

Adolescents' compulsive sexual behavior: The role of parental competence, parents' psychopathology, and quality of parent–child communication about sex

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Background and aims: Compulsive sexual behavior (CSB) has implications for clinical and non-clinical adult populations. Disposition to CSB has been shown to influence adolescence sexual behaviors, but the development of adolescents' disposition toward CSB has yet to be examined in the family context. In this study, we investigated whether parent–adolescent communication mediates the links between parental characteristics and adolescents' CSB. *Methods:* The sample included 275 Israeli families [triad of mothers (age = 34–63 years, $M = 45.48$, $SD = 5.46$), fathers (age = 36–83 years, $M = 48.33$, $SD = 6.63$), and one adolescent (48.2% boys, 51.1% girls; age = 14–18 years, $M = 16.23$, $SD = 1.18$)]. Parents completed measures of psychopathology, parental self-esteem, and parental self-efficacy, and adolescents completed measures of quality of sex-related communication and CSB. *Results:* The results indicate that, for girls, higher maternal self-esteem and lower psychopathology were linked with better sex-related communication and so with lower CSB. For boys, only parental religiosity was linked with the quality of sex-related communication and CSB, with religious parents having better communication than secular ones. *Discussion:* The findings provide an opportunity for researchers to gain a better insight into the dynamics of familial factors in the development of CSB among adolescents.

Keywords: compulsive sexual behavior, communication, parental competence, psychopathology, parent–child relationship

INTRODUCTION

Compulsive sexual behavior [CSB; also known as hypersexual behavior or hypersexual disorder (Kafka, 2010)] is characterized by an extensive pornography use and masturbation, use of paid sexual services, and risky sexual behaviors and/or intense preoccupation with sex. These behaviors often lead to impaired social or occupational functioning, distress, and negative affect (Kafka, 2010; Kraus et al., 2018). To date, CSB was mostly studied among adults (e.g., Gola & Potenza, 2018a; Kraus et al., 2018; Walton, Cantor, Bhullar, & Lykins, 2017) with only few studies addressing predisposition toward CSB among adolescents (e.g., Adelson et al., 2012; De Crisce, 2013; Efrati, 2019a). These studies defined CSB among children and adolescents (Adelson et al., 2012; De Crisce, 2013), revealed the existence of clinical CSB among adolescents (Efrati & Dannon, 2018), and explored the profile of adolescents with CSB (e.g., Efrati, 2018a; Efrati & Gola, 2018c). CSB among adolescents may be related not only to their personality, attitudes, religiosity, and/or gender but also to the familial atmosphere and/or relationship with parents. In the present research, we adopted the family

systematic approach, which takes into account the effects of family context on children's and adolescents' development (Erel & Burman, 1995), and examines whether parental (fathers' and mothers') characteristics and quality of sex-related communication with children are linked with the severity of CSB symptoms among adolescents.

Normative sexual development

Human beings are sexual and capable of sexual responses from childhood (O'Sullivan & Thompson, 2014). Adolescence marks the onset of considerable changes in sexual and reproductive maturity that coincides with significant changes in cognitive, emotional, and social functioning. Previous research has indicated that the progression of sexual events among adolescents follows a fairly consistent sequence: kissing and holding hands, breast and chest fondling, manual genital contact, touching under or without clothes, touching genitals directly, oral sex, and

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penile–vaginal intercourse, followed by less common variations, such as anal sex (O'Sullivan, Cheng, Harris, & Brooks-Gunn, 2007). Although most adolescents show a normal sexual development, some adolescents develop CSB (Efrati, 2018a, 2018b, 2019a; Efrati & Dannon, 2018; Efrati & Gola, 2018c).

Compulsive sexual behavior (CSB)

The World Health Organization (WHO), in the 11th edition of the International Classification of Diseases (ICD-11), has included CSB as a disorder (now called CSBD; classification number 6C72). CSBD is an impulse-control disorder characterized by a repetitive and intense preoccupation with sexual fantasies, urges, and behaviors, leading to clinically significant distress or impairment in social and occupational functioning and to other adverse consequences (ICD-11; Gola & Potenza, 2018b; Kafka, 2010; WHO, 2018). Professionals, however, are still grappling with the definition of excess sexual behavior during adolescence and specifically with CSBD. Recently, Efrati and Mikulincer (2018) identified four facets of CSB that are in keeping with the definition of CSBD and that manifest both among adults (e.g., Efrati, Gerber, & Tolmacz, 2019; Efrati & Gola, 2018a; Efrati & Gola, 2019) and adolescents (e.g., Efrati & Dannon, 2018; Efrati & Gola, 2018c): (a) *Unwanted consequences because of sexual fantasies* – how sexual fantasies, urges and behaviors carry harm to oneself (Reid, Garos, & Fong, 2012) and/or to one's close others such as family members (Reid, Carpenter, Draper, & Manning, 2010), colleagues, and peers (Reid, Garos, & Carpenter, 2011); (b) *lack of behavioral control* – constant uncontrolled engagement with sexual fantasies, urges, and behaviors with numerous unsuccessful efforts to significantly reduce repetitive sexual behavior; (c) *negative affect* – negative feelings and distress accompanied by guilt and shame because of sexual fantasies, urges and behaviors; and (d) *affect regulation* – escape to sexual fantasies, pornography, and sexual behaviors because of pain, stress, and distress.

