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Does Religion Promote Modesty? Correlational and Experimental Tests

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DOES RELIGION PROMOTE MODESTY? CORRELATIONAL AND EXPERIMENTAL TESTS

By

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Based on theorizing that long-term mating strategies are associated with greater religiosity, studies demonstrating that exposure to religious stimuli down-regulates characteristics associated with short-term mating strategies in men, and tentative evidence that women might sometimes pursue short-term mating strategies, I evaluated the effects of religiosity on modesty, a trait associated with women's mating strategies. I predicted that females' (but not males') baseline religiosity would be positively correlated with their modesty, that is, negatively correlated with their skin exposure, on the premise that modesty is a characteristic typically associated with women's (but not with men's) short-term mating strategies. I also predicted that female (but not male) participants who wrote about their God and religion would illustrate less skin exposure than their peers who did not write about their God and religion when asked what they would wear to a hypothetical social gathering with attractive members of the opposite sex in attendance. In a college sample of 817 participants, religiosity was correlated with female modesty: Female participants who classified themselves as highly religious exposed less skin in their day-to-day lives. The same was not true of men. Likewise, exposure to religious stimuli increased female, but not male, modesty relative to a control condition. A significant religiosity by religious condition assignment interaction indicated

that the religious condition was more effective (relative to the control condition) in reducing skin exposure for highly religious participants than it was for less religious participants.

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Chapter 1 Introduction

Mating Strategies

Natural selection has given rise to sex-specific, long and short-term mating strategies that increase reproductive output and thus improve individual fitness in many sexually reproducing species, ostensibly including humans (Bateman, 1948; Buss & Schmitt, 1993; Darwin, 1859; Geary, 2003, 2006; Trivers, 1972). In most species, these long and short-term mating strategies comprise physical and psychological adaptations that increase reproductive output by solving ancestral problems that constrain the reproductive output of each sex (Bateman, 1948; Buss & Schmitt, 1993; Darwin, 1859; Geary, 2003, 2006; Trivers, 1972). Among sexually reproducing species, asymmetries in parental investment, due fundamentally to anisogamy, result in sex-differences in reproductive output (Trivers, 1972). That is, because females usually invest more (e.g., produce larger gametes) in the offspring than do males, females incur greater fitness losses if their offspring do not survive to reproduce (Trivers, 1972). This exerts a selection pressure on males, who invest less (e.g., produce smaller gametes), to withhold parental investment and reap benefits of the female's continued investment in their mutual offspring (Trivers, 1972). Subsequently, the fitness of females is more constrained by the degree of paternal investment they can secure for their offspring, whereas the fitness of males is more constrained by the quantity of their mating opportunities (Trivers, 1972). In many species, this asymmetry in parental investment arguably gave rise to the evolution of sexually dimorphic physical and psychological adaptations that

cause males and females to unconsciously pursue flexible long- and short-term mating strategies (Trivers, 1972).

Among humans, males and females appear to pursue long- versus short-term mating strategies when conditions tip the reproductive cost-to-benefit ratio in favor of one strategy over another (Buss & Schmitt, 1993). When pursuing long-term mating strategies, females must solve the adaptive problem of identifying males who are able and willing to invest in them and their offspring, whereas males must solve the adaptive problem of ensuring paternity of the offspring in which they invest (Trivers, 1972). When pursuing short-term mating strategies, females must solve the adaptive problem of securing immediate investments and identifying males of high genetic quality, whereas males must solve the adaptive problem of maximizing mating opportunities, minimizing commitment of investment, and identifying reliable cues of females' fertility (Trivers, 1972).

Consequently, the selection pressure for females to mate with males who can invest in them and their offspring arguably led to the evolution of psychological adaptations that motivate them to assess mate quality, that is, identify mates of high genetic quality and who are willing and able to co-parent (Trivers, 1971). Though women typically pursue long-term mating strategies, there are arguably selection pressures for women to sometimes pursue short-term strategies (Buss & Schmitt, 1993). For example, short-term mating strategies enacted when women are most likely to conceive might allow women to secure good genes from men whose genetic quality exceeds that of their current partners (Gangestad & Simpson, 2000). Because a woman's pursuit of short-term mating strategies decreases her partner's paternal certainty, she risks a decrease her

partner's investment in her and her offspring, who may or may not be genetically related to her partner (Buss & Schmitt, 1993).

The selection pressure for males to compete for mating opportunities has arguably led to the evolution of physical and psychological mechanisms that motivate them to signal their mate quality and compete effectively against male rivals (Bateman, 1948; Buss & Schmitt, 1993; Darwin, 1859; Geary, 2003, 2006; Trivers, 1972). Though males typically devote more effort to short- versus long-term mating, there are reasons why men's pursuit of long- instead of short-term mating strategies might be adaptive. For example, long-term mating is adaptive inasmuch as it allows a man access to a woman's reproductive potential for the duration of her child-bearing years, in exchange for his continued investment in her and her offspring. If a man has exclusive access to a woman's reproductive potential, he arguably circumvents the problems associated with identifying numerous, sexually accessible, fertile partners (Buss & Schmitt, 1993). Costs associated with men's pursuit of long-term mating strategies include foregoing numerous short-term mating opportunities and inadvertently investing in offspring that are not genetically related to them (Buss & Schmitt, 1993).

Mating Strategies and Religiosity: Cross-Sectional Evidence

Individual differences in characteristics such as age (Kenrick & Keefe, 1992), personality (Pines, 1998), and sociosexual orientation (Provost, Troje, & Quinsey, 2008), might influence the mating strategies that men and women pursue. A variety of research has been conducted to explore the links between mating strategies and religiosity. One theory, termed Reproductive Religiosity Theory, posits that people strategically use their

religious beliefs, religious attendance, and religious group affiliations to support a long-term mating strategy and to buffer against the costs affiliated with this mating strategy (Weeden, Cohen, & Kenrick, 2008; Weeden & Kurzban, 2013). This theory is based on the observation that people who pursue long-term strategies—characterized by high levels of commitment to one's partner and high levels of parental investment—are undermined by sexual rivals who pursue short-term mating strategies marked by sexual promiscuity, male abandonment, and female cuckoldry (Weeden et al., 2008). Religion's adherents, who actively promulgate social norms that encourage fidelity and condemn promiscuous conduct, can help mitigate the risks associated with long-term mating strategies by causing others to adopt a restricted strategy or forcing them to seek out their partners in other mating pools (Weeden et al., 2008). Religious groups might also facilitate monogamy and parental investment by providing reproductive support to families (Weeden et al., 2008; Weeden & Kurzban, 2013).

Weeden, Cohen, and Kenrick (2008) outlined two predictions from Reproductive Religiosity Theory: They predicted that (1) the correlation between religious attendance and sexual and family lifestyle variables related to sexual strategies would be larger in size than the correlation between religious attendance and other variables, such as age, gender, cohort, and personality variables. (2) They also predicted that controlling for sexual and family lifestyle variables would substantially reduce the correlation between other variables and religious attendance, but that controlling for other variables would not substantially reduce the correlation between sexual and family lifestyle variables and religious attendance. To test these predictions, Weeden, Cohen, and Kenrick (2008) designed three studies.

In their first study, Weeden, Cohen, and Kenrick (2008) tested (1) whether sexual and family variables (number of sexual partners since age 18, having been married and not divorced, and number of biological children ever born) were stronger correlates of religious attendance than other variables (age, cohort, sex) in a sample of 21,131 adults participating in the 2006 United States General Social Survey. They also tested (2) whether controlling for sexual and family variables would reduce the correlation between other variables and religious attendance (but that controlling for other variables would *not* reduce the correlation between sexual and family variables and religious attendance). Weeden, Cohen, and Kenrick (2008) found that sexual and family variables were stronger correlates of religious attendance than were other variables and that controlling for controlling for sexual and family variables reduced the correlation between other variables and religious attendance to about zero (but that controlling for other variables did *not* reduce the correlation between sexual and family variables and religious attendance).

Their second and third studies tested the previous two predictions in a sample of 902 college students from four universities in the United States. In the second study, sexual and family variables included measures of family desire (desire for marriage, children, and a long-term mate who wants children), family age (age expected at marriage and age expected at first child), past sexual experiences, sociosexual attitudes, whether they would ever seek divorce, and sexual orientation. Other variables included short versions of the Big Five personality traits, a self-control scale, a sensation-seeking scale, and a measure of monthly alcohol consumption. Weeden, Cohen, and Kenrick (2008) again found that sexual and family variables were stronger correlates of religious

attendance than were other variables, and that controlling for sexual and family variables reduced the correlation between other variables and religious attendance to nearly zero (and again, controlling for other variables did *not* reduce the correlation between sexual and family variables and religious attendance).

In their third study, Weeden, Cohen, and Kenrick (2008) included moral measures directly related to sexual strategies—that is, hooking up, casual sex, cheating on a partner, homosexual activity, using birth control, aborting an embryo, and getting divorced—as sexual and family variables. Other variables included moral measures not related to sexual strategies, such as getting drunk, using drugs, shoplifting, lying, disobeying parents, cheating on a test, teasing, violating traffic laws, being unforgiving/demanding, cursing, or not sharing/helping. They found that sexual and family morals were stronger correlates of religious attendance than were other morals and that controlling for sexual and family morals reduced the correlation between other morals and religious attendance to almost zero (the opposite was not true: controlling for other morals did *not* reduce the correlation between sexual and family morals and religious attendance). In support of Reproductive Religiosity Theory, Weeden, Cohen, and Kenrick (2008) showed that the correlation of sexual and family lifestyle variables/morals related to sexual strategies with religious attendance was larger than the correlation between other variables/morals and religious attendance. They also showed that controlling for sexual and family lifestyle variables/morals substantially reduced the correlation between other variables/morals and religious attendance in the contemporary United States.

Weeden and Kurzban (2013) conceptually replicated Weeden, Cohen, and Kenrick (2008)'s third study in a sample of 296,959 participants from 90 countries. They included moral measures directly related to sexual strategies—that is, homosexuality, prostitution, abortion, divorce, drug use, cheating on a partner, and casual sex—as sexual morals. Other variables—specifically, moral measures related to cooperation—included theft, dishonesty, endangering others' safety, cheating the government, avoiding transportation fares, accepting bribes, joyriding, lying, littering, driving while intoxicated, purchasing stolen goods, avoiding taxes, and not reporting traffic incidents. In support of Reproductive Religiosity Theory, Weeden and Kurzban (2013) showed (1) the correlation between sexual morals and religiosity was larger than the correlation between cooperative morals and religiosity; and (2) controlling for sexual morals substantially reduced the correlation between cooperative morals and religiosity (whereas controlling for cooperative morals did *not* reduce the correlation between sexual morals and religiosity) in virtually all contemporary societies.

Li, Cohen, Weeden, and Kenrick (2010) sought to augment Weeden, Cohen, and Kenrick's (2008) correlational findings by testing the prediction that people, particularly women, might become more religious when attractive, same-sex competitors, are made salient. In their first study, they tested whether women who viewed dating profiles of attractive women, and men who viewed dating profiles of attractive men reported higher levels of religiosity than did women who viewed dating profiles of men, and men who viewed dating profiles of women. In support of Reproductive Religiosity Theory, the authors found that women who viewed dating profiles of women and men who viewed dating profiles of men did indeed report higher levels of religiosity.

In a follow up study, Li, Cohen, Weeden, and Kenrick (2010) assessed whether participants who viewed dating profiles of attractive *opposite*-sex peers *decreased* in religiosity, whether participants who viewed dating profiles of attractive *same*-sex peers *increased* in religiosity, or both, by comparing religiosity of participants in the experimental groups to religiosity of participants in a control group. They found that men who viewed men, and women who viewed women increase in religiosity, but men who viewed women and women who viewed men did not differ from control groups in levels of religiosity. Li, Cohen, Weeden, and Kenrick (2010) showed that when attractive, same-sex competitors are made salient, participants describe themselves as more religious than participants in control conditions or participants exposed to opposite-sex peers. The authors concluded that, in line with Weeden, Cohen, and Kenrick (2008)'s correlational findings, mating strategies and religiosity are tightly linked. Together, these studies suggest that, in line with Reproductive Religiosity Theory, variations in religiosity are linked to mating strategies.

Mating Strategies and Religiosity: Experimental Evidence

If it is the case that people put their religious beliefs and group affiliations to strategic use to support long-term mating strategies, then exposure to cues associated with religious environments might down-regulate the expression of traits associated with short-term strategies (McCullough, Carter, DeWall, & Corrales, 2012). In line with this rationale, McCullough et al. (2012) experimentally manipulated religious cognition and then observed its effect on traits ostensibly associated with men's pursuit of short-term strategies. Examples of traits associated with men's short-term mating strategies include

outlays of physical endurance, risky demonstrations, and unwillingness to delay gratification (Archer, 2009; Daly & Wilson, 2005; Hawkes, 1991; Kirby & Maraković, 1996; Little & Johnson, 1986; Pawlowski, Atwal, & Dunbar, 2008; Shih, 2007; Silverman, 2003; Wilson & Daly, 2004).

In two experiments, McCullough et al. (2012) examined whether religious primes (i.e., writing an essay on religion and God or reading an essay ostensibly proving the existence of the afterlife) influenced the rate at which people discount future rewards (i.e., preferences for small amounts of money sooner compared to larger amounts later). Specifically, in their first experiment, McCullough et al. (2012) examined the rate at which participants assigned to write an essay on their God and religion (religious prime condition), versus on their country and culture (secular condition), or on their household items (control condition) discount future rewards. That is, McCullough et al. (2012) examined whether participants preferred a small sum of money sooner or larger amounts of money later as indicated by the pay-outs they selected on items in the Monetary Choice Questionnaire (Kirby & Maraković, 1996). Based on a significant sex by condition interaction, McCullough et al. (2012) concluded that men primed with religion were more willing to delay gratification than were men who were not primed with religion. McCullough et al. (2012) conceptually replicated their first experiment in a second experiment. They accomplished this by examining the rate at which participants assigned to read an essay ostensibly providing evidence for (religious prime condition) versus against (non-religious prime condition) the existence of an afterlife discount hypothetical future rewards. Using this priming method and a hypothetical Monetary Choice Questionnaire, McCullough et al. (2012) again found a sex by condition

interaction, bolstering the conclusion that men primed with religion were more willing to delay gratification.

In a third experiment, McCullough et al. (2012) examined whether religious primes (i.e., unscrambling sentences comprising religious words) influenced physical outlays of endurance (i.e., endurance on a hang-grip task). They examined how long participants assigned to unscramble sentences comprising religious words (religious prime condition) versus neutral words (control condition) could maintain 70% of their maximum voluntary contraction score (which was estimated prior to the experimental manipulation) on a hand dynamometer. Based on another significant sex by condition interaction, McCullough et al. (2012) concluded that not only did men primed with religion discount the future less than did men who were not primed with religion, but they also displayed reduced outlays of physical endurance compared to men who were not primed with religion.

In an attempt to replicate this last finding, Hone and McCullough (2015) followed the methods and analyses outlined in McCullough et al.'s (2012) third experiment and examined whether religious primes (unscrambling sentences comprising religious words) influenced physical outlays of endurance on a hang-grip task, with the sole addition of a sex of experimenter factor. Using the same priming method and same hand-grip endurance task, Hone and McCullough (2015) examined how long participants assigned to unscramble sentences comprising religious words (religious prime condition) versus neutral words (control condition) could maintain 70% of their maximum voluntary contraction score on the same hand dynamometer used by McCullough et al. (2012). Hone and McCullough (2015) failed to replicate the findings of McCullough et al.

(2012)'s third experiment. This suggests that the previously observed effect of religious priming on physical outlays of endurance was plausibly due to Type I error or dependent on unique aspects of McCullough et al.'s (2012) experiment. Indeed, Hone and McCullough (2015) found evidence for experimenter effects on sex differences in hand grip-endurance (but not on the sex by condition interaction). However, the statistical power of Hone and McCullough's (2014) experiment—particularly for analyses that involved male experimenters only, which most faithfully replicates the conditions in McCullough et al. (2012)'s third experiment, was only .54, so their failed replication could also have been due to low power.

Thus, there is some evidence that exposure to religious stimuli down-regulates the expression of traits associated with short-term strategies in men, though these experimental results should be interpreted with caution in light of the recent failure to replicate McCullough et al.'s third experiment (Hone & McCullough, 2015). Together, the four experiments conducted by McCullough et al. (2012) and Hone and McCullough (2015), suggest it is possible that when religion is made salient in men's minds, their willingness to delay gratification is increased, but their displays of endurance are probably not reduced. Thus, despite the inconsistent experimental evidence for the relationship between males' mating strategies and religiosity, cross-sectional evidence from large sample studies by Weeden, Cohen, and Kenrick (2008) and Weeden & Kurzban (2013), as well as experimental evidence from Li, Cohen, Weeden, and Kenrick (2010), suggest that mating strategies and religiosity might be related.

