

Make Love and Lose Your Religion and Virtue: Recalling Sexual Experiences Undermines Spiritual Intentions and Moral Behavior

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In contrast with traditional considerations, sexuality is often perceived today as being rather compatible with religion/spirituality and morality. However, there may be some inherent opposition between (a) sexuality (thoughts, affects, and pleasure) and (b) religion/spirituality (attitudes, motives) and (interpersonal) morality (dispositions, behavior). The two imply, respectively, self-enhancement versus self-transcendence, disinhibition versus self-control, and disgust indifference versus sensitivity. We hypothesized that sexual experience attenuates spiritual and moral concerns and behaviors. In three online experiments, young adults were asked to recall a personal sexual experience. Compared to a control condition, sexual induction diminished spiritual behavioral intentions (Experiments 1 and 2), in particular among those with high individual disinhibition (Experiment 1), as well as behaviors of prosociality and integrity/honesty (Experiment 3). The effects were independent of individual religiousness/spirituality. These findings suggest that combining sexual pleasure with self-transcendence and moral perfection, even if a legitimate ideal, is not an easy enterprise.

Keywords: *sexuality, spirituality, morality, disinhibition.*

INTRODUCTION

Sexuality is one of the oldest domains of the human animal's activities, certainly older than religion and systems of morality. Globally, sexuality, religion, and morality supposedly serve specific and distinct—even if sometimes overlapping—functions. Sexuality is primarily concerned with the search for sexual pleasure and reproduction, religion with connection with the divine and transcendence, and morality with containment of self-interests to the benefit of others' and society's well-being. However, traditionally, whereas religion and morality have been considered as being strongly intertwined, religion being a major source of moral norms in traditional societies, sexuality has been perceived as being in conflict with both religion and morality, and even as being, at least to some extent, immoral (Hunt and Yip 2012; Thatcher 2015). Sexuality has (stereo)typically been perceived as being part of what makes humans similar to

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other animals while religion and morality have (stereo)typically been considered a part of what makes humans distinct from other animals (Bain, Vaes, and Leyens 2014; Demoulin, Saroglou, and van Pachterbeke 2008).

The conflict between sexuality, on the one hand, and religion and morality, on the other hand, is usually interpreted as reflecting concerns, motives, and values typical of traditional societies or conservative individuals. From this perspective, one role of religion and morality has been to regulate sexuality, or at least to control its excessiveness and negative effects (Hunt and Yip 2012). Several underlying mechanisms have been proposed: traditional (religious) authorities' control of people's most intimate affairs (Freud [1921] 1955); cultural restraint of sexuality's "destructive" power due to mate competition (Freud [1927] 1961); hygienic concerns against sexually transmitted diseases in environments particularly vulnerable to such diseases (Fincher and Thornhill 2012); and traditional societies' emphasis on values of purity, with regard to a sacred or natural order of things, and loyalty to family and the community, beyond values of interpersonal morality (Graham and Haidt 2010).

In modern, mostly secularized, Western societies that promote autonomy and the search for happiness, sexuality is no longer considered intrinsically immoral. It is, on the contrary, valued and socially desirable (Lehmiller 2014). Similarly, today, the moral emphasis in these societies is on interpersonal care, social justice, and freedom, rather than purity, loyalty, and authority (Graham, Haidt, and Nosek 2009). Accordingly, theological developments, at least in several Western Christian contexts, put moral concerns of sexuality in a secondary position today, and even adopt a discourse that values, to some extent, bodily expressions and sexual life (Hunt and Yip 2012; Thatcher 2015).

In this work, we first argue that the conflict of sexual experience with religious and moral inclinations may not be only historical and limited to traditional cultures and individuals preoccupied with purity rather than interpersonal morality. Instead, for several psychological reasons, there may exist some intrinsic contrast between sexual experience (thoughts, affects, and pleasure), on the one hand, and religion and morality (dispositions, behavior), including interpersonal morality, on the other hand. This may likely be the case even today, in modern secularized societies. Second, the above reasons may also indicate that there is not only an intuitive causal link from religion/morality to restricted sexuality (e.g., Hardy and Raffaelli 2003), but also a less intuitive, yet equally plausible, causal link from sexuality to attenuated religion and morality. In other words, we argue that common sexual experience in general, not simply its excessiveness or high permissiveness, weakens, to some extent, spiritual and moral dispositions and behavior. Below, we develop the rationale for these arguments and present three experiments that tested the subsequent hypotheses.

THE INHERENT CONFLICT OF SEXUALITY WITH SPIRITUALITY AND MORALITY

Self-Enhancement Versus Self-Transcendence

A major characteristic of sexual experience is that it is *primarily* self-oriented or focused on a dyadic relationship with a partner. Most often, in sexual experiences, the individual is *primarily* in search of personal sensual satisfaction and pleasure and develops strategies to achieve these (Brotto and Smith 2014). Importantly, satisfaction of one's own sexual desire and reaching orgasm require isolation from other concerns, no stress, and a narrowed attentional focus on bodily reactions and the relevant erotic stimuli (de Jong 2009; Wiegel, Scepkowski, and Barlow 2007). In addition to the pleasure, motives of sex are the search for resources, quest for social status, and a possible instrumental use of the other person (Meston and Buss 2007). Even the search for love and commitment in sex has to be understood primarily within a dyadic relationship in separation from the external world. Note that self-oriented reasons to have sex are rated as

highly important, particularly among men (Patrick, Maggs, and Abar 2007) and young people (Leveque and Pedersen 2012), who happen also to be less religious (Dillon 2007; Francis and Penny 2014). Finally, sexual fantasies and successful sexual experiences are related to heightened self-image, low humility, and even high narcissism, especially in the context of short-term mating (Baughman et al. 2014; Dufner et al. 2013; Lee, Ambler, and Sagarin 2014).