In addition, Efrati and Mikulincer (2018) described two aspects of CSB – individual-based and partnered. Individual-based CSB refers to inner conflicts of individuals who constantly engage in sexual fantasies, compulsive sexual thoughts, and masturbation. Partnered CSB includes interpersonal sexual conquests and repeated infidelity. Among adolescents, individual-based CSB is more prevalent than partnered CSB as most of the experiences during adolescence do not include physical intimacy (Delmonico & Griffin, 2011). Recently, Efrati and Dannon (2018) have revealed that the rates of clinical CSB among adolescents are 13.6% (95% confidence interval of 10.2%–17.96%), which is higher than the prevalence among adults (3%–6%; Carnes, Green, & Carnes, 2010; Reid, 2013). Adolescents with CSB are mostly boys and religious (e.g., Efrati, 2018a, 2019a, 2019b), and are characterized, for example, by higher tendency for suppression of thoughts (Efrati, 2019a) and specific dispositions (such as attachment anxiety) and temperament (such as lower effortful control and higher orienting sensitivity; Efrati, 2018a). The higher prevalence among religious adolescents is also associated with the incongruence between normal sexual desires and

urges and the explicit moral standards against sexual-related thoughts and behaviors imposed by religious figures (e.g., the Jewish rabbi) and texts (e.g., the Bible and the Jewish Talmud). To date, no effort was made to link adolescents' CSB with familial atmosphere and/or parental characteristics, although parent–child relationship was highlighted as highly important for healthy development of adolescents (e.g., Bowlby, 1969/1982).

Parenthood and adolescents' psychosexual development

Parenting adolescents is rife with challenges, with adolescents' psychosexual development being one of the major and most demanding one (Montgomery, 2005; O'Sullivan & Thompson, 2014; Shulman & Connolly, 2013). Parents high in parental self-efficacy (Gibaud-Wallston & Wandersman, 1978) were found to benefit their children development by promoting high degree of enthusiasm, compliance and affection, and by lowering social avoidance (Coleman & Karraker, 2003) and behavioral problems (Bogenschneider, Small, & Tsay, 1997). *Parenting self-efficacy* is the degree to which parents are confident in their ability to successfully perform parental duties with specific emphasis on skills and knowledge (Johnston & Mash, 1989; Sheeran, Harris, & Epton, 2014). Research has indicated that high parenting self-efficacy is a strong predictor of parental competence and positive parenting practices, strategies, and behaviors (see Coleman & Karraker, 1998 for a review). Specifically, parental self-efficacy has been linked with better interactions with children, better visual and verbal communication, more responsive physical and emotional care of infants, and better parent–adolescent communication about sexual intercourse (Bohlin & Hagekull, 1987; Guilamo-Ramos, Jaccard, Dittus, & Collins, 2008). Although these links tended to be weak in size, parental self-efficacy might serve as a reliable predictor of parent–child communication regarding sexual behavior, which was found to be of pivotal importance in the development of healthy sexual behavior and/or CSB (Klein, Becker, & Štulhofer, 2018; Ladapo et al., 2013; Sutton, Lasswell, Lanier, & Miller, 2014). Clear and open communication about sex is important in preventing adolescent from engaging in early and risky sexual behavior (Ballonoff Suleiman, Lin, & Constantine, 2016; Hutchinson, Jemmott, Jemmott, Braverman, & Fong, 2003; Kamala et al., 2017; Ladapo et al., 2013; Rogers, Ha, Stormshak, & Dishion, 2015; Widman, Choukas-Bradley, Noar, Nesi, & Garrett, 2016), and in predicting adolescents' sexual-related health and behavior (Balaji et al., 2017; DiIorio, Pluhar, & Belcher, 2003; Dutra, Miller, & Forehand, 1999; Kotchick, Dorsey, Miller, & Forehand, 1999; Wilson & Donenberg, 2004). Our first hypothesis is, therefore, that parental self-efficacy would be weakly linked with clearer and more open parent–child communication, and that clearer and more open parent–child communication would be moderately associated with lower CSB severity among adolescents.

