

Rigo, C., Uzarevic, F., & Saroglou, V. (2016). Make Love and Lose Your Religion and Virtue: Recalling Sexual Experiences Undermines Spiritual Intentions and Moral Behavior. *Journal for the Scientific Study of Religion*, 55, 23-39.

This is the preprint version. For the published version, see
<https://onlinelibrary.wiley.com/doi/full/10.1111/jssr.12244>

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

Caroline Rigo, Filip Uzarevic, and Vassilis Saroglou

University of Louvain (UCL) at Louvain-la-Neuve

May 4, 2015

Word count: 9,740

Vassilis Saroglou is member of SSSR

Note: Data for replication or review may be obtained from the first author.

Acknowledgments: This work partly benefited from Grant ARC08/13-013 from the Communauté française de Belgique to the third author and partly to a University's fellowship to the first author. Experiments 2 and 3 benefited from an Erasmus scientific stay, at the Université catholique de Louvain, of the second author when he was student at the University of Zagreb. Results of Experiment 1 were presented at the American Psychological Association Annual Convention 2013, and results of Experiment 2 were presented at the International Association for the Psychology of Religion 2013 Conference. No other studies (e.g., with null findings) were conducted by the authors to test the present hypotheses.

Correspondence should be addressed to Caroline Rigo, Department of Psychology, Université catholique de Louvain, Place du Cardinal Mercier 10, B 1348 Louvain-la-Neuve, Belgium. E-mail: caroline.rigo@uclouvain.be

Abstract

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, pleasure) and (b) religion/spirituality (attitudes, motives) and (interpersonal) morality (dispositions, behavior). The two imply, respectively, self-enhancement vs. self-transcendence, disinhibition vs. self-control, and disgust indifference vs. 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.

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

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 of sexual pleasure and reproduction; religion with connection with the divine and the 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 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 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, pleasure), on 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 vs. 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, Jonason, Veselka, and Vernon 2014; Dufner, Rauthmann, Czarna, and Denissen 2013; Lee et al. 2013).

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 and

investment on 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 on 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 (Olver and Mooradian 2003; Roccas Sagiv, Schwartz, and Knafo 2003). 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: Hernandez, Mahoney, and Pargament 2014; Li and Cohen 2014).

Impulsivity vs. 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, Stockdale, Widaman, and Conger 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, Keenan, Loeber, and

Battista 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 et al. 2012) and increases various aspects of self-control such as delay gratification, resistance to temptations (including sexual ones), endurance of discomfort, and refraining from acting impulsively (Laurin, Kay, and Fitzsimons 2012; Rounding, Lee, Jacobson, and Ji 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 vs. 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 vs. unrestricted sexuality is related to feelings of guilt (Woo, Morshedien, Brotto,

and Gorzalka 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, Shooka, and Ventis 2010). Positive and successful sexual experiences thus imply the minimization of thoughts and feelings of disgust (de Jong et al. 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 2013), 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 (Bieke and Olatunji 2011; Chapman and Anderson 2014; Eskine et al. 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 vs. increased religiosity in the respective ages (Saroglou 2012, for 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-yrs, $M = 25.06$, $SD = 7.53$; 68.9 % 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%), 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 to 35-yrs-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 non-sexual experience. The length of the descriptions provided was conform 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.

Afterwards, participants were requested to rate their willingness to undertake a trip to a series of six destinations (7-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) Miami, and (6) Kenya. 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 “non-spiritual” destinations (7-point Likert scale). The respective *Ms* 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 *ps* < .05). Importantly, the six destinations

were selected to be of mild, not extremely high or low, attractiveness, and were roughly similar in attractiveness (7-point Likert scale; *Ms* 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 ($r_s = -.02, -.14, n.s.$), were indeed related, across conditions, to individual religiosity/spirituality measured post-experimentally (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).

