/lesbian
- c. Equally gay/lesbian and heterosexual
- d. Primarily heterosexual
- e. Exclusively heterosexual
- f. Queer
- g. Unlabeled/questioning
- h. No sexual interest

16. What is your current relationship status?

- a. Single/Not Dating
- b. Dating Several People
- c. Dating 1 person regularly, but also dating others
- d. Dating 1 person exclusively
- e. Engaged
- f. Married
- g. Partnered, in a Committed Long-term Relationship
- h. Separated from Spouse/Partner
- i. Divorced
- j. Widowed

17. If applicable, how long have you been in your current, primary relationship?

- a. \_\_\_\_\_ Years      \_\_\_\_\_ Months

18. What is your classification?

- a. Freshman
- b. Sophomore
- c. Junior
- d. Senior
- e. Graduate student

19. Did you receive education on how to use condoms in High School?

- a. No
- b. Yes

### **CONDOM USE SELF-EFFICACY**

DiClemente, R. J., Wingood, G. M., Harrington, K. F., Lang, D. L., Davies, S. L., Hook, E. W., ... Robillard, A. (2004). Efficacy of an HIV prevention intervention for African American adolescent girls a randomized controlled trial. *JAMA: Journal of the American Medical Association* 292 171-179.

Now we would like to know your thoughts about using condoms. There are no right or wrong answers - we just want to know what you think. Even if you have never used condoms, think about how much of a problem it would be for you to do the following statements.

1. How much of a problem would it be for you to put a condom on a hard penis?
  - a. None
  - b. Not much
  - c. A little
  - d. Some
  - e. A lot
2. How much of a problem would it be for you to unroll a condom down correctly on the first try?
  - a. None
  - b. Not much
  - c. A little
  - d. Some
  - e. A lot
3. How much of a problem would it be for you to start over using a new condom if you placed it on the wrong way?
  - a. None
  - b. Not much
  - c. A little
  - d. Some
  - e. A lot
4. How much of a problem would it be for you to unroll a condom fully to the base of a penis?
  - a. None
  - b. Not much
  - c. A little
  - d. Some
  - e. A lot
5. How much of a problem would it be for you to squeeze air from the tip of a condom?
  - a. None
  - b. Not much
  - c. A little
  - d. Some
  - e. A lot

**RELIGIOUS ORIENTATION SCALE-REVISED (ROS-R)**

Gorsuch, R. L., & McPherson, S. E., (1989). Intrinsic/extrinsic measurement: I/E-revised and single-item scales. *Journal for the Scientific Study of Religion*, 28, 348-354.

1. I enjoy reading about my religion.
  - a. I strongly disagree
  - b. I tend to disagree
  - c. I'm not sure
  - d. I tend to agree
  - e. I strongly agree
2. I go to church because it helps me to make friends.
  - a. I strongly disagree
  - b. I tend to disagree
  - c. I'm not sure
  - d. I tend to agree
  - e. I strongly agree
3. It doesn't much matter what I believe so long as I am good.
  - a. I strongly disagree
  - b. I tend to disagree
  - c. I'm not sure
  - d. I tend to agree
  - e. I strongly agree
4. It is important to me to spend time in private thought and prayer.
  - a. I strongly disagree
  - b. I tend to disagree
  - c. I'm not sure
  - d. I tend to agree
  - e. I strongly agree
5. I have often had a strong sense of God's presence.
  - a. I strongly disagree
  - b. I tend to disagree
  - c. I'm not sure
  - d. I tend to agree
  - e. I strongly agree
6. I pray mainly to gain relief and protection.
  - a. I strongly disagree
  - b. I tend to disagree
  - c. I'm not sure
  - d. I tend to agree

- e. I strongly agree
7. I try hard to live all my life according to my religious beliefs.
- a. I strongly disagree
  - b. I tend to disagree
  - c. I'm not sure
  - d. I tend to agree
  - e. I strongly agree
8. What religion offers me most is comfort in times of trouble and sorrow.
- a. I strongly disagree
  - b. I tend to disagree
  - c. I'm not sure
  - d. I tend to agree
  - e. I strongly agree
9. Prayer is for peace and happiness.
- a. I strongly disagree
  - b. I tend to disagree
  - c. I'm not sure
  - d. I tend to agree
  - e. I strongly agree
10. Although I am religious, I don't let it affect my daily life.
- a. I strongly disagree
  - b. I tend to disagree
  - c. I'm not sure
  - d. I tend to agree
  - e. I strongly agree
11. I go to church mostly to spend time with my friends.
- a. I strongly disagree
  - b. I tend to disagree
  - c. I'm not sure
  - d. I tend to agree
  - e. I strongly agree
12. My whole approach to life is based on my religion.
- a. I strongly disagree
  - b. I tend to disagree
  - c. I'm not sure
  - d. I tend to agree
  - e. I strongly agree
13. I go to church mainly because I enjoy seeing people I know there.

