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# God, I Can't Stop Thinking About Sex! The Rebound Effect in Unsuccessful Suppression of Sexual Thoughts Among Religious Adolescents

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*The rebound effect of thought suppression refers to attempts to suppress thoughts that result in an increase of those thoughts. The aim of this three-study research was to investigate the suppression of thoughts and its possible importance in the cognitive model of predicted compulsive sexual behavior (CSB) among Israeli Jewish religious and secular adolescents. Study 1 (N = 661): Do religious and secular adolescents differ in CSB and related psychopathology? Study 2 (N = 522): Does CSB mediate the link between religiosity and well-being? Study 3 (N = 317): Does religiosity relate to suppression of sexual thoughts, which relates to higher CSB and lower well-being? The analyses indicated that religious adolescents are higher in CSB than secular ones, and that sexual suppression and CSB mediate the link between religiosity and well-being. Results are discussed and address the need for a broader understanding of CSB and the function of thought suppression.*

Thought suppression is one of the strategies used to control unwanted negative thoughts; research, however, has suggested that suppression often leads to an increase in such thoughts (Wegner, Schneider, Carter, & White, 1987). Wegner and colleagues (1987) found that participants who suppressed thoughts about a white bear reported a subsequent increase in the frequency of thoughts about that animal; they called this phenomenon the *rebound effect*. According to Wegner (1994), thought suppression involves two mechanisms: operation and monitoring. During operation, the distracter thought searches to promote the suppression of unwanted thoughts; during monitoring, however, it is the occurrence of the suppressed target that indicates the failure of suppression.

Because persistent intrusive thoughts and images are a key source of distress and dysfunction (Clark & Rhyno, 2005; Magee, Harden, & Teachmen, 2012), psychopathology researchers have sought to integrate thought suppression into their disorder-specific theories. Among the theories that sought the integration of thought suppression are those related to depression (Wegner, 1994; Wenzlaff & Luxton, 2003), anxiety disorders (Ehlers & Clark, 2000; Salkovskis, 1996; Thorpe & Salkovskis, 1997), and eating disorders (Polivy & Herman, 2002). To date, little research attention has been devoted to sexual thought suppression and its effect on enhancing psychopathology, an issue which the present research explored.

## Compulsive Sexual Behavior

Adolescence is an age of changes and exploration in which sex and sexuality are of central concern (O'Sullivan & Thompson, 2014). Adolescents often wonder about their sex-related thoughts, emotions, and behaviors (Wéry & Billieux, 2017) and ponder whether preoccupation with sexuality could dangerously lead them to compulsive sexual behavior (CSB; Adelson, 2013; Adelson et al., 2012; De Crisce, 2013; Friedrich, Lysne, Sim, & Shamos, 2004).

Kafka (2010) defined CSB as an intense, repetitive obsession with sexual fantasies, urges, and behaviors that could bring about adverse consequences, such as clinical distress and impaired social and occupational functioning. Research has corroborated this definition and linked CSB with both behavioral (Kastner & Sellbom, 2012) and cognitive (and metacognitive) (Allen, Kannis-Dymand, & Katsikitis, 2017; Kalichman et al., 1994; Kalichman & Rompa, 1995; Paunovic & Hallberg, 2014; Reid, Garos, & Carpenter, 2011; Walton, Cantor, Bhullar, & Lykins, 2017) facets. While CSB has been studied in adults, it has received only limited attention among adolescents. In addition, research has yet to establish the distinction and boundaries between normal and excessive sexuality among adolescents (De Crisce, 2013).

Recently, Efrati and Mikulincer (2018) described two aspects of CSB: individual and partnered. *Individual CSB* refers to the inner entity and conflicts of individuals who engage in sexual fantasies, compulsive sexual thoughts, and masturbation. *Partnered CSB* includes interpersonal sexual

conquests and repeated infidelity. Among adolescents, individual CSB is more prevalent than partnered CSB, as most of their experience still does not include physical intimacy (Delmonico & Griffin, 2011).

Individuals who engage in CSB report difficulties dealing with repetitive sexual thoughts. These thoughts make them feel that “something might be wrong” with them, and they believe that such thoughts may harm their daily functioning and even increase their need for sex as a means of relaxation. One common strategy to handle unwanted thoughts is to try to suppress them (e.g., Brockman, Ciarrochi, Parker, & Kashdan, 2017), particularly if a person cannot openly share these thoughts with others (Gross & John, 2003). Suppression, however, often backfires and leads to negative outcomes such as alcohol (e.g., Bowen, Witkiewitz, Dillworth, & Marlatt, 2007) and drug abuse (e.g., Garland, Brown, & Howard, 2016). In the present study, we examined whether suppression of sexual thoughts among adolescents relates to higher individual CSB and thus to lower mental health and well-being. In doing so, we also compared two groups of adolescents that differ in their ability to openly discuss and share thoughts on sex and sexuality—religious and secular groups—because this difference might incur a greater need to suppress sexual-related thoughts and fantasies.