Afterwards, participants engaged in a distracting task (a 7-error discovery game) and subsequently completed measures of personal general religiosity (a 3-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) (7-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% CI = [.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 M s = 5.16, 4.99; SD s = 1.09, 1.32) and exotic (respective M s = 5.28, 5.30; SD s = 1.14, 1.44) trips, F s(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 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 which 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 non-spiritual 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; 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 non-believers. 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 non-believers (Galen 2012, for review).

Experiment 2

Method

Participants were 175 young adults and adults, ranging in age from 18 to 47-yrs ($M = 23.41$, $SD = 3.60$; 62.9 % 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%), 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% reported currently being in 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 non-sexual experience.

Afterwards, 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 on the following destinations: Tibet, Kenya, and Miami, i.e. the three distant destinations of Experiment 1 (7-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 vs. 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% CI = [.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 (respective M s = 4.92, 5.12; SD s = 1.79, 1.63) and Miami (respective M s = 5.01, 4.80; SD s = 1.87, 1.70), F s(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 (respective $M_s = 3.94, 3.55$; $SD_s = 0.91, 0.92$), $t(1,108) = 2.24, p = .027$. 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, non-spiritual, 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 and procedure.

Participants were 158 young adults and adults (age: from 16 to 46 years, $M = 24.33$, $SD = 4.44$; 63.3 % 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%), 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% reported currently being in 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 non-sexual experience.

Measures.

Three indicators of prosocial and moral behavior were used afterwards 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 vs. 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, 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 2015).

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); and (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 to 3 reversely coded as 3 (prosocial) to 1 (no prosocial).

Third, we measured cheating vs. 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 two 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 two 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 non-cheaters 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 respective 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, keeping thus 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% CI = [.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% 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 s for sexual and control conditions = 1.52 and 1.58; SD s = 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 later 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, β = -.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 (respective M s = 3.06, 2.04, SD = 2.31, 1.50), $t(1,56) = 2.03$, p = .047, η^2 = .06, but not women, $t(1,98) = 0.58$, $n.s.$

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 immorality¹.

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 et al. 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 ones, 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 non-believers 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 and mood as well as to a few minutes of emotional induction in the laboratory (Kashdan and Nezlek 2012; Saroglou et al. 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 which 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 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 et al. 2013). Experimental, non-correlational, 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, Cohen, Weeden, and Kenrick 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 than in 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 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% 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.

Footnote

¹ A 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 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.

² A 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 *Ns* were small (for Studies 1, 2, and 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, $F(1,110) = 6.38, p = .013, 95\% \text{ CI} = [.16, 1.36], \eta^2 = .06$ (Experiment 1), and $F(1,152) = 7.98, p = .005, 95\% \text{ CI} = [.24, 1.37], \eta^2 = .05$ (Experiment 2). In Experiment 3, the effects of sexual induction on morality were no longer significant.

References

- Bain, Paul G., Jeroen Vaes, and Jacques-Philippe Leyens, eds. 2014. *Humanness and dehumanization*. New York, NY: Psychology Press.
- Baughman, Holly M., Peter K. Jonason, Livia Veselka, and Philip A. Vernon. 2014. Four shades of sexual fantasies linked to the dark triad. *Personality and Individual Differences* 67:47-51.
- Baumeister, Roy F. and Julie J. Exline. 1999. Virtue, personality, and social relations: Self-control as the moral muscle. *Journal of Personality* 67(6):1165-94.
- Brotto, Lori A. and Kelly B. Smith. 2014. Sexual desire and pleasure. In *APA Handbook of sexuality and psychology. Vol. 1: Person-based approaches*, edited by Deborah L. Tolman and Lisa M. Diamond, pp. 205-44. Washington, DC: American Psychological Association.
- Cameron, Jessica S. and Dale T. Miller. 2009. Different ethical standards in gain versus loss frames. In *Psychological perspectives on ethical behavior and decision making*, edited by David de Cremer, pp. 91-106. Charlotte, NC: Information Age Publishing.
- Chapman, Hanah A. and Adam K. Anderson. 2014. Trait physical disgust is related to moral judgments outside of the purity domain. *Emotion* 14(2):341-48.
- Clobert, Magali and Vassilis Saroglou. 2013. Intercultural non-conscious influences: Prosocial effects of Buddhist priming on Westerners of Christian tradition. *International Journal of Intercultural Relations* 37(4):459-66.
- Cross, Catharine P., Lee T. Copping, and Anne Campbell. 2011. Sex differences in impulsivity: A meta-analysis. *Psychological Bulletin* 137(1):97-130.
- Cummings, Jennifer A., Sarah M. Clinton, Adam N. Perry, Huda Akil, and Jill B. Becker. 2013. Male rats that differ in novelty exploration demonstrate distinct patterns of sexual behavior. *Behavioral Neuroscience* 127(1):47-58.