This intense self-enhancing experience thus implies some retreat from the social world and distance from objectives other than sexual release and pleasure. Concerns for the welfare of others and the world, as well as existential questions regarding the meaning of the world and one's individual life, may appear irrelevant in that specific moment or at least be temporarily considered of secondary importance. Subsequently, sexual arousal and sexual experience should attenuate religious/spiritual and moral inclinations. The latter are characterized by feelings, beliefs, and behaviors denoting self-transcendence, with self-interests and self-focus in principle being reduced in favor of a broadened attention to and investment in others and the world as a whole (Graham and Haidt 2010; Saroglou, Buxant, and Tilquin 2008).

Regarding morality, indirect evidence in favor of the idea of sexuality's role in diminished moral and spiritual self-transcendence comes from research on values. Correlational studies show negative associations between hedonistic values and agreeableness, the prosocial personality trait (Oliver and Mooradian 2003; Roccas et al. 2002). More importantly, many dozens of studies using Schwartz's (1992) model of values have confirmed, rather universally across the five continents, that hedonism, a value including sexual pleasure, is very proximal to values denoting self-enhancement (power and achievement) and autonomy (self-direction and stimulation) and at the opposite spectrum of values denoting self-transcendence (benevolence and universalism) (Schwartz 1992, 2007). Regarding religion, correlational research shows that various aspects of religiousness are linked to restricted sexual attitudes, feelings, and behavior with regard to a variety of indicators such as number of partners, frequency and variety of sexual acts, starting age, premarital relations, and sexual orientation (for reviews, see Hernandez, Mahoney, and Pargament 2014; Li and Cohen 2014).

Impulsivity Versus Self-Control

Sensation seeking, in general, and disinhibition, in particular, are often helpful if not necessary to fuel sexual desire, sexual thoughts and fantasies, and sexual behavior (see, for longitudinal studies, Khurana et al. 2012; Riggs et al. 2013). Alcohol and peer pressure are known to facilitate sexual experiences partly because they facilitate disinhibition (Dogan et al. 2010; Epstein et al. 2014). As based on an instinct, and because of its visceral facets, sexual experience is particularly sensitive to impulsivity. The link seems to be bidirectional with sexual desire increasing impulsivity (Loewenstein 1996) and with the latter facilitating the satisfaction of the former (Hipwell et al. 2010; including in rats, Cummings et al. 2013), in particular in the case of risky sexual behavior (e.g., Macapagal et al. 2011).

This impulsive dimension of sexual experience contrasts importantly with what is at the heart of religious and moral inclinations. The latter two share the importance of a moral muscle, i.e., the capacity for self-control and the ideal of self-mastery at both the cognitive and the emotional levels. Religious and moral lists of vices and virtues can be understood as having such a moral muscle as a common denominator (Baumeister and Exline 1999). Recent experiments have shown that implicit activation of religious concepts decreases impulsivity (McCullough, DeWall, and Corrales 2012) and increases various aspects of self-control such as delayed gratification, resistance to temptations (including sexual ones), endurance of discomfort, and refraining from acting impulsively (Laurin, Kay, and Fitzsimons 2012; Rounding et al. 2012). Similarly, high impulsivity is a typical predictor of, and a common denominator underlying, all kinds of transgressive and immoral behavior (Sharma, Markon, and Clark 2014).

An additional argument can thus be included in favor of our hypothesis: sexual experience, as intrinsically related to some liberation from self-constraints, should attenuate religious/spiritual and moral aspirations and behaviors, which are primarily based on the awareness that life is at some point serious and needs self-constraint if it is to be virtuous.

Disgust Indifference Versus Sensitivity

Playing with sexual thoughts, cultivating sexual fantasy, and performing sexual acts imply the capacity to turn down the relevance of thoughts and feelings of disgust (Stevenson, Case, and Oaten 2011). Low disgust sensitivity is particularly relevant to sexual experience since all disgust components are potentially involved: animal reminder (death reminder and envelope violation), physical disgust of bodily products, and fears of contamination. Restricted versus unrestricted sexuality is related to feelings of guilt (Woo et al. 2012) and high disgust sensitivity (de Jong, van Overveld, and Borg 2013). Unconventional (e.g., homosexuality, sodomy) or abnormal (e.g., incest) sexual behaviors are often perceived as unnatural and provoke, particularly among conservatives, reactions of moral disgust (Cunningham, Forestell, and Dickter 2013; Terrizzi, Shook, and Ventis 2010). Positive and successful sexual experiences thus imply the minimization of thoughts and feelings of disgust (de Jong, van Overveld, and Borg 2013; Lee, Ambler, and Sagarin 2014).

On the contrary, religion and religious rituals, as well as morality, especially traditional morality, emphasize the importance of purity: the sacred and the natural order must be protected from impurity. High disgust sensitivity has been found to play a role with regard to religious negative attitudes against homosexuality (Olatunji 2008), disrespect of eating norms (Wu, Yang, and Chiu 2014), and deconsideration of religious outgroups and atheists (Ritter and Preston 2011). Experimental evidence also shows that cleanliness increases religiousness and religious stimuli increase cleanliness (Preston and Ritter 2012). Disgust is also important in the context of (nonsexual) morality since it fuels moral judgment and moral condemnation (Chapman and Anderson 2014; David and Olatunji 2011; Eskine, Kaciniak, and Prinz 2011).

It is thus reasonable to conceive that, overall, sexual performance and successful sexual experiences imply some minimization of disgust sensitivity, which, in turn, may put in parentheses one's purity-based motivations to endorse a religious/spiritual worldview and be morally alert.