Study Rationale

Whereas experimentally manipulating religious cognition might indeed down-regulate the expression of traits associated with short-term strategies in men (cf. Hone & McCullough, 2014), the intermediate variables that link mating strategies to religious cognition and behavior in women are largely unexplored. If people do indeed put their religious beliefs and religious group memberships to strategic use to support long-term mating strategies, and if women sometimes enact short-term strategies, perhaps certain sexually selected, characteristically female behaviors might be subject to down-regulation upon exposure to religious stimuli. Based on (1) theorizing that long-term mating strategies are associated with greater religiosity (Li, Cohen, Weeden & Kenrick, 2010; Weeden, Cohen, Kenrick, 2008), (2) studies demonstrating that exposure to religious stimuli down-regulates characteristics associated with short-term mating strategies in men (McCullough et al., 2012; but cf. Hone & McCullough, 2015), and (3) tentative evidence that women might sometimes pursue short-term mating strategies (Buss & Schmitt, 1993), a study evaluating the effects of religiosity on modesty, a trait associated with restricted sexual morality, would provide further insight into the association of religiosity and mating strategies. The purpose of this study was to examine the potential causal nature of the association of religiosity and modesty.

Many of the previous studies that assess the relationship between religiosity and mating strategies do not consider the extent to which certain religious groups might vary in the degree to which they promulgate sexual restrictiveness. It is possible that some religious groups, specifically groups that espouse especially high levels of sexual

restrictiveness, drive correlations between religiosity and traits associated with restricted sexual morality, such as modesty. In fact, one sociological study reported that it is possible to rank-order religious groups by endorsement of liberal versus conservative views on issues such as gender role attitudes, with Christians generally endorsing more conservative views and Jewish and Nonaffiliated participants generally endorsing more liberal views (Bolzendahl & Brooks, 2005). If (1) religiosity is linked to modesty, (2) this relationship is not driven by one particular religious group (and if it is, it is driven by groups rank-ordered as more conservative), and (3) religiosity increases modesty in general (as would be expected if cues to religious environments down-regulate characteristics associated with short-term mating strategies), it would further our understanding of the relationship between mating strategies and religiosity.

Chapter 2 Method

Participants

Participants were 817 students at the University of Miami (n = 377 male; n = 440 female) aged 17 to 48 (*Median* = 19, M = 19.14, SD = 2.18) enrolled in Introduction to Psychology from fall of 2012 to spring of 2014. Participants were recruited for the study using the Psychology Department's online study management tool. Participants earned two credits toward the Introduction to Psychology requirement for participation in research. When participants were recruited, they were told, "You will be asked to stand for a photograph and complete a questionnaire containing personal questions about your beliefs, perceptions, attitudes, and behaviors in addition to answering a hypothetical question. The study may take about an hour to complete and you may skip the photograph or any questions that make you feel uncomfortable."

Procedure

Mixed male and female groups of up to four participants at a time completed a single, one-hour laboratory session. The laboratory session comprised standing for a photograph and completing a writing task, illustration task, and questionnaire. Upon arrival at the laboratory, participants were greeted by a research assistant and asked to turn off their cell phones. They were then escorted to a room in which a Panasonic digital camera (Lumix DC Vario) was set up on a tripod and placed five feet from a mark behind which participants stood to have their photograph taken. Participants were asked to sign a consent form and photo consent form and then asked to wait outside the room. They were invited into the room one at a time to have their photograph taken. They were told to

"Please stand with the tips of your toes behind this line and keep your hands to your side. Try to relax, try not to smile, and try to keep your eyes on the mark behind me on the door." They were then handed an envelope containing the measures detailed below and told by the research assistant, "Here's your questionnaire packet. We'll get started on the questionnaires when everyone's had their picture taken, so please don't open the envelope until I say so. You can go back outside and send the next participant in." Research assistants were blind to subjects' condition assignment.

When all participants had their photographs taken, they were taken to a room to complete their packets and told, "Please take questionnaire 1 out of the envelope. When I tell you to start, complete the pages in the order they are given, and let me know if you have any questions. When I tell you to stop, put questionnaire 1 back in the envelope, take out questionnaire 2, and begin. I will not time questionnaire 2 or 3, so when you finish questionnaire 2, put it back in the envelope, take out questionnaire 3, and begin. When you finish questionnaire 3, please put it back in the envelope and wait quietly for everyone to finish. You may only work on one questionnaire at a time, in the order they are given, and once you have finished a questionnaire, you cannot go back and change your answers in another questionnaire. Do not share your answers with anyone."

The research assistant then used a stopwatch to time the 15 minute writing task. When 15 minutes had passed, research assistants told the participants to stop, put the questionnaire back in the envelope, and then handed out colored pencils for the illustration task. They then told the participants, "Take out questionnaire 2, and begin. Remember: I will not time questionnaire 2 or 3, so when you finish questionnaire 2, put it back in the envelope, take out questionnaire 3, and begin. When you finish questionnaire

3, put it back in the envelope and wait quietly for everyone to finish. You may only work on one questionnaire at a time, in the order they are given, and once you have finished a questionnaire, you cannot go back and change your answers in another questionnaire. Do not share your answers with anyone." When everyone was finished, research assistants collected the envelopes and thanked the participants for their cooperation. Research assistants remained blind to subjects' condition assignment for the duration of the experimental session.

Writing Task

During their experimental session, participants were randomly assigned to complete one of three writing tasks in line with McCullough et al.'s (2012) study on the effects of religious or non-religious writing tasks on delay discounting. Because Norenzayan and Shariff (2008) found similar rates of prosociality in participants primed with religion and culture, possibly because both primes reminded participants that someone was monitoring their cooperative behavior, I included religious, secular, and control writing tasks. The instructions for the religious version of the writing task stated: "For the next 15 minutes, we'd like for you to write an essay about your beliefs and feelings about God and/or your religion. Please focus on your connection to God and/or your religion, what it means to be a member of your religion and the aspects of your religious beliefs and practices that mean the most to you. If you are not a religious person, please write about what the idea of God means to you. Please be as detailed as you can. If you have time left before the 15 minutes are over, please continue writing about the same topic, even if you feel like you are repeating yourself." The instructions

for the non-religious writing tasks prompted participants to write about their country and culture (secular condition) or objects in their dorm or house (control condition) instead of their God and religion (see Appendix A). Participants were given approximately two 8 ½ by 11-inch blank pages on which to write for fifteen minutes.

Illustration Task

After completing the writing task, female participants were given the same blank female human figure outline given to participants in Durante, Li, and Haselton (2008) prompted with the following instructions: "Imagine that you are attending a social gathering at a friend's apartment tonight around 10:30 PM. From what your friend tells you, it will be a large party where there will be lots of single attractive people. Using the colored pencils provided, indicate on the outline of the human figure (on the next page) what you will be wearing to this party by drawing an outfit. Be sure to show the outlines of each item of clothing—your shirt, pants, shorts, skirt, etc.—clearly (see Appendix B)." Male participants were given a male figure and given the same instructions (see Appendix C).

Questionnaire Measures

Overview. After finishing their illustrations on the blank human figure outline, participants were given a battery of questionnaires including demographic items, an option to select their religious group affiliation, the 10-item Religious Commitment Inventory (RCI), and the seven-item Sociosexual Orientation Inventory (SOI).

Demographics. The demographic portion of the questionnaire included items pertaining to participants' sex, age, and sexual orientation. Sexual orientation was measured via a Likert-type item (*Please check the single option that best describes your sexual orientation*) on a seven-point scale from 0 (*Exclusively heterosexual*) to 6 (*Exclusively homosexual*).

Religion. Participants reported whether they identified themselves as Atheist, Baptist, Buddhist, Catholic, Christian, Christian Reform, Church of God, Congregational/United Church of Christ, Disciples of Christ, Agnostic, Episcopalian/Anglican, Evangelical/Born Again, Hindu, Humanist, Jehovah's Witness, Jewish, Lutheran, Methodist/Wesleyan, Muslim, Nondenominational, Orthodox (Eastern), Pentecostal/Charismatic, Protestant, Presbyterian, Reformed/Dutch Reform Seventh-Day Adventist, Spiritualist, Unitarian/Universalist, some other religion, or two or more religions. These religions can be divided into five subgroups: Christian (Baptist, Christian, Christian Reform, Church of God, Congregational/United Church of Christ, Disciples of Christ, Agnostic, Episcopalian/Anglican, Evangelical/Born Again, Lutheran, Methodist/Wesleyan, Nondenominational, Eastern Orthodox, Pentecostal/Charismatic, Protestant, Presbyterian, Reformed/Dutch Reform Seventh-Day Adventist), Catholic, Jewish, Other (Humanist, Jehovah's Witness, Muslim, Spiritualist, Unitarian/Universalist, some other religion, or two or more religions), and Nonaffiliated (Atheist and Agnostic) in accordance with Bolzendahl and Brooks (2005).

Religious Commitment Inventory. Religiosity has been used occasionally, though not always, as a moderator of effects of religious primes in past studies (McKay, Efferson, Whitehouse, & Fehr, 2011; Randolph-Seng & Nielsen, 2008; Shariff &

Norenzayan, 2007). Because the current study used a religious writing task which asked participants who were not religious to write about what the idea of God means to them rather than about their God and religion, I included the Religious Commitment Inventory (RCI; Worthington, Wade, Hight, Ripley, McCullough, Berry, Schmitt, Berry, Bursley, & O'Connor, 2003) as a measure of religiosity because participants who were not religious (and who subsequently wrote about the idea of God) might not exhibit behavioral changes in modesty to the same extent as their religious peers writing about their God and religion. Participants completed the RCI which included statements such as, "I spend time trying to grow in understanding of my faith," and "Religious beliefs influence all my dealings in life," endorsed on a scale from 0 (not at all true of me) to 4 (completely true of me; see Appendix D). Using principal axis factoring, an exploratory factor analysis of the RCI yielded one factor that accounted for 57.84% of the variance in the 10 items. Item loadings on the religious commitment factor ranged from .63 to .85. I calculated the mean of the scores on the 10 RCI items to create a composite religiosity score (Cronbach's alpha = .93).

Sociosexual Orientation Inventory. The seven-item Sociosexual Orientation Inventory (SOI) measures individual differences in sexual restrictiveness (Simpson & Gangestad, 1991). Sociosexual orientation comprises a set of covarying attitudes and behaviors reflecting a history of, and preference for, uncommitted sexual activities with multiple, concurrent partners (Simpson & Gangestad, 1991). It includes features such as preferred frequency, number, and concurrence of uncommitted sexual partners; feelings concerning and ease of engaging in uncommitted sexual activities; and frequency of sexual fantasies involving partners other than the present partner (Simpson & Gangestad,

1991). The items assessing these features include, "I can imagine myself being comfortable and enjoying casual sex with different partners." Convergent and discriminant validity of this inventory has been established: In three studies, it was found that unrestricted individuals engaged in sexual activities earlier in relationships, were more likely to engage in sexual activities with concurrent partners, and were more likely to be in less committed sexual relationships (Simpson & Gangestad, 1991). Furthermore, frequency of sexual activities between couples in sexual relationships did not correlate with sociosexual orientation (Simpson & Gangestad, 1991). Finally, sociosexual orientation is correlated with measures of similar features (e.g., impersonal sex) but not with measures of dissimilar features (e.g., sexual satisfaction; Simpson & Gangestad, 1991).

Sociosexual orientation is calculated by weighting and aggregating an individual's self-reported number of partners in the past year, number of partners foreseen in the next five years, number of one-night-stands, frequency of sexual fantasy, and attitudes toward engaging in casual, uncommitted sex (Simpson & Gangestad, 1991). The equation is as follows: SOI = 5 * (Item 1) + 1 * (Item 2) + 5 * (Item 3) + 4 * (Item 4) + 2 * (aggregate of Items 5-7; Item 7 is reverse coded). In college populations, to ensure that Item 2 (How many different partners do you foresee yourself having sex with during the next five years?) does not have disproportionate influence on the aggregate SOI score, the maximum value of Item 2 is limited to 30 partners foreseen (see Appendix E). In this sample, 11 participants entered more than 30 foreseen partners, and these entries were restricted to 30 prior to analyses. Cronbach's alpha was .81.

Additional Measures

Overview. After the experimental session, mean daily temperature was reported and skin exposure of the photographs and illustrations were computed.

Mean Daily Temperature. The date of the laboratory session was recorded by research assistants so that the outside mean daily temperature could be entered with the participants' data to control for effects of weather on skin exposure. Mean daily temperature in degrees Fahrenheit was recorded using the Old Farmer's Almanac Weather History for Coral Gables, FL (Old Farmer's Almanac, 2015).

Skin Exposure. To calculate skin exposure of both the photographs of participants and participants' illustrations of what they would wear to a hypothetical social gathering, two raters imported digital photographs and scanned illustrations into Adobe Photoshop. Using the "Quick Selection Tool," two raters recorded the number of pixels of skin exposed in the photograph and two raters recorded the total number of pixels of skin exposure in the illustration task. The intraclass correlation (model: two-way random, type: consistency) between the two raters assessing photographs was ICC = .99, $F(803, 803) = 145.95$, $p < .01$, *95% CI* [.99, .99]. The intraclass correlation between the two raters assessing illustrations was ICC = .98, $F(812, 812) = 63.07$, $p < .01$, *95% CI* [.98, .99]. For each participant, I calculated a mean of the two raters' recordings of the number of pixels of skin exposed in the photographs and in the illustrations. I then calculated a ratio of the mean number of pixels of exposed skin to the total 12,000,000 pixels in the photographs as well as a ratio of the mean number of pixels of exposed skin to the total number of pixels in the figures. Depending on whether participants' illustrations were scanned at a resolution of 150 or 200 dots per inch (two different scanners were used

during the course of this project), the total number of pixels in figures was either 255,142 (males) and 270,989 (females) pixels for illustrations scanned at 150 dots per inch, or 454,376 (males) and 467,560 (females) pixels for illustrations scanned at 200 dots per inch. Photograph skin exposure was the outcome for Analysis 1. Illustration skin exposure was the outcome for Analysis 2.

Hypotheses

Based on cross sectional evidence that long-term mating strategies are associated with greater religiosity (Li, Cohen, Weeden & Kenrick, 2010; Weeden, Cohen, Kenrick & 2008), I predicted that female (but not male) participants who classified themselves as highly religious (regardless of religious group affiliation) would be more modest. That is, female (but not male) RCI scores would be negatively correlated with skin exposure in photographs of what they wore to the lab. Furthermore, based on studies demonstrating that exposure to religious stimuli down-regulates characteristics associated with short-term mating strategies (McCullough et al., 2012; but cf. Hone & McCullough, 2015), I predicted that female participants who were exposed to a religious stimuli would be more modest. That is, female (but not male) participants assigned to write about their God and religion would illustrate less skin exposure than their peers who did not write about their God and religion, when asked what they would wear to a hypothetical social gathering.

Chapter 3 Statistical Analysis

Planned Descriptive Analyses

Descriptive Statistics. I provided the sample means and standard deviations for all study variables (photograph skin exposure, illustration skin exposure, RCI, and SOI), as well as the mean and standard deviation for men and women, separately (see Table 1a). I provided a correlation table of all study variables, split by sex (see Table 1b). I compared the correlation between RCI and skin exposure (in both photographs and illustrations) for men and women, and reported whether the difference between correlations was significant.

Demographics. I reported whether male and female participants identified as exclusively heterosexual, predominantly heterosexual but frequently homosexual, predominantly heterosexual but frequently homosexual, equally heterosexual and homosexual, predominantly homosexual but frequently heterosexual, predominantly homosexual/infrequently heterosexual, or exclusively homosexual in Table 2a. In Table 2b I provided the sample means and standard deviations for all study variables split by sexual orientation, as well as the mean and standard deviation for men and women, separately. I also provided independent sample *t*-tests to assess sexual orientation group differences on all study variables (see Table 2c).