- Cunningham, Emily, Catherine A. Forestell, and Cheryl L. Dickter. 2013. Induced disgust affects implicit and explicit responses toward gay men and lesbians. *European Journal of Social Psychology* 43(5):362-69.
- David, Bieke and Bunmi O. Olatunji. 2011. The effect of disgust conditioning and disgust sensitivity on appraisals of moral transgressions. *Personality and Individual Differences* 50(7):1142-46.
- Deboosere, Patrick, Jacques Marquet, and Dimitri Moltemans. 2012. La famille: Conceptions actuelles du couple, de la famille, du genre, et de la solidarité familiale. In *Autres temps, autres mœurs*, edited by Liliane Voyé, Karel Dobbelaere, and Koen Abts, pp. 23-70. Brussels, Belgium: Racine.
- de Jong, David C. 2009. The role of attention in sexual arousal: Implications for treatment of sexual dysfunction. *Journal of Sex Research* 46(2/3):237-48.
- de Jong, Peter J., Mark van Overveld, and Charmaine Borg. 2013. Giving in to arousal or staying stuck in disgust? Disgust-based mechanisms in sex and sexual dysfunction. *Journal of Sex Research* 50(3/4):247-62.
- Demoulin, Stéphanie, Vassilis Saroglou, and Matthieu Van Pachterbeke. 2008. Infra-humanizing others, supra-humanizing gods: The emotional hierarchy. *Social Cognition* 26(2):235-47.
- Dillon, Michele. 2007. Age, generation, and cohort in American religion and spirituality. In *The Sage handbook of the sociology of religion*, edited by James A. Beckford and N. J. Demerath, III, pp. 526-46. London: Sage.
- Dogan, Shannon. J., Gary D. Stockdale, Keith F. Widaman, and Rand D. Conger. 2010. Developmental relations and patterns of change between alcohol use and number of sexual partners from adolescence through adulthood. *Developmental Psychology* 46(6):1747-59.

- Dufner, Michael, John F. Rauthmann, Anna Z. Czarna, and Jaap J. A. Denissen. 2013. Are narcissists sexy? Zeroing in on the effect of narcissism on short-term mate appeal. *Personality and Social Psychology Bulletin* 39(7):870-82.
- Epstein, Marina, Jennifer A. Bailey, Lisa E. Manhart, Karl G. Hill, J. David Hawkins, Kevin P. Haggerty, and Richard F. Catalano. 2014. Understanding the link between early sexual initiation and later sexually transmitted infection: Test and replication in two longitudinal studies. *Journal of Adolescent Health* 54(4):435-41.
- Eskine, Kendall J., Natalie A. Kacinik, and Jesse J. Prinz. 2011. A bad taste in the mouth: Gustatory disgust influences moral judgment. *Psychological Science* 22(3):295-99.
- Fincher, Corey L. and Randy Thornhill. 2012. Parasite-stress promotes in-group assortative sociality: The cases of strong family ties and heightened religiosity. *Behavioral and Brain Sciences* 35(2):61-79.
- Freud, Sigmund. [1921] 1955. Group psychology and the analysis of the Ego, transl. by J. Strachey. In *The standard edition of the complete psychological works of Sigmund Freud*, vol. 18, pp. 65-143. London, UK: Hogarth Press.
- _____. [1927] 1961. *The future of an illusion* (J. Strachey, Trans.). New York, NY: Norton.
- Galen, Luke W. 2012. Does religious belief promote prosociality? A critical examination. *Psychological Bulletin* 138(5):876-906.
- Graham, Jesse and Jonathan Haidt. 2010. Beyond beliefs: Religion binds individuals into moral communities. *Personality and Social Psychology Review* 14(1):140-50.
- Graham, Jesse, Jonathan Haidt, and Brian A. Nosek. 2009. Liberals and conservatives use different sets of moral foundations. *Journal of Personality and Social Psychology* 96(5):1029-46.
- Halwani, Raja, ed. 2007. *Sex and ethics: Essays on sexuality, virtue, and the good life*. New York, NY: Palgrave Macmillan.