HYPOTHESES AND OVERVIEW OF THE STUDIES

The aim of the present work was to experimentally test the hypotheses that sexual experience will diminish (1) religious/spiritual interests and (2) moral attitudes and behavior. The latter should concern both the interpersonal (prosociality) and impersonal (integrity/honesty) levels of morality. For obvious deontological reasons, we induced sexual thoughts and affects through recall of a previous sexual experience and did not provoke such an experience. Given our rationale in favor of some inherent psychological conflict between sexual experience and religious/moral inclinations, we expected the effects to hold even among participants of modest average religiosity living in Western secular societies that have experienced sexual liberation in previous decades.

Note that we aimed to investigate an intriguing, less intuitive, causal direction, i.e., that going from sexuality to religion and morality, and not the reverse (moral norms and religion inhibit sexuality). There is some indirect evidence in favor of the hypothesized causal link. Sexual disinhibition in adolescence has been found to cross-sectionally predict religious doubt and apostasy (Saroglou 2012). Furthermore, changes in moral personality traits (agreeableness and conscientiousness decrease in adolescence and increase in early adulthood) and the sensation-seeking-relevant personality trait (openness to experience increases in adolescence and decreases

in early adulthood) are followed by decreased versus increased religiosity in the respective ages (see Saroglou 2012 for a review).

The present study primarily aims to test the existence of the hypothesized causal links as a first step before future studies can identify the explanatory mechanisms. Nevertheless, for exploratory reasons, three additional hypotheses were examined, two regarding possible moderators, and the third regarding a possible mediator. We hypothesized that the reduction of religious/spiritual and moral interests would be stronger for participants (1) low in religiosity/spirituality or (2) high in disinhibition. Highly religious or highly inhibited people may be less sensitive to the effects of (recalled) sexual experience on religiousness/spirituality and morality. Their spiritual and moral attitudes should be more stable and fixed, or their level of inhibition too high, to allow them to be easily disinhibited. Finally, given the rationale developed earlier, we hypothesized that (3) the effects of recalled sexual experience on reduced spiritual and moral dispositions can partly be explained by increased disinhibition.

We tested these hypotheses in three online experiments. In all three, participants were induced with personal (recalled) sexual thoughts and feelings. In Experiment 1, we investigated the effects of this induction on religious/spiritual behavioral intentions and tested the moderating role of individual disinhibition. In Experiment 2, we aimed to replicate Experiment 1 with an ethnically different sample and additionally examined increased disinhibition as a mediator of the sexuality-low spirituality link. In Experiment 3, we investigated the effects of (recalled) sexual experience on prosociality (two indicators: spontaneous generosity and humanitarian donation intentions) and honesty. In all three experiments, religiosity/spirituality was included as a potential moderator.

EXPERIMENT 1

Method

Participants were 122 adolescents and adults (ranging in age from 16 to 62 years, $M = 25.06$, $SD = 7.53$; 68.9 percent women) recruited on social networks and through emails via a snowball sampling technique starting with acquaintances of the first author. They were mostly from Belgium (91 percent), with the remaining participants coming from France (10) and Canada (1). Fifty-four percent reported currently being in a relationship; given the young age of participants and the fact that most young people (19–35 years old) in Belgium form couples or establish families without getting married (Deboosere, Marquet, and Mortelmans 2012), the key question participants were asked was whether they were currently in a relationship. In terms of religious affiliation/conviction, participants were mostly Catholics (43), atheists (49), and agnostics (17), and the remaining were Protestant (1) and Muslim (1), while 11 reported “other.”

Through the Internet survey, participants were randomly assigned to either a condition of induction of sexual thoughts and affects ($N = 58$) or to a control condition ($N = 64$). In the sex condition, participants were asked to recall a personal sexual experience and to write a few sentences about it. Instructions were as follows: “We would like you to recall a sexual experience. It is important that this experience is strong in your memory. Please take a few moments to remember the experience, what happened, and how you felt. Describe this experience in about 10 lines in the space below, describing what happened, and how you felt.” Instructions for the control were as follows: “We would like you to recall the last time you went to the movie theater. In about 10 lines describe the path you followed between the time you left your home and the moment you were seated in the movie theater.” Note that, in addition to the 122 participants, five other individuals completed the study but were not retained for analyses because they did not follow the instruction to describe a sexual experience or reported a nonsexual experience. The length of the descriptions provided conformed to the instructions and was similar between the

two conditions, with the mean number of lines being 10 and 8.6, and the mean number of words being 722 and 615, in the sexual and control conditions, respectively.

Afterward, participants were requested to rate their willingness to undertake a trip to a series of six destinations (seven-point Likert scales from 1 = not at all willing to 7 = totally willing), three proximal (after having hypothetically won a hike), and three distal. The proximal destinations were (1) the Way of St. James of Compostela, (2) canyon of Verdon Gorge in France, and (3) a wine tasting tour in Bordeaux, France. The distal destinations were (4) Tibet, (5) Kenya, and (6) Miami. The six destinations were selected after a pretest on a pool of 12 destinations (six for each group, proximal and distal) in order to have, by group, one destination that was “very spiritual” and two other “nonspiritual” destinations (seven-point Likert scale). The respective values of M on “spiritual” for destinations 1–3 were 6.35, 2.72, and 2.20, $F(2,78) = 154.96$, $p < .001$, and for destinations 4–6, they were 6.63, 4.00, and 1.68, $F(2,78) = 249.83$, $p < .001$. Paired comparisons confirmed the higher spiritual character of the two relevant destinations compared to all others (all values of $p < .05$). Importantly, the six destinations were selected to be of mild, not extremely high or low, attractiveness, and were roughly similar in attractiveness (seven-point Likert scale; M for destinations 1–6 = 4.00, 5.55, 4.57, 4.68, 4.65, and 4.53). In an exploratory factor analysis of the data on the willingness to undertake a trip to the six destinations (principal component analysis with varimax rotation), three factors emerged, i.e., religious/spiritual (Way of St. James, Tibet), secular proximal (Verdon Gorge, wine tour in Bordeaux), and secular exotic (Kenya, Miami) destinations. The scores of the two items were thus averaged to compute three respective outcome variables. Interestingly, the spiritual destinations ($r = .34$, $p < .001$), but not the secular proximal or the secular exotic ones ($r = -.02$, $-.14$, *n.s.*), were indeed related, across conditions, to individual religiosity/spirituality measured postexperimentally (see below). Previous research has also shown that the willingness to visit Tibet (but not other secular destinations) can be considered as a spiritual behavioral intention and is meaningfully affected, i.e., increases, among religious participants, after the induction of the emotion of awe (Van Cappellen and Saroglou 2012).