Closely related to parental self-efficacy is parental self-esteem, which relate to parents' degree of comfort with their parenthood and sense of value and satisfaction. Although both parental self-esteem and self-efficacy were found to be related to lower psychopathology among children (e.g., depressive symptoms), and higher social functioning

and self-esteem, parental self-esteem was more strongly linked with academic achievement (e.g., Karp, Lutenbacher, & Wallston, 2015). In addition, higher parental self-esteem was linked with fewer parent–child conflicts, better parent–child communication (e.g., Aquilino & Supple, 1991), and specifically with better parent–adolescent communication about sexual intercourse (Guilamo-Ramos et al., 2008). Of note, the link between parental self-esteem and parent–adolescent communication about sexual intercourse was only weak-to-moderate in size ($r = .22$) and based solely on parents' reports (and not adolescents'). Therefore, our second hypothesis is that independently of self-efficacy, parental self-esteem would be weakly-to-moderately linked with clearer and open parent–child communication, and that clearer and open parent–child communication would be moderately associated with lower CSB severity among adolescents.

Whereas parental self-efficacy and self-esteem may serve as resilience factors that will be linked with lower likelihood for developing CSB, parental psychopathology might have the opposite effect and serve as a risk factor. For example, numerous studies have linked maternal depression with adverse effects among children. Specifically, children to depressed mothers are fussier, score lower on measures of mental and motor development, and have more difficult temperament and more problems in school and in other social domains (see Goodman & Gotlib, 1999 for a review). Psychopathology among mothers and fathers was also weakly linked with more negative parent–child communication and strongly linked with less positive parent–child communication (e.g., Jacob & Johnson, 1997; i.e., depression, especially maternal, seemed to decrease the positive communication between parents and children but not to increase the negative communication between them). Therefore, our third hypothesis is that parental psychopathology would be weakly linked with more inadequate parent–child communication, and more inadequate parent–child communication would be associated with higher CSB severity among adolescents.

Factors affecting parent–child communication about sex

Although we hypothesize that parental self-efficacy and self-esteem would be linked with clearer and more open communication about sex and so with lower severity of CSB, and that parental psychopathology would be linked with more impaired communication and higher severity of CSB, there are factors that might influence these links. Specifically, research has noted that more satisfying and open discussions about sexuality (relationships, morals, and pregnancy) were conducted with mothers than fathers (e.g., Heisler, 2009). Hence, we expect the maternal characteristics (self-esteem and efficacy and psychopathology) to be more strongly associated with open and clearer communication about sex and so with lower CSB than the paternal characteristics.

In addition, CSB is more pronounced among religious adults (Grubbs, Perry, Wilt, & Reid, 2018) and adolescents (Efrati, 2019a; Efrati & Dannon, 2018) than secular ones. Therefore, it might be expected that religious parents will have more open communication regarding sexuality than

secular parents to avoid the negative outcomes of CSB. Conversely, religiosity imposes explicit moral standards for sex-related thoughts and behaviors. Therefore, religious parents might perceive the need for open and clear communication about sex and sexuality, yet avoid to do so in practice. Accordingly, we believe that parents' religiosity could be an important factor in predicting communication about sex and so severity of CSB, but the direction of this effect is elusive.

Finally, adolescents' gender might be an important factor affecting the link between parental characteristics, communication about sex and CSB. Specifically, research has revealed weak yet significant differences between boys and girls such that the communication about sex is more open and clearer with girls than with boys (specifically, mother–child communication; Tseng et al., 2015). In addition, gender differences (among adolescents and adults) were found in CSB and/or consumption of porn (Bóthe, Koós, Tóth-Király, Orosz, & Demetrovics, 2019; Efrati, 2018a; Efrati & Gola, 2018c). For example, Efrati (2018a) found that the severity of CSB is higher among boys than girls. Thus, we expect that parental characteristics (self-esteem and efficacy, psychopathology, especially maternal) would be linked with communication about sex more strongly for girls than boys (albeit weakly), and so also the severity of CSB.

METHODS

Participants

The sample comprised 275 Israeli families [triad of mothers (age = 30–63 years, $M = 45.48$, $SD = 5.46$), fathers (age = 36–83 years, $M = 48.33$, $SD = 6.63$), and one adolescent (48.2% boys, 51.1% girls; age = 14–18 years, $M = 16.23$, $SD = 1.18$)] from the general community who volunteered to participate in the study (i.e., $N = 825$ individuals). Details can be found in Tables 1 and 2.

Measures

Parents' measures.

1. *The Parenting Sense of Competence (PSOC; Gibaud-Wallston & Wandersman, 1978)*. To assess parents' self-efficacy and self-esteem, we administrated the Hebrew version (Goldstein-Farber, 1988) of the PSOC scale. Nine items assess self-esteem [e.g., "Even though being a parent could be rewarding, I am frustrated now while my child is at his/her present age" (R)] and eight items assess self-efficacy (e.g., "The problems of taking care of a child are easy to solve once you know how your actions affect your child, an understanding I have acquired"). Parents were asked to describe the extent that they agree with each item on a 6-point Likert-type scale ranging from 1 – *strongly disagree* to 6 – *strongly agree*. The PSOC has been extensively used in Hebrew (e.g., Waldman-Levi, Finzi-Dottan, & Weintraub, 2015) and was found valid and reliable. In this study, Cronbach's α s were .81 for maternal self-esteem, .80

for maternal self-efficacy, .81 for paternal self-esteem, and .80 for paternal self-efficacy. Accordingly, we calculated for each parent scores of self-esteem and

self-efficacy by averaging the answers in the relevant items.