- Hardy, Sam A. and Marcela Raffaelli. 2003. Adolescent religiosity and sexuality: An investigation of reciprocal influences. *Journal of Adolescence* 26(6):731-39.
- Hernandez, Krystal M., Annette Mahoney, and Kenneth I. Pargament. 2014. Sexuality and religion. In *APA Handbook of sexuality and psychology. Vol. 2: Contextual approaches*, edited by Deborah L. Tolman and Lisa M. Diamond, pp. 425-47. Washington, DC: American Psychological Association.
- Hipwell, Alison E., Kate Keenan, Rolf Loeber, and Deena Battista. 2010. Early predictors of sexually intimate behaviors in an urban sample of young girls. *Developmental Psychology* 46(2):366-78.
- Hunt, Stephen J. and Andrew Kam-Tuck Yip, eds. 2012. *The Ashgate research companion to contemporary religion and sexuality*. Surrey, England: Ashgate.
- James, William. [1902] 1985. *The varieties of religious experience: A study in human nature*. Cambridge, MA: Harvard University Press.
- Kashdan, Todd B. and John B. Nezlek. 2012. Whether, when, and how is spirituality related to well-being? Moving beyond single occasion questionnaires to understanding daily process. *Personality and Social Psychology Bulletin* 38(11):1523-35.
- Khurana, Atika, Daniel Romer, Laura M. Betancourt, Nancy L. Brodsky, Joan M. Giannetta, and Hallam Hurt. 2012. Early adolescent sexual debut: The mediating role of working memory ability, sensation seeking, and impulsivity. *Developmental Psychology* 48(5):1416-28.
- Laurin, Kristin, Aaron C. Kay, and Gráinne M. Fitzsimons. 2012. Divergent effects of activating thoughts of God on self-regulation. *Journal of Personality and Social Psychology* 102(1):4-21.

- Lee, Ellen M., James K. Ambler, and Brad J. Sagarin. 2014. Effects of subjective sexual arousal on sexual, pathogen, and moral disgust sensitivity in women and men. *Archives of Sexual Behavior*, 43(6):1115-21.
- Lee, Kibeom, Michael C. Ashton, Jocelyn Wiltshire, Joshua S. Bourdage, Beth A. Visser, and Alissa Gallucci. 2013. Sex, power, and money: Prediction from the Dark Triad and Honesty–Humility. *European Journal of Personality* 27(2):169-84.
- Lehmiller, Justin. J. 2014. *The psychology of human sexuality*. Oxford, UK: Wiley-Blackwell.
- Leveque, Hayley R. and Cory L. Pedersen. 2012. Emerging adulthood: An age of sexual experimentation or sexual self-focus? *Canadian Journal of Human Sexuality* 21(3/4):147-59.
- Li, Yexin Jessica and Adam B. Cohen. 2014. Religion, sexuality, and family. In *Religion, personality, and social behavior*, edited by Vassilis Saroglou, pp. 213-29. New York, NY: Psychology Press.
- Li, Yexin Jessica, Adam B. Cohen, Jason Weeden, and Douglas T. Kenrick. 2010. Mating competitors increase religious beliefs. *Journal of Experimental Social Psychology* 46(2):428-31.
- Loewenstein, George. 1996. Out of control: Visceral influences on behavior. *Organizational Behavior and Human Decision Processes* 65(3):272-92.
- Macapagal, Kathryn R., Erick Jansse, Daniel J. Fridberg, Peter R. Finn, and Julia R. Heiman. 2011. The effects of impulsivity, sexual arousability, and abstract intellectual ability on men's and women's go/no-go task performance. *Archives of Sexual Behavior* 40(5):995-1006.
- McCullough, Michael E. and Evan C. Carter. 2013. Religion and self-regulation. In *APA handbook of psychology, religion, and spirituality. Vol. 1: Context, theory, and*