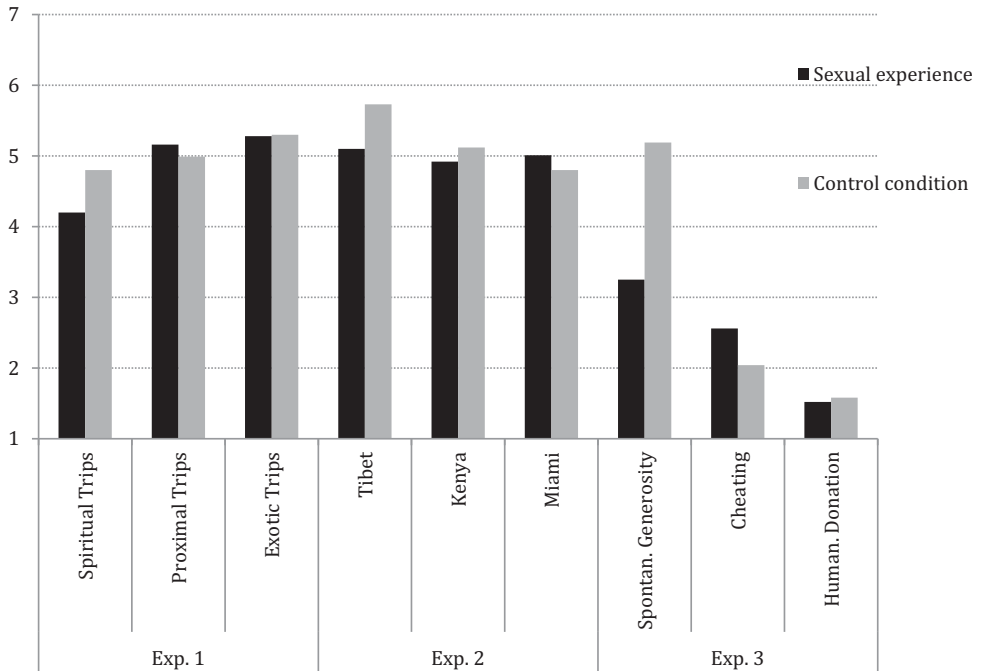
Afterward, participants engaged in a distracting task (a seven-error discovery game) and subsequently completed measures of personal general religiosity (a three-item index measuring the importance of God and the importance of religion in life, as well as frequency of prayer; $\alpha = .92$) and spirituality (one-item index of importance of spirituality in life) (seven-point Likert scales; see Saroglou and Muñoz-García 2008). Finally, they were administered the 10 items of the disinhibition subscale of the Sensation Seeking Scale (Zuckerman, Eysenck, and Eysenck 1978; forced-choice items).

Results

Three one-way ANOVA analyses testing for the effects of condition (sex induction vs. neutral) on each destination type (religious, secular proximal, and secular exotic) confirmed the hypothesis regarding the sexuality-religion/spirituality causal link (see also Figure 1). Participants who were aroused with sexual thoughts and feelings reported lower willingness to visit religious/spiritual destinations, $M = 4.20$, $SD = 1.53$, compared to participants in the control condition, $M = 4.80$, $SD = 1.52$, $F(1,120) = 4.55$, $p = .03$, 95 percent CI = [0.04, 1.14], $\eta^2 = .04$. On the contrary, there were no differences between the sexual induction and the control condition in willingness to undertake secular proximal (respective values of $M = 5.16$, 4.99; $SD = 1.09$, 1.32) and exotic (respective values of $M = 5.28$, 5.30; $SD = 1.14$, 1.44) trips, $F(1,120) = 0.60$ and 0.01. Age, gender, and relationship status did not moderate the above results.

To test whether individual religiosity/spirituality or disinhibition could moderate the above main effect of condition on spiritual travel intentions (none of these variables was affected by condition), we performed one moderated multiple regression of the religious/spiritual behavioral intentions on condition, religiosity/spirituality (combined into a global index of four items, to

Figure 1
Effects of recalled sexual experience on intentions for spiritual versus secular activities (trips; Experiments 1 and 2), prosociality, and honesty (Experiment 3)



Note: Bars indicate the mean scores of all dependent variables for each experiment. Means for spontaneous generosity (Experiment 3) were divided by 4 to fit with the scale of the other variables.