### **Religiosity, Suppression of Sexual-Related Thoughts and Behavior, and CSB**

For the sake of clarity, the present study examined religiosity using Worthington and colleagues’ (2003) definition of “religious commitment”—specifically, “the degree to which a person adheres to his or her religious values, beliefs, and practices and uses them in daily living” (p. 85). In this article, we study differences between religious Israeli Jews (Orthodox) and secular Israelis. The word *orthodox* is defined from the Greek as “correct thought” and is more commonly understood as “conforming to established doctrine especially in religion” (Merriam-Webster, 2003). Within Judaism, Orthodoxy signifies individuals who generally believe in the divinity of the Written Law (Torah) and Oral Law (Talmud) and who, at minimum, practice the core observances of the 613 mitzvot (commandments) that define Orthodox observance.

Religiosity imposes explicit moral standards for thinking and behaving that are inculcated by influential authority figures (e.g., rabbi) and includes the possibility of severe punishment (e.g., banishment and death). The 10th Commandment from the Bible, for example, forbids coveting (i.e., wishing to have) another person’s wife (Exodus 20:17: “You shall not covet your neighbor’s wife”) and masturbation (Genesis 38:9–10: “But Onan, knowing that the seed would not count as his, let it go to waste ... what he did was displeasing to the LORD, and He took his life”). In addition, the Jewish Talmud states that “thoughts of [sexual] transgression are more severe than [sexual] transgression” (Yoma 29).

In keeping with these views, Kwee, Dominguez, and Ferrell (2007) reported that counselors in religious institutions for higher education have noticed an increase in the number of religious adolescents seeking counseling for CSB. However, most of these adolescents were not found to be within the diagnostic range of CSB, and their conflict seemed to stem from the religious emphasis on purity of thought, specifically in the sexual domain. Therefore, “impure” thoughts on sexuality may become a source of guilt and cause adolescents to regard themselves as if they are physically engaging in CSB. In addition, religiosity and moral disapproval of pornography were strong predictors of a self-perception of being addicted to online pornography (Grubbs, Stauner, Exline, Pargament, & Lindberg, 2015; Grubbs, Exline, Pargament, Volk, and Lindberg, 2017). Likewise, religious people report higher levels of perceived addiction to online pornography and CSB than secular people (Bradley, Grubbs, Uzdavines, Exline, & Pargament, 2016; Karaga, Davis, Choe, & Hook, 2016; MacInnis & Hodson, 2015, 2016; Wilt, Cooper, Grubbs, Exline, & Pargament, 2016).

Religious beliefs not only may increase the negative attitudes toward CSB but also may increase shame and guilt (Murray-Swank, Pargament, & Mahoney, 2005) and judgmental perceptions toward sexuality and sexual compulsions (Edger, 2012). Fearing condemnation, individuals may hide their sexual behaviors and thus become isolated in their shame (Edger, 2012; Murray, Ciarrochi, & Murray-Swank, 2007; Nelson, 2003). Therefore, religious people might be inclined to use suppression of sexual thoughts and fantasies more often than secular people would.

Accordingly, we hypothesized that religious adolescents would score higher on suppression of sexual thoughts and fantasies than secular adolescents. Higher suppression of sexual thoughts and fantasies would be, in turn, linked with higher individual CSB (i.e., rebound effect); Higher individual CSB would then be associated with lower well-being.

## **The Present Research**

The present research was a three-study examination of adolescents’ suppression of unwanted sexual thoughts and its links with CSB, psychopathology, and mental health. In Study 1, we examined differences in CSB between religious and secular adolescents as compared with other types of psychopathology. In Study 2, we examined whether CSB mediates the link between religiosity and well-being. In Study 3, we examined the complete mediating path, in which we explored whether religiosity relates to suppression of unwanted sexual thoughts, which in turn relates to higher CSB, which in turn relates to lower well-being.

### **Study 1**

In Study 1, we examined differences between religious and secular adolescents in individual CSB (i.e., focusing

mostly on sexual thoughts and fantasies) to explore the hypothesis that religious adolescents will be higher on individual CSB. To show that these differences are specific for CSB and not for other types of psychopathology, we also examined differences in anxiety and depression—two prevalent psychopathologies that have high comorbidity with CSB (e.g., Reid & Carpenter, 2009).

## Method

**Participants.** The study population included 661 Israeli adolescents (329 boys and 332 girls), ages 14 to 18 ( $M = 16.84$ ,  $SD = 1.29$ ), of whom 43.9% ( $n = 290$ ) self-defined as secular and 56.1% ( $n = 371$ ) as Jewish Orthodox (i.e., religious). The sample did not include ultra-Orthodox participants.