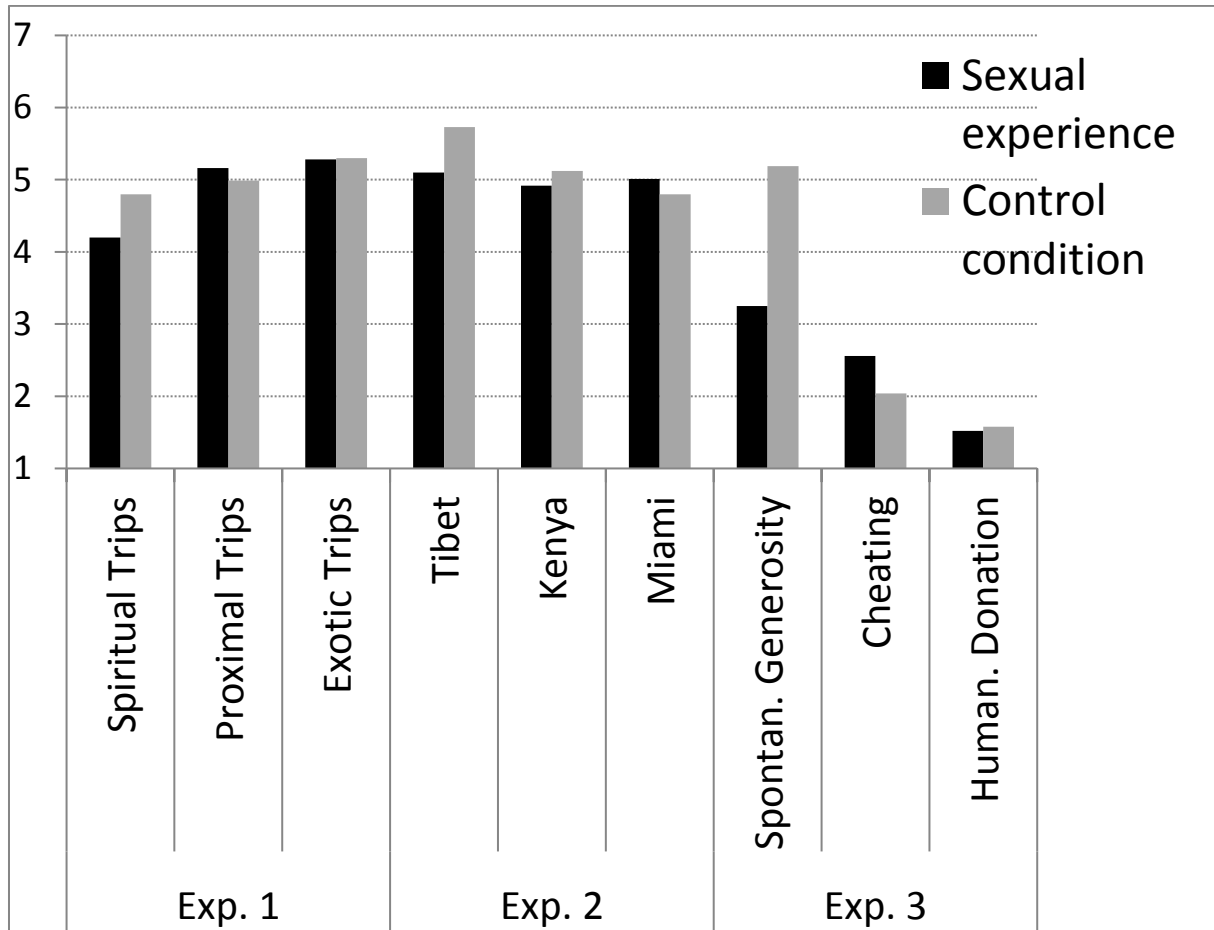
- research*, edited by Kenneth I. Pargament, pp. 123-38. Washington, DC: American Psychological Association.
- McCullough, Michael E., Evan C. Carter, C. Nathan DeWall, and Carolina M. Corrales. 2012. Religious cognition down-regulates sexually selected, characteristically male behaviors in men, but not in women. *Evolution and Human Behavior*, 33(5):562-68.
- Meston, Cindy M. and David M. Buss. 2007. Why humans have sex. *Archives of Sexual Behavior* 36(4):477-507.
- Imhoff, Roland and Alexander F. Schmidt. 2014. Sexual disinhibition under sexual arousal: Evidence for domain specificity in men and women. *Archives of Sexual Behavior* 43(6):1123-36.
- Olatunji, Bunmi O. 2008. Disgust, scrupulosity and conservative attitudes about sex: Evidence for a mediational model of homophobia. *Journal of Research in Personality* 42(5):1364-69.
- Olver, James M. and Todd A. Mooradian. 2003. Personality traits and personal values: A conceptual and empirical integration. *Personality and Individual Differences* 35(1):109-25.
- Patrick, Megan E., Jennifer L. Maggs, and Caitlin C. Abar. 2007. Reasons to have sex, personal goals, and sexual behavior during the transition to college. *The Journal of Sex Research* 44(3):240-49.
- Preston, Jesse Lee and Ryan S. Ritter. 2012. Cleanliness and godliness: Mutual association between two kinds of personal purity. *Journal of Experimental Social Psychology* 48(6):1365-68.
- Riggs, Nathaniel R., Eleanor B. Tate, Ty A. Ridenour, Michael M. Reynolds, Zu W. Zhai, Michael M. Vanyukov, and Ralph E. Tarter. 2013. Longitudinal associations from neurobehavioral disinhibition to adolescent risky sexual behavior in boys: Direct and