- a. I strongly disagree
- b. I tend to disagree
- c. I'm not sure
- d. I tend to agree
- e. I strongly agree

14. Although I believe in my religion, many other things are more important in life.

- a. I strongly disagree
- b. I tend to disagree
- c. I'm not sure
- d. I tend to agree
- e. I strongly agree

### **CONFORMITY TO FEMININE NORMS INVENTORY (CFNI-45)**

Parent, M. C., & Moradi, B. (2010). Confirmatory factor analysis of the conformity to feminine norms inventory and development of an abbreviated version: The CNFI-45. *Psychology of Women Quarterly*, 34, 97-109

Thinking about your own actions, feelings and beliefs, please indicate how much you personally agree or disagree with each statement by circling SD for "Strongly Disagree," D for "Disagree," A for "Agree," or SA for "Strongly Agree" to the left of the statement. There are no right or wrong responses to the statements. You should give the responses that most accurately describe your personal actions, feelings and beliefs. It is best if you respond with your first impression when answering.

[Response scale: Strongly Disagree – Disagree – Agree – Strongly Agree]

1. I would be happier if I was thinner.
2. It is important to keep your living space clean.
3. I spend more than 30 minutes a day doing my hair and make-up
4. I tell everyone about my accomplishments
5. I clean my home on a regular basis
6. I feel attractive without makeup
7. I believe that my friendships should be maintained at all costs
8. I find children annoying
9. I would feel guilty if I had a one-night stand
10. When I succeed, I tell my friends about it
11. Having a romantic relationship is essential in life
12. I enjoy spending time making my living space look nice
13. Being nice to others is extremely important
14. I regularly wear makeup
15. I don't go out of my way to keep in touch with friends
16. Most people enjoy children more than I do
17. I would like to lose a few pounds
18. It is not necessary to be in a committed relationship to have sex
19. I hate telling people about my accomplishments
20. I get ready in the morning without looking the mirror very much
21. I would feel burdened if I had to maintain a lot of friendships
22. I would feel comfortable having casual sex
23. I make it a point to get together with my friends regularly
24. I always downplay my achievements
25. Being in a romantic relationship is important
26. I don't care if my living space looks messy
27. I never wear make-up
28. I always try to make people feel special
29. I am not afraid to tell people about my achievements
30. My life plans do not rely on my having a romantic relationship
31. I am always trying to lose weight

- 32. I would only have sex with the person I love
- 33. When I have a romantic relationship, I enjoy focusing my energies on it
- 34. There is no point to cleaning because things will get dirty again
- 35. I am not afraid to hurt people's feelings to get what I want
- 36. Taking care of children is extremely fulfilling
- 37. I would be perfectly happy with myself even if I gained weight
- 38. If I were single, my life would be complete without a partner
- 39. I rarely go out of my way to act nice
- 40. I actively avoid children
- 41. I am terrified of gaining weight
- 42. I would only have sex if I was in a committed relationship like marriage
- 43. I like being around children
- 44. I don't feel guilty if I lose contact with a friend
- 45. I would be ashamed if someone thought I was mean

### **CONFORMITY TO MASCULINE NORMS INVENTORY (CMNI-46)**

Parent, M. C., & Moradi, B. (2009). Confirmatory factor analysis of the conformity to masculine norms inventory and development of the conformity to masculine norms intentyro-46. *Psychology of Men & Masculinity, 10*, 175-189.

Thinking about your own actions, feelings and beliefs, please indicate how much you personally agree or disagree with each statement by circling SD for “Strongly Disagree,” D for “Disagree,” A for “Agree,” or SA for “Strongly Agree” to the left of the statement. There are no right or wrong responses to the statements. You should give the responses that most accurately describe your personal actions, feelings and beliefs. It is best if you respond with your first impression when answering.