### Measures.

*Individual-Based Compulsive Sexual Behavior (I-CSB; Efrati & Mikulincer, 2018).* The I-CSB was constructed to measure CSB manifested in sexual fantasies, compulsive sexual thoughts, and spending a great deal of time watching pornography. The four factors of this 24-item, self-report questionnaire are unwanted consequences, lack of control, negative affect, and affect regulation. Participants are asked to rate, on a 7-point Likert scale, the degree to which each statement characterizes their feelings (1 = *Not at all*, 7 = *Very much*). Examples of such statements are “I turn to sexual fantasies as a way to cope with my problems” (Item 3) or “I feel that my sexual fantasies hurt those around me” (Item 14). The questionnaire was successfully used in a previous study of a nonclinical population and a clinical population participating in a Sexaholics Anonymous 12-step program (Efrati & Mikulincer, 2018). Cronbach’s alphas were .84 for unwanted consequences, .87 for lack of control, .88 for negative affect, and .90 for affect regulation. A total I-CSB score was calculated by averaging the 24 I-CSB items (Cronbach’s alpha = .94), with higher scores reflecting higher preoccupation with sexual thoughts and fantasies.

*Depression and anxiety (Derogatis, 1993).* To examine differences in depression and anxiety we used the two subscales of the Brief Symptom Index (BSI; Derogatis, 1993). Six items assessed anxiety (e.g., “Nervousness or shakiness inside”) and six items assessed depression (e.g., “Thoughts of ending your life”). Respondents were asked to rank each feeling item on a 5-point scale (0 = *Not at all*, 4 = *Extremely*) regarding the intensity of distress during the seven days preceding the test. The validity and reliability of the BSI were extensively studied in the past, (for more details, see Derogatis, 1993) including test-retest reliability and cross validation with other known scales (e.g., Minnesota Multiphasic Personality Inventory [MMPI]). In addition, the measure was successfully and reliably used to assess psychopathology among adolescents (e.g., Piersma, Boes, & Reaume, 1994) and specifically among Israeli adolescents (Canetti, Shalev, & De-Nour, 1994). In this study, reliability of the depression ( $\alpha = .85$ ) and anxiety

( $\alpha = .79$ ) scales was high. Accordingly, we calculated for each participant scores of anxiety and depression by averaging the relevant items.

**Procedure.** To recruit participants, we arranged personal meetings with school principals in central and east Israel (Tel-Aviv and Jerusalem districts) and with 11th and 12th grade coordinators who were interested in participating in a study on adolescents’ sexuality. Following these meetings, we sent letters to parents informing them of the study and asked them to sign parental informed consent. Pupils completed the questionnaires after receiving an in-class explanation and assurance of complete anonymity, and after they signed informed consent. A researcher read out loud one item from each questionnaire to verify that the questionnaires were clear and comprehensible. Pupils completed the battery of questionnaires in the following order: individual CSB, depression and anxiety, and sociodemographic measures (age, gender, religiosity). The question regarding religiosity is a common question in many Israeli formal and informal forms (including that of the Israel Central Bureau of Statistics) that includes three classifications: secular, religious (Orthodox) and ultra-Orthodox. In the current study, participants were either secular or religious (Orthodox). After we collected the completed questionnaires, we gave pupils information sheets containing contact information for psychological support hotlines if they were to find that answering the questions had caused them emotional distress.

## Results: Do Religious and Secular Adolescents Differ in CSB and Related Psychopathology?

In Study 1, we examined whether religious ( $n = 371$ ) and secular ( $n = 290$ ) adolescents differ in CSB but not in related psychopathology (depression and anxiety). In our multivariate analysis of variance (MANOVA), religiosity (religious, secular) was the independent variable. Means and standard deviations are presented in Table 1. The analysis indicated that the groups differed significantly in a multivariate factor of CSB and psychopathology, Wilks’s  $\lambda = 0.88$  (i.e., religiosity explained 12% of the multivariate factor of CSB and psychopathology),  $F_{(3, 650)} = 29.80$ ,  $p < .0001$ . To examine the pattern of this difference, we followed the MANOVA up with a discriminant function analysis (also known as canonical regression). Discriminant analysis explores the pattern of differences between groups and examines the relative contribution of each construct (in our case, CSB, depression, and anxiety) to these differences (i.e., its discriminant ability). The analysis revealed one significant canonical discriminant function, Wilks’s  $\lambda = 0.88$ ,  $\chi^2_{(3)} = 83.83$ ,  $p < .0001$  (see Figure 1). As predicted, we found that religious adolescents were significantly and meaningfully (i.e., moderate effect size) higher than secular adolescents on CSB ( $\beta = 0.84$ ,  $p < .001$ ,  $\eta^2 = .088$ ). We also found a weak (see Cohen, 1992) yet significant difference in anxiety ( $\beta = 0.38$ ,  $p < .001$ ,  $\eta^2 = .018$ ) and no significant or meaningful difference in depression ( $\beta = 0.19$ ,  $p = .07$ ,  $\eta^2 = .005$ ).