- mediated effects through moderate alcohol consumption. *Journal of Adolescent Health* 53(4):465-70.
- Rigo, Caroline and Vassilis Saroglou. 2013, August. *Religious priming decreases appreciation and watching time of erotic pictures*. Paper presented at the International Association for Psychology of Religion Conference, Lausanne, Switzerland.
- Ritter, Ryan S. and Jesse Lee Preston. 2011. Gross gods and icky atheism: Disgust responses to rejected religious beliefs. *Journal of Experimental Social Psychology* 47(6):1225-30.
- Roccas, Sonia, Lilach Sagiv, Shalom H. Schwartz, and Ariel Knafo. 2002. The big five personality factors and personal values. *Personality and Social Psychology Bulletin* 28(6):789-801.
- Rounding, Kevin, Albert Lee, Jill A. Jacobson, and Li-Jun Ji. 2012. Religion replenishes self-control. *Psychological Science* 23(6):635-42.
- Saroglou, Vassilis. 2002. Religion and sense of humor: An a priori incompatibility? Theoretical considerations from a psychological perspective. *Humor: International Journal of Humor Research* 15(2):191-214.
- _____. 2012. Adolescents' social development and the role of religion: Coherence at the detriment of openness. In *Values, religion, and culture in adolescent development*, edited by G. Trommsdorff and X. Chen, pp. 391-423. Cambridge, UK: Cambridge University Press.
- Saroglou, Vassilis, Coralie Buxant, and Jonathan Tilquin. 2008. Positive emotions as leading to religion and spirituality. *Journal of Positive Psychology* 3(3):165-73.
- Saroglou, Vassilis and Antonio Muñoz-García. 2008. Individual differences in religion and spirituality: An issue of personality traits and/or values. *Journal for the Scientific Study of Religion* 47(1):83-101.