2. *Depression, Anxiety, and Stress Scales* (DASS-21; Lovibond & Lovibond, 1995). To assess parents' psychopathology, we administered the Hebrew version of the DASS-21 that comprises subscales of anxiety (7 items; e.g., "I was aware of dryness of my mouth"), depression (7 items; e.g., "I couldn't seem to experience any positive feeling at all"), and stress (7 items; e.g., "I found myself getting agitated"), as described by the tripartite model of affect (Watson et al., 1995). Parents were asked to describe the frequency or severity of their experiences over the past week on the following 4-point scale: 0 = *Did not apply to me at all*; 1 = *Applied to me to some degree or some of the time*; 2 = *Applied to me to a considerable degree or a good part of time*; 3 = *Applied to me very much or most of the time*. DASS psychometric properties have been shown to be good in clinical populations (Antony, Bieling, Cox, Enns, & Swinson, 1998; Brown, Chorpita, Korotitsch, & Barlow, 1997) and non-clinical populations (Crawford & Henry, 2003; Lovibond & Lovibond, 1995). DASS was also extensively used in Hebrew (e.g., Doron, Derby, Szepsenwol, & Talmor, 2012a, 2012b) and was found to be valid and reliable. In this study, Cronbach's α s were .80 for maternal anxiety, .79 for depression, .82 for stress, and .80 for paternal anxiety, .79 for depression, and .82 for stress. Because of high correlations

Table 1. Adolescents' ($n = 275$) means, SDs, and percentage frequencies

		%	<i>M</i>	<i>SD</i>
Gender	Boy	48.2	1.51	0.5
	Girl	51.1		
Age (years)	14–16	53.3	16.23	1.18
	17–18	46.1		
Class	8th–10th	38.5	10.7	1.28
	11th–12th	60		
Country of birth	Israel	97.1	1.02	0.13
	Other	1.8		
Religiosity	Secular	39.2	2.44	0.78
	Religious	60.1		
Socioeconomic status	Below average	3.3	1.69	0.54
	Average	61.9		
Neighborhood quality	Above average	33.8		
	Below average	3.2	2.42	0.71
	Average	45.0		
Language	Above average	50.7		
	Hebrew	94.5	1.11	0.51
	Other	5.5		

Note. *M*: mean; *SD*: standard deviation.

Table 2. Parent's ($n = 550$) means, SDs, and percentage frequencies

		Mother ($n = 275$)			Father ($n = 275$)		
		%	<i>M</i>	<i>SD</i>	%	<i>M</i>	<i>SD</i>
Age (years)	34–40	21.2	45.48	5.46	9.6	48.33	6.63
	41–50	61.2			53.3		
	51–60	16.3			29.2		
Family status	Married	92.8	2.05	0.28	92.1	2.04	0.22
	Divorced	4.3			4.3		
Country of birth	Israel	83.8	1.4	1.1	76.6	1.45	1.07
	Other	35.4			19.1		
Education (years)	12–16	56.1	16.54	11.27	58.7	15.37	3.24
	17–20	36.3			28.4		
Profession	Education	42.1	3.31	5.97	15.8	4.18	2.14
	Therapist	13.7			1.8		
	Self-employed	10.8			25.5		
	Other	28.1			52.5		
Religiosity	Secular	28.4	1.48	0.87	30.9	1.44	0.76
	Religious	69.0			66.6		
Number of children	1–3	31.6	4.46	1.74	31.7	4.42	1.74
	4–7	62.9			63.8		
Socioeconomic status	Below average	2.9	1.79	0.47	3.8	1.78	0.49
	Average	71.6			70.6		
	Above average	23.0		25.6			
Neighborhood quality	Below average	4.4	2.48	0.7	5.2	2.34	0.79
	Average	45.3			36.9		
	Above average	49.2			57.9		

Note. *M*: mean; *SD*: standard deviation.

between these factors, a single measure of psychopathology was calculated for each parent.

3. *Sociodemographics*. Parents reported their age, marital status (married and unmarried), country of origin (Israel and other), years of education, profession, religiosity (religious and secular), number of children, socioeconomic status (below average, average, and above average), and neighborhood quality (below average, average, and above average).

Adolescents' measures.

1. *The Parent/Adolescent Communication Scale (PCS; Jaccard, Dittus, & Gordon, 2000)*. To assess the quality of parent–adolescent communication about sex, we administrated the Hebrew version of the PCS scale. The scale comprises 16 items (e.g., “My parent/s would not want to answer my questions about sex”) on which each adolescent is asked to describe the extent that he or she agrees with the item on a 5-point Likert scale ranging from 1 – *strongly disagree* to 5 – *strongly agree*. According to Jaccard et al. (2000), the scale is highly reliable. The scale was translated by back-to-back translation from English to Hebrew for this study. Cronbach’s α was .93. Accordingly, we calculated for each adolescent a score of communication about sex by averaging his or her answers.
2. *Individual-based Compulsive Sexual Behavior (I-CSB)*. To assess adolescents’ CSB, we administrated the I-CSB scale (was originally developed in Hebrew; Efrati & Mikulincer, 2018). The I-CSB was constructed to assess the intensity of sexual fantasies, compulsive sexual thoughts and behaviors, and time spent watching pornography (Efrati & Mikulincer, 2018). The I-CSB is a self-report questionnaire with 24 items measuring the following factors: Unwanted consequences (e.g., “I feel that my sexual fantasies hurt those around me”), lack of control (e.g., “I waste lots of time with my sexual fantasies”), negative affect (e.g., “I feel bad when I don’t manage to control my sexual urges”), and affect regulation (e.g., “I turn to sexual fantasies as a way to cope with my problems”). Using a 7-point Likert scale, participants were asked to rate the degree to which each statement is descriptive of their feelings (ranging from 1 – *not at all* to 7 – *very much*). The questionnaire was successfully used in previous research on non-clinical populations and on clinical populations of Sexaholics Anonymous Twelve-Step program patients (Efrati et al., 2019; Efrati & Gola, 2018a, 2019; Efrati & Mikulincer, 2018). Cronbach’s α s were .87 for unwanted consequences, .92 for behavioral control, .86 for negative affect, and .90 for affect regulation. A total CSB score was also computed, by averaging the 24 I-CSB items (Cronbach’s $\alpha = .94$), with higher scores reflecting higher CSB.
3. *Sociodemographics*. Adolescents reported their age, class, country of origin (Israel and other), religiosity (religious and secular), socioeconomic status (below average, average, and above average), neighborhood quality (below average, average, and above average), and first language (Hebrew and other).

Procedure

The study was conducted in Israel. Participants were a convenience sample of Israeli Jewish families from various regions of Israel (parents of boys and girls, secular and religious from the east, and center and north of Israel). Each participant provided an informed consent prior to participation as well as a parental consent for the participation of each adolescent. Questionnaires were given in sealed brown envelopes to each participant and returned to research assistants in the same envelopes to make sure that the anonymity of each family member was safeguarded.

Data analysis

To examine the pattern of associations between main study measures (severity of CSB symptoms, quality of sex-related communication, parents’ psychopathology, parental self-esteem, and parental self-efficacy), we first conducted a series of Pearson’s correlations. Next, to examine whether parent–adolescent communication mediates the links between parental characteristics (self-esteem, self-efficacy, psychopathology, and religiosity) and adolescents’ CSB (measured with I-CSB), and whether the mediation model is different for boys and girls, we used the MPlus 6.1 structural equation modeling package (Muthén & Muthén, 1998–2010). To do so, we examined a multigroup mediation model linking parental characteristics (self-esteem, self-efficacy, psychopathology, and religiosity) with adolescents’ CSB via the quality of parent–adolescent sex-related communication (i.e., parental self-efficacy, self-esteem, and psychopathology → quality of sex-related communication → CSB). Gender served as the grouping variable. In addition, we included adolescents’ age as a covariate to account for its possible effect on quality of parent–adolescent communication and CSB. All measures were exogenous (i.e., not latent variables). Estimator was maximum likelihood parameter with standard errors and a χ^2 test statistic that are robust to non-normality and non-independence of observations. Significance of mediation paths was estimated by bias-corrected bootstrap analyses with 1,000 resampling. The model was a saturated model that included covariates between all parental measures as well as direct associations between parental measures and CSB. Hence, no model indices were reported.

Ethics

The study was approved by Institutional Review Board of Beit-Berl College Center. Each parent provided a signed informed consent form and a parental consent for the participation of his or her child.

RESULTS

Descriptive statistics

Correlation coefficients between main study measures (severity of CSB symptoms, quality of sex-related communication, parents’ psychopathology, parental self-esteem,

and parental self-efficacy) are presented in Table 3. The analyses indicated that higher CSB was linked with lower quality of parent–adolescent sex-related communication, lower parental (maternal and paternal) self-esteem and self-efficacy and higher parental (maternal and paternal) psychopathology. Better quality of parent–adult sex-related communication was related to higher parental (maternal and paternal) self-esteem and self-efficacy and lower parental (maternal and paternal) psychopathology. Higher parental self-esteem was associated with higher parental self-efficacy and lower parental psychopathology. Finally, parental self-efficacy was related to lower parental psychopathology.

The saturated multigroup model is summarized in Figure 1 (for simplicity, we excluded the values of covariates and direct associations between predictors and outcome measure); the results are reported in Table 4. The model revealed significant differences between boys and girls in the mediation paths linking parental characteristics with adolescents' CSB via the quality of parent–adolescent

sex-related communication, $\chi^2_{(3)} = 11.21, p = .011$. Specifically, for girls, higher maternal self-esteem and lower maternal psychopathology were linked with better quality of parent–adolescent sex-related communication, which in turn was linked with lower adolescents' CSB (95% bias-corrected CI [−0.29, −0.02] for self-esteem and 95% bias-corrected CI [0.01, 0.13] for psychopathology). These paths were not significant for boys (95% bias-corrected CI [−0.29, 0.09] for self-esteem and 95% bias-corrected CI [−0.11, 0.05] for psychopathology).

Alternatively, for boys (Figure 2), parents' religiosity served as the sole predictor of parent–adolescent sex-related communication, such that religious parents had better communication with their boys than secular parents. Better parent–adolescent sex-related communication was linked with lower adolescents' CSB (95% bias-corrected CI [−0.63, −0.14]). This path was not significant for girls (95% bias-corrected CI [−0.17, 0.09]). Other results were not statistically significant.

Table 3. Means, SDs, and correlations between main study measures

	1	2	3	4	5	6	7	8
1. Compulsive sexual behavior	–							
2. Parent–adolescent sex-related communication	−.46***	–						
3. Maternal self-esteem	−.24***	.39***	–					
4. Maternal self-efficacy	−.20**	.30***	.54***	–				
5. Paternal self-esteem	−.16**	.36***	.55***	.31***	–			
6. Paternal self-efficacy	−.21***	.27***	.26***	.42***	.54***	–		
7. Maternal psychopathology	.15**	−.26***	−.50***	−.31***	−.34***	−.20**	–	
8. Paternal psychopathology	.12*	−.20**	−.28***	−.13*	−.48***	−.28***	.35***	–
Mean	2.52	3.47	4.34	4.63	4.27	4.45	4.64	4.54
SD	1.24	0.84	0.83	0.69	0.91	0.75	1.28	1.29

Note. SD: standard deviation.
* $p < .05$. ** $p < .01$. *** $p < .001$.

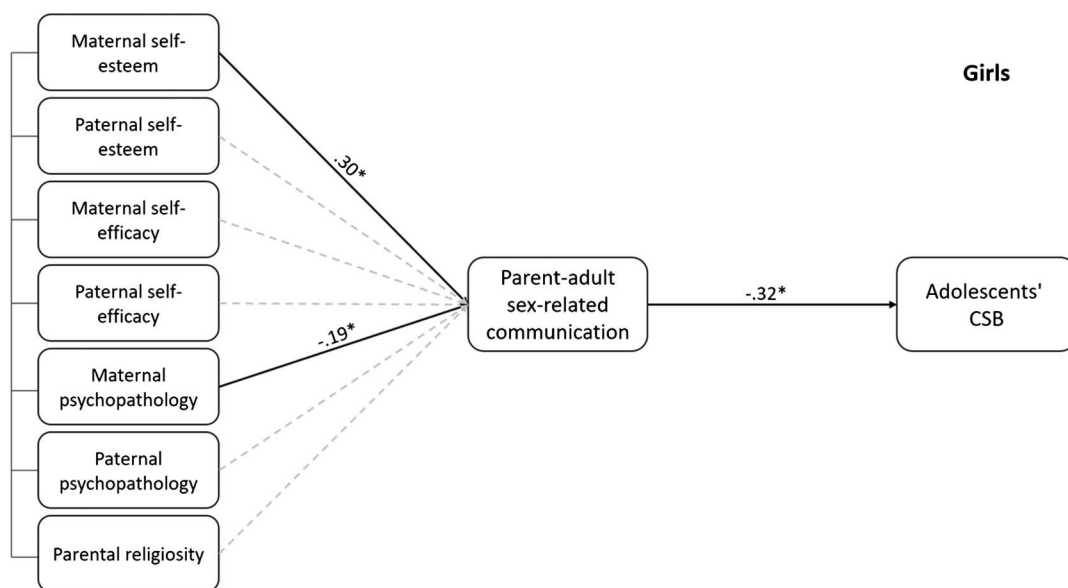


Figure 1. Parent–adolescent communication mediates the links between parental self-esteem, self-efficacy, psychopathology, and religiosity and girls' adolescents' CSB. For simplicity, covariates are not presented as well as the direct links between predictors and CSB

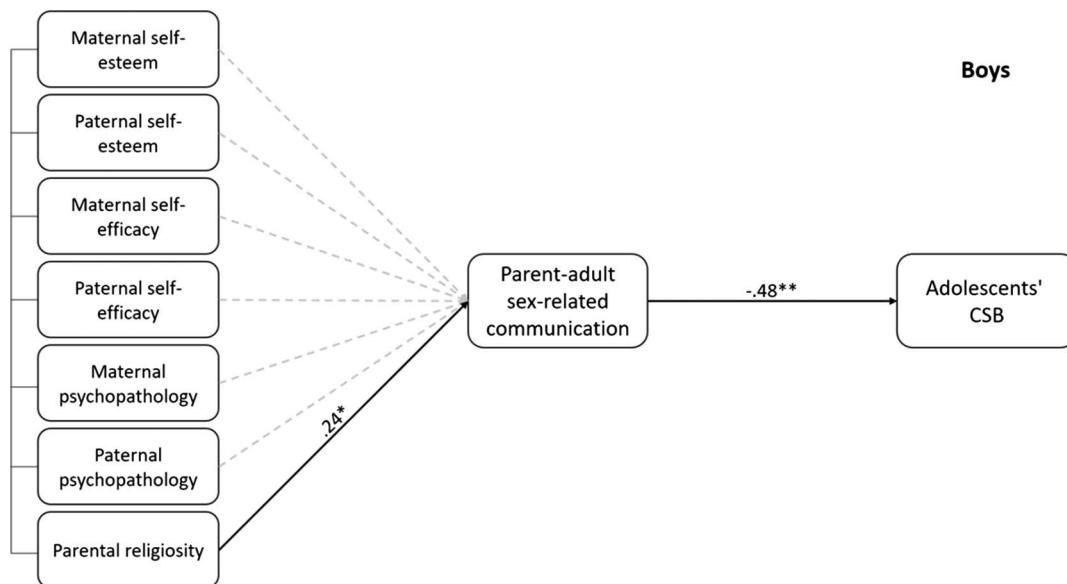


Figure 2. Parent–adolescent communication mediates the links between parental self-esteem, self-efficacy, psychopathology and religiosity and boys’ adolescents’ CSB. For simplicity, covariates are not presented as well as the direct links between predictors and CSB

Table 4. Standardized coefficients for the multigroup mediation SEM model

	Girls		Boys	
	Communication	CSB	Communication	CSB
Age	0.05	0.08	-0.12	-0.07
Religiosity	-0.01	0.01	0.24*	0.11
Maternal self-esteem	0.30*	-0.11	0.11	-0.11
Paternal self-esteem	0.03	0.06	0.15	-0.10
Maternal self-efficacy	0.09	0.09	0.18	0.14
Paternal self-efficacy	0.05	-0.02	0.07	-0.05
Maternal psychopathology	-0.19*	0.10	0.04	0.02
Paternal psychopathology	-0.03	0.14	0.02	-0.05
Communication		-0.32**		-0.48**

Note. CSB: compulsive sexual behavior; SEM: structural equation modeling.
* $p < .05$. ** $p < .01$.

DISCUSSION

Although the majority of research has attempted to understand the mechanisms of CSB (Banca et al., 2016; Brand et al., 2011; Gola & Draps, 2018; Klucken, Wehrum-Osinsky, Schweckendiek, Kruse, & Stark, 2016; Kowalewska et al., 2018; Voon et al., 2014), the personal factors affecting CSB (Gola, Lewczuk, & Skorko, 2016; Grubbs, Exline, Pargament, Hook, & Carlisle, 2015; Grubbs, Exline, Pargament, Volk, & Lindberg, 2017; Kraus et al., 2018; Kraus, Voon, Kor, & Potenza, 2016; Lewczuk, Szymd, Skorko, & Gola, 2017; Zilberman, Yadid, Efrati, Neumark, & Rassovsky, 2018), and/or treatments for CSB (Efrati & Gola, 2018a, 2018b; Gola & Potenza, 2016; Kraus et al., 2018), this study is an attempt to investigate the familial factors linking with the development of CSB among adolescents. Specifically, we explored whether parental competence (self-esteem and self-efficacy), psychopathology, and religious status relate to the quality of parent–adolescent sex-related communication, and whether

the quality of communication is associated with the severity of adolescents’ CSB. We also examined whether these links are different for boys and girls.

We showed that for girls, the higher the maternal (but not paternal) self-esteem and the lower the psychopathology, the more open and clearer the sex-related communication and so the lower the CSB. This result is in keeping with research indicating that mothers tend to have more open communication regarding sex and sexuality with their children, and specifically with their daughters, than fathers (e.g., Heisler, 2009). Mothers with high parental self-esteem are more comfortable and satisfied with their parental role and so might be better apt to educate and communicate the wisdom they accumulated over the years. For example, a longitudinal study over a period of 2 years showed that children perceived parents with a higher sense of competence to be less overreactive, warmer, and show more psychological control (Egberts, Prinzie, Deković, de Haan, & van den Akker, 2015). Feelings of parental competence promote the use of parenting strategies to

promote the success of children (Eccles et al., 1993), while those lacking confidence in their parenting skills experience frustration, distress, irritation, and anger, resulting in negative parenting behavior (De Haan, Prinzie, & Deković, 2009). Research has indeed indicated that high parental self-esteem is linked with fewer parent-child conflicts and better communication (e.g., Aquilino & Supple, 1991). Of importance, research on parent-adolescent communication about sex has revealed that the most open and clear communication was achieved between mothers and daughters (Tseng et al., 2015). Open communication about sexuality could, therefore, prevent early and risky sexual behavior (Ballonoff Suleiman et al., 2016; Hutchinson et al., 2003; Kamala et al., 2017; Ladapo et al., 2013; Rogers et al., 2015; Widman et al., 2016) and promote sexual-related health and normal development of sex and sexuality (Balaji et al., 2017; DiIorio et al., 2003; Dutra et al., 1999; Kotchick et al., 1999; Wilson & Donenberg, 2004). Thus, it is not surprising that open communication was also linked with lower severity of CSB.

In addition, and in keeping with previous research (Jacob & Johnson, 1997), the quality of sex-related communication between mothers and daughters was affected by maternal psychopathology. Psychopathology reduces the ability to effectively function as a parent and is often linked with impaired parent-child communication (e.g., Jacob & Johnson, 1997) among other adverse developmental consequences (see Goodman & Gotlib, 1999 for a review). In sum, this study highlights the importance of familial factors, especially maternal one, in the development and severity of CSB among girls.

In contrast, cultural perspective as in religiosity did not affect the quality of sex-related communication between parents and daughters. One possible reason for that is that among religious and secular families, daughters often receive guidance from mothers during their first period and menstrual cycle. This is consistent with past work showing that parents communicate more frequently with girls and are also more likely to stress the negative consequences of sexual activity when discussing sex with daughters compared to sons (e.g., Adu-Mireku, 2003; Widman, Choukas-Bradley, Helms, Golin, & Prinstein, 2014).

Regarding sons, the analyses indicated that cultural perspective predicted open communication about sex and sexuality and not parental sense of competence (self-efficacy or esteem) or parental psychopathology. Overall, the finding is consistent with findings that show that across a variety of circumstances, men and boys are less verbally expressive, are lower on self-disclosure, and are not attuned to emotional and relational cues compared with girls and women (Brizendine & Allen, 2010). This difficulty in sharing emotional experiences or discussing potentially embarrassing relational topics may inhibit some boys' and fathers' abilities to have open and intimate conversations about sexual health. Most of these findings, however, relate to individual differences (or lack thereof) within secular, non-Jewish communities. In this study, we found that although parental characteristics are indeed not related to open communication with boys, cultural aspects as in religiosity are affecting the degree of open communication between parents and boys. Because in religious

communities, sexuality ought to be postponed and often avoided at early ages, religious parents might talk more openly with boys about the risks of sexual activity and sexuality than secular parents because of moral concerns. In the current research, we only assess the quality of the communication but not its content. Therefore, it might be that religious parents talk more about the hazards of sexuality and not on health sexuality per se. Future research ought to explore this topic in more depth.

The results of this study indicate that disposition toward CSB among adolescents is not just an individual matter but a familial problem, with parental mental health playing a significant role. Hence, in contemplating treatment options, such as Cognitive Behavioral Therapy or other alternative approaches (Efrati & Gola, 2018a, 2018b), clinicians ought to take familial and parental components into consideration and address these factors as part of the treatment regime. While applying family therapy, parental competence, and mental health status should also be examined and if necessary treatment should also be provided to parents as part of a more holistic approach. For prevention, our results indicate that quality of parent-adolescent sex-related communication is of great importance to normative sexual development. It might be that strengthening all connections between parents and their adolescent children, and especially regarding sex, might be a significant component to adolescents' development.

Although our main premises were supported, the study has several limitations. The study is correlational in nature and so precludes conclusions regarding causal processes. Longitudinal studies are necessary to determine the directionality of the associations between parental competence, psychopathology, and parent-adolescent sex-related communication and CSB during adolescence. In addition, the research population was comprised Jewish Israeli families. Future studies should examine other families and diverse ethnic and cultural populations to ascertain the replicability and generalizability of the findings.

Despite the limitations of this study, we view this research as an important first step in understanding the dynamics of familial factors in the development CSB among adolescents. By doing so, therapy would have the potential to deliver more focused help to adolescents with a disposition toward CSB. It is important to increase therapists' awareness of the benefits of considering the role of the family, so that when dealing with CSB symptoms, clinicians may consider adding family approach to the individual therapy for adolescents with CSB.

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