

7-9-2021

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Jana Michelle Hackathorn
Murray State University, jhackathorn@murraystate.edu

Esther Malm
Murray State University, emalm@murraystate.edu

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Recommended Citation

Hackathorn, J.M., Malm, E. The Experience of Sex Guilt: The Roles of Parenting, Adult Attachment, and Sociosexuality. *Sexuality & Culture* (2021). <https://doi.org/10.1007/s12119-021-09887-w>

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**The Experience of Sexual Guilt:
The Role of Parenting, Adult Attachment, and Sociosexuality**

Esther K. Malm and Jana Hackathorn

Murray State University

Abstract

Sociosexuality, comfort with sex outside the confines of a committed relationship, and parent-child dynamics have been associated with experiences of sex guilt. However, the mechanisms through which family dynamics are related to sociosexuality and sex guilt are still unclear. Using a developmental framework, in a cross-sectional study, we examined whether attachment styles and parent-child relationships would be associated with the development and maintenance of sociosexuality. We hypothesized that insecure attachment styles and sociosexuality would independently and positively mediate the relationship between parent-child relationship quality (accepting /rejecting) and sex guilt. Findings support past research and suggests that parental rejection predicts insecure attachments, which positively predicts unrestricted sociosexuality, and in turn, is negatively associated with sex guilt. This could suggest that sociosexuality may act as a buffer for sex guilt among this sample.

Keywords: Attachment, Parental Acceptance-Rejection, Sex guilt, Sociosexuality

Declarations:

Funding Not Applicable

Conflicts of interest/Competing interests There are no conflicts of interests to report.

Availability of data and material This study was registered with Open Science Framework (OSF).

Code availability Not applicable

Authors' contributions Both authors whose names appear on the submission made substantial contributions to the conception/design of the work, acquisition, analysis, and interpretation of data.

Ethics approval This study was approved by the Murray State University IRB approval board.

Consent to participate All participants were given an informed consent prior to participation in the study.

Consent for publication Both authors have contributed and approved the manuscript to be published, and agree to be accountable for all aspects of the work regarding accuracy and integrity.

The Experience of Sex Guilt: The Roles of Parenting, Adult Attachment, and Sociosexuality

Many individuals consider the desire for sex to be core components of what it means to be human (Jonasen et al., 2019). However, for many, that ideal outcome is thwarted by negative perceptions and attitudes related to their sexual experience. That is, sex guilt impedes their ability to enjoy sex (Hackathorn et al., 2017; Woo et al., 2011; 2012). Sex guilt refers to a tendency toward self-imposed punishments for violating or expecting to violate what one considers proper or moral sexual conduct (Mosher & Cross, 1971). And, sex guilt is correlated with a plethora of negative sexual consequences (for a review, see Emmers-Sommer et al., 2018). Individuals who are high in sex guilt tend to avoid discussing sex (Mosher, 1979), use contraceptives less (Emmers-Sommer et al., 2018), have lower sexual arousal (Woo et al., 2012), tend to interpret sexual activity negatively (Hackathorn et al., 2017) and ultimately have fewer positive sexual interactions (Emmers-Sommer et al., 2018; Mosher & Cross, 1971). Overall, sex guilt negatively influences one's sexual desire, health, knowledge, and satisfaction. Thus, investigating what might lead to sex guilt is important.

Sex guilt is the intrapsychic conflict that represents an unpleasant emotional state characterized by an intense focus on one's self and an expectation for punishment for engaging in behaviors that violate internalized beliefs about proper sexual conduct (Hackathorn et al., 2015; Janda & Bazemore, 2011; Lopez et al., 1997; Mosher & Cross, 1971). Although generally created from one's moral origins (e.g., religiosity; Hackathorn, et al, 2015), sex guilt can also be generated through any sexual experiences related to regret or shame, such as exposure to sexually explicit materials, infidelity, premarital sex, not using contraception, one's first sexual intercourse, sexual assault and trauma, sexual fantasies, or even the premeditation of an

upcoming sexual interaction (Aakvaag et al., 2016; Emmers-Sommer et al., 2017; Lipman & Moore, 2016).