[Response scale: Strongly Disagree – Disagree – Agree – Strongly Agree]

1. In general, I will do anything to win
2. If I could, I would frequently change sexual partners
3. I hate asking for help
4. I believe that violence is never justified
5. Being though of as gay is not a bad thing
6. In general, I do not like risky situations
7. Winning is not my first priority
8. I enjoy taking risks
9. I am disgusted by any kind of violence
10. I ask for help when I need it
11. My work is the most important part of my life
12. I would only have sex if I was in a committed relationship
13. I bring up my feelings when talking to others
14. I would be furious if someone thought I was gay
15. I don't mind losing
16. I take risks
17. It would not bother me at all if someone thought I was gay
18. I never share my feelings
19. Sometimes violent action is necessary
20. In general, I control the women in my life
21. I would feel good if I had many sexual partners
22. It is important for me to win
23. I don't like giving all my attention to work
24. It would be awful if people thought I was gay
25. I like to talk about my feelings
26. I never ask for help
27. More often than not, losing does not bother me
28. I frequently put myself in risky situations
29. Women should be subservient to men
30. I am willing to get into a physical fight if necessary
31. I feel good when work is my first priority

- 32. I tend to keep my feelings to myself
- 33. Winning is not important to me
- 34. Violence is almost never justified
- 35. I am happiest when I'm risking danger
- 36. It would be enjoyable to date more than one person at a time
- 37. I would feel uncomfortable if someone thought I was gay
- 38. I am not ashamed to ask for help
- 39. Work comes first
- 40. I tend to share my feelings
- 41. No matter what the situation I would never act violently
- 42. Things tend to be better when men are in charge
- 43. It bothers me when I have to ask for help
- 44. I love it when men are in charge of women
- 45. I hate it when people ask me to talk about my feelings
- 46. I try to avoid being perceived as gay

### MOST RECENT SEXUAL ENCOUNTER

Brown, J.L., & Venable, P.A. (2007). Alcohol use, partner type, and risky sexual behavior among college students: Findings from an event-level study. *Addictive Behaviors*, 32, 2940-2952. doi: 10.1016/j.addbeh.2007.06.011

For next questions, please think of the most recent time you had a sexual experience with a partner.

1. Your most recent sexual experience was with...
  - a. Primary or “steady” partner
  - b. Someone you knew well but not a steady partner
  - c. A casual acquaintance or anonymous partner
  - d. Other
  
2. Your most recent sexual experience was with...
  - a. A man
  - b. A woman
  
3. During your most recent sexual experience did you have anal sex?
  - a. No
  - b. Yes
  
4. .....with a condom?
  - a. No
  - b. Yes
  
5. During your most recent sexual experience did you have oral sex?
  - a. No
  - b. Yes
  
6. .....with a condom
  - a. No
  - b. Yes
  
7. During your most recent sexual experience did you have vaginal sex?
  - a. No
  - b. Yes
  
8. .... With a condom?
  - a. No
  - b. Yes
  
9. Did you personally drink any alcohol on this sexual occasion?
  - a. No
  - b. Yes

10. How many drinks did you have just before or during sex with this partner?

- a. # \_\_\_\_\_ drinks

11. How drunk were you during this sexual encounter?

- a. Not at all drunk
- b. Somewhat drunk
- c. Pretty drunk
- d. Extremely drunk

12. At what time did you first start drinking prior to this sexual encounter?

- a. More than 4 hours before you had sex
- b. From 2 to 4 hours before you had sex
- c. From 0 to 2 hours before you had sex
- d. During or after you had sex

13. Did you smoke marijuana or use any other drugs on this sexual encounter?

- a. No
- b. Yes

14. What drugs were you using? Check all that apply

- a. Marijuana
- b. Cocaine
- c. Club drugs
- d. Other drugs

15. How high were you during this sexual occasion?

- a. Not at all high
- b. Somewhat high
- c. Pretty high
- d. Extremely high

16. Was your sexual partner using any alcohol before or during sex?

- a. No
- b. Yes

17. How many drinks did your partner have just before or during sex with this partner?

- a. # \_\_\_\_\_ drinks

18. How drunk was your partner during this sexual encounter?

- a. Not at all drunk
- b. Somewhat drunk
- c. Pretty drunk
- d. Extremely drunk

19. At what time did your partner first start drinking prior to this sexual encounter?
- a. More than 4 hours before you had sex
  - b. From 2 to 4 hours before you had sex
  - c. From 0 to 2 hours before you had sex
  - d. During or after you had sex
20. Was your sexual partner using any other drugs before or during sex?
- a. No
  - b. Yes
21. What drugs was your partner using? Check all that apply
- a. Marijuana
  - b. Cocaine
  - c. Club drugs
  - d. Other drugs
22. How high was your partner during this sexual occasion?
- a. Not at all high
  - b. Somewhat high
  - c. Pretty high
  - d. Extremely high