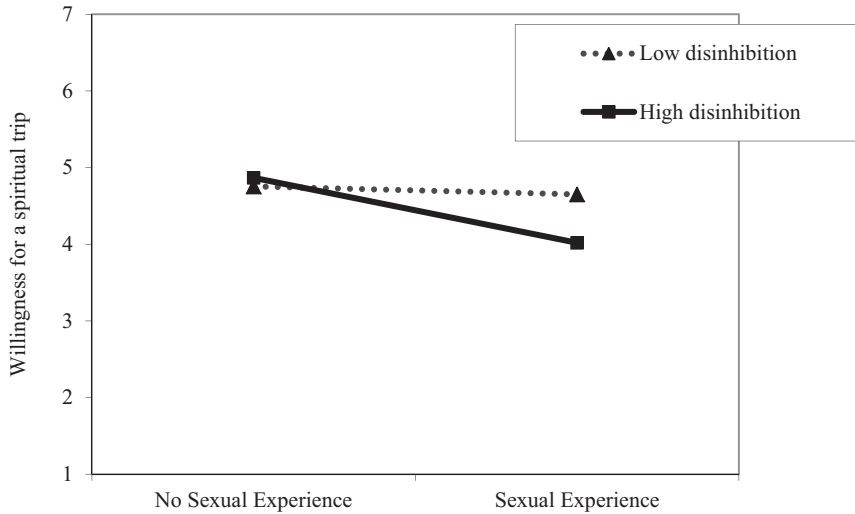
avoid the risks of multicollinearity), disinhibition, and the interactions of condition with the two latter variables. The regression confirmed the main effect of condition, $\beta = -.15$, $t(1,116) = -1.70$, $p = .092$, beyond the main effects of individual religiosity/spirituality, $\beta = .24$, $t(1,116) = 2.75$, $p = .007$, and disinhibition, $\beta = -.14$, $t(1,116) = -1.65$, $p = .10$, but also indicated a significant interaction between condition and disinhibition, $\beta = -.26$, $t(1,116) = -3.04$, $p = .003$ ($R^2 = .18$). A simple slope analysis (see also Figure 2) revealed that sex induction had no effect on religious/spiritual behavioral intentions among those low in disinhibition (one *SD* below the mean), $\beta = .09$, *n.s.*, but decreased these intentions among those high in disinhibition (one *SD* above the mean), $\beta = .40$, $p = .002$.

Discussion

This experiment confirmed that sexual experience, even when not currently being undergone but simply remembered, decreases religious/spiritual aspirations. This was found with the latter being measured in a subtler way, i.e., as spiritual behavioral intentions mixed with other, secular, ones, than through self-reports of religiosity/spirituality that are known to be sensitive to social desirability bias (Sedikides and Gebauer 2010). This main effect could not be due to a general decrease in the propensity for any kind of activity, since the sexual induction did not decrease the willingness to undertake other kinds of similarly attractive nonspiritual trips.

Moreover, the effect was present mainly among participants high in individual disinhibition. Given that religion and self-control are intrinsically intertwined (McCullough and Carter 2013;

Figure 2
Individual disinhibition as moderating the effect of recalled sexual experience on spiritual intentions (Experiment 1)



see also the negative association, across conditions, between disinhibition and spiritual traveling in this experiment) and that the seriousness of human existence is at the heart of religion/spirituality (James [1902] 1985; Saroglou 2002), this finding suggests that sexual experience has some “liberating” effect, inducing some level of “carefreeness,” with regard to existential concerns, but not among those who are dispositionally highly inhibited. Finally, participants’ religiosity did not moderate the decrease of religious/spiritual intentions after induction of sexual memories, suggesting that the negative association in people’s minds between sexuality and religion may be shared among believers and nonbelievers. This is in line with other studies showing that religion is implicitly associated with several psychological constructs (e.g., prosociality) not only among believers but also among nonbelievers (Galen 2012, for review).

EXPERIMENT 2

Method

Participants were 175 young adults and adults, ranging in age from 18 to 47 years ($M = 23.41$, $SD = 3.60$; 62.9 percent women), recruited on social networks and through emails via a snowball sampling technique starting with acquaintances of the second author. The majority of participants came from Croatia (70 percent), and the remaining from various other Western countries. Participants were mostly Catholic (62), atheist (43), and agnostic (38), whereas the remaining participants belonged to other Christian denominations (9) or reported Buddhism (2) or simply “other” (21); 49 percent reported currently being in a relationship. They were randomly assigned to either a sexual induction condition ($N = 84$) or to a control condition ($N = 91$), with the same instructions as in Experiment 1. Note that in addition to the 175 participants, 19 other individuals completed the survey but were not retained for analyses because they did not follow the instruction to describe a sexual experience or because they reported a nonsexual experience.

Afterward, participants completed the disinhibition subscale as in Experiment 1, now as a hypothesized mediator, and were requested, as in Experiment 1, to report their willingness to undertake a trip to the following destinations: Tibet, Kenya, and Miami, i.e., the three distant

destinations of Experiment 1 (seven-point Likert scales). Then, after a distracting task similar to Experiment 1, participants were provided with the indexes of religiosity and spirituality as in Experiment 1.

Results

Three one-way ANOVA analyses of the effect of condition (sex induction versus neutral) on each respective destination type (Tibet, Kenya, and Miami) confirmed the hypothesis of the sexuality-religion/spirituality causal link (see also Figure 1). Participants who were induced with sexual thoughts and feelings reported lower willingness to visit Tibet, $M = 5.10$, $SD = 1.99$, compared to participants of the control condition, $M = 5.73$, $SD = 1.43$, $F(1,173) = 5.87$, $p = .016$, 95 percent CI = [0.12, 1.14], $\eta^2 = .03$. On the contrary, there were no differences between the sex induction and the control condition on willingness to undertake a trip to Kenya (respectively, $M = 4.92$, 5.12; $SD = 1.79$, 1.63) and Miami (respectively, $M = 5.01$, 4.80; $SD = 1.87$, 1.70), $F(1,173) = 0.63$ and 0.61. Age, gender, and relationship status had no impact on the willingness to visit Tibet and did not moderate the effect of sexual induction on the willingness to visit Tibet.