**Table 1.** Means and Standard Deviations by Religiosity (Study 1)

	Religious ( <i>n</i> = 371)		Secular ( <i>n</i> = 290)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Compulsive sexual behavior	2.91	1.16	2.24	0.94
Anxiety	1.18	0.82	0.96	0.79
Depression	1.46	0.94	1.33	0.95

## Discussion

As we predicted, Study 1 supported the hypothesis that religious adolescents will be higher than secular adolescents on CSB. Because Jewish religiosity and the Orthodox way of life entail specific restrictions on sexuality and sex, specifically before marriage, we expected religious adolescents to report higher levels of individual CSB—in other words, higher preoccupation with unwanted sexual thoughts and fantasies. In keeping with predictions and prior research (Kwee et al., 2007), we indeed found meaningfully higher CSB among religious adolescents. We also expected to find nonsignificant and/or nonmeaningful differences in related psychopathology—here, anxiety and depression—because religiosity was previously linked with better life satisfaction (e.g., Ismail & Desmukh, 2012; Leondari & Gialamas, 2009). As expected, we found a nonsignificant and nonmeaningful difference in depression. We did find, however, a weak yet significant difference in anxiety. This small difference in anxiety is in keeping with research linking conservative religious beliefs (as those found in Orthodox Judaism, as opposed to liberal religious beliefs, such as those in Reform Judaism) with slightly higher anxiety (Leondari & Gialamas, 2009) and lower happiness (Green & Elliott, 2010).

## Study 2

Study 1 indicated that religious adolescents have higher individual CSB, including higher preoccupation with unwanted sexual thoughts and fantasies, than secular adolescents. In Study

2, we examined whether higher individual CSB mediated the link between religiosity and well-being. In addition, we wished to replicate the results of Study 1 showing differences in CSB but not in related psychopathology using a different measure for psychopathology.

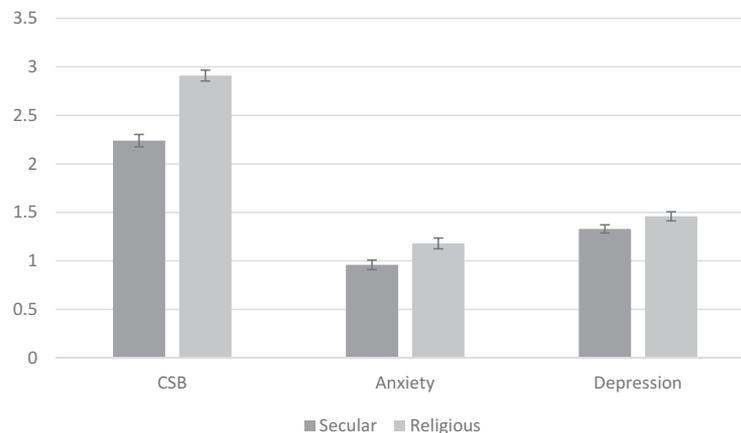
## Method

**Participants.** The study population included 522 Israeli adolescents (227 boys and 295 girls), ages 14 to 18 ( $M = 16.84$ ,  $SD = 1.29$ ), of whom 33% ( $n = 172$ ) self-defined as secular and 67% ( $n = 350$ ) as Israeli Orthodox (i.e., religious). The study did not include ultra-Orthodox participants.

## Measures.

**I-CSB (Efrati & Mikulincer, 2018).** To assess individual CSB, we used the I-CSB scales as in Study 1. Cronbach's alphas were .85 for unwanted consequences, .86 for lack of control, .88 for negative affect, and .91 for affect regulation. A total I-CSB score was calculated by averaging the 24 I-CSB items (Cronbach's  $\alpha = .95$ ), with higher scores reflecting higher preoccupation with sexual thoughts and fantasies.

**Mental Health Index (MHI-5; Ware, Snow, Kosinski, & Gandek, 1993).** The MHI-5, a subscale of the RAND SF-36 Quality of Life Scale (Ware et al., 1993), is a nonspecific measure of mental health. The measure was used to assess well-being and the occurrence and degree of psychological distress (usually of anxiety and depression-related distress) during the past month (Lavikainen, Fryers, & Lehtinen, 2006). Specifically, three items assess psychological distress ( $\alpha = .80$ ; “nervous person” [anxiety], “down in the dumps” and “downhearted and blue” [depression]) and two items assess well-being ( $\alpha = .79$ ; “calm and peaceful” and “happy person”). The validity and reliability of the MHI-5 has been extensively studied in the past (e.g., Rumpf, Meyer, Hapke, & John, 2001). In the current study, we calculated scores of well-being and psychological distress by averaging the relevant items.



**Figure 1.** Differences in compulsive sexual behavior (CSB) and related psychopathology by religious status (Study 1). (scales ranged from 1-7 for CSB and 1-6 for wellbeing and distress).

**Procedure.** The sample was a convenience sample, recruited by postings on bulletin boards and online forums looking for volunteers for research about sexuality among adolescents. The questionnaires were uploaded to Qualtrics, an online platform for questionnaires. After adolescents responded and agreed to participate, their parents were contacted (by e-mail and/or phone) and were asked to review the questionnaires. If the parents approved, they were asked to sign an informed parental consent form and e-mail it to a research assistant. Following parental consent, a link for the online survey was sent to the adolescent, who was assured of the anonymity of the survey. Participants were then asked to complete the survey at home, without anyone else present. Each adolescent was asked to sign an informed consent form prior to completing the questionnaires. The order of the questionnaires was as follows: individual CSB, MHI-5, and sociodemographic measures (age, gender, religiosity; as in Study 1). Once the questionnaires were submitted, the researchers followed up with the adolescents with an online debriefing. Finally, the participants were thanked for being part of the research.