Religion. I reported whether male and female participants identified as Atheist, Baptist, Buddhist, Catholic, Christian, Christian Reform, Church of God, Congregational/United Church of Christ, Disciples of Christ, Agnostic, Episcopalian/Anglican, Evangelical/Born Again, Hindu, Humanist, Jehovah's Witness,

Jewish, Lutheran, Methodist/Wesleyan, Muslim, Nondenominational, Orthodox (Eastern), Pentecostal/Charismatic, Protestant, Presbyterian, Reformed/Dutch Reform Seventh-Day Adventist, Spiritualist, Unitarian/Universalist, some other religion, or two or more religions in Table 3a. In Table 3b, I also reported whether male and female participants were categorized as Christian, Catholic, Jewish, Other, or Nonaffiliated subgroups in accordance with Bolzendahl and Brooks (2005). In Table 3c I provided the sample means and standard deviations for all study variables split by religious group, as well as the mean and standard deviation for men and women, separately. In Table 3d I provided evidence that the correlation between RCI and skin exposure for men and women did not differ by religious subgroup. Because illustration skin exposure measures came after the writing task, I present these correlational analyses split by condition assignment in Table 3e however, small group sizes limited the interpretation of the reported correlations.

Religiosity and Sociosexual Orientation. I reported sex differences in RCI and SOI in Table 4a. Because measures of religiosity and sociosexual orientation came after the writing task, I provided evidence for no group differences in RCI and SOI by condition assignment in Table 4b.

Skin Exposure. I reported sex differences in skin exposure in both photographs and illustrations in Table 5a. Because illustration skin exposure measures came after the writing task, I provided group differences in illustration skin exposure by condition assignment in Table 5b.

Planned Analysis 1

I conducted a hierarchical multiple regression and I entered predictors in blocks to test whether participants' baseline religiosity was associated with their day-to-day modesty. To do this, I entered sex (dummy-coded with female as the reference group), mean daily temperature (mean-centered), mean-centered RCI scores, and the RCI by sex interaction in the first block. I then entered mean-centered SOI scores and the SOI by sex interaction in the second block to assess whether an effect of religiosity on skin exposure in photographs remained (see Table 6). I centered mean daily temperature, SOI, and RCI so that the variables had a mean of 0. Consequently, the intercept term can be interpreted as the expected value of Y*i* when the predictor values are set to their means rather than as the expected value of Y*i* when the predictors are set to 0.

In a hierarchical regression, the ordering of predictors entered into sequential blocks is based on a presumed causal ordering; that is, no variable entered in a later block should be considered to be a cause of a variable entered in an earlier block. The advantage of hierarchical regression is that predictors entered in subsequent blocks increase the variance accounted for by specific variables above and beyond what is already accounted for by predictors in previous blocks. In this study, predictors that are presumed to be causes of the criterion variable independently of religious commitment include sex and mean daily temperature. I entered religiosity and the religiosity by sex interaction in the first block along with sex and mean daily temperature, and sociosexual orientation and the sociosexual orientation by sex interaction in the second block to assess whether sociosexual orientation might be a significant mediator of the relationship between religiosity and modesty.

To assess the significance of the first block, I reported the multiple *R* square, which can be interpreted as the percent of variance in skin exposure explained by the variables in the first block. I then assess the significance of subsequent blocks and reported the *R* square change, which can be interpreted as the variance in skin exposure explained by the variables in the subsequent blocks, over and above the variance explained by variables in the previous blocks. To test the significance of a specific predictor, I reported the unstandardized coefficient and standard error, as well as the standardized coefficient. To probe any significant interaction effects between predictors, I plotted regions of significance (Roisman, Newman, Fraley, Haltigan, Groh, & Haydon, 2012). To ensure effects were not driven by outliers, I removed extreme scores, that is scores that were more than three standard deviations from the sample mean, and re-ran these analyses.

Planned Analysis 2

I conducted a regression analysis to evaluate whether experimentally manipulating religious cognition influenced modesty by assessing the effects of religious and secular versus control condition assignments on participants' skin exposure in illustrations of what they would wear to a social gathering. I entered sex (dummy-coded with females as the reference group), two dummy-coded condition assignment variables (dummy-coded with the control condition as the reference group), and the sex by condition assignment interactions simultaneously to assess whether there were main effects for sex, the religion condition or secular condition, or for either of the sex by condition interactions (see Table 7).

I then conducted a hierarchical multiple regression analysis in which I entered variables in blocks and tested whether my findings were robust after partialling out the effects of baseline modesty, mean daily temperature, religiosity, and sociosexual orientation (see Table 8). To do this, I entered baseline modesty (skin exposure in photographs), sex, mean daily temperature (mean-centered), mean-centered RCI scores, and the RCI by sex interaction in the first block—this approach directly paralleled Analysis 1, with the addition of baseline modesty in block one. I then entered mean-centered SOI scores and the SOI by sex interaction in the second block to assess whether the relationship between religiosity and modesty in the illustrations was mediated by sociosexual orientation. Finally, in a third block, I tested the effect of condition assignment by entering the two dummy-coded condition assignment variables (dummy-coded with the control condition as the reference group), the two RCI by condition assignment interactions, and the two sex by condition assignment interactions. I removed outliers and re-ran this analysis to confirm that effects were not due to extreme scores.

Finally, I conducted two parallel hierarchical regression models: One in which I coded males, instead of females, as the reference group (and kept the control condition as the reference group), the other in which I coded the secular condition assignment, instead of the control condition assignment, as the reference group (and kept females as the reference group). These analyses allowed me to assess whether the religious condition assignment, relative to the control condition assignment, influenced male modesty, and whether the secular condition assignment, relative to the control condition, influenced skin exposure.

Power: Correlation

Based on previously collected, unpublished data assessing the relationship between religiosity and sexual morality in a college sample of 334 men and women (r = .48, $p < .001$) and two online samples of 779 and 538 men and women (r = .65, $p < .001$; r = .63, $p < .001$), the weighted mean correlation between religiosity and sexual morality was expected to be r = .61. Because modesty in women may be a component of sexual morality, I expected religiosity to be related to modesty (and sexual morality in general) in women to a similar degree. Assuming correlation of r = .61, n = 441 women, and $\alpha <$ .05 (two-tailed), my power to detect a relationship between religion and modesty was > .99.

Power: Analysis 1

Given a desired power of .80, a probability level of α = .05, and six predictors, assuming a large effect size of f^2 = .35, the minimum required sample size was N = 46. If I assumed a medium effect size of f^2=. 15, the minimum required ample size was N = 97 and if I anticipated a small effect size of f^2 =.02, the minimum required sample size was N = 684. Given my sample size of 817, my power to detect a range of effect sizes was adequate.

Power Analysis 2

The minimum required sample size for a multiple regression model given a probability level of α = .05 and five independent variables when anticipating a small effect size of f^2 = .02 was N = 643. If I were to assume a medium effect size of f^2 = .15,

the minimum required sample size was $N = 91$, and if I assumed a large effect size of $f^2 = .35$, the minimum required sample size was $N = 43$.Given my sample size of $N = 817$, my power to detect an effect in a model with just five independent variables (sex, two dummy-coded condition assignment variables, and two sex by condition assignment interactions) was adequate.

The minimum required sample size for a multiple regression model given a probability level of $p = .05$ and 13 predictors when anticipating a small effect size of $f^2 = .02$ was $N = 901$. If I were to assume a medium effect size of $f^2 = .15$, the minimum required sample size was $N = 131$, and if I assumed a large effect size of $f^2 = .35$, the minimum required sample size was $N = 63$. Given my sample size of $N = 817$, my power to detect a medium or large effect was adequate, but my ability to detect a small effect was limited.

Chapter 4 Results

Descriptive Analyses

Descriptives. On average, participants exposed $M = 3.23\%$ ($SD = 1.31\%$) of their skin in photographs and $M = 36.32\%$ ($SD = 16.92\%$) of their skin in illustrations. The average RCI score in this sample was $M = 1.16$ ($SD = 1.02$; on a scale of 0 to 4) and the average SOI score was $M = 46.10$ ($SD = 38.20$; scores ranged from 0 to 366.39; see Table 1a). The mean daily temperature on days participants completed the experiment was $M = 75.29$ ($SD = 4.98$) degrees Fahrenheit.

Participants' skin exposure in photographs was positively correlated with their skin exposure in illustrations, $r(799) = .25$, $p < .01$: There was a significant correlation between skin exposure in photographs and illustrations for women, $r(431) = .28$, $p < .01$, and men, $r(366) = .15$, $p < .01$. Both measures of skin exposure were positively correlated with mean daily temperature—photograph, $r(803) = .29$, $p < .01$; illustration, $r(808) = .07$, $p = .04$. Broken down by sex, mean daily temperature was correlated with skin exposure in photographs for women, $r(431) = .34$, $p < .01$, and men, $r(370) = .20$, $p < .01$. It was also correlated with skin exposure in illustrations for women, $r(438) = .12$, $p = .01$, and men, $r(368) = .17$, $p < .01$ (see Table 1b).

RCI and SOI were negatively correlated, $r(813) = -.25$, $p < .01$. Both measures of female skin exposure were positively correlated with SOI—photograph, $r(431) = .11$, $p = .03$; illustration, $r(438) = .13$, $p < .01$. SOI was significantly correlated with skin exposure in men's photographs $r(371) = .12$, $p = .02$, but not with skin exposure in their illustrations, $r(370) = .01$, $p = .93$ (see Table 1b). RCI was negatively correlated with

both measures of female skin exposure—photograph, $r(430) = -.15$, $p < .01$; illustration $r(437) = -.16$, $p < .01$). RCI was not correlated with skin exposure in men—photograph, $r(370) = -.01$, $p = .83$; illustration, $r(369) < .01$, $p = .98$ (see Table 1b). I found that there was a nearly-significant difference between the correlation of RCI with skin exposure in photographs for men and for women, $z = -1.99$, $p = .05$. I also found that the difference between the correlation of RCI with skin exposure in illustrations of what men and women would wear to a social gathering was significant, $z = -2.28$, $p = .02$. Thus, religiosity appears to be more closely (negatively) related to modesty in women than in men.

Demographics. Female participants identified themselves as exclusively heterosexual ($n = 378$), predominantly heterosexual/infrequently homosexual ($n = 39$), predominantly heterosexual but frequently homosexual ($n = 4$), equally heterosexual and homosexual ($n = 12$), predominantly homosexual but frequently heterosexual ($n = 0$), predominantly homosexual/infrequently heterosexual ($n = 1$), or exclusively homosexual ($n = 3$; see Table 2a). Male participants identified themselves as exclusively heterosexual ($n = 351$), predominantly heterosexual/infrequently homosexual ($n = 8$), predominantly heterosexual but frequently homosexual ($n = 1$), equally heterosexual and homosexual ($n = 4$), predominantly homosexual but frequently heterosexual ($n = 0$), predominantly homosexual/infrequently heterosexual ($n = 4$), or exclusively homosexual ($n = 6$; see Table 2a). In Table 2b I provided the sample means and standard deviations for all study variables split by sexual orientation, as well as the mean and standard deviation for men and women, separately.

Exclusively heterosexual females' RCI scores (M = 1.28, SD = 1.09) differed significantly from non-exclusively heterosexual females' RCI scores (M = .90, SD = .88), $t(88) = 2.98$, $p < .01$, *95% CI* [.13; .63], d =.38. Likewise, exclusively heterosexual males' RCI scores (M = 1.11, SD = .98) differed from non-exclusively heterosexual males' RCI scores (M = .72, SD = .62), $t(30) = 2.78$, $p < .01$, *95% CI* [.10; .68], d =.48: Exclusively heterosexual female and male participants were more religious than their peers who were not exclusively heterosexual. Whereas exclusively heterosexual females' SOI scores (M = 29.76, SD = 22.51) differed from non-exclusively heterosexual females' SOI scores (M = 43.64, SD = 31.93), $t(67) = -3.22$, $p < .01$, *95% CI* [-22.50; -5.27], d = .50 (exclusively heterosexual females were more sexually restricted than females who were not exclusively heterosexual), exclusively heterosexual males' SOI scores (M = 63.75, SD = 44.15) did not differ from non-exclusively heterosexual males' SOI scores (M = 55.26, SD = 43.04), $t(372) = .89$, $p = .37$, *95% CI* [-10.17; 27.14]. Exclusively heterosexual females and males did not differ from their peers who were not exclusively heterosexual in skin exposure (see Table 2c). Because exclusively heterosexual participants differed from their peers in religiosity and sociosexual orientation, I ensured that including these participants did not change the results detailed below by running analyses with and without these participants included.

Religion. Female participants categorized themselves as Christian (n = 122), Nonaffiliated (n = 66), Other (n = 65), Catholic (n = 123), and Jewish (n = 53), or declined to answer (n = 8; see Table 3b). Male participants categorized themselves as Christian (n = 84), Nonaffiliated (n = 90), Other (n = 59), Catholic (n = 89), and Jewish (n = 50), or declined to answer (n = 5; see Table 3b). Christians, Catholics, Jews, and

Others showed similar skin exposures, RCIs, and SOIs (see Table 3c). The correlation between women's RCI and skin exposure did not differ by religious subgroup (see Table 3d): For Christians, Catholics, Jews, and Others, both skin exposure in the photographs and illustrations were negatively correlated with RCI, and a majority of the correlations were within the range reflective of the correlation in the overall female sample (r = -.15; -.16). This suggested that there was a negative correlation between RCI and skin exposure for women of various religious groups, just as there appeared to be in the overall sample, and this relationship did not seem to be driven by one particular religious group.

Religiosity and Sociosexual Orientation. Women (M = 1.23, SD = 1.07) were more religious than men (M = 1.08, SD = .96), $t(811) = 2.09$, p = .04, *95% CI* [.01, .29], d = .15. Women (M = 31.52, SD = 24.38) were also more sexually restricted than men (M = 63.12, SD = 43.97), $t(567) = -12.42$, $p < .01$, *95% CI* [-36.60, -26.60], d = .89 (see Table 4a). Because measures of religiosity and sociosexual orientation came after the writing task, I tested whether male and female RCI scores and SOI scores differed between participants in the religious, secular, and control conditions. There were no group differences in female RCI scores, $F(2, 436) = .83$, p = .44, or male RCI scores, $F(2, 373) = 1.43$, p = .24 (see Table 5b). There were also no group differences in female SOI scores, $F(2, 437) = .72$, p = .49, or male SOI scores, $F(2, 374) = 1.28$, p = .28 (see Table 4b).

Skin Exposure. Women exposed more skin in photographs (M = 3.36%, SD = 1.54%) than did men (M = 3.09%, SD = .96%), $t(735) = 3.11$, p <.01, *95% CI* [.10, .45], d = .21. Women also exposed more skin in illustrations (M = 47.63%, SD = 13.57%) than men (M = 22.94%, SD = 8.76%), $t(760) = 31.23$, p <.01, *95% CI* [23.13, 26.24], d = 2.16

(see Table 6a). Because illustration skin exposure measures came after the writing task, I provide group differences in illustration skin exposure by condition assignment in Table 6b: For women, $F(2, 437) = 4.29$, $p = .01$, but not for men, $F(2, 369) = .08$, $p = .92$, I found evidence for condition assignment group differences in illustration skin exposure.

Analysis 1

I conducted a two-stage hierarchical multiple regression analysis to predict photograph skin exposure from sex, mean daily temperature, religiosity, and sociosexual orientation (see Table 6). Sex (dummy-coded with female as the reference group), mean daily temperature, RCI, and the RCI by sex interaction were entered in the first block. SOI scores and the SOI by sex interaction were entered in the second block.

The data met the assumption of collinearity: Mean daily temperature (*Tolerance* = 1.00, *VIF* = 1.00), sex (*Tolerance* = .99, *VIF* = 1.01), RCI (*Tolerance* = .59, *VIF* = 1.71), sex by RCI (*Tolerance* = .59, *VIF* = 1.70), SOI (*Tolerance* = .20, *VIF* = 4.97), and sex by SOI (*Tolerance* = .23, *VIF* = 4.42).The Tolerance and VIF for SOI and the sex by SOI interaction were not ideal, but these values were still within an acceptable range (*Tolerance* = > .01; *VIF* = < 10). The data also met the assumption of independent errors (Durbin-Watson = 1.97). A histogram of standardized residuals and a P-P plot of standardized residuals both indicated that errors were normally distributed.

Using *z* scores to identify observations that were more than three standard deviations from the overall mean of the sample, three participants' photo skin exposure values were flagged, eleven participants' SOI scores were flagged, and one participant's RCI score was flagged. An analysis of standardized residuals indicated that an additional

four participants were possible outliers, defined as cases with residuals that were more than three standard deviations from the overall mean of the sample. Removing these participants did not change the results detailed below. Likewise, removing participants who did not classify themselves as "Exclusively heterosexual" did not change the following results, that is, the explanatory power of the model and the interpretation of the coefficients did not change. Thus, I included all participants in my analyses, regardless of sexual orientation.