A moderated multiple regression of disinhibition on condition, age, gender, and the interactions of the two later variables with condition suggested no main effect of condition, but a marginally significant interaction between condition and gender, $\beta = .14$, $p = .076$. In fact, among women, but not men, sex induction increased disinhibition in comparison to the control condition (respectively, $M = 3.94$, 3.55; $SD = 0.91$, 0.92), $t(1,108) = 2.24$, $p = .027$. However, disinhibition was unrelated to willingness to visit Tibet, and thus the conditions were not present to test for mediation by disinhibition of the sexuality-spiritual intentions link.

Finally, individual religiosity and spirituality, which were unaffected by condition, were overall negatively related to disinhibition ($-.32$, $p < .001$; $-.23$, $p = .003$); and spirituality was related to willingness to visit Tibet ($.22$, $p = .004$). However, no significant interactions were found between these constructs and condition in predicting the willingness to visit Tibet.

Discussion

Experiment 2 nicely replicated Experiment 1. In an ethnically different sample, induction (reminder) of sexual thoughts and affects decreased spiritual aspirations. The latter was again assessed in a subtle way, i.e., through the willingness to visit a spiritual destination—a behavioral intention related to self-reported individual spirituality across conditions. Again, the effect was not due to a general decrease of activity since the willingness to visit other, nonspiritual, distant/exotic destinations was not affected. Moreover, the effect was again not affected by age, gender, or individual religiosity/spirituality. Finally, sexual induction also increased disinhibition, as hypothesized. However, this effect was present only among women (men are generally highly sexually disinhibited; Imhoff and Schmidt 2014) and failed to mediate the effect of sexual induction on decreased spiritual interests, thus leaving the investigation of the underlying psychological processes open for future research.

EXPERIMENT 3

Method

Participants were 158 young adults and adults (age: from 16 to 46 years, $M = 24.33$, $SD = 4.44$; 63.3 percent women) recruited on social networks and through emails via a snowball sampling technique starting with acquaintances of the second author. The majority came from

Croatia (82 percent), and the remaining from various other Western countries. Participants were mostly Catholic (75), atheist (22), and agnostic (40), whereas the remaining participants were Buddhist (1), Muslim (2), other Christian (7), or reported “other” (11); 47 percent reported currently being in a relationship. Participants were randomly assigned to either a sexual induction condition ($N = 75$) or to a control condition ($N = 83$), with the same instructions as in Experiment 1. Note that in addition to the 158 participants, eight other individuals completed the survey but were not retained for analyses due to the fact that they did not follow the instruction to describe a sexual experience or because they reported a nonsexual experience.

Measures

Three indicators of prosocial and moral behavior were used afterward to tap (1) spontaneous generosity in sharing hypothetical gains with others, (2) willingness to donate for a humanitarian project, and (3) honesty. More precisely, after writing about the sexual versus neutral experience, participants were told first to imagine that they had won 100,000 euros in a lottery. They were asked to report how they would spend this amount of money, specifying the percentage corresponding to each of the expenditures. The percentage that was spontaneously allocated to others (e.g., friends, family, charity, and foundations) and not to oneself was coded as a measure of spontaneous generosity. This measure has effectively been used in previous research with spontaneous generosity being positively affected by religious primes and being positively associated with religiosity (Clobert and Saroglou 2013; Van Cappellen, Saroglou, and Toth-Gauthier 2016).

Second, participants were told that a humanitarian project for homeless people was related to the study and that they were free to participate or not. In case they decided to participate, the survey would take a little bit longer, but a certain amount of money would be donated to the organization, depending on the option they chose (forced-choice measure). Three choices were provided: (1) “I want to see the whole presentation (the survey will last for 12 more minutes and 3 euros will be donated to the project)”;

(2) “I want to see only the essential part of the presentation (the survey will last for 9 more minutes and 1.5 euro will be donated to the project)”;

(3) “I don’t want to participate in the project (the survey will last for 6 more minutes and no money will be donated to the project).” This was coded as a continuous variable, with options 1–3 reversely coded as 3 (prosocial) to 1 (no prosocial).

Third, we measured cheating versus honesty by adapting a task created by Wiltermuth (2011), based on Cameron and Miller (2009). Participants were presented nine word jumbles and were told that those most successful in solving the word jumbles would be given a reward. The time to find words was limited to 2 minutes. Importantly, participants were told that they were not allowed to go to the next word jumble until the previous one had been solved. After 2 minutes had passed, participants had to report how many word jumbles they had solved (a scale from 0 to 9 jumbles). However, the third word jumble was impossible to solve (Wiltermuth 2011). Under the above-described constraints, it was impossible for participants to honestly claim that they had solved more than two word jumbles. So, participants who claimed to have solved 0–2 word jumbles were considered noncheaters and their answer was coded as 1. Participants who reported solving 3–9 word jumbles were considered cheaters; the higher of jumbles claimed to be solved, the higher the score of cheating that was attributed (from 2 to 8).

At the end of the experiment, after a distracting task consisting of counting the number of squares in a square puzzle game, participants were administered the subscale of disinhibition and the indexes of religiosity and spirituality, as in Experiments 1 and 2.

Results

Three one-way ANOVAs for the three dependent variables confirmed the hypotheses in two out of the three measures (see also Figure 1). Participants who recalled a personal sexual

experience spontaneously shared less of their hypothetical gains with others, thus keeping more the money for themselves, $M = 12.99$, $SD = 20.51$, compared with participants who recalled their way to the movie theater, $M = 20.77$, $SD = 24.71$, $F(1,147) = 4.30$, $p = .040$, 95 percent CI = [0.36, 15.18], $\eta^2 = .03$ (nine participants did not provide percentages of expenditures). Moreover, the participants in the sex condition cheated more by providing more words after transgressing the dishonesty “barrier,” $M = 2.56$, $SD = 1.92$, compared to those in the control condition, $M = 2.04$, $SD = 1.39$, $F(1,156) = 3.91$, $p = .050$, 95 percent CI = [-1.05, -0.01], $\eta^2 = .02$. These two effects were not affected by relationship status. There was no difference in the willingness to donate to the humanitarian project (M for sexual and control conditions = 1.52 and 1.58; $SD = 0.79$ and 0.83), $F(1,156) = 0.20$, *n.s.* This null effect may be due to the limited variation in this measure; participants who reported willingness to highly or modestly contribute were, respectively, 103 and 23, with only 32 participants being unwilling to contribute.