**Results**

**Do religious and secular people differ in CSB and psychological distress?.** Our aim here was to replicate the results of Study 1 by using a different measure of psychopathology, namely psychological distress. We hypothesized that religious ( $n = 350$ ) and secular ( $n = 172$ ) adolescents would differ in CSB but not in psychological distress. Because of equivocal results regarding the link between religiosity and well-being, we did not have specific predictions regarding well-being. To examine the hypotheses, we conducted a MANOVA with religiosity (religious, secular) as the independent variable. Means and standard deviations are presented in Table 2. The analysis indicated that the groups differed significantly in a multivariate factor

**Table 2.** Means and Standard Deviations by Religiosity (Study 2)

	Religious ( $n = 350$ )		Secular ( $n = 172$ )	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Compulsive sexual behavior	2.74	1.15	2.41	1.14
Well-being	2.73	1.07	2.99	1.11
Distress	3.95	1.25	3.88	1.23

**Table 3.** Means and Standard Deviations by Religiosity (Study 3)

	Religious ( $n = 163$ )		Secular ( $n = 154$ )		$t_{(308)}$	<i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Compulsive sexual behavior	2.85	1.11	2.29	1.04	4.12***	0.47
Well-being	2.88	0.97	3.34	1.33	-3.03**	-0.35
Sexual suppression	3.15	0.78	2.55	0.73	6.40***	0.73

Note. *d* = Cohen’s *d* (effect size).  
\*\* $p < .01$ ; \*\*\* $p < .001$ .

of CSB, psychological distress, and well-being, Wilks’s  $\lambda = 0.96$  (i.e., religiosity explained 4% of the multivariate factor of CSB and mental health),  $F_{(3, 515)} = 5.71, p = .001$ . To examine the pattern of this difference, we followed the MANOVA with a discriminant function analysis. The analysis revealed one significant canonical discriminant function, Wilks’s  $\lambda = 0.96, \chi^2_{(3)} = 16.88, p = .001$  (see Figure 2). We found that religious adolescents were higher than their secular peers on CSB ( $\beta = 0.75, p = .002, \eta^2 = .019$ ) and lower on well-being ( $\beta = -0.60, p = .013, \eta^2 = .012$ ). Religious and secular people were not significantly different on distress ( $\beta = 0.15, p = .535, \eta^2 = .001$ ).

**Does CSB mediate the effect of religiosity on well-being?.** In Study 2, we examined whether CSB mediates the effect of religiosity (religious, secular) on well-being. A mediation analysis, using Hayes’s (2013) procedure, revealed that the total effect of religiosity on well-being was significant,  $b = -.22, SE = .10, t = -2.16, p = .03, 95\%$  confidence interval (CI)  $[-.42, -.02]$ . However, this effect was significantly mediated by CSB, with religious adolescents being higher on CSB than secular adolescents,  $b = .29, SE = .09, t = 3.13, p = .002, 95\%$  CI  $[.11, .47]$ . When controlling for religiosity, CSB was linked with lower well-being,  $b = -.11, SE = .05, t = -2.29, p = .02, 95\%$  CI  $[-.21, -.02]$ . Accordingly, a bias-corrected bootstrap analysis with 5,000 resampling indicated that the indirect effect from religious to well-being via CSB was significant,  $b = .03, SE = .02, 95\%$  CI  $[.01, .08]$  (see Figure 3).

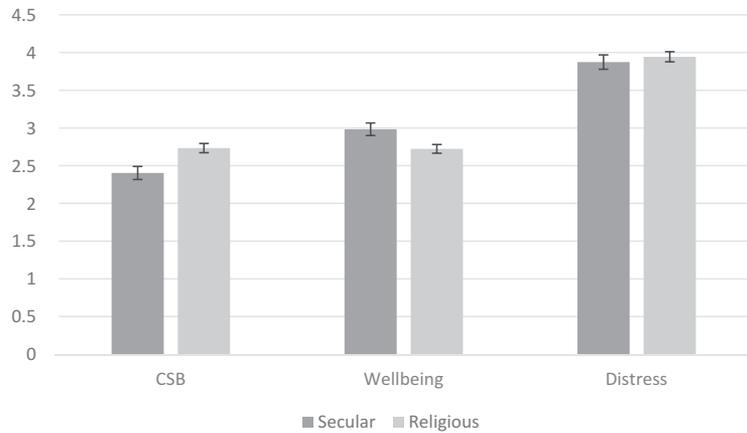
**Discussion**

Results of Study 2 replicated those of Study 1 by revealing that religious adolescents are higher than secular adolescents on individual CSB (i.e., have higher preoccupation with unwanted sexual thoughts and fantasies) but not on psychological distress. We did find, however, that religious adolescents were lower on well-being than secular adolescents, which is in keeping with studies associating conservative religious beliefs with lower happiness (Green & Elliott, 2010), and with Study 1, which revealed slightly higher anxiety for religious adolescents.