Block 1. The first set of predictors, mean daily temperature (b = .08, SE = .01, p < .01, *Beta* = .29), sex (b = -.30, SE = .09, p < .01, *Beta* = -.12), RCI scores (b = -.23, SE = .06, p < .01, *Beta* = -.18), and the RCI by sex interaction (b = .23, SE = .09, p = .01, *Beta* = .11), accounted for a significant amount of photograph skin exposure variability, R^2 = .11, $F(4, 798) = 25.06$, p < .01. A significant effect of mean daily temperature, sex, and RCI indicated that women who participated in the experiment on a day when the mean daily temperature was about 75 degrees decreased in skin exposure as they increased in religiosity. A significant RCI by sex interaction indicated that no such relationship between RCI and skin exposure existed for men, controlling for mean daily temperature (see Table 6). The relationship between RCI and skin exposure was significant for women who espoused a range of RCI scores from approximately the mean RCI score to the maximum RCI score in the sample (see Figure 1).

Block 2. The second set of predictors, SOI (b = .01, SE < .01, p = .05, *Beta* = .15), and the SOI by sex interaction (b < .01, SE < .01, p = .43, *Beta* = -.06), explained an additional 1% of the variation in skin exposure (above and beyond the 11.16% of the variation in skin exposure explained by predictors entered in block one), R^2 change = .01,

$F(2,796) = 3.65$, $p = .03$. SOI (but not the SOI by sex interaction), was a significant predictor of skin exposure. This indicated that women with an average religiosity score who participated in the experiment on a day when the mean daily temperature was about 75 degrees increased in skin exposure as they became less sexually restricted. The absence of a significant SOI by sex effect indicated that men did not differ from women with regard to the relationship between SOI and skin exposure, controlling for the other predictors in the model. The addition of SOI and the SOI by sex interaction did not meaningfully alter the significant relationship between RCI ($b = -.20$, $SE = .06$, $p < .01$, $Beta = -.15$), or the RCI by sex interaction ($b = .22$, $SE = .09$, $p = .01$, $Beta = .11$), and skin exposure. Together, these variables accounted for 11.97% of the variance in photograph skin exposure (see Table 6).

Analysis 2

The independent variables in a regression analysis testing whether experimentally manipulating religious cognition influenced modesty accounted for a significant amount of variability in illustration skin exposure. Jointly they accounted for a significant proportion of the variance in illustration skin exposure $R^2 = .54$, $F(5, 806) = 186.14$, $p < .01$. The significant predictors—sex ($b = -27.16$, $SE = 1.43$, $p < .01$, $Beta = -.80$), the dummy-coded religious condition assignment variable ($b = -4.35$, $SE = 1.34$, $p < .01$, $Beta = -.12$), and the sex by religious condition assignment interaction ($b = 3.90$, $SE = 1.97$, $p = .05$, $Beta = .09$)—indicated that there is an effect of the religious condition assignment (and the secular condition assignment, $b = -3.53$, $SE = 1.38$, $p = .01$, $Beta = -.10$) on women's, but not men's modesty (see Table 7 and Figure 2).

I conducted a three-stage hierarchical multiple regression analysis to predict illustration skin exposure from photograph skin exposure, sex, mean daily temperature, religiosity, and sociosexual orientation (see Table 8). Photograph skin exposure, sex (dummy-coded with female as the reference group), mean daily temperature, RCI, and the RCI by sex interaction were entered in the first block. SOI scores and the SOI by sex interaction were entered in the second block. The two dummy-coded condition assignment variables, the two RCI by condition assignments interactions, and the two sex by condition assignment interactions were entered in the third block.

The data met the assumption of collinearity. The data also met the assumption of independent errors (Durbin-Watson = 1.83). A histogram of standardized residuals and a P-P plot of standardized residuals both indicated that errors were normally distributed. An analysis of standardized residuals indicated that two participants were possible outliers, defined as cases with residuals that were more than three standard deviations from the overall mean of the sample. Removing these participants (in addition to removing three participants with photo skin exposure values flagged, eleven participants with SOI scores flagged, and one participant with an RCI score flagged as being more than three standard deviations from the overall mean of the sample) did not change the results detailed below. Likewise, removing participants who did not classify themselves as "Exclusively heterosexual" did not change the following results, that is, the explanatory power of the model and the interpretation of the coefficients did not change. I included all participants, regardless of sexual orientation.

Block 1. The first set of independent variables, photograph skin exposure (b = 1.88, SE = .32, $p < .01$, *Beta* = .15), mean daily temperature (b = .21, SE = .08, p = .01,

Beta = .06), sex (*b* = -24.30, *SE* = .80, *p* < .01, *Beta* = -.72), RCI (*b* = -1.56, *SE* = .51, *p* < .01, *Beta* = -.09), and the RCI by sex interaction (*b* = 1.65, *SE* = .80, *p* = .04, *Beta* = .06), accounted for a significant amount of photograph skin exposure variability, R^2 = .57, *F*(5, 792) = 206.55, *p* < .01. Significant effects of photograph skin exposure, mean daily temperature, sex, and RCI indicated that women who participated in the experiment on a day when the mean daily temperature was about 75 degrees decreased in skin exposure as they increased in religiosity, controlling for baseline skin exposure. A significant sex by RCI interaction indicated that no such relationship between RCI and skin exposure existed for men, all else equal (see Table 8).

Block 2. The second set of independent variables, SOI (*b* = .05, *SE* = .02, *p* = .05, *Beta* = .10), and the SOI by sex interaction (*b* = -.05, *SE* = .03, *p* = .06, *Beta* = -.09), did not explain any additional variation in skin exposure (above and beyond the 56.60% of the variation in skin exposure explained by predictors entered in block one), R^2 *change* < .01, *F*(2,790) = 2.01, *p* = .14. However, the addition of SOI scores and the SOI by sex interaction did influence the significant relationship between religiosity and modesty: The RCI by sex interaction was no longer a significant predictor of skin exposure (*b* = 1.30, *SE* = .83, *p* = .12, *Beta* = .05). This indicated that men did not differ from women with regard to the relationship between religiosity and skin exposure, controlling for the other independent variables in the model. Together, these variables accounted for 56.82% of the variance in photograph skin exposure (see Table 8).

Block 3. The third set of independent variables—the two dummy-coded condition assignment variables (religious: *b* = -3.41, *SE* = 1.31, *p* < .01, *Beta* = -.10; secular: *b* = -2.21, *SE* = 1.36, *p* = .11, *Beta* = -.06), the two sex by condition assignment interactions

(sex by religious condition: $b = 2.49$, $SE = 1.92$, $p = .20$, $Beta = .06$; sex by secular condition: $b = 2.07$, $SE = 2.01$, $p = .30$, $Beta = .04$) , and the two RCI by condition assignment interactions (RCI by religious condition: $b = -2.10$, $SE = .96$, $p = .03$, $Beta = -.08$; RCI by secular condition: $b = -.23$, $SE = .98$, $p = .81$, $Beta = -.01$) explained an additional 1% percent of the variation in skin exposure, R^2 change = .01, $F(6,784) = 2.23$, $p = .04$. Together, these variables account for 57.54% of the variance in skin exposure. In the presence of the original independent variables entered in the first and second blocks as well as the six additional variables added in the third block, there was no longer a relationship between RCI and skin exposure ($b = -.23$, $SE = .82$, $p = .78$, $Beta = -.01$; see Table 8). The significant effects in block three indicated that women in the religious condition exposed less skin relative to women in the control condition, but that women in the secular condition did not expose less skin than women in the control condition. In addition to the effect of the religious condition assignment, there was an RCI by religious condition interaction: The religious condition was more effective (relative to the control condition) in reducing skin exposure for highly religious participants (i.e., participants who espoused a range of RCI scores from approximately the mean RCI score to the maximum RCI score in the sample) than it was for less religious participants (i.e., participants with RCI scores below the mean RCI score in the sample; see Figure 3).

To better understand the effects of the religious and secular conditions on men, I followed this model up with a parallel model, using males at the reference group for the sex variable. There was no effect of the religious condition assignment relative to the control condition assignment ($b = -.91$, $SE = 1.40$, $p = .52$, $Beta = -.03$): Men in the religious condition did not expose less skin than men in the control condition, but I found

no sex by religious condition interaction (b = -2.49, SE = 1.92, p = .20, $Beta$ = -.06), perhaps because there are too many variables in the model and not enough power to detect the interaction effect. There was again an RCI by religious condition assignment interaction (b = -.10, SE = .96, p = .03, $Beta$ = -.08): The religious condition was more effective (relative to the control condition) in reducing skin exposure for highly religious participants than it was for less religious participants. The depiction of the RCI by religious condition interaction broken down by sex in Figure 4 indicated that the relationship between RCI and skin exposure was perhaps driven by women.

In a final follow up model, with females and the secular condition as the reference groups, I found no evidence that women in the secular condition differed in skin exposure relative to women in the religious condition (b = -1.20, SE = 1.30, p = .36, $Beta$ = -.03) or women in the control condition (b = 2.21, SE = 1.36, p = .11, $Beta$ = .06).

Alternative Analysis 2

Analysis 2 tested whether participants in the religious condition assignment group and, separately, participants in the secular condition assignment group, were more modest relative to participants in the control group: Women in the religious condition exposed less skin than women in the control condition, but women in the secular condition did not expose less skin than women in the control condition. Analysis 2 also tested whether modesty of participants in the religious condition assignment group and, separately, participants in the control group, differed from modesty of women in the secular condition assignment group: Women in the secular condition did not expose more or less skin relative to women in the religious or control condition.

An alternative test of the hypothesis that a religious writing task might increase modesty would be to test whether participants in the two experimental groups (the religious condition assignment group and the secular condition assignment group) exposed less skin than women in the control group, and then to test whether the women in the two experimental condition groups differed from each other with regard to skin exposure. That is, whether the average effect of the religious and secular condition assignments differed from the effect of the control condition assignment, and whether the effects of the religious and secular condition assignments differed from each other. To test this, I used contrast coding and ran a hierarchical multiple regression analysis. I created a variable for the contrast between the control and experimental conditions by coding the control condition as -1 and the religious and secular condition assignments as .5. I also created a variable for the contrast between the religious and secular conditions by coding the control condition as 0, the religious condition assignment as 1, and the secular condition assignment as -1. I then created four interaction terms by multiplying these two new variables by sex as well as RCI.

I entered photograph skin exposure, sex (dummy-coded with female as the reference group), mean daily temperature, RCI, and the RCI by sex interaction in the first block, SOI scores and the SOI by sex interaction in the second block, and the two contrast coding variables and their interactions with sex and RCI in the third block (see Table 9). There was a significant difference between women in the two experimental groups (the religious condition assignment group and the secular condition assignment group) and women in the control group: Women in the experimental conditions exposed less skin than women in the control condition (b = -1.87, SE = .78, p = .02, $Beta$ = -.08).

The women in the two experimental condition groups did not significantly differ from each other with regard to skin exposure. However, there was a nearly-significant RCI by secular versus religious condition assignment interaction (b = -.93, SE = .47, p = .05, *Beta* = -.05; see Table 9): The religious condition was more effective (relative to the control condition) in reducing skin exposure for highly religious participants (i.e., participants who espoused a range of RCI scores from approximately one point above the mean RCI score to the maximum RCI score of the sample) than it was for less religious participants (i.e., participants with RCI scores below one point above the mean RCI score in the sample; see Figure 5).

Chapter 5 Discussion

On the premise that modesty may be a characteristic associated with women's (but not with men's) short-term mating strategies, I tested whether females' baseline religiosity (regardless of religious group affiliation) predicts modesty. To accomplish this, I tested whether participants' religiosity was negatively correlated with their skin exposure in photographs of what they wore to the laboratory, controlling for mean daily temperature and sociosexual orientation. Religiosity was indeed associated with female modesty: Female participants who classified themselves as highly religious exposed less skin in their day-to-day lives. The same was not true of men.

On the premise that religious cognition might down-regulate characteristics associated with short-term mating strategies in women, I also tested whether female participants who were exposed to religious stimuli would expose less skin in a hypothetical situation. In line with my prediction that female (but not male) participants who received a religious writing task would illustrate less skin exposure when asked what they would wear to a hypothetical social gathering, I found that women who wrote about their God and religion exposed less skin than those who wrote about their dorm/house objects. I found that men who wrote about their God and religion did not expose less skin than those who wrote about their dorm/house objects. Whereas the effect of the religious writing task was significantly increased women's modesty and did not significantly alter men's modesty, the effects of the religious condition on women's modesty was not statistically significantly different from its effects on men's modesty. This was perhaps because I did not have the power to detect a sex by religious condition assignment interaction. I also found a religiosity by religious condition assignment interaction, whereby participants in the religious condition, relative to the control condition, exposed

less skin if they were more religious, indicating that perhaps religious participants view modesty in as an important indicator of sexual morality, more so than their less religious peers, and these thoughts are activated in religious men in the same why that they are activated in women.

Limitations

Sample. The participants in this study were college students and college students are atypical with regard to their views on religion and sex (Beckwith & Morrow, 2005; Pascarella & Terenzini, 1991). College students tend to be less religiously committed and more sexually unrestricted than older samples (Beckwith & Morrow, 2005; Pascarella & Terenzini, 1991). Subsequently, the results obtained here are perhaps not generalizable to other populations and sampling from a college population may have biased my results in unknown ways.

Photograph Skin Exposure Measure. My measure of participants' baseline modesty, that is, how much skin they exposed when they stood for a photograph in the laboratory, was imprecise in that it did not account for between-subject variation in body size. My calculation of skin exposure comprised a ratio of skin exposure pixels to the fixed number of pixels in each photograph (12,000,000) instead of a subject-specific number of body pixels. Using this measure of skin exposure, I found a relationship between female participants' religiosity and their skin exposure. In future studies, a more precise measure of skin exposure should be used to confirm this finding.

Illustration Skin Exposure Measure. The experiment described here took place in a laboratory and required participants to indicate what they would wear to a gathering

with attractive members of the opposite sex in attendance—I did not directly measure what participants actually wore to social gatherings with peers from their mating pool. The artificial nature of the laboratory task most likely limited the external validity of the results obtained here, as participants may have under- or over-reported the degree to which they typically expose skin in certain situations.

Future Directions

As I expected based on theorizing that restricted sexual strategies are associated with greater religiosity, baseline religiosity was linked to modesty in women (Li, Cohen, Weeden & Kenrick, 2010; Weeden, Cohen, Kenrick & 2008). To confirm the finding that religiosity is related to women's modesty, replicating these findings in a more representative population would be ideal. Future studies should also consider using a life history perspective and assessing changes in modesty as participants age to shed further light on the present research question: Individuals promulgate different sexual strategies at different ages, so perhaps modesty fluctuates with age, depending on whether a restricted or unrestricted strategy best suits the individual (Kaplan & Gangestad, 2004).

I also expected—based on previous research indicating that religious cognition down-regulates characteristics associated with male short-term strategies—that a religious writing task would increase female modesty. This was indeed the case, and to confirm that writing about God and religion causes females to indicate that they would dress more modestly to a social gathering, a more direct measure of females' skin exposure at social gatherings, rather than indirect measures of what females would hypothetically wear, would be useful.

My attempt to experimentally manipulate religious cognition and observe its effects on modesty was apparently successful—a religious writing task influenced female modesty in a reliable way. Studies attempting to experimentally manipulate human behavior, particularly via priming, are difficult to conduct and replicate (Carlin & Standing, 2013; Doyen, Klein, Pichon, & Cleeremans, 2012; Pashler, Coburn, & Harris, 2012; Hone & McCullough, 2015), perhaps because priming methods rely on activating religious (or other socially relevant) cognition implicitly or subliminally. For the purposes of this experiment, instead of administering a prime with subtle cues to religion, I used an explicit religious writing task. Because I found an effect of religious cognition on modesty when using an explicit writing task, perhaps future studies on the causal relationship between religion and human behavior via use of explicit writing tasks, rather than implicit priming tasks, would be a fruitful avenue of research.

Conclusion

These findings comport well with previous findings that sexual morality and religiosity are closely linked and reveal that religiosity is associated with female, but not male, modesty. Future studies designed to confirm the relationship between female religiosity and modesty would benefit from sampling from a population with representatives from multiple and diverse religions and levels of religiosity and sociosexuality, as well as more precise measures of skin exposure during less artificial settings. Furthermore, the use of explicit writing tasks, rather than implicit priming tasks might enable researchers to better detect effects of religious cognition on human behavior. Finally, future studies that assess changes in modesty and religiosity as people

age might be a fruitful line of research and shed light on how religiosity might down-regulate sexually selected, characteristically female behaviors throughout a woman's life.