To check for possible moderators, we entered spontaneous generosity as the dependent variable in a moderated multiple regression with the following predictors: condition, the four potential moderators (age, gender, disinhibition, and religiosity-spirituality combined into one index), and the interactions of the latter with condition. The main effect of condition was confirmed, $\beta = -.14$, $p = .097$, beyond that of religiosity/spirituality, $\beta = .18$, $p = .052$, and the age \times condition interaction also turned out to be significant, $\beta = .19$, $p = .02$ ($R^2 = .14$). Subsequent simple slope analyses showed that sexual thoughts and affects decreased prosociality among the very young adults (one SD below the mean), $\beta = -.37$, $p = .002$, but not among the relatively older adults (one SD above the mean), $\beta = .06$, *n.s.* A second moderated multiple regression with the same predicting variables and cheating behavior as the outcome showed main effects of condition, age, gender (men coded higher), and religiosity/spirituality (β s = .21, $p = .009$; $-.22$, $p = .006$; .16, $p = .051$; and .24, $p = .008$), but also an interaction between gender and condition, $\beta = -.18$, $p = .027$ ($R^2 = .15$). Subsequent comparisons, distinct by gender, showed that the increase of the cheating behavior after sex induction, compared to the control condition, was present among men (respectively, $M = 3.06$, 2.04, $SD = 2.31$, 1.50), $t(1,56) = 2.03$, $p = .047$, $\eta^2 = .06$, but not women, $t(1,98) = .58$, *n.s.*

Discussion

Experiment 3 importantly extended the findings of Experiments 1 and 2. Sexual thoughts and affects not only diminish active interest in the existential and spiritual/religious domain, which in a way could be more easily understood given some traditional conflict between religion/spirituality and sexuality, they also lessen concerns for others and for the common goal, i.e., care-based, prosocial, and integrity-based, honest, moral behaviors. These findings are particularly interesting given that in contemporary Western societies, sexuality, even if dissociated from marriage and parenting, is explicitly considered as not incompatible with (interpersonal) morality (Halwani 2007). However, the present findings suggest that sexual thoughts and affects, possibly due to some release of self-control (see modest evidence on disinhibition’s role in Experiments 1 and 2), decrease morality, and do so even at the interpersonal level. Moreover, given that the effects found here concerned moral behavioral intentions and not simply the accessibility of concepts of (im)morality as a function of sexual induction, one may anticipate that the underlying psychological processes may be much deeper than a simple activation of history- or socialization-based associations between sexuality and immorality.¹

¹A slightly stricter interpretation of the results on the honesty-cheating measure could be that recalled sexual experiences simply released self-control and thus increased a tendency to not pay attention to the instructions to not go to the next word jumble until the previous one had been solved. Thus, participants might not have cheated intentionally, in search

Consistent with Experiments 1 and 2, the effects of sexuality on morality were independent from participants' religiosity. Moreover, disinhibition failed to play a moderating role on decreased morality, although, regarding decreased spiritual intentions, this was the case in Experiment 1. Nevertheless, after sexual induction, the decrease of prosocial behavior was stronger for younger participants and the increase of dishonesty was stronger for men, favoring the idea that a release of self-control, increase of impulsivity, or increase of self-focused motives (typically higher among young people and/or men: Cross, Copping, and Campbell 2011; Leveque and Pedersen 2012; Patrick, Maggs, and Abar 2007) may be responsible for the main effects. Finally, the hypothesized effect was found when measuring spontaneous generosity, i.e., keeping hypothetical gains more for oneself after recalled sexual experience, but not when measuring intentions for time donation for humanitarian purposes, possibly because the additional minutes to dedicate in the study were not significant enough to provoke sufficient variation in participants' responses.

GENERAL DISCUSSION

Across three online experiments, as hypothesized, the induction of personal sexual thoughts and affects (memories) was found to diminish spiritual behavioral intentions (Experiment 1 and cross-cultural replication in Experiment 2) and decrease moral behavior, both interpersonal, i.e., prosociality, and impersonal, i.e., integrity/honesty (Experiment 3). As theorized in the introduction, these effects could be explained by the fact that sexual experience constitutes a self-enhancing experience that implies attenuation of self-control, disinhibition of self-constraints, and low disgust sensitivity. Each of these factors presumably undermines, to some extent, religious/spiritual and moral aspirations and intentions, which are typically based on the search for self-transcendence, a diminishment of self-interest in favor of the welfare of others and society, cognitive and emotional self-control, and moral seriousness fueled by disgust sensitivity.

The hypothesized role of disinhibition with regard to the sexuality-decreased spirituality link received only partial and inconsistent confirmation. Indeed, in Experiment 1, sexual recalling diminished spiritual interests only among participants high in disinhibition, very likely because those low in disinhibition were too inhibited to "benefit" from the self-liberating power of sexual thoughts and affects. However, in Experiment 2, the same effect was found for participants both high and low in disinhibition. Moreover, in Experiment 2, the induction of sexual memories increased, as hypothesized, participants'—albeit only women's—disinhibition, but the latter did not significantly decrease spirituality, thus failing to be confirmed as a mediator. It may be that the simple recall of sexual experiences did not provide a strong enough sexual arousal to substantially increase disinhibition or mobilize relevant individual differences, compared, for instance, to what may have been the case if people had engaged in real sexual experiences. Future research should involve alternative ways of introducing sexual stimulation in the lab, in relation to religion/spirituality, for instance, by asking people to observe erotic pictures (Rigo and Saroglou 2013).