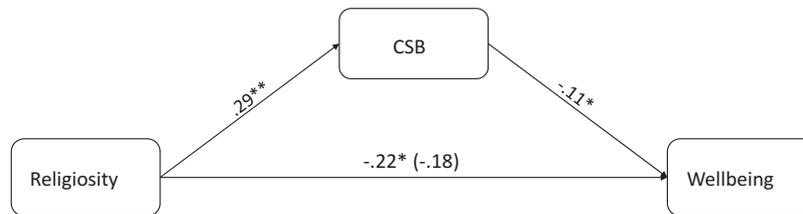
We also found that individual CSB significantly mediated the link between religiosity and well-being, such that religious adolescents were higher on individual CSB, and high individual CSB was linked, in turn, with lower well-being. We still do not know, however, whether the higher level of individual CSB found among religious adolescents may be attributed to a higher tendency to suppress sexual-related thoughts and fantasies. We designed Study 3 to answer this question.

**Study 3**

In Study 3, we examined the main premise of this research: whether suppression of sexual-related thoughts



**Figure 2.** Differences in compulsive sexual behavior (CSB), well-being, and distress by religious status (Study 2). (scales ranged from 1-7 for CSB and 0-4 for psychopathology).



**Figure 3.** Compulsive sexual behavior (CSB) mediates the link between religiosity and well-being (Study 2).

and fantasies could account for the higher levels of pre-occupation with unwanted sexual thoughts and fantasies (i.e., individual CSB) found among religious adolescents. To do so, we specifically examined a two-step mediating process linking religiosity with well-being via a higher tendency for suppression of sexual-related thoughts and fantasies and higher individual CSB.

## Method

**Participants..** The study population included 317 Israeli adolescents (157 boys and 160 girls), ages 14 to 18 ( $M = 17.84$ ,  $SD = 4.23$ ), of whom 51.4% ( $n = 163$ ) self-defined as secular and 48.6% ( $n = 154$ ) as Israeli Orthodox (i.e., religious). The study did not include ultra-Orthodox participants.

## Measures.

**Sexual suppression scale.** This scale was developed for the present study, and is based on the white bear questionnaire (Wegner et al., 1987) and expressive suppression scale from the Emotion Regulation Questionnaire for Children and Adolescents (ERQ-CA), developed by Gullone and Taffe (2012). Participants were asked to rate, on a 5-point Likert scale (1 = *Not at all*, 5 = *Very much*), the degree to which each statement characterized their feelings (e.g., Item 1: “Very often I find

myself trying to suppress my sexual thoughts”; Item 11: “Sometimes I try to get involved with work or studies just to avoid all sorts of sexual thoughts”). To examine the structural validity of the measure, we conducted a confirmatory factor analysis (CFA) using the MPlus 6.1 (Muthén & Muthén, 2010) structural equation modeling (SEM) package. Goodness of fit was estimated by root mean square error of approximation (RMSEA), comparative fit index (CFI), and Tucker-Lewis index (TLI). A model has a good fit to the data if RMSEA is lower than 0.07 and CFI and TLI scores are higher than 0.95. The CFA had excellent fit to the observed data, CFI = .97, TLI = .95, RMSEA = .06 (95% CI [.04, .078]). Item loadings were all above .50. In addition, the scale had high reliability ( $\alpha = .84$ ). Accordingly, we calculated for each participant a score of suppression of sexual-related thoughts and fantasies by averaging the items.

**I-CSB (Efrati & Mikulincer, 2018).** To assess individual CSB we used the I-CSB scales as in Studies 1 and 2. Cronbach’s alphas were .87 for unwanted consequences, .84 for lack of control, .86 for negative affect, and .90 for affect regulation. A total I-CSB score was calculated by averaging the 24 I-CSB items ( $\alpha = .94$ ), with higher scores reflecting higher preoccupation with sexual thoughts and fantasies.

*MHI-5 (Ware et al., 1993).* To assess well-being and psychological distress, we used the MHI-5 as in Study 2. In the current study, reliability of well-being ( $\alpha = .79$ ) and psychological distress ( $\alpha = .80$ ) was high. Accordingly, we calculated for each participant scores of well-being and psychological distress by averaging the relevant items.

**Procedure.** As in Study 2, this was a convenience sample, recruited by postings on bulletin boards and online forums for volunteers for research on sexuality among 14- to 18-year-old adolescents. The questionnaires were uploaded to Qualtrics. After adolescents responded and agreed to participate, their parents were contacted (by e-mail and/or phone) and were asked to review the questionnaires. If the parents approved, they were asked to sign an informed parental consent form and e-mail it to a research assistant. Following parental consent, a link for the online survey was sent to the adolescent, who was assured of the anonymity of the survey. Participants were then asked to complete the survey at home, without anyone else present. Each adolescent was asked to sign an informed-consent form prior to beginning work on the questionnaire. The order of the questionnaires was as follows: sexual suppression scale, individual CSB, MHI-5, and sociodemographic measures (age, gender, religiosity; as in Study 1). Once the questionnaire had been submitted, the researchers followed up with the adolescents with an online debriefing. Finally, the participants were thanked for being part of the research.