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Tables

Table 1a

Descriptive Statistics

		N	*M*	*SD*	*Skewness*	*SE*	*Kurtosis*	*SE*
Female	Illustration Skin Exposure %	440	47.63	13.57	-0.46	0.12	-0.59	0.23
	Photo Skin Exposure %	433	3.36	1.54	0.21	0.12	-0.75	0.23
	SOI	440	31.52	24.38	1.64	0.12	4.67	0.23
	RCI	439	1.23	1.07	0.81	0.12	-0.27	0.23
Male	Illustration Skin Exposure %	372	22.94	8.76	1.08	0.13	1.09	0.25
	Photo Skin Exposure %	373	3.09	0.96	0.03	0.13	0.40	0.25
	SOI	377	63.12	43.97	2.08	0.13	8.69	0.25
	RCI	376	1.08	0.96	0.93	0.13	0.07	0.25
Total	Illustration Skin Exposure %	812	36.32	16.92	0.28	0.09	-1.20	0.17
	Photo Skin Exposure %	806	3.23	1.31	0.32	0.09	-0.12	0.17
	RCI	815	1.16	1.02	0.87	0.09	-0.10	0.17
	SOI	817	46.10	38.20	2.26	0.09	10.28	0.17

Table 1b

Correlations Among Study Variables

		Photo Skin Exposure			Illustration Skin Exposure		
		r	*p*	*n*	*r*	*p*	*n*
Female	Illustration Skin Exposure %	0.28	<.01	433			
	Mean Daily Temp	0.34	<.01	433	0.12	0.01	440
	RCI	-0.15	<.01	432	-0.16	<.01	439
	SOI	0.11	0.03	433	0.13	0.01	440
Male	Illustration Skin Exposure %	0.15	<.01	368			
	Mean Daily Temp	0.20	<.01	372	0.17	<.01	370
	RCI	-0.01	0.83	372	<.01	0.98	371
	SOI	0.12	0.02	373	0.01	0.93	372
Total	Illustration Skin Exposure %	0.25	<.01	801			
	Mean Daily Temp	0.29	<.01	805	0.07	0.04	810
	RCI	-0.09	0.01	804	-0.02	0.67	810
	SOI	0.05	0.20	806	-0.26	<.01	812
		Mean Daily Temperature			RCI		
		r	*p*	*n*	*r*	*p*	*n*
Female	Illustration Skin Exposure %						
	Mean Daily Temp						
	RCI	0.03	0.48	439			
	SOI	-0.05	0.28	440	-0.30	<.01	439
Male	Illustration Skin Exposure %						
	Mean Daily Temp						
	RCI	-0.04	0.50	374			
	SOI	-0.01	0.91	375	-0.22	<.01	376
Total	Illustration Skin Exposure %						
	Mean Daily Temp						
	RCI	0.00	0.90	813			
	SOI	-0.01	0.77	815	-0.25	<.01	815

Table 2a

Sexual Orientation

		n	%
Female	Exclusively heterosexual	378	86
	Predominantly heterosexual/infrequently homosexual	39	9
	Predominantly heterosexual but frequently homosexual	4	1
	Equally heterosexual and homosexual	12	3
	Predominantly homosexual but frequently heterosexual	0	0
	Predominantly homosexual/ infrequently heterosexual	1	0
	Exclusively homosexual	3	1
	Missing	3	1
Male	Exclusively heterosexual	351	93
	Predominantly heterosexual/infrequently homosexual	8	2
	Predominantly heterosexual but frequently homosexual	1	0
	Equally heterosexual and homosexual	4	1
	Predominantly homosexual but frequently heterosexual	0	0
	Predominantly homosexual/ infrequently heterosexual	4	1
	Exclusively homosexual	6	2
	Missing	3	1
Total	Exclusively heterosexual	729	89
	Predominantly heterosexual/infrequently homosexual	47	6
	Predominantly heterosexual but frequently homosexual	5	1
	Equally heterosexual and homosexual	16	2
	Predominantly homosexual but frequently heterosexual	0	0
	Predominantly homosexual/ infrequently heterosexual	5	1
	Exclusively homosexual	9	1
	Missing	6	1

Table 2b

Sexual Orientation Descriptive Statistics

			n	*M*	*SD*
Female	Missing	Illustration Skin Exposure %	3	47.04	23.76
		Photo Skin Exposure %	3	4.45	1.82
		RCI	3	1.10	0.98
		SOI	3	15.67	10.26
	Exclusively heterosexual	Illustration Skin Exposure %	378	47.40	13.63
		Photo Skin Exposure %	373	3.33	1.55
		RCI	377	1.28	1.09
		SOI	378	29.76	22.51
	Predominantly heterosexual/infrequently homosexual	Illustration Skin Exposure %	39	50.54	12.34
		Photo Skin Exposure %	38	3.62	1.57
		RCI	39	0.94	0.86
		SOI	39	46.40	34.64
	Predominantly heterosexual but frequently homosexual	Illustration Skin Exposure %	4	46.33	13.17
		Photo Skin Exposure %	3	2.71	0.85
		RCI	4	0.58	0.89
		SOI	4	56.00	47.63
	Equally heterosexual and homosexual	Illustration Skin Exposure %	12	46.65	14.98
		Photo Skin Exposure %	12	3.17	1.24
		RCI	12	0.96	1.06
		SOI	12	36.16	18.57
	Predominantly homosexual/ infrequently heterosexual	Illustration Skin Exposure %	1	60.06	.
		Photo Skin Exposure %	1	5.08	.
		RCI	1	0.10	.
		SOI	1	37.00	.
	Exclusively homosexual	Illustration Skin Exposure %	3	41.21	10.30
		Photo Skin Exposure %	3	4.44	0.35
		RCI	3	0.90	0.56
		SOI	3	23.33	6.35
	Not exclusively heterosexual	Illustration Skin Exposure %	59	49.15	12.79
		Photo Skin Exposure %	57	3.54	1.45
		RCI	59	0.90	0.88
		SOI	59	43.64	31.93
Male	Missing	Illustration Skin Exposure %	3	20.65	0.70
		Photo Skin Exposure %	3	2.94	1.22
		RCI	2	0.55	0.35
		SOI	3	50.76	31.11

	Exclusively heterosexual	Illustration Skin Exposure %	346	22.89	8.79
		Photo Skin Exposure %	347	3.10	0.93
		RCI	351	1.11	0.98
		SOI	351	63.75	44.15
	Predominantly heterosexual/infrequently homosexual	Illustration Skin Exposure %	8	27.00	10.77
		Photo Skin Exposure %	8	2.83	1.26
		RCI	8	0.74	0.43
		SOI	8	47.10	31.41
	Predominantly heterosexual but frequently homosexual	Illustration Skin Exposure %	1	17.58	.
		Photo Skin Exposure %	1	2.67	.
		RCI	1	0.70	.
		SOI	1	7.00	.
	Equally heterosexual and homosexual	Illustration Skin Exposure %	4	24.08	10.23
		Photo Skin Exposure %	4	1.70	1.03
		RCI	4	1.68	0.57
		SOI	4	40.00	23.41
	Predominantly homosexual/ infrequently heterosexual	Illustration Skin Exposure %	4	18.49	5.65
		Photo Skin Exposure %	4	4.21	1.06
		RCI	4	0.33	0.28
		SOI	4	91.08	80.95
	Exclusively homosexual	Illustration Skin Exposure %	6	25.05	7.97
		Photo Skin Exposure %	6	2.86	1.07
		RCI	6	0.32	0.40
		SOI	6	60.47	26.32
	Not exclusively heterosexual	Illustration Skin Exposure %	23	24.10	9.00
		Photo Skin Exposure %	23	2.87	1.28
		RCI	23	0.72	0.62
		SOI	23	55.26	43.04
Total	Missing	Illustration Skin Exposure %	6	33.84	20.86
		Photo Skin Exposure %	6	3.69	1.61
		RCI	5	0.88	0.78
		SOI	6	33.21	28.26
	Exclusively heterosexual	Illustration Skin Exposure %	724	35.68	16.85
		Photo Skin Exposure %	720	3.22	1.29
		RCI	728	1.20	1.04
		SOI	729	46.12	38.58
	Predominantly heterosexual/infrequently homosexual	Illustration Skin Exposure %	47	46.54	14.95
		Photo Skin Exposure %	46	3.48	1.54
		RCI	47	0.90	0.80

Predominantly heterosexual but frequently homosexual	SOI	47	46.52	33.79
	Illustration Skin Exposure %	5	40.58	17.18
	Photo Skin Exposure %	4	2.70	0.69
	RCI	5	0.60	0.77
Equally heterosexual and homosexual	SOI	5	46.20	46.71
	Illustration Skin Exposure %	16	41.01	16.95
	Photo Skin Exposure %	16	2.80	1.33
	RCI	16	1.14	0.99
Predominantly homosexual/ infrequently heterosexual	SOI	16	37.12	19.12
	Illustration Skin Exposure %	5	26.80	19.22
	Photo Skin Exposure %	5	4.38	1.00
	RCI	5	0.28	0.26
Exclusively homosexual	SOI	5	80.27	74.16
	Illustration Skin Exposure %	9	30.44	11.47
	Photo Skin Exposure %	9	3.38	1.17
	RCI	9	0.51	0.51
Not exclusively heterosexual	SOI	9	48.09	28.07
	Illustration Skin Exposure %	82	42.13	16.35
	Photo Skin Exposure %	80	3.35	1.43
	RCI	82	0.85	0.81
	SOI	82	47	35.51

Table 2c

Sexual Orientation Group Differences

		t	*df*	*p*	*95% CI*		*d*
Female	Illustration Skin Exposure %	-0.93	435.00	0.35	-5.48	1.96	
	Photo Skin Exposure %	-1.00	428.00	0.32	-0.65	0.21	
	RCI	2.98	88.44	0.00	0.13	0.63	.38
	SOI	-3.22	67.28	0.00	-22.50	-5.27	.50
Male	Illustration Skin Exposure %	-0.64	367.00	0.52	-4.93	2.52	
	Photo Skin Exposure %	0.84	23.57	0.41	-0.33	0.79	
	RCI	2.78	29.58	0.01	0.10	0.68	.48
	SOI	0.89	372.00	0.37	-10.17	27.14	

Table 3a

Religion

		n	%
Female	Agnostic	35	8
	Atheist	31	7
	Baptist	16	3.6
	Buddhist	13	3
	Catholic	123	28
	Christian	61	13.9
	Church of God	2	0.5
	Congregational/ United Church of Christ	1	0.2
	Episcopalian/ Anglican	8	1.8
	Evangelical/ Born Again	1	0.2
	Hindu	8	1.8
	Humanist	1	0.2
	Jehovah's Witness	1	0.2
	Jewish	56	12.7
	Lutheran	2	0.5
	Methodist/ Wesleyan	7	1.6
	Muslim	10	2.3
	Nondenominational	9	2
	Orthodox (Eastern)	7	1.6
	Pentecostal/ Charismatic	1	0.2
	Protestant	3	0.7
	Presbyterian	3	0.7
	Reformed/ Dutch Reform Seventh-Day Adventist	1	0.2
	Spiritualist	7	1.6
	Unitarian/ Universalist	3	0.7
	Some other religion	7	1.6
	Two or more religions	15	3.4
	Missing	8	1.8
Male	Agnostic	41	10.9
	Atheist	49	13
	Baptist	7	1.9
	Buddhist	10	2.7
	Catholic	89	23.6
	Christian	42	11.1
	Christian Reform	1	0.3
	Church of God	1	0.3
	Disciples of Christ	1	0.3

Episcopalian/ Anglican	3	0.8
Evangelical/ Born Again	2	0.5
Hindu	11	2.9
Humanist	1	0.3
Jehovah's Witness	1	0.3
Jewish	50	13.3
Lutheran	6	1.6
Methodist/ Wesleyan	4	1.1
Muslim	12	3.2
Nondenominational	6	1.6
Orthodox (Eastern)	2	0.5
Protestant	4	1.1
Presbyterian	4	1.1
Reformed/ Dutch Reform Seventh-Day Adventist	1	0.3
Spiritualist	5	1.3
Unitarian/ Universalist	3	0.8
Some other religion	5	1.3
Two or more religions	11	2.9
Missing	5	1.3

Table 3b

Religious Groups

		n	%
Female	Christian	122	27.7
	Nonaffiliated	66	15
	Other	65	14.8
	Catholic	123	28
	Jewish	56	12.7
	Missing	8	1.8
Male	Christian	84	22.3
	Nonaffiliated	90	23.9
	Other	59	15.6
	Catholic	89	23.6
	Jewish	50	13.3
	Missing	5	1.3
Total	Christian	206	25.2
	Nonaffiliated	156	19.1
	Other	124	15.2
	Catholic	212	25.9
	Jewish	106	13
	Missing	13	1.6

Table 3c

Religious Group Descriptive Statistics

			n	*M*	*SD*
Female	Missing	Illustration Skin Exposure %	8	49.67	10.02
		Photo Skin Exposure %	8	3.83	0.96
		RCI	7	0.67	1.20
		SOI	8	15.39	10.10
	Christian	Illustration Skin Exposure %	122	47.53	14.06
		Photo Skin Exposure %	119	3.45	1.53
		RCI	122	1.66	1.18
		SOI	122	30.34	23.38
	Nonaffiliated	Illustration Skin Exposure %	66	52.74	11.65
		Photo Skin Exposure %	65	3.73	1.55
		RCI	66	0.32	0.32
		SOI	66	42.32	21.90
	Other	Illustration Skin Exposure %	65	45.37	13.10
		Photo Skin Exposure %	63	3.00	1.44
		RCI	65	1.29	1.10
		SOI	65	28.26	23.33
	Catholic	Illustration Skin Exposure %	123	46.26	13.59
		Photo Skin Exposure %	123	3.18	1.57
		RCI	123	1.36	0.97
		SOI	123	26.77	21.35
	Jewish	Illustration Skin Exposure %	56	47.15	14.49
		Photo Skin Exposure %	55	3.50	1.59
		RCI	56	1.08	0.85
		SOI	56	37.88	32.13
Male	Missing	Illustration Skin Exposure %	5	19.70	8.15
		Photo Skin Exposure %	5	2.59	1.10
		RCI	4	0.90	1.67
		SOI	5	44.10	27.26
	Christian	Illustration Skin Exposure %	83	23.35	8.95
		Photo Skin Exposure %	82	3.20	1.01
		RCI	84	1.63	1.05
		SOI	84	59.42	51.54
	Nonaffiliated	Illustration Skin Exposure %	89	23.28	8.52
		Photo Skin Exposure %	90	3.20	1.00
		RCI	90	0.36	0.43
		SOI	90	65.64	47.05

	Other	Illustration Skin Exposure %	58	22.06	8.80
		Photo Skin Exposure %	59	2.90	0.76
		RCI	59	1.32	0.92
		SOI	59	55.40	33.46
	Catholic	Illustration Skin Exposure %	89	23.08	9.23
		Photo Skin Exposure %	88	3.02	0.97
		RCI	89	1.14	0.87
		SOI	89	60.85	41.47
	Jewish	Illustration Skin Exposure %	48	22.78	8.25
		Photo Skin Exposure %	49	3.08	0.97
		RCI	50	1.07	0.88
		SOI	50	79.90	37.39
Total	Missing	Illustration Skin Exposure %	13	38.14	17.64
		Photo Skin Exposure %	13	3.35	1.15
		RCI	11	0.75	1.31
		SOI	13	26.43	22.77
	Christian	Illustration Skin Exposure %	205	37.74	17.06
		Photo Skin Exposure %	201	3.35	1.35
		RCI	206	1.65	1.13
		SOI	206	42.20	40.04
	Nonaffiliated	Illustration Skin Exposure %	155	35.82	17.67
		Photo Skin Exposure %	155	3.42	1.28
		RCI	156	0.34	0.39
		SOI	156	55.77	40.07
	Other	Illustration Skin Exposure %	123	34.38	16.20
		Photo Skin Exposure %	122	2.95	1.16
		RCI	124	1.30	1.01
		SOI	124	41.17	31.57
	Catholic	Illustration Skin Exposure %	212	36.53	16.55
		Photo Skin Exposure %	211	3.11	1.35
		RCI	212	1.27	0.93
		SOI	212	41.08	35.57
	Jewish	Illustration Skin Exposure %	104	35.90	17.09
		Photo Skin Exposure %	104	3.30	1.35
		RCI	106	1.07	0.86
		SOI	106	57.70	40.46