Importantly, sex guilt is an individualized experience, resulting from a labeling or assessment of the experience (Emmers-Sommer et al., 2017). And, as the gamut of sex guilt is vast, the experience of sex guilt is not uncommon. Some research estimates that a little over half of individuals feel guilty at least some of the time, although males generally report lower sex guilt than females (Emmers-Sommer et al., 2017; Higgins et al., 2011; Lipman & Moore, 2016). Unfortunately, sex guilt may result in many negative consequences, such as sexual restraint, inhibition, and repression (e.g., low sexual desire, avoidance), low sexual knowledge, and negative sexual attitudes (Woo et al., 2011; 2012). Individuals with high sex guilt also tend to have negative or even confused reactions to sexual situations and sexual exposure generally (Mosher & Abramson, 1977). For example, one study (Morokoff, 1985) showed that women with high levels of sex guilt, who were shown erotica, reported less sexual arousal than low-guilt women. Nevertheless, the results of the vaginal plethysmograph showed increased vaginal blood flow (i.e., physical sexual arousal) similar to that of the low-guilt women. This suggests that the emotion of sex guilt is so powerful as to override any positive physical experiences that may be occurring.

Sex guilt can manifest itself as a predictor or as an outcome of sexual and relational experiences. For example, individuals who are high in sex guilt have negative reactions to both sexual stimuli and sexual situations (Mosher, 1973, 1979; Mosher & Abramson, 1977). Conversely, as an outcome, individuals who interpreted sexual interactions more negatively (Hackathorn et al., 2017) and reported less sexual satisfaction (Ashdown et al., 2011) were also more likely to score high on sex guilt. In fact, one study (Higgins et al., 2011) showed that men

reporting little to no sex guilt were almost five times more likely to report being physiologically satisfied, and almost four times more likely to be psychologically satisfied. The likelihood was smaller for women, but the pattern remained.

As sex guilt negatively influences one's sexual esteem, and may stem from past experiences, understanding the potential correlates and antecedents is important. So far, it is widely argued that religion is related to the experience of sex guilt. Other research has shown that gender roles, sex scripts, sexually explicit media, peers, and one's culture are also influential in the initiation of sex guilt (Emmers-Sommer et al., 2017; Woerner & Abbey, 2017). There is, however, limited examination of earlier (childhood) predictors of later sex guilt. The current paper utilizes a developmental perspective in examining the relationship between early childhood experiences – the quality of the parent-child relationship, and attachment - with sociosexuality, and in turn, sex guilt in young adulthood.

Universally, the quality of parent-child relationship predicts children's functioning, and well-being over time. This includes sexual risk and protective behaviors such as timing of sexual onset, risky sexual behaviors including casual hookups, and condom use (Deptula et al., 2010; DeVore & Ginsburg, 2005; Johnson, 2013; Khaleque & Rohner, 2002; McBride et al., 2005; Rohner & Britner, 2002). Many studies and literature reviews indicate that warm, consistent, accepting, authoritative parenting is positively associated with indicators including higher self-esteem and self-efficacy, decision making, lower risky behavior and delinquency as well as better overall adjustment when forming platonic and romantic relationships across the lifespan (DeVore & Ginsburg, 2005; Leondari & Kiosseoglou, 2002). In contrast, hostile, insensitive and rejecting parenting has been associated with poor adjustments in many spheres of life that leads

to risky behaviors, unhealthy relationships and poorer sense of self (DeVore & Ginsburg, 2005; Dwairy, 2010; Rohner & Britner, 2002).

The quality of parent-child relationships through communications about sex, warmth, and support have been associated with lower adolescent sexual risk behavior, delay in sexual onset, and increased contraceptive use (DePriore et al., 2017; Dittus et al., 2015; Widman et al., 2016). Models of positive and negative behaviors are also learned directly or indirectly (Diiorio, Pluhar & Belcher, 2003). For example, Weiser & Weigel (2017) found across three retrospective studies that individuals who had knowledge of a parent's infidelity were more likely to engage in infidelity in adulthood. In another study, a positive and predictable early environment during the first few years of life predicted fewer sexual partners (Belsky, et al., 2012).