- Schwartz, Pepper, Sarah Diefendorf, and Anne McGlynn-Wright. 2014. Sexuality in aging. In *APA Handbook of sexuality and psychology. Vol. 1: Person-based approaches*, edited by Deborah L. Tolman and Lisa M. Diamond, pp. 523-51. Washington, DC: American Psychological Association.
- Schwartz, Shalom H. 1992. Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. In *Advances in experimental social psychology*, edited by Mark Zanna, vol. 25, pp. 1-65. Orlando, FL: Academic Press.
- Schwartz, Shalom H. 2007. Value orientations: Measurement, antecedents and consequences across nations. In *Measuring attitudes cross-nationally: Lessons from the European Social Survey*, edited by Roger Jowell, Caroline Roberts, Rory Fitzgerald, and Gillian Eva, pp. 169-204. London: Sage.
- Sedikides, Constantine and Jochen E. Gebauer. 2010. Religiosity as self-enhancement: A meta-analysis of the relation between socially desirable responding and religiosity. *Personality and Social Psychology Review* 14(1):17-36.
- Sharma, Leigh, Kristian E. Markon, and Lee Anna Clark. 2014. Toward a theory of distinct types of “impulsive” behaviors: A meta-analysis of self-report and behavioral measures. *Psychological Bulletin* 140(2):374-408.
- Sheldon, Kennon M. 2006. Catholic guilt? Comparing Catholics’ and Protestants’ religious motivations. *International Journal for the Psychology of Religion* 16(3):209-23.
- Stevenson, Richard J., Trevor I. Case, and Megan J. Oaten. 2011. Effect of self-reported sexual arousal on responses to sex-related and non-sex-related disgust cues. *Archives of Sexual Behavior* 40(1):79-85.
- Terrizzi Jr, John A., Natalie J. Shook, and W. Larry Ventis. 2010. Disgust: A predictor of social conservatism and prejudicial attitudes toward homosexuals. *Personality and Individual Differences* 49(6):587-92.

- Thatcher, Adrian, ed. 2015. *The Oxford handbook of theology, sexuality, and gender*. Oxford, UK: Oxford University Press.
- Van Cappellen, Patty and Vassilis Saroglou. 2012. Awe activates religious and spiritual feelings and behavioral intentions. *Psychology of Religion and Spirituality* 4(3):223-36.
- Van Cappellen, Patty, Vassilis Saroglou, and Maria Toth-Gauthier. 2015. Religiosity and prosocial behavior among churchgoers: Exploring underlying mechanisms. *International Journal for the Psychology of Religion*. Advanced online publication.
- Wade, Jenny. 2013. Transpersonal sexual experiences. In *The Wiley-Blackwell handbook of transpersonal psychology*, edited by Harris L. Friedman and Glenn Hartelius, pp. 382-400. Oxford, UK. Wiley-Blackwell.
- Wiegel, Markus, Lisa A. Scepkowski, and David H. Barlow. 2007. Cognitive-affective processes in sexual arousal and sexual dysfunction. In *The psychophysiology of sex*, edited by Erick Janssen, pp. 143-65. Bloomington, IN: Indiana University Press.
- Wiltermuth, Scott S. 2011. Cheating more when the spoils are split. *Organizational Behavior and Human Decision Processes* 115(2):157-68.
- Woo, Jane S. T., Negar Morshedien, Lauri A. Brotto, and Boris B. Gorzalka. 2012. Sex guilt mediates the relationship between religiosity and sexual desire in East Asian and Euro-Canadian college-aged women. *Archives of Sexual Behavior* 41(6):1485-95.
- Wu, Ying, Yiyin Yang, and Chi-yue Chiu. 2014. Responses to religious norm defection: The case of Hui Chinese Muslims not following the halal diet. *International Journal of Intercultural Relations* 39(1):1-8.
- Zuckerman, Marvin, Sybil B. Eysenck, and Hans J. Eysenck. 1978. Sensation seeking in England and America: Cross-cultural, age, and sex comparisons. *Journal of Consulting and Clinical Psychology* 46(1):139-49.

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



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

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