Table 3d

Correlations of Skin Exposure with Religiosity, Split by Religious Group

			Religiosity		
			r	*p*	*n*
Female	Missing	Photo Skin Exposure	0.56	0.19	7
		Illustration Skin Exposure	0.34	0.46	7
	Christian	Photo Skin Exposure	-0.10	0.27	119
		Illustration Skin Exposure	-0.15	0.11	122
	Nonaffiliated	Photo Skin Exposure	0.00	0.99	65
		Illustration Skin Exposure	0.05	0.72	66
	Other	Photo Skin Exposure	-0.28	0.02	63
		Illustration Skin Exposure	-0.09	0.48	65
	Catholic	Photo Skin Exposure	-0.02	0.82	123
		Illustration Skin Exposure	-0.13	0.16	123
	Jewish	Photo Skin Exposure	-0.41	<.01	55
		Illustration Skin Exposure	-0.14	0.32	56
Male	Missing	Photo Skin Exposure	-0.02	0.98	4
		Illustration Skin Exposure	0.24	0.77	4
	Christian	Photo Skin Exposure	-0.07	0.53	82
		Illustration Skin Exposure	-0.17	0.13	83
	Nonaffiliated	Photo Skin Exposure	-0.06	0.58	90
		Illustration Skin Exposure	0.08	0.49	89
	Other	Photo Skin Exposure	-0.06	0.64	59
		Illustration Skin Exposure	0.01	0.92	58
	Catholic	Photo Skin Exposure	0.04	0.75	88
		Illustration Skin Exposure	0.15	0.15	89
	Jewish	Photo Skin Exposure	0.22	0.12	49
		Illustration Skin Exposure	-0.02	0.92	48
Total	Missing	Illustration Skin Exposure %	0.08	0.81	11
		Photo Skin Exposure %	0.20	0.57	11
	Christian	Illustration Skin Exposure %	-0.10	0.18	205
		Photo Skin Exposure %	-0.09	0.20	201
	Nonaffiliated	Illustration Skin Exposure %	-0.02	0.79	155
		Photo Skin Exposure %	-0.04	0.60	155
	Other	Illustration Skin Exposure %	-0.06	0.53	123
		Photo Skin Exposure %	-0.22	0.02	122
	Catholic	Illustration Skin Exposure %	0.05	0.46	212
		Photo Skin Exposure %	0.002	0.98	211
	Jewish	Illustration Skin Exposure %	-0.035	0.722	104

Photo Skin Exposure %	-0.169	0.086	104

Table 3e

Correlations of Illustration Skin Exposure with Religiosity, Split by Condition

			Religiosity		
			r	*p*	*n*
Female	Missing	Religious Condition			2
		Secular Condition	0.74	0.47	3
		Control Condition			2
	Christian	Religious Condition	-0.18	0.26	41
		Secular Condition	-0.28	0.08	41
		Control Condition	0.01	0.93	40
	Nonaffiliated	Religious Condition	0.17	0.38	30
		Secular Condition	0.13	0.61	18
		Control Condition	-0.22	0.39	18
	Other	Religious Condition	-0.18	0.34	30
		Secular Condition	0.20	0.47	15
		Control Condition	0.02	0.95	20
	Catholic	Religious Condition	-0.37	0.01	45
		Secular Condition	0.11	0.52	40
		Control Condition	0.01	0.95	38
	Jewish	Religious Condition	-0.13	0.70	11
		Secular Condition	-0.11	0.61	23
		Control Condition	0.03	0.88	22
Male	Missing	Religious Condition			2
		Secular Condition			1
		Control Condition			1
	Christian	Religious Condition	-0.26	0.16	30
		Secular Condition	0.11	0.64	22
		Control Condition	-0.25	0.18	31
	Nonaffiliated	Religious Condition	-0.27	0.16	30
		Secular Condition	0.15	0.44	30
		Control Condition	0.42	0.02	29
	Other	Religious Condition	-0.03	0.91	21
		Secular Condition	0.25	0.34	16
		Control Condition	-0.08	0.73	21
	Catholic	Religious Condition	0.17	0.35	34
		Secular Condition	0.23	0.28	24
		Control Condition	0.09	0.63	31
	Jewish	Religious Condition	-0.19	0.46	18
		Secular Condition	0.18	0.44	20

		Control Condition	-0.33	0.36	10
Total	Missing	Religious Condition	0.76	0.24	4
		Secular Condition	0.70	0.30	4
		Control Condition	-0.99	0.09	3
	Christian	Religious Condition	-0.09	0.48	71
		Secular Condition	-0.10	0.42	63
		Control Condition	-0.11	0.35	71
	Nonaffiliated	Religious Condition	-0.16	0.21	60
		Secular Condition	-0.02	0.91	48
		Control Condition	0.16	0.29	47
	Other	Religious Condition	-0.10	0.47	51
		Secular Condition	0.42	0.02	31
		Control Condition	-0.39	0.01	41
	Catholic	Religious Condition	-0.05	0.69	79
		Secular Condition	0.08	0.53	64
		Control Condition	0.15	0.22	69
	Jewish	Religious Condition	0.08	0.69	29
		Secular Condition	-0.01	0.95	43
		Control Condition	-0.17	0.36	32

Table 4a

RCI and SOI Sex Differences

	t	*df*	*p*	*95% CI*		*d*
RCI	2.09	810.91	0.04	0.01	0.29	0.15
SOI	-12.42	566.54	<.01	-36.60	-26.60	0.89

Table 4b

RCI and SOI Condition Assignment Group Differences

			n	*M*	*SD*		*SS*	*df*	*MS*	*F*	*p*
RCI	Female	Religion	159	1.24	1.14	Between	1.89	2	0.95	0.83	0.44
		Culture	140	1.30	1.06	Within	495.50	436	1.14		
		Household	140	1.14	0.98	Total	497.39	438			
		Total	439	1.23	1.07						
	Male	Religion	138	1.00	0.86	Between	2.64	2			
		Culture	114	1.05	1.01	Within	342.98	373	1.32	1.43	0.24
		Household	124	1.20	1.01	Total	345.62	375	0.92		
		Total	376	1.08	0.96						
SOI	Female	Religion	159	32.61	24.23	Between	860.97	2	430.48	0.72	0.49
		Culture	140	32.33	27.54	Within	260080.43	437	595.15		
		Household	141	29.49	21.02	Total	260941.39	439			
		Total	440	31.52	24.38						
	Male	Religion	138	63.99	46.49	Between	4935.86	2	2467.93	1.28	0.28
		Culture	115	67.27	47.35	Within	721902.59	374	1930.22		
		Household	124	58.32	37.21	Total	726838.46	376			
		Total	377	63.12	43.97						

Table 5a

Skin Exposure Sex Differences

	t	*df*	*p*	*95% CI*		*d*
Photo Skin Exposure	3.11	734.64	<.01	0.10	0.45	0.21
Illustration Skin Exposure	31.23	759.84	<.01	23.13	26.24	2.16

Table 5b

Illustration Skin Exposure Condition Assignment Group Differences

		n	*M*	*SD*		*SS*	*df*	*MS*	*F*	*p*
Female	Religion	159	45.977	14.2527	Between	1556.781	2	778.391	4.29	0.01
	Culture	140	46.792	13.3391	Within	79298.46	437	181.461		
	Household	141	50.3249	12.6688	Total	80855.24	439			
	Total	440	47.6296	13.5713						
Male	Religion	135	22.7178	8.4827	Between	12.998	2	6.499	0.08	0.92
	Culture	114	22.9718	8.47377	Within	28443.14	369	77.082		
	Household	123	23.1649	9.35943	Total	28456.14	371			
	Total	372	22.9435	8.75792						

Table 6

Analysis 1

							95% CI		Correlations			Collinearity	
Model		*B*	*SE*	*Beta*	*t*	*p*	*LB*	*UB*	*Zero-order*	*Partial*	*Part*	*Tolerance*	*VIF*
	R^2 = .11, F(4, 798) = 25.06, p < .01												
1	(Constant)	3.38	0.06		56.57	<.01	3.26	3.50					
	Mean Daily Temp (Mean-Centered)	0.08	0.01	0.29	8.75	<.01	0.06	0.10	0.29	0.30	0.29	1.00	1.00
	Sex	-0.30	0.09	-0.12	-3.43	<.01	-0.47	-0.13	-0.10	-0.12	-0.11	0.99	1.01
	RCI (Mean-Centered)	-0.23	0.06	-0.18	-4.10	<.01	-0.34	-0.12	-0.09	-0.14	-0.14	0.59	1.71
	Sex BY RCI (Mean-Centered)	0.23	0.09	0.11	2.62	0.01	0.06	0.40	<.01	0.09	0.09	0.59	1.70
	R^2 change = .01, F(2,796) = 3.65, p = .03												
2	(Constant)	3.45	0.07		49.73	<.01	3.31	3.59					
	Mean Daily Temp (Mean-Centered)	0.08	0.01	0.30	8.85	<.01	0.06	0.10	0.29	0.30	0.29	1.00	1.00
	Sex	-0.42	0.10	-0.16	-4.26	<.01	-0.61	-0.23	-0.10	-0.15	-0.14	0.80	1.25
	RCI (Mean-Centered)	-0.20	0.06	-0.15	-3.34	<.01	-0.31	-0.08	-0.09	-0.12	-0.11	0.54	1.87
	Sex BY RCI (Mean-Centered)	0.22	0.09	0.11	2.47	0.01	0.05	0.40	<.01	0.09	0.08	0.55	1.82
	SOI (Mean-Centered)	0.01	<.01	0.15	1.99	0.05	<.01	0.01	0.05	0.07	0.07	0.20	4.97
	Sex BY SOI SOI (Mean-Centered)	<.01	<.01	-0.06	-0.79	0.43	-0.01	<.01	0.03	-0.03	-0.03	0.23	4.42

Table 7

Regression Analysis (Female as Reference Group)

							95% CI		Correlations		
Model		*B*	*SE*	*Beta*	*t*	*p*	*LB*	*UB*	*Zero-order*	*Partial*	*Part*
	R^2 = .54, F(5, 806) = 186.14, p < .01										
1	(Constant)	50.33	0.97		51.69	**0.00**	48.41	52.24			
	Sex	-27.16	1.43	-0.80	-19.04	**0.00**	-29.96	-24.36	-0.73	-0.56	-0.46
	Condition = Religion	-4.35	1.34	-0.12	-3.25	**0.00**	-6.97	-1.72	-0.05	-0.11	-0.08
	Condition = Secular	-3.53	1.38	-0.10	-2.56	**0.01**	-6.24	-0.83	-0.01	-0.09	-0.06
	Sex BY Religious Condition	3.90	1.97	0.09	1.98	**0.05**	0.04	7.76	-0.36	0.07	0.05
	Sex BY Secular Condition	3.34	2.04	0.07	1.64	0.10	-0.67	7.34	-0.32	0.06	0.04

Simple Regression Analysis (Male as Reference Group)

	R^2 = .54, F(5, 806) = 186.14, p < .01										
1	(Constant)	23.17	1.04		22.22	**0.00**	21.12	25.21			
	Sex	27.16	1.43	0.80	19.04	**0.00**	24.36	29.96	0.73	0.56	0.46
	Condition = Religion	-0.45	1.44	-0.01	-0.31	0.76	-3.28	2.38	-0.05	-0.01	-0.01
	Condition = Secular	-0.19	1.50	-0.01	-0.13	0.90	-3.14	2.76	-0.01	-0.01	0.00
	Sex BY Religious Condition	-3.90	1.97	-0.09	-1.98	**0.05**	-7.76	-0.04	0.28	-0.07	-0.05
	Sex BY Secular Condition	-3.34	2.04	-0.08	-1.64	0.10	-7.34	0.67	0.28	-0.06	-0.04

Table 8

Analysis 2 (Female and Control Conditions as Reference Groups)

							95% CI		Correlations			Collinearity	
Model		*B*	*SE*	*Beta*	*t*	*p*	*LB*	*UB*	*Zero-order*	*Partial*	*Part*	*Tolerance*	*VIF*
	R^2 = .57, $F(5, 792)$ = 206.55, p < .01												
1	(Constant)	47.53	0.54		87.86	<.01	46.46	48.59					
	Photo Skin Exposure	1.88	0.32	0.15	5.89	<.01	1.26	2.51	0.25	0.21	0.14	0.89	1.12
	Mean Daily Temp	0.21	0.08	0.06	2.52	0.01	0.05	0.38	0.08	0.09	0.06	0.91	1.10
	Sex	-24.30	0.80	-0.72	-30.26	<.01	-25.87	-22.72	-0.73	-0.73	-0.71	0.98	1.02
	RCI	-1.56	0.51	-0.09	-3.06	<.01	-2.56	-0.56	-0.01	-0.11	-0.07	0.58	1.72
	Sex BY RCI	1.65	0.80	0.06	2.06	0.04	0.08	3.22	0.05	0.07	0.05	0.59	1.69
	R^2 change < .01, $F(2,790)$ = 2.01, p = .14												
2	(Constant)	48.17	0.63		76.35	<.01	46.93	49.41					
	Photo Skin Exposure	1.85	0.32	0.14	5.75	<.01	1.22	2.48	0.25	0.20	0.13	0.88	1.13
	Mean Daily Temp	0.22	0.08	0.06	2.61	0.01	0.06	0.39	0.08	0.09	0.06	0.91	1.10
	Sex	-24.89	0.90	-0.73	-27.76	<.01	-26.64	-23.13	-0.73	-0.70	-0.65	0.78	1.28
	RCI	-1.26	0.53	-0.08	-2.37	0.02	-2.30	-0.22	-0.01	-0.08	-0.06	0.54	1.87
	Sex BY RCI	1.30	0.83	0.05	1.58	0.12	-0.32	2.93	0.05	0.06	0.04	0.55	1.81
	SOI	0.05	0.02	0.10	1.98	0.05	<.01	0.09	-0.26	0.07	0.05	0.20	4.96
	Sex BY SOI	-0.05	0.03	-0.09	-1.86	0.06	-0.10	0.00	-0.20	-0.07	-0.04	0.23	4.39
	R^2 change = .01, $F(6,784)$ = 2.23, p = .04												
3	(Constant)	50.22	1.04		48.52	<.01	48.18	52.25					
	Photo Skin Exposure	1.80	0.32	0.14	5.61	<.01	1.17	2.43	0.25	0.20	0.13	0.88	1.14
	Mean Daily Temp	0.22	0.08	0.07	2.63	0.01	0.06	0.39	0.08	0.09	0.06	0.90	1.12
	Sex	-26.64	1.46	-0.79	-18.24	<.01	-29.51	-23.78	-0.73	-0.55	-0.43	0.29	3.42
	RCI	-0.23	0.82	-0.01	-0.28	0.78	-1.83	1.38	-0.01	-0.01	-0.01	0.22	4.47
	Sex BY RCI	0.94	0.83	0.04	1.12	0.26	-0.70	2.57	0.05	0.04	0.03	0.54	1.86
	SOI	0.05	0.02	0.12	2.25	0.03	0.01	0.10	-0.26	0.08	0.05	0.20	4.99
	Sex BY SOI	-0.06	0.03	-0.10	-2.09	0.04	-0.11	<.01	-0.20	-0.07	-0.05	0.23	4.41
	Condition = Religion	-3.41	1.31	-0.10	-2.60	0.01	-5.98	-0.83	-0.05	-0.09	-0.06	0.39	2.57
	Condition = Secular	-2.21	1.36	-0.06	-1.62	0.11	-4.87	0.46	<.01	-0.06	-0.04	0.39	2.56
	Sex BY Religious Condition	2.49	1.92	0.06	1.30	0.20	-1.28	6.27	-0.36	0.05	0.03	0.30	3.32
	Sex BY Secular Condition	2.07	2.01	0.04	1.03	0.30	-1.87	6.01	-0.32	0.04	0.02	0.32	3.12
	RCI BY Religious Condition	-2.10	0.96	-0.08	-2.19	0.03	-3.98	-0.22	-0.03	-0.08	-0.05	0.45	2.25
	RCI BY Secular Condition	-0.23	0.98	-0.01	-0.24	0.81	-2.16	1.69	0.04	-0.01	-0.01	0.48	2.07

Analysis 2 (Male and Control Conditions as Reference Groups)

	R^2 = .57, $F(5, 792)$ = 206.55, p < .01												
1	(Constant)	23.23	0.59		39.41	0.00	22.07	24.38					
	Photo Skin Exposure	1.88	0.32	0.15	5.89	0.00	1.26	2.51	0.25	0.21	0.14	0.89	1.12