Individual religiousness/spirituality did not moderate the effects of sexuality on spirituality and morality. This may be due to the modest average religiousness of the rather young and secularized samples of the three experiments, a fact that possibly limited the variation on religiousness. Alternatively, it cannot be excluded that both believers and nonbelievers are affected—their strong or weak spiritual and moral concerns decrease—when occupied with sexual thoughts and affects. Religious believers and spiritual people may also have their moments of attenuation of spiritual concerns and moral rigorousness. Note also that, as recent research indicates, individual religiousness and spirituality are not strongly fixed and stable: they are sensitive to daily experiences

of clear individual benefits. Nevertheless, this still constituted a moral transgression, and the task used here was adapted from past research aiming to measure cheating.

and mood as well as to a few minutes of emotional induction in the laboratory (Kashdan and Nezlek 2012; Saroglou, Buxant, and Tilquin 2008).

The results of the present studies may be particularly significant for understanding the “conflict” between sexuality and social order, in particular religious and moral order, as it is probably, to some extent, an intrinsic conflict and not only historical, traditional, and confined to conservative contexts. For several psychological reasons, this “conflict” seems to be present even today in Western secularized societies and among young people of modest average religiosity. In particular, the results concerning diminished prosociality after recalling a personal sexual experience indicate that sexual pleasure and satisfaction may involve a self-centered dimension that prevents people from being fully open to the world and caring for the needs and well-being of many others. The opposition between hedonistic motives and prosocial concerns thus may not be a residual of old-style traditional morality but may point to the very nature of sexuality as a self-enhancing experience, even within a dyadic relationship. With regard to this point, it is important to note that the sexual experiences described by the participants in the three experiments were mostly positive, not extravagant, and included an intimate partner. In other words, the present data give us no reason to suspect that negative or uncommon sexual experiences decrease spiritual and moral interests, whereas positive and normative ones do the opposite.²

Nevertheless, the present findings should not be interpreted as indicating a black-and-white opposition between sexuality, on the one hand, and spiritual and moral self-transcendence on the other. First, the effects were very modest in size, suggesting a slight attenuation but certainly not a disappearance of spiritual aspirations and moral attitudes following the induction of sexual thoughts and affects. Second, for many people, sexuality is, to some extent, a self-transcending experience (Wade 2013). It allows, at least in terms of their beliefs and self-perceptions, an important shift from his/her own strict individuality and self-sufficiency to an openness to a significant other, with implications for cognitive, emotional, social, and moral broadening of the individual perspective through partnership. Moreover, in some contexts, and under some conditions, individuals have experienced or experience sexuality as a way to connect with the sacred and the world (Hernandez, Mahoney, and Pargament 2014). Experimental, noncorrelational, evidence in favor of this idea would be welcome. Finally, some specific situations such as mate competition may lead to increased religiousness, at least in cultural contexts that value religion (Li et al. 2010). In these contexts, increased religiousness may serve as a signal of fertility and quality in future offspring care.

The present work also presents some limitations. Participants were mostly young and lived in European countries of Catholic tradition. It is unclear whether the results are necessarily generalizable to other ages, and to other cultural and religious contexts. Sexuality among young people is certainly different from later stages of adulthood including sexuality within marital relationships (Schwartz, Diefendorf, and McGlynn-Wright 2014), a fact that likely implies different methods of conciliation with religious and moral concerns. Also, Catholicism is believed to be historically more heavily marked by the notion of sexual guilt, at least in comparison to mainstream Judaism and Islam, as well as modern Protestantism (Sheldon 2006). Moreover, the

²A content analysis of the written descriptions of the sexual experiences showed that a small minority of participants in each study described a negative or a mixed (of positive and negative elements), instead of a positive, sexual experience. The *N*s were small (for studies 1–3: 12, 23, and 26, respectively) and there was no strong distinction between positive and negative experiences in the control condition. Therefore, we could not include the emotional valence as a covariate or a main factor in the regression analyses. For exploratory reasons, we computed the main analyses only for participants who reported positive sexual experiences in each experiment. In Experiments 1 and 2, the main effects became stronger: willingness to undertake a spiritual trip was lower after sexual induction compared to the control condition, $F(1,110) = 6.38$, $p = .013$, 95 percent CI = [0.16, 1.36], $\eta^2 = .06$ (Experiment 1), and $F(1,152) = 7.98$, $p = .005$, 95 percent CI = [0.24, 1.37], $\eta^2 = .05$ (Experiment 2). In Experiment 3, the effects of sexual induction on morality were no longer significant.

indicators of religious/spiritual and moral inclinations used here, although conceptually pertinent and mostly successful in confirming the hypotheses, do not cover the entire spectrum of the respective constructs. They also were indicators of behavioral intentions rather than measures of real behaviors in real life. Finally, the three samples may have been restricted in some way: the 10–12 percent of participants who were, in each study, unwilling or unable to report a personal sexual experience and thus not retained for analyses may have been individuals particularly low in disinhibition or high in religiousness, conservatism, and/or sensitivity to disgust. It is thus important to take all these limitations into account before quickly jumping to a generalization of the present findings to “sexuality,” “religion/spirituality,” and “morality” in general.

Beyond these limitations, the present work sheds new light on the psychology of sexuality and its connection with two fundamental domains of human activities, spirituality, and morality. It suggests that, at least to some extent, combining sexual pleasure with self-transcendence and moral perfection, even if a legitimate ideal, is not an easy enterprise.

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