**Results**

**Does sexual suppression account for the mediating role of CSB in the effect of religiosity on well-being?.** In Study 3, we conducted a two-step mediation analysis, based on Hayes’s (2013) procedure, in which we tested our theory that the mediating role of CSB in the effect of religiosity on well-being may be accounted to sexual suppression. Preliminary independent samples t-tests have indicated that religious participants were higher on CSB and sexual suppression, and lower on wellbeing as compared with their secular counterparts (see Table 3). Results of the mediation analysis are presented in Figure 4.

Results indicated that the total effect of religiosity on wellbeing was significant,  $b = -.63$ ,  $SE = .14$ ,  $t = -4.49$ ,  $p < .001$ , 95% CI  $[-.91, -.35]$ . This effect, however, was

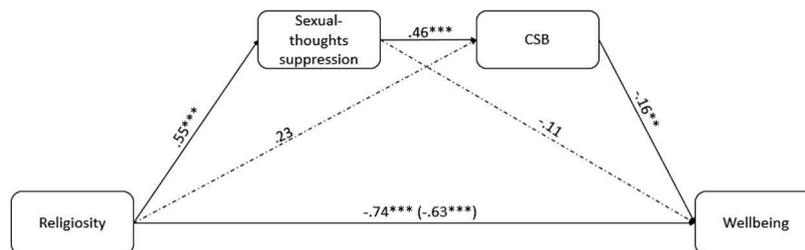
significantly mediated by the expected two-step mediation of suppression of sexual thoughts and CSB. Religious adolescents were higher on sexual suppression than their secular peers,  $b = .55$ ,  $SE = .10$ ,  $t = 5.67$ ,  $p < .001$ , 95% CI  $[.36, .74]$ . Sexual thought suppression, in turn, was linked with higher CSB while controlling for religiosity,  $b = .46$ ,  $SE = .08$ ,  $t = 6.03$ ,  $p < .001$ , 95% CI  $[.31, .61]$ . CSB was associated with lower well-being while controlling for religiosity and sexual suppression,  $b = -.16$ ,  $SE = .06$ ,  $t = -2.78$ ,  $p = .006$ , 95% CI  $[-.27, -.05]$ . Accordingly, bias-corrected analysis with 5,000 resampling revealed that the indirect effect from religious to well-being via sexual thought suppression and CSB was significant,  $b = .04$ ,  $SE = .02$ , 95% CI  $[.01, .11]$ .

**Discussion**

In keeping with predictions, Study 3 indicated that religious adolescents are indeed higher than secular adolescents in suppression of sexual thoughts and fantasies. This result might be an echo of religious teaching that perceives sexual thoughts, especially prior to marriage, as impure and forbidden. Higher tendency to suppress sexual thoughts and fantasies was found to be linked with higher individual CSB, which corroborates with studies on the rebound effect in many other domains (e.g., Wegner et al., 1987) and shows that suppression of sexual thoughts only begets higher preoccupation with sexual thoughts and fantasies. Finally, those with higher preoccupation with unwanted sexual thoughts and fantasies were also lower on well-being.

**General Discussion**

Thought suppression is one of the strategies used to control unwanted negative thoughts. Ironically, however, simple suppression often leads to an increase in such thoughts, a phenomenon known as the rebound effect. Based on previous research, both evidence and theoretical perspectives pointed to the importance and uniqueness of thought suppression in shaping individuals’ mental health (Magee et al., 2012). To date, no research has been conducted on the association between the suppression of sexual thoughts and developmental disposition to CSB among adolescents. Furthermore, there are populations who are



**Figure 4.** Sexual suppression and compulsive sexual behavior (CSB) mediate the link between religiosity and well-being (Study 3).

inclined to suffer more from suppressing such thoughts, such as conservative religious people who watch pornography and by doing so find themselves in conflict with their religious worldview (Bradley et al., 2016; Giordano & Cecil, 2015; Karaga et al., 2016; MacInnis & Hodson, 2015, 2016).

In the current research, we aimed to reveal the roles that unwanted sexual thoughts and religiosity play in the mental health of adolescents with a disposition toward CSB. Study 1 and Study 2, each with its own sample, indicated that, as we predicted, conservative religious adolescents were higher than secular adolescents on CSB.

These findings reveal that religious affiliation, as part of a cultural aspect, is a significant predictor for CSB, and are in keeping with earlier studies that indicated the importance of religious-cultural affiliation as part of a complex of other variables—including personality, cognition, and psychopathology—to the development of CSB (Giordano & Cecil, 2015; Kwee et al., 2007; MacInnis & Hodson, 2015, 2016). Religious individuals, especially adolescents, may hide their sexual thoughts and behaviors for fear of condemnation, leading to isolation, shame, and guilt (Edger, 2012; Murray et al., 2007; Nelson, 2003). In turn, feelings of shame and alienation could increase negative reactions that might lead to stress, anxiety, and pain and to the development of CSB (Kraus, Rosenberg, & Tompsett, 2015; Pachankis, Redina, Ventuneac, Grov, & Parsons, 2014).