	Sex	24.30	0.80	0.72	30.26	0.00	22.72	25.87	0.73	0.73	0.71	0.98	1.02
	Mean Daily Temp	0.21	0.08	0.06	2.52	0.01	0.05	0.38	0.08	0.09	0.06	0.91	1.10
	RCI	0.09	0.62	0.01	0.14	0.89	-1.12	1.30	-0.01	0.01	0.00	0.40	2.51
	Sex BY RCI	-1.65	0.80	-0.08	-2.06	0.04	-3.22	-0.08	-0.06	-0.07	-0.05	0.40	2.53
	R^2 *change* < .01, $F(2,790) = 2.01$, $p = .14$												
2	(Constant)	23.29	0.63		37.00	0.00	22.05	24.52					
	Photo Skin Exposure	1.85	0.32	0.14	5.75	0.00	1.22	2.48	0.25	0.20	0.13	0.88	1.13
	Sex	24.89	0.90	0.73	27.76	0.00	23.13	26.64	0.73	0.70	0.65	0.78	1.28
	Mean Daily Temp	0.22	0.08	0.06	2.61	0.01	0.06	0.39	0.08	0.09	0.06	0.91	1.10
	RCI	0.05	0.63	0.00	0.07	0.94	-1.20	1.29	-0.01	0.00	0.00	0.38	2.65
	Sex BY RCI	-1.30	0.83	-0.06	-1.58	0.12	-2.93	0.32	-0.06	-0.06	-0.04	0.37	2.70
	SOI	0.00	0.01	-0.01	-0.30	0.77	-0.03	0.02	-0.26	-0.01	-0.01	0.57	1.74
	Sex BY SOI	0.05	0.03	0.06	1.86	0.06	0.00	0.10	-0.20	0.07	0.04	0.58	1.72
	R^2 *change* = .01, $F(6,784) = 2.23$, $p = .04$												
3	(Constant)	23.57	1.02		23.06	0.00	21.57	25.58					
	Photo Skin Exposure	1.80	0.32	0.14	5.61	0.00	1.17	2.43	0.25	0.20	0.13	0.88	1.14
	Sex	26.64	1.46	0.79	18.24	0.00	23.78	29.51	0.73	0.55	0.43	0.29	3.42
	Mean Daily Temp	0.22	0.08	0.07	2.63	0.01	0.06	0.39	0.08	0.09	0.06	0.90	1.12
	RCI	0.71	0.82	0.04	0.87	0.39	-0.90	2.32	-0.01	0.03	0.02	0.22	4.48
	Sex BY RCI	-0.94	0.83	-0.04	-1.12	0.26	-2.57	0.70	-0.06	-0.04	-0.03	0.36	2.78
	SOI	0.00	0.01	-0.01	-0.29	0.77	-0.03	0.02	-0.26	-0.01	-0.01	0.57	1.76
	Sex BY SOI	0.06	0.03	0.06	2.09	0.04	0.00	0.11	-0.20	0.07	0.05	0.58	1.74
	Condition = Religion	-0.91	1.40	-0.03	-0.65	0.52	-3.66	1.84	-0.05	-0.02	-0.02	0.34	2.94
	Condition = Secular	-0.13	1.47	0.00	-0.09	0.93	-3.01	2.75	0.00	0.00	0.00	0.33	3.00
	Sex BY Religious Condition	-2.49	1.92	-0.06	-1.30	0.20	-6.27	1.28	0.28	-0.05	-0.03	0.27	3.77
	Sex BY Secular Condition	-2.07	2.01	-0.05	-1.03	0.30	-6.01	1.87	0.29	-0.04	-0.02	0.27	3.74
	RCI BY Religious Condition	-2.10	0.96	-0.08	-2.19	0.03	-3.98	-0.22	-0.03	-0.08	-0.05	0.45	2.25
	RCI BY Secular Condition	-0.23	0.98	-0.01	-0.24	0.81	-2.16	1.69	0.04	-0.01	-0.01	0.48	2.07

Table 9

Alternative Analysis 2

							95% CI		Correlations			Collinearity	
Model		*B*	*SE*	*Beta*	*t*	*p*	*LB*	*UB*	*Zero-order*	*Partial*	*Part*	*Tolerance*	*VIF*
	R^2 = .57, $F(5,792)$ = 206.55, p < .01												
1	(Constant)	47.53	0.54		87.86	0.00	46.46	48.59					
	Photo Skin Exposure	1.88	0.32	0.15	5.89	0.00	1.26	2.51	0.25	0.21	0.14	0.89	1.12
	Mean Daily Temp	0.21	0.08	0.06	2.52	0.01	0.05	0.38	0.08	0.09	0.06	0.91	1.10
	Sex	-24.30	0.80	-0.72	-30.26	0.00	-25.87	-22.72	-0.73	-0.73	-0.71	0.98	1.02
	RCI	-1.56	0.51	-0.09	-3.06	0.00	-2.56	-0.56	-0.01	-0.11	-0.07	0.58	1.72
	Sex BY RCI	1.65	0.80	0.06	2.06	0.04	0.08	3.22	0.05	0.07	0.05	0.59	1.69
	R^2 change < .01, $F(2,790)$ = 2.01, p = .14												
2	(Constant)	48.17	0.63		76.35	0.00	46.93	49.41					
	Photo Skin Exposure	1.85	0.32	0.14	5.75	0.00	1.22	2.48	0.25	0.20	0.13	0.88	1.13
	Mean Daily Temp	0.22	0.08	0.06	2.61	0.01	0.06	0.39	0.08	0.09	0.06	0.91	1.10
	Sex	-24.89	0.90	-0.73	-27.76	0.00	-26.64	-23.13	-0.73	-0.70	-0.65	0.78	1.28
	RCI	-1.26	0.53	-0.08	-2.37	0.02	-2.30	-0.22	-0.01	-0.08	-0.06	0.54	1.87
	Sex BY RCI	1.30	0.83	0.05	1.58	0.12	-0.32	2.93	0.05	0.06	0.04	0.55	1.81
	SOI	0.05	0.02	0.10	1.98	0.05	0.00	0.09	-0.26	0.07	0.05	0.20	4.96
	Sex BY SOI	-0.05	0.03	-0.09	-1.86	0.06	-0.10	0.00	-0.20	-0.07	-0.04	0.23	4.39
	R^2 change = .01, $F(6,784)$ = 2.23, p = .04												
3	(Constant)	48.35	0.63		76.63	0.00	47.11	49.58					
	Photo Skin Exposure	1.80	0.32	0.14	5.61	0.00	1.17	2.43	0.25	0.20	0.13	0.88	1.14
	Mean Daily Temp	0.22	0.08	0.07	2.63	0.01	0.06	0.39	0.08	0.09	0.06	0.90	1.12
	Sex	-25.12	0.90	-0.74	-27.98	0.00	-26.88	-23.36	-0.73	-0.71	-0.65	0.77	1.29
	RCI	-1.00	0.54	-0.06	-1.87	0.06	-2.05	0.05	-0.01	-0.07	-0.04	0.52	1.92
	Sex BY RCI	0.94	0.83	0.04	1.12	0.26	-0.70	2.57	0.05	0.04	0.03	0.54	1.86
	SOI	0.05	0.02	0.12	2.25	0.03	0.01	0.10	-0.26	0.08	0.05	0.20	4.99
	Sex BY SOI	-0.06	0.03	-0.10	-2.09	0.04	-0.11	0.00	-0.20	-0.07	-0.05	0.23	4.41
	Control VS Experimental	-1.87	0.78	-0.08	-2.41	0.02	-3.39	-0.35	-0.04	-0.09	-0.06	0.52	1.92
	Sex BY Control VS Experimental	1.52	1.14	0.04	1.34	0.18	-0.71	3.75	-0.01	0.05	0.03	0.52	1.92
	RCI BY Control VS Experimental	-0.78	0.56	-0.03	-1.38	0.17	-1.88	0.33	0.02	-0.05	-0.03	0.97	1.03
	Secular VS Religious	-0.60	0.65	-0.03	-0.92	0.36	-1.88	0.68	-0.03	-0.03	-0.02	0.54	1.85
	Sex BY Secular VS Religious	0.21	0.98	0.01	0.22	0.83	-1.71	2.13	-0.05	0.01	0.01	0.53	1.88
	RCI BY Secular VS Religious	-0.93	0.47	-0.05	-1.98	0.05	-1.86	-0.01	-0.05	-0.07	-0.05	0.97	1.03