As parenting quality plays a significant role in sexual development and perceptions of sexual behavior (DePriore et al., 2017; DeVore & Ginsburg, 2005), childhood attachment is a mechanism through which sexual perceptions and frameworks are formed to assess future sexual relations and behaviors of their own (Cooper et al., 2006). Attachment refers to one's way of relating to others, especially in relationships that are deemed/expected to be close, which begins at birth with primary caregivers (Hazan & Shaver, 1987, 1994; Bowlby, 1982). The process is an innate system that motivates individuals to seek proximity from trusted persons in times of need (Bowlby, 1982). Childhood experiences of comfort and security from a caregiver or parent provide an internal template for forming relationships and relating to significant others, even as adults (Bartholomew & Horowitz, 1991; Szepeswol et al., 2017). As such, when a threat is detected, the attachment system provides behavioral and psychological tools to elicit support and safety from caregivers (Szepeswol et al., 2017).

Attachment plays a mediating role between early childhood emotional bonds and adult relationships, both sexual and non-sexual (Belsky et al., 1991; Cooper et al., 2006; Szepeswol et al., 2017). The quality of early parental relationships is translated by children into a set of beliefs and expectations about future interactions with the surrounding world, which then aids in adult psychological and behavioral adjustments (Simpson & Belsky, 2008; Szepeswol et al., 2017). The quality of the attachment bond that develops overtime is often directly influenced by the types of care one experiences (Belsky et al., 1991; Ellis & Essex, 2007). Caregivers who provide a reliable and trustworthy environment instill positive expectations about the availability of supportive individuals, which results in a secure attachment style. Conversely, unreliable or untrustworthy childhood bonding experiences and environments instill negative expectations overtime and result in an insecure attachment style (Szepeswol et al., 2017).

From a human developmental perspective, the relationship between the quality of the parent-child relationship, attachment style, and sexual behaviors is not surprising as many theorists argue that both parenting and the relationship quality thereof, and attachment processes precede in playing major roles in the development of our sexual strategies (Black & Shutte, 2006; Bogaert & Sadava, 2002; Cooper et al., 2006; Simpson & Gangestad, 1991). For example, individuals who report negative and non-loving relationships with their parents during childhood are less likely to trust their romantic partners, receive care, and rely on them for emotional support (Black & Shutte, 2006). Similarly, those who have an avoidant attachment style tend to be more aloof, lacking in trust, and emotionally distant in their relationships, reluctant to even pursue long-term relationships, and thus hold more positive attitudes about casual sex and short-term partners (Hazan & Shaver, 1987; Jonasen et al., 2019).

Extant studies continue to indicate that secure attachment, as compared to insecure styles of attachment, is associated with overall personal and interpersonal well-being, including better adjustments in relationships, higher interpersonal trust, developing higher self-esteem and self-concept (Lopez et al., 1997; 2011). Past studies have also shown that adult attachment styles can predict engagement in various sexual behaviors and those related attitudes. Specifically, insecure attachment styles are associated with increased infidelity (Boagaert & Sadava, 2002; Russell et al., 2013), lower sexual satisfaction (Butzer & Campbell, 2008; Birnbaum, 2007; Stafanou & McCabe, 2012), earlier sexual onset with multiple partners (Boagaert & Sadava, 2002; Allen & Baucom, 2004), and high-risk sexual behaviors, including those behaviors that cause distress or impairment (Faisandier et al., 2012).

As adult attachment styles are rooted in those childhood attachment bonds and developed early with primary caregivers (Lopez et al., 1997; 2011; Shaver et al., 1988), adult attachment styles are associated with perceptions of sexual experience (see Cooper et al., 2006 for a review). Securely attached adults tend to be comfortable in depending on, and trusting their significant partners within their relationships, sexual or not. In addition, there is vast research that supports the healthy sexual tendencies of individuals with a secure attachment. Securely attached individuals enter into sexual relationships as a means of expressing intimacy, enjoying a variety of sexual encounters, exploring partner suitability, and developing their own identity (Cooper et al., 2006).