As for psychopathological symptoms, our findings suggest that religious adolescents were higher than secular adolescents on anxiety (Study 1), lower on well-being (Study 2), but not significantly different on distress and depression. These findings are in contrast to research linking better mental health and religiosity (Koenig, King, & Carson, 2012; Pargament, Mahoney, Exline, Jones, & Shafranske, 2013) and highlighting religiosity as a shielding factor against addictive behaviors (Johnson, Li, & McCullough, 2000; Nonnemaker, McNeely, & Blum, 2003). The current results are in keeping with other studies linking conservative religiosity (as opposed to liberal religiosity) with higher anxiety (Leondari & Gialamas, 2009) and lower happiness (Green & Elliott, 2010). Given that our samples comprised Orthodox Jews, who hold conservative worldviews (as opposed to Reform Jews), it is less surprising that religiosity was weakly linked with higher anxiety and lower well-being: Religious beliefs dictates norms of behaviors and state specific physical and spiritual punishments for those who cross these norms. The sexual taboo, for example, forbids certain sexual thoughts, fantasies, and behaviors (e.g., masturbation), deeming them a “sin” and “forbidden fruit” (Kwee et al., 2007), and so sexual behavior in general, and especially CSB, must be kept hidden.

How does this culturally based paradox within these religious adolescents manifest itself in the relationship between religiosity, CSB, and lower mental health? In Study 3, we addressed that question and chose the implications of suppressing sexual thoughts as a mediating variable. This choice was based on the understanding that there is a

stronger struggle within religious adolescents (compared with secular adolescents) between the need to be attentive to the religious world and the sexual sphere, and examining the implication of this need on their mental health. Our findings indicate that religious adolescents were higher on sexual suppression than their secular counterparts. Sexual suppression, in turn, was linked with higher CSB while controlling for religiosity, and CSB was associated with lower well-being while controlling for religiosity and sexual suppression. Accordingly, the indirect effect from religiosity to well-being via sexual suppression and CSB was significant. According to psychoanalytic theories, sexual urges, even nontraditional sexual urges, are natural and instinctual. Resisting open sexuality, therefore, may be viewed as repressing or suppressing sexual desires (Freud, 1946).

This study was conducted among Jewish adolescents, of whom the religious ones are greatly affected by the biblical ruling “not to follow after your own heart and your own eyes, which you are inclined to whore after” (Num. 15:39). The Talmud interprets “your own heart and your own eyes” as “a thought of transgression” (Berakhot 12), and states elsewhere that “thoughts of transgression are more severe than transgression” (Yoma 29). In other words, an immanent element of religious-cultural affiliation is not to “seek” and watch sexual elements and content. Rather, if sexual thoughts do surface, they should be fought and suppressed. Paradoxically, the very suppression of these sexual thoughts increases preoccupation with sexuality to the point that religious adolescents report about their own CSB. Similarly, we find evidence of this paradoxical preoccupation brought about by suppression in a study by Wegner et al. (1987), who reported the rebound effect, where suppressed thoughts led to a subsequent increase in the frequency of thoughts about the subject to be suppressed.

Increased preoccupation with sexual behavior, a hallmark of adolescence, is further intensified by suppressing these thoughts, thus becoming an essential part of the development of CSB. More specifically, suppressing such sexual thoughts and the inability to control them increase sexual fantasies and preoccupation with sexual behaviors, thus increasing the negative emotions of shame and guilt, which are an outcome of one’s inability to control such thoughts.

In conclusion, our findings reveal that CSB and sexual thoughts are an important component in the psychological development and mental health of adolescents. Religious adolescents report lower mental health, a result of the paradoxical condition of their natural attraction to sexual behavior and their belonging to a world governed by the laws of religion. In addition, religious adolescents report higher levels of CSB than do their secular counterparts. These important findings could be explained by the religious adolescents’ suppression of these thoughts, with the thoughts being a predictor of CSB and lower mental health.

Some limitations of the research should be acknowledged. First, the research population was very homogeneous

and local: Jewish Israeli adolescents. Future studies should examine other age groups and diverse religious and cultural populations to ascertain the replicability and generalizability of the findings.

Future research might also address the relationship between sexually related problems and a broader spectrum of variables that examine social support available to adolescents: parents, family, peers, and additional significant others. It would also be interesting to distinguish between elements of spirituality and religion, dividing behavior into positive and negative coping. Thus, religious coping that relies on spiritual connections, forgiveness, and benevolence could be positive. However, it could also be negative if based on spiritual discontent, a “punishing” God, or interpersonal friction on religious grounds (Pargament, Smith, Koenig, & Perez, 1998). In addition, Studies 1 to 3 are correlational and so do not allow us to conclude that religious beliefs are the cause of sexual suppression or individual CSB. Longitudinal studies could help in deciphering the directionality of these links.

Despite these shortcomings, we view the current research as an important step in understanding adolescents’ suppression of sexual thoughts, taking into account the cultural-religious context as a major component in adolescents’ sexual development.

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