Figures

Figure 1

Analysis 1: RCI by Sex Interaction

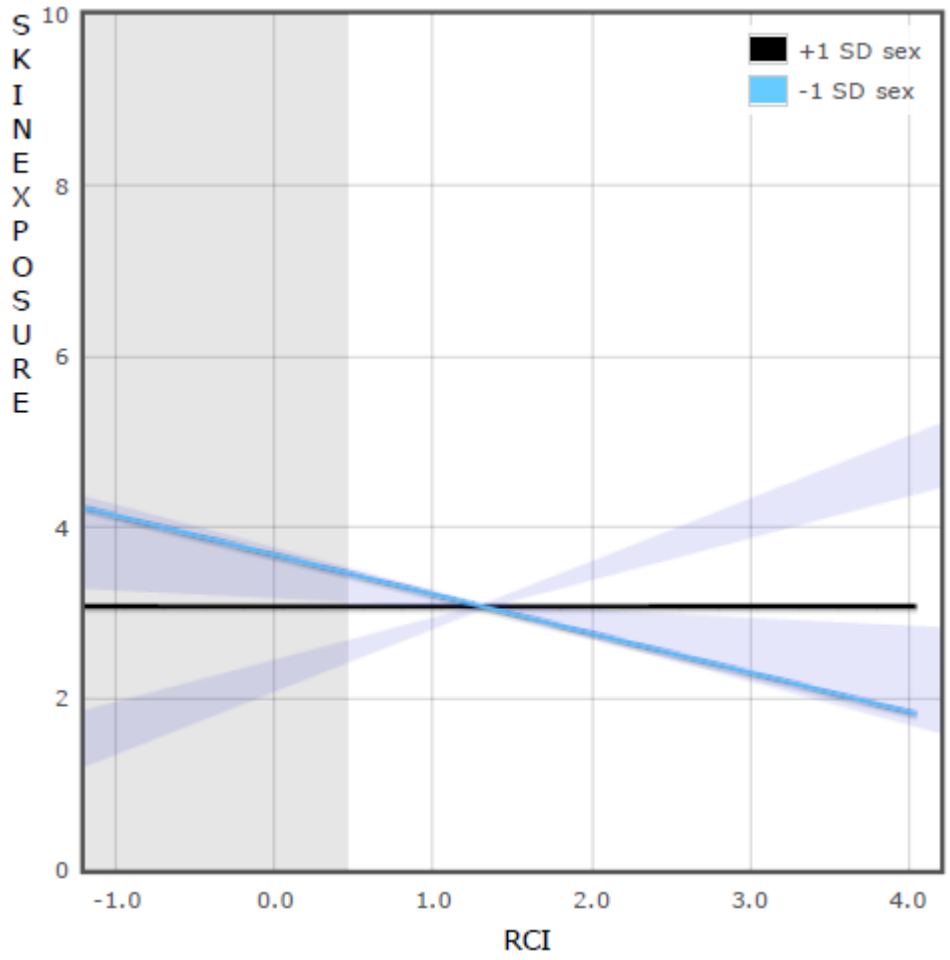


Figure 2

Regression Analysis: Sex by Religious Condition Interaction

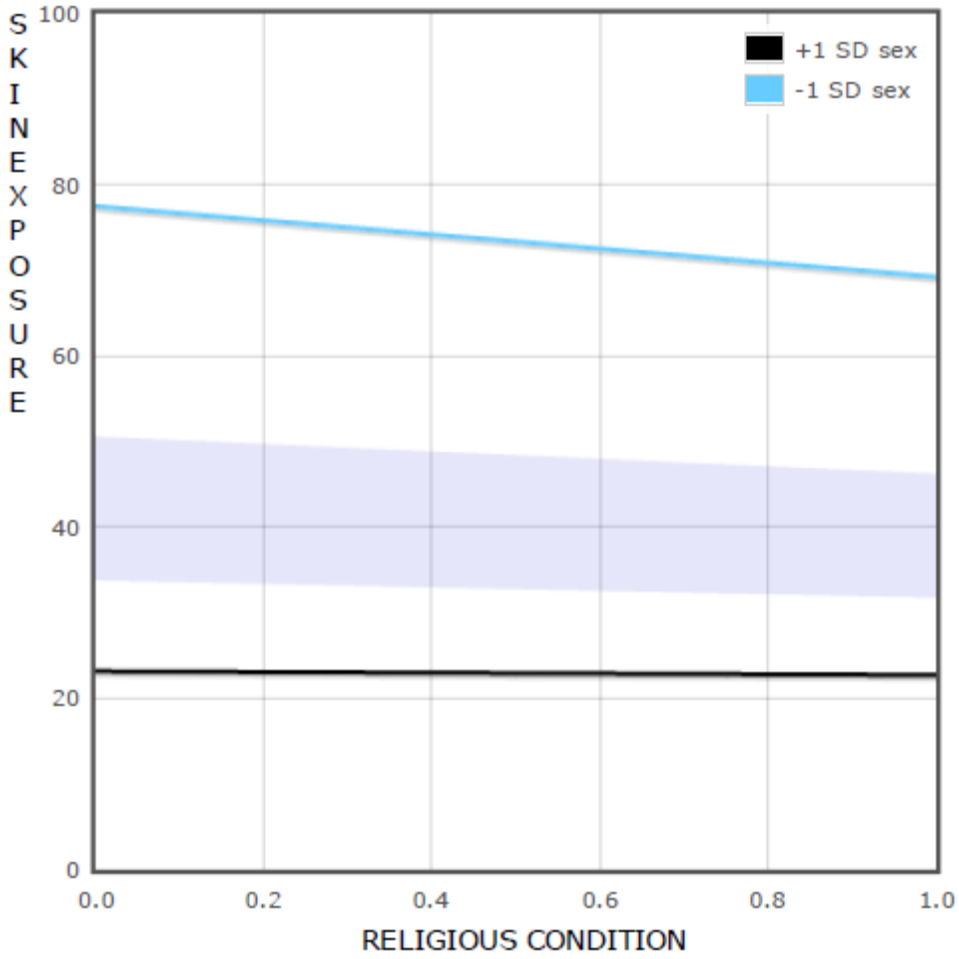


Figure 3

Analysis 2: RCI by Religious Condition Interaction

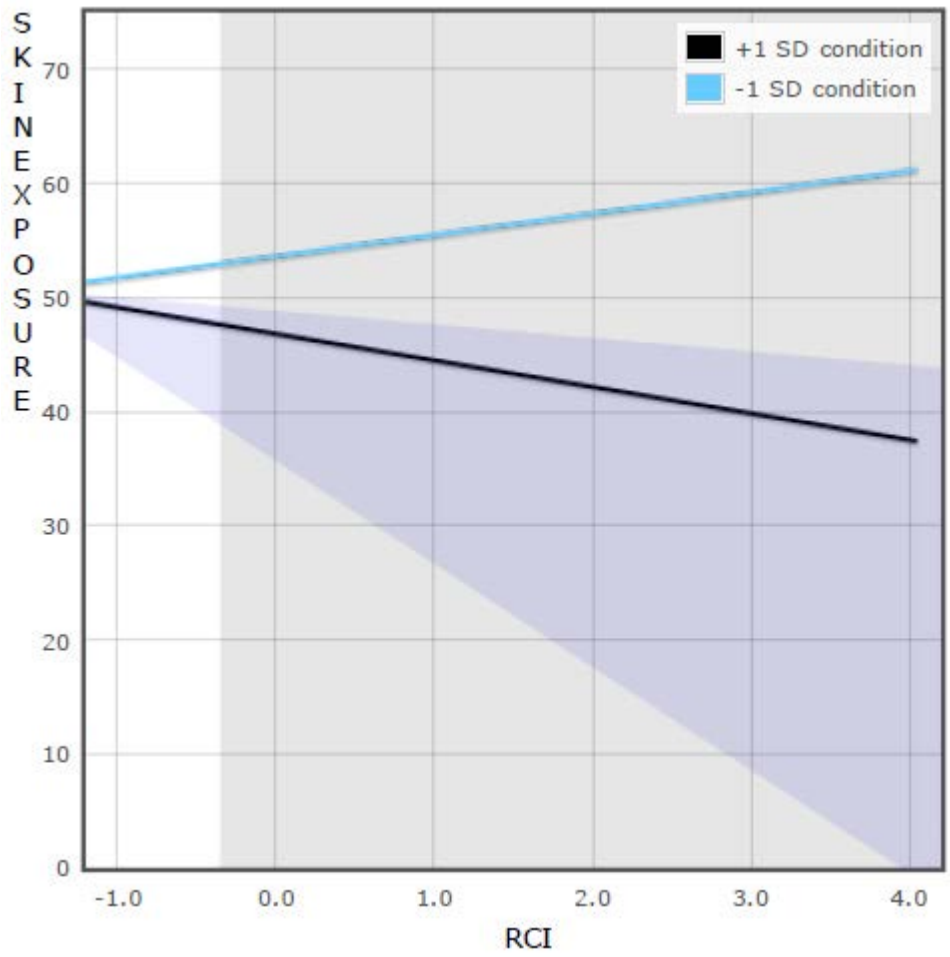


Figure 4

Analysis 2: RCI by Religious Condition Interaction, Split by Sex

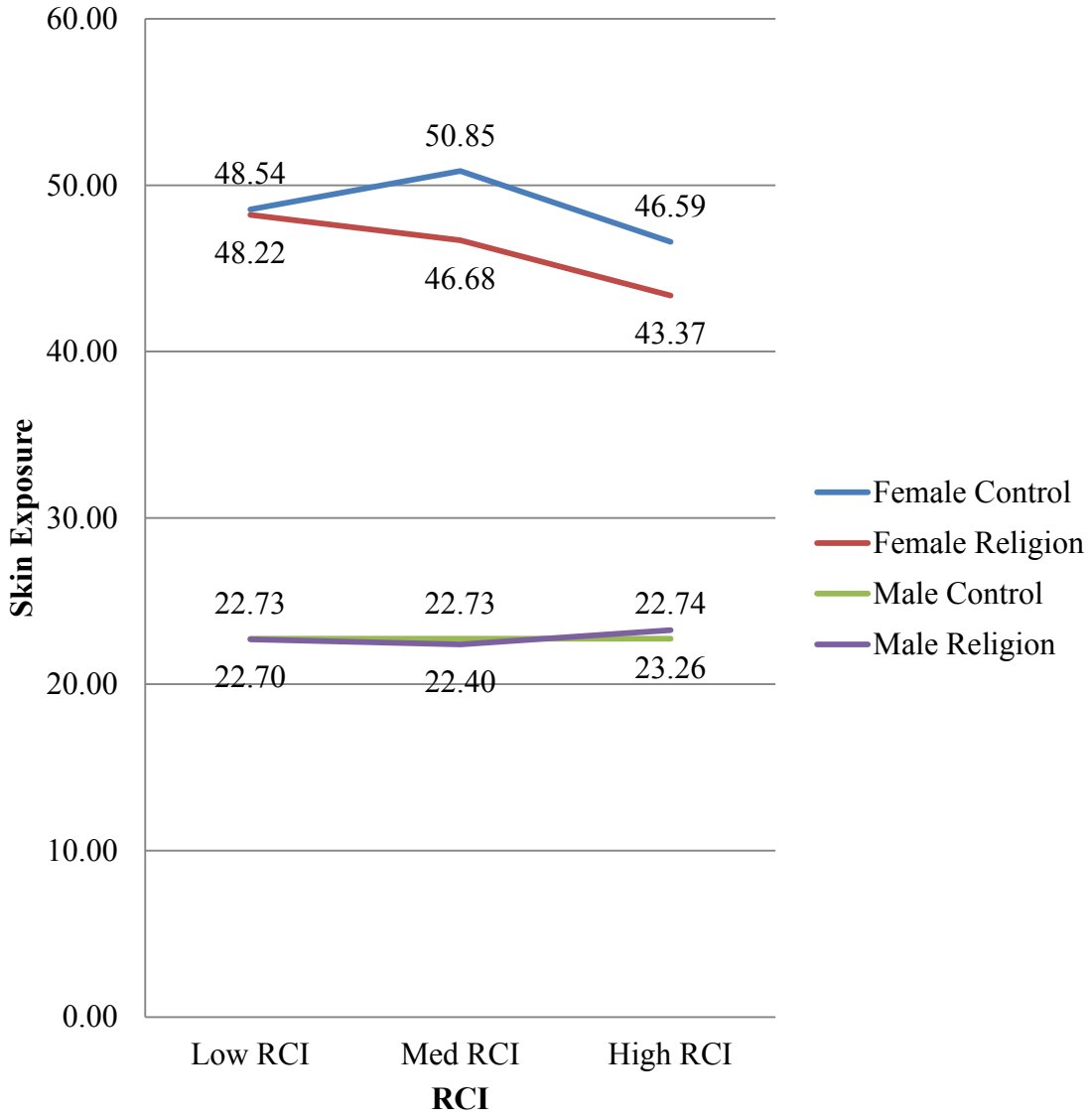
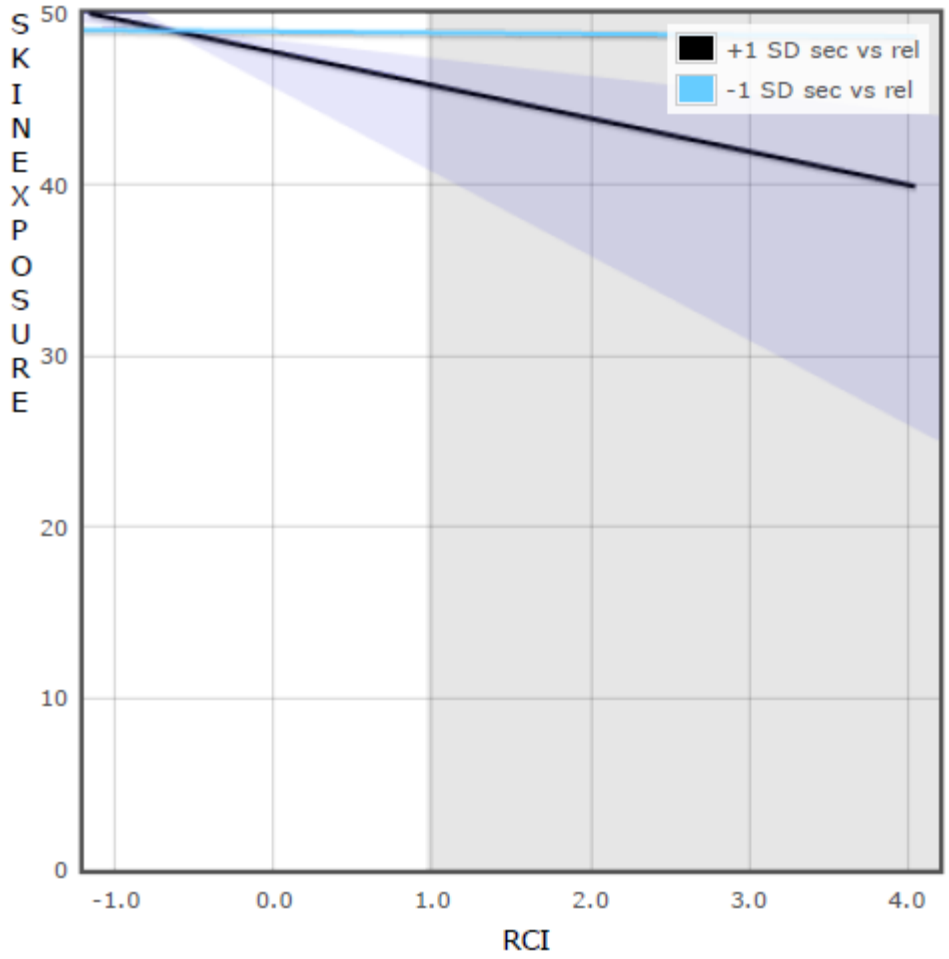


Figure 5

Alternative Analysis 2: RCI by Religious versus Secular Condition Interaction



Appendices

Appendix A

Writing Tasks

For the next 15 minutes, we'd like for you to write an essay about your beliefs and feelings about God and your religion. Please focus on your connection to God and/or your religion, what it means to be a member of your religion and the aspects of your religious beliefs and practices that mean the most to you. If you are not a religious person, please write about what the idea of God means to you. Please be as detailed as you can. If you have time left before the 15 minutes are over, please continue writing about the same topic, even if you feel like you are repeating yourself.

For the next 15 minutes, we'd like for you to write an essay about your beliefs and feelings about your country and your culture. Please focus on your connection to your country, what is means to be a citizen of your country, and the aspects of your nationality or culture that mean the most to you. If you do not feel a strong connection to your country, please write about the country you identify as "yours." Please be as detailed as you can. If you have time left before the 15 minutes are over, please continue writing about the same topic, even if you feel like you are repeating yourself.

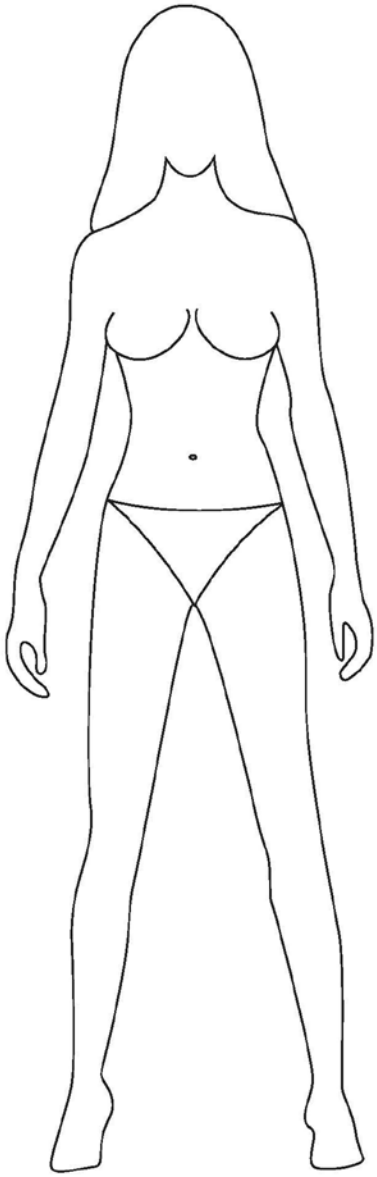
For the next 15 minutes we'd like for you to write an essay about the sorts of items you have in your home, apartment, or dormitory room. Please describe in detail the

things that you own and how they are organized in your living space. Please begin by describing what you would encounter if you were walking through your living space, and you were telling someone on the telephone about the items that you were encountering. Please be as detailed as you can. If you have time left before the 15 minutes is over, please continue writing about the same topic, even if you feel like you are repeating yourself.

Appendix B

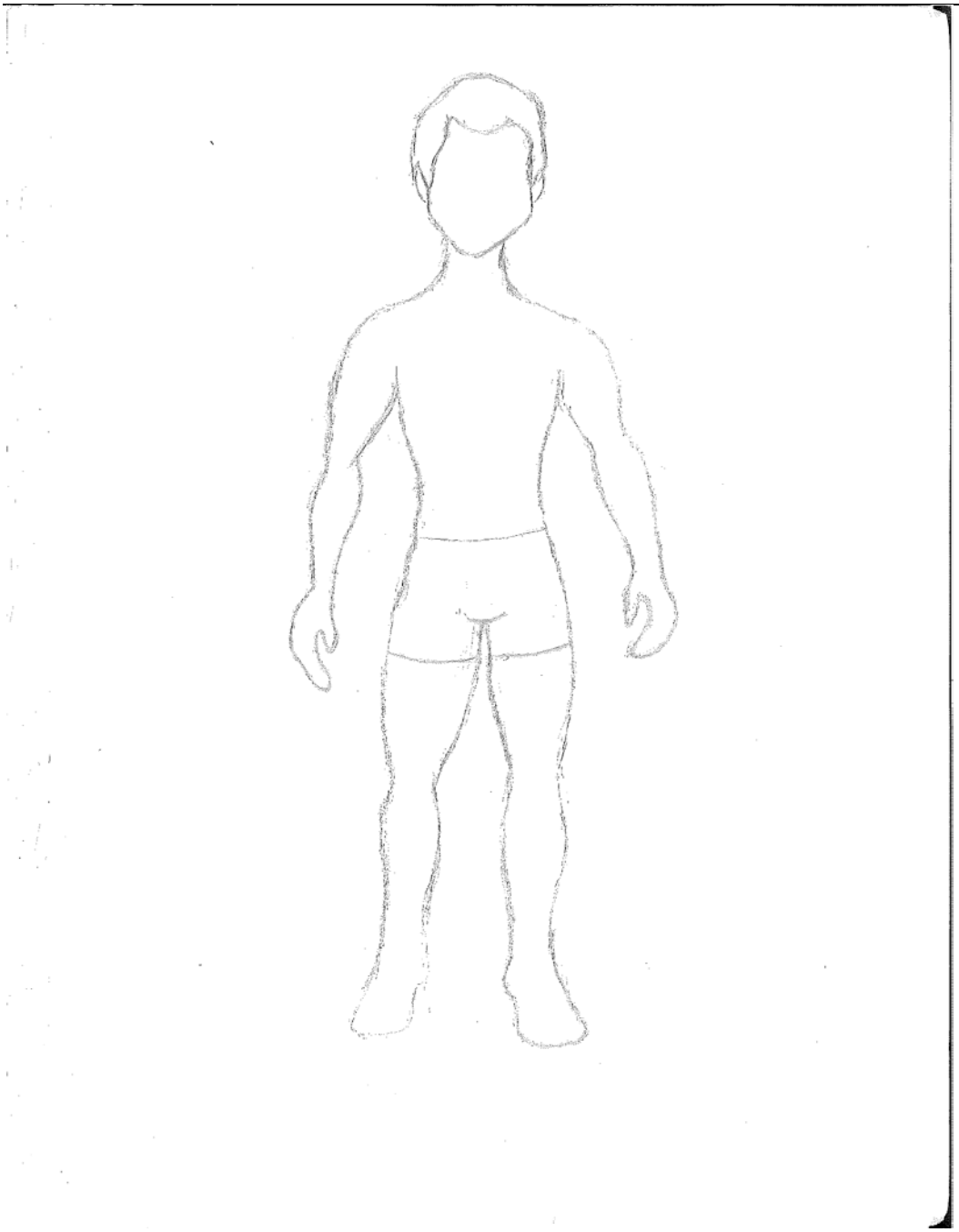
Female Human Figure Outline for Illustration Task

Part. ID#_____
Date_____
Session_____



Appendix C

Male Human Figure Outline for Illustration Task



Appendix D

Religious Commitment Inventory

1. I often read books and magazines about my faith.

0	1	2	3	4
Not at all true of me	Somewhat true of me	Moderately true of me	Mostly true of me	Completely true of me

2. I make financial contributions to my religious organization.

0	1	2	3	4
Not at all true of me	Somewhat true of me	Moderately true of me	Mostly true of me	Completely true of me

3. I spend time trying to grow in understanding of my faith.

0	1	2	3	4
Not at all true of me	Somewhat true of me	Moderately true of me	Mostly true of me	Completely true of me

4. Religion is especially important to me because it answers many questions about the meaning of life.

0	1	2	3	4
Not at all true of me	Somewhat true of me	Moderately true of me	Mostly true of me	Completely true of me

5. My religious beliefs lie behind my whole approach to life.

0	1	2	3	4
Not at all true of me	Somewhat true of me	Moderately true of me	Mostly true of me	Completely true of me

6. I enjoy spending time with others of my religious affiliation.

0	1	2	3	4
Not at all true of me	Somewhat true of me	Moderately true of me	Mostly true of me	Completely true of me

7. Religious beliefs influence all my dealings in life.

0	1	2	3	4
Not at all true of me	Somewhat true of me	Moderately true of me	Mostly true of me	Completely true of me

8. It is important to me to spend periods of time in private religious thought and reflection.

0	1	2	3	4
Not at all true of me	Somewhat true of me	Moderately true of me	Mostly true of me	Completely true of me

9. I enjoy working in the activities of my religious organization.

0	1	2	3	4

Not at all true of me	Somewhat true of me	Moderately true of me	Mostly true of me	Completely true of me

10. I keep well informed about my local religious group and have some influence in its decisions.

0	1	2	3	4
Not at all true of me	Somewhat true of me	Moderately true of me	Mostly true of me	Completely true of me

Appendix E

Sociosexual Orientation Inventory

1. With how many different partners have you had sex within the past year?
2. How many different partners do you foresee yourself having sex with during the next 5 years?
3. With how many different partners have you had sex on one and only one occasion?
4. How often do (did) you fantasize about having sex with someone other than your current (most recent) dating partner?

   0 1 2 3 4 5 6 7 8

   Never At least once a day
5. Sex without love is OK.

   0 1 2 3 4 5 6 7 8

   Strongly disagree Strongly agree
6. I can imagine myself being comfortable and enjoying casual sex with different partners.

   0 1 2 3 4 5 6 7 8

   Strongly disagree Strongly agree
7. I would have to be closely attached to someone (both emotionally and psychologically) before I could feel comfortable and fully enjoy having sex with him or her.

   0 1 2 3 4 5 6 7 8

   Strongly disagree Strongly agree