Insecure attachments, on the other hand, show up in two main forms, avoidant and anxious styles. Avoidant Insecure attachment style is associated with fears of rejection and, in relation to romantic relationships, is unappreciative of intimacy and closeness, resulting in avoidant behaviors such as distancing (e.g., emotionally) from their significant other (Shaver et

al., 1988). As it pertains specifically to sexual relationships, individuals with an avoidant attachment tend to delay the onset of sexual interactions or tend to have sex that is devoid of intimacy. That is, various studies have shown that individuals with an avoidant attachment tend to refrain from sexual intercourse longer than their adolescent counterparts (Bogaert & Sadava, 2002; Cooper et al., 2006). However, upon losing their virginity, they are also more likely to engage in promiscuous sex (e.g., sex with strangers), adopt less restrictive attitudes toward sex, are more likely to attempt to divorce intimacy from sexual behavior by increasing their engagement in solitary actions, and appear to hold an overall negative emotional response to sex (Cooper et al., 2006).

The second form of insecure attachment manifests as anxious behaviors, which contains a strong desire for intimacy in conjunction with a concern about the availability of significant others, consistent worry about being abandoned by their partner, and a tendency to act clingy and possessive (Simpson et al., 2004; Szepeswol et al., 2017). However, this translates into engaging in sexual behaviors at a younger age, with riskier partners, and in more unwanted scenarios (Cooper et al., 2006).

In a study that specifically examined the links between attachment styles, marital satisfaction, desire, and sex guilt in a non-western sample, Teimourpour and colleagues (2012) found that secure attachment style was associated with lower sex guilt and higher marital satisfaction while both insecure attachment styles (i.e., anxious, avoidant) were positively associated with sex guilt and negatively associated with marital satisfaction. Understandably, sex guilt is more likely to be higher among insecure participants than securely attached participants, and it is also assumed that guilt and shame are less differentiated among the insecure population (Lopez et al., 1997). That is, Lopez and colleagues (1997) argued that insecurely attached

persons may have more difficulty arriving at appropriate attributions for their own behavior, confusing guilt and shame which may result in stressful relationships, conflict, and poor problem-solving efforts.

Besides examining the relationship between childhood family experiences on sex guilt, a personality construct that has been directly connected to both attachment styles and parenting, as well as the extent to which one experiences sex guilt is sociosexuality. Sociosexuality (SO) is a term that refers to one's evaluative disposition, attitudes, behaviors, and desires for casual sex (Jonasen et al., 2019; Simpson et al., 2004). Casual sex, often called *hooking up*, usually refers to the sexual interactions (e.g., kissing, fondling, oral sex, intercourse) between individuals who are not in a committed romantic relationship with one another (Farvid et al., 2017). Moreover, engaging in casual sex is fairly common, with estimates as high as 80% for college students (Garcia et al., 2012).

Importantly, casual sex is not believed to be exclusively devoid of emotional attachment. Instead, it is believed that engaging in casual sex is a modern mating strategy, as the majority of the individuals who engage in casual sex expect that the relationship will continue in some form (Weitbrecht & Whitton, 2017). Regardless, casual sex has been connected to various negative results including, but not limited to, regret and substance use (Allison & Risman, 2013; Grello et al., 2006), depression (Grello et al., 2006), stigmatized labels and negative reputations (Farvid et al., 2017), feeling dissatisfied or unfulfilled (Weitbrecht & Whitton, 2017), as well as feeling worried, anxious, embarrassed, or uncomfortable (Woerner & Abbey, 2017).

Individuals who are comfortable engaging in casual sex tend to score high on measures of SO, termed as unrestricted; conversely, individuals who are uncomfortable with engaging in uncommitted sex are termed as restricted (Simpson & Gangestad, 1991; Simpson, 1998; Penke,

2011; Penke & Asendorpf, 2008). As would be expected, past research indicates that unrestricted SO is associated with multiple areas of relationship related behaviors including increased sexual desire for attractive partners (Simpson & Gangestad, 1992; Simpson et al., 2004; Teimourpour et al., 2012), higher frustration with current sexual partners (Stefanou & McCabe, 2012), decreased perceptions of positive traits in the current committed partner (Hackathorn & Brantley, 2014; Wongsomboon et al., 2019), infidelity (Barta & Kiene, 2005; Ostovich & Sabini, 2004), and increased sex guilt (Hackathorn et al., 2017).

A recent longitudinal study (Szepsenwol et al., 2017) among other studies (Brumbach et al., 2009), found that a predictable early childhood environment is associated with restricted sociosexuality in early adulthood. Additionally, the study found that this relationship was mediated by attachment style, at least partially. That is, individuals who received more supportive parental care became more securely attached, and ultimately more restrictive in their sociosexual behaviors. One's SO is arguably one of the ways in which attachment styles and early childhood emotional experiences present themselves sexually, as it entails reflections about one's desires for emotional intimacy (Simpson et al., 2004). That is, poor caregiver-child relationship affects one's mating strategies as an adult (Szepsenwol et al., 2017). In other examples, research suggests that secure adults prefer and stay in relationships longer and function better (e.g., less likely to be divorced), as compared to insecure adults (Brennan & Shaver, 1995; Hazan & Shaver, 1987; Miller & Fishkin, 1997; Szepsenwol et al., 2017). Conversely, unrestricted individuals tend to score higher on insecure attachment styles, particularly avoidant attachment styles (Simpson et al., 2004; Stefanou & McCabe, 2012). Interestingly, the sexual behaviors of individuals with an avoidant attachment style tend to parallel individuals with an unrestricted SO, as they are more likely to prefer short-term partners,

prefer uncommitted sexual relationships with multiple sexual partners, and seek immediate gratification and reward through sexual contact as opposed to true intimacy (see Simpson et al., 2004 for a review).

Although most past studies have shown separate associations between early care giving, attachment, SO, and sex guilt, we have attempted to tie together the literature by examining these associations simultaneously. We propose that the development and maintenance of SO may stem from childhood and family dynamics via two pathways: the quality of the parent-child relationship and attachment styles. Although there are notable studies that examine parenting styles on risky sexual behaviors including early sexual onset, there are very limited studies on links between early childhood environments and adult sex guilt in particular. In this study, we attempt to link past studies to show that one's childhood relationships with caregivers influences one's subsequent adult attachment styles (Lopez et al., 1997) which then influences one's sociosexuality (Brumbach et al., 2009; Szepeswol et al., 2017) and ultimately one's sex guilt (Teimourpour et al., 2012). The current study therefore examined the contiguous and interlinking relationships between parenting quality, attachment styles, SO, and sex guilt in an attempt to better understand the ways in which these constructs might be interconnected. We expected that attachment style and sociosexuality would both mediate the relationship between parenting quality (accepting/rejecting) and sex guilt. More specifically, we expected that poor (i.e., rejecting) parenting quality would have indirect effects on sex guilt through attachment style and SO.

Method

Participants

A total convenience sample of 376 participants were recruited to complete a large online survey. Of those individuals, 20 participants did not complete at least half of the measures, and an additional 21 participants failed the attention check item. This left a total sample of 334 participants.

Participants consisted of 74% female, with ages ranging from 18 to 45 years of age ($M = 19.48$, $SD = 2.52$). Participants predominantly self-reported identifying as White/Caucasian ($n = 268$) although others were represented: Multi-Racial ($n = 25$), African-American/Black ($n = 13$), Asian ($n = 7$), Hispanic/LatinX ($n = 3$), and other labels ($n = 7$).

Materials and Procedure

Hypotheses were pre-registered, and the exact data collection procedure and plans, in addition to all other materials (e.g., databases, output, IRB paperwork), can be found on https://osf.io/nrjqt/?view_only=4495cf23ea804c52a4ce1b041401256d. In 2018, participants were recruited to complete a large battery of questionnaires in an online format. The following measures were presented in randomized order:

With permission, the short form of the Parental Acceptance and Rejection Questionnaire (PARQ - Rohner, 2005) was used to measure rejection and neglect from primary caregivers. The measure contains four subscales that are typically combined to create a total score: warmth/affection (8 items; $\alpha = .92$; reversed to coldness/rejection), hostility/aggression (6 items; $\alpha = .88$), indifference/neglect (6 items; $\alpha = .89$), and undifferentiated rejection (four items; $\alpha = .83$). Each of the items (e.g., My primary caregiver paid no attention to me) were scored on a 4-point Likert-type scale that ranged from 1 (*Almost never true*) to 4 (*Almost always true*). Scores for each of the subscales were calculated, coded, and combined according to the validated

instructions, such that higher scores represent higher parental rejection ranging from warmth/no rejection (24) to extreme rejection (96).

Attachment

The Experiences in Close Relationships scale (ECR-R; Fraley et al., 2000) measures adult attachment style via agreement with Likert-type statements (e.g., I am afraid that I will lose my partner's love) ranging from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*) regarding how they generally feel in relationships. The item ratings are averaged to create two subscale scores: Anxious ($\alpha = .92$) and Avoidant ($\alpha = .90$) attachment. Higher scores represent stronger indications of each attachment style.

Sociosexuality

The Revised Sociosexual Orientation Inventory (SOI-R; Penke, 2011; $\alpha = .84$) measures comfort with casual sex via the sum score on nine items that combine open-ended (e.g., How many partners have you had in the past year), agreement with Likert-type items (e.g., Sex without love is OK) rated from 1 (*Strongly disagree*) to 9 (*Strongly agree*), and frequency items (e.g., How often do you have spontaneous fantasies about someone with whom you are not in a relationship) on a 0 (*Never*) to 8 (*At least once a day*). Scores ranged from restricted (3) to unrestricted (75).

Sex guilt

The Revised Mosher Sex-Guilt Scale (Janda & Bazemore, 2011; $\alpha = .81$) asks participants to rate agreement with 10 Likert-type statements (e.g., When I have sex dreams, I try to forget them) ranging from 1 (*Very Strongly Disagree*) to 7 (*Very Strongly Agree*). Scores on the items are then averaged for a final sex guilt score, where higher scores indicate higher sex related guilt.

Demographics

A brief demographic section was included that queried sex, age, ethnicity/race, and other information for the purposes of describing the sample.

Other Measures

Other measures were also included for inquiry into separate hypotheses, as part of a larger project, examining sex attitudes as they relate to other casual sex behaviors (i.e., friendships with benefits). These measures included the McGill Friendship Questionnaire (Mendelson & Aboud, 1999), Attitudes Towards Casual Hookups Scale (Owen et al. 2010), Engagement in Hook-Up Culture (Monto & Carey, 2014), Sexual Behavior Frequency Scale (Ashdown et al., 2011), and the Brief Sexual Attitudes Scale (Hendrick et al., 2006).

Results

Preliminary Analysis

A series of bivariate Pearson's r correlations were conducted, along with basic descriptive information, among each of the major variables. The analyses indicate that the total rejection score was highly correlated with each of the four subscales of the PARQ, in addition to each of the other dependent variables of attachment, SO, and sex guilt. Thus, the PARQ total rejection score was used in subsequent analyses. See Table 1 for the coefficients and descriptive information.

Second, as there was a large discrepancy between males and females in the current sample, a series of t-tests (with a Bonferroni correction; $p < .004$) were conducted to determine if there were differences between the groups on the various measures and if including sex in the analyses as a covariate was necessary. The results indicated that there are differences on some of

the variables that replicate findings in past literature and thus suggest that inclusion of the sex as a covariate would be conservative. See Table 2 for the outcomes of these analyses.

To examine the interlinking relationships between parent-child relationship quality, attachment styles, SO on sex-guilt, a series of double mediation analyses were conducted using the PROCESS macro (Hayes, 2017) and model 6 with bootstrap of 5000. We examined whether attachment styles (anxious, and avoidant attachment in comparison to secure attachment) and SO could simultaneously explain the relationship between parental rejection and sex guilt. As attachment and SO are highly interactive with one another, a double mediation was conducted in order to avoid testing the mediator effects one at a time (Vanderwelle & Vansteelandt, 2014). This is advised as trying to assess indirect and direct effects with one mediator at a time tends to fail and the sum of the proportion mediated can sometimes total more than 100%. Additionally, the analysis is robust to the unmeasured common causes that might be related to both mediators. The first double mediation focused on anxious attachment. The results indicate that both the direct and the indirect effects of parental rejection on sex guilt are significant. Figure 1 illustrates the significant indirect effects between total parental rejection and sex guilt through anxious attachment and SO.

A second double mediation analysis was conducted examining whether avoidant attachment styles and SO could shed some light on the relationship between parental rejection and sex guilt. The results indicate that the overall predicted model was significant, and that parental rejection does significantly predict sex guilt. Again, the direct effect was significant, however the total indirect effect was not significant. Figure 2 shows the outcome of the analysis.

Discussion

This study sought to understand the interconnections between parent-child relationship quality (measured as parental rejection), attachment styles, sociosexuality (SO), and ultimately, sex guilt. A double mediation model was conducted examining attachment and sociosexuality as mediators of the relationship between parent-child relationship quality in childhood and sex guilt in adulthood. As expected and supported by existing studies (e.g., Szepsenwol et al., 2017), rejecting parenting was positively associated with insecure attachment styles, which in turn was significantly and positively associated with unrestricted sociosexuality. This was as hypothesized. However, the relationship with sex guilt was contrary to the hypothesis. That is, there was a direct negative association between parental rejection and sex guilt indicating that parental rejection leads to less sex guilt in the presence of both mediators.

The overall negative indirect effect was initially unexpected, however, there are potential explanations of the mechanisms at play. First, it could be argued that sociosexuality plays a key role in insecure attachment models by buffering the effects of parental rejection on sex guilt. For example, past research (see Cooper et al., 2004 for a review) suggests that individuals with an avoidant attachment style tend to have less restrictive attitudes toward sex. As such, they may purposefully try to divorce intimacy and affection from the act of sex, wherein having casual sexual relationships that are devoid of intimacy is one way in which to do that. Perhaps sociosexuality may not always be a negative quality (at least for the person) but instead may serve as a positive strategy for individuals who are insecurely attached or grew up in harsh early childhood environment as it pertains to sex and sex guilt.

Interestingly, the mechanism at play between the two insecure attachment styles and sociosexuality seems to be different. Those with avoidant attachment may thrive having an unrestricted sociosexuality because they desire limited intimate connections with partners

generally (Simpson et al., 2004) and are, therefore, likely to have lower sex guilt. Anxiously attached individuals, on the other hand, are more likely to want a loving partner, but the absence of that committed relationship may predispose them to feeling comfortable having multiple sex partners in the bid to find partners who want more commitment, and as a result, they may have lower sex guilt. To the extent that casual sex is being engaged in, then unrestricted sociosexuality appears to be beneficial (Vrangalova & Ong, 2014; Woerner & Abbey, 2017) to some individuals in reducing the threat of sex guilt. Moreover, this finding has some precedent in the past literature. In a longitudinal study, Vrangalova and Ong (2014) found that individuals who were unrestricted reported more positive benefits and positive emotions following casual sex, and argue that this may be because sociosexuality, particularly unrestricted, serves as a buffer against some of the potentially negative outcomes of casual sex. The findings in this study would expand upon that argument by adding sex guilt to the list of negative outcomes that are avoided. Other recent studies have also found that engaging in casual sex may simply result in higher positive affect as compared to negative affect (Woerner & Abbey, 2017). Simply, individuals who enjoy casual sex do not feel guilty about having it.

The results did indicate that the predicted double mediation models are significant for both avoidant and anxious attachment. However, it is important to note that the sequential indirect effects are relatively small. Although this is not unusual in complex mediation models (Miočević et al., 2018), these findings suggest that additional constructs are involved, especially as it pertains to predicting sex guilt. Even with the indirect effect, there is still a small but significant negative direct association between greater perceived parental rejection and sex guilt. Thus, as evidenced by the findings, readers should heed caution when interpreting these findings, as there appear to be many more pieces to this puzzle. At the current moment, there is still much

we do not know about the negative outcome of sex guilt. Sex guilt results from internalized beliefs about what is appropriate or moral sexual behaviors (Mosher & Cross, 1971; Woo et al., 2010). Arguably those internalized sexual beliefs are developed throughout childhood, at the same time as one is developing their attachment and SO. Thus, future researchers may want to examine how those sexual beliefs are formed in conjunction with the other developmental factors in childhood. For example, one relatively consistent predictor of sex guilt is rooted in internalized religiosity teachings and values (Hackathorn et al., 2015). Examining the potential interaction of religiosity, SO, and attachment within this model could be extraordinarily informative. However, the current study did not include a valid measure of religiosity, and thus its influence could not be assessed here.

Lastly, in examining the relationship between early childhood experiences, sociosexuality, and sex guilt in adulthood, the data best fit the model when both attachment style and sociosexuality were examined together rather than as independent mediators of the relationship between parental rejection and sex guilt. This highlights the importance of examining such relationships simultaneously and within a developmental framework (Simpson & Belsky, 2008; Szepeswol et al., 2017; VanderWeele & Vansteelandt, 2014). However, it is important to note that this study was not longitudinal in nature, thus, caution should be exercised when thinking about how these constructs interrelate, to avoid making any causal or temporal claims.

These findings have implications in different fields that engage in understanding relationships, be it research or applied fields including clinical, counseling, and therapeutic settings. First, as researchers continue to explore the concept of sociosexuality with regards to social and personality tendencies, it can be easy to ignore/not acknowledge the idea that

sociosexuality, whether unrestricted or restricted, may serve different purposes for different people. It is also possible that the lack of experiencing sex guilt reinforces and strengthens the behaviors we now know as characteristic of individuals high (i.e., unrestricted) on the sociosexuality dimension. More research is needed in the future to examine the potential positive benefits of an unrestricted sociosexuality, and what factors actually influence the experience of sex guilt.

On the applied side, the buffering effect of sociosexuality on sex guilt may explain (at least to some extent) the underlying links between philanderers and high sociosexuality (Barta & Kiene, 2005). In counseling and therapeutic settings, these results may better explain the underlying rationale that clients present in therapy. It may offer another way of viewing behaviors, underlying benefits, and mental frameworks of clients who seek to understand their own behaviors or that of their partners', in areas including lack of commitment, infidelity, or other disorienting behaviors in relationships. Such insight may better shape and guide therapeutic interventions, and in some cases, better navigate the exploration of experiences that may not be readily present in the therapeutic room.

Secondly, early childhood factors continue to show correlates with sex-related strategies, bolstering the importance of examining behaviors in the context of multiple perspectives, including from a developmental perspective (Bogaert & Sadava, 2002). Although interventions for adults with difficult childhoods and difficult adult romantic relationships can be beneficial to healthier relationships or the decision to end one, a focus on parenting interventions based on these findings may also mitigate the insecure internal frameworks developed around intimate relationships and sex related behaviors in the early years (Deptula et al., 2010), thereby reducing the stress of sexual choices, commitment, and any related sex guilt.

Despite notable strengths, there are also some limitations in the current study. One limitation and prospect for future research is to test the model with samples from diverse populations. We do not suggest a generalized result considering the higher percentage of females, specifically Caucasian females, in this sample. Future researchers who have access to more diverse populations could really improve this literature, and help to further our understanding of the links between early childhood environments and adult sex behaviors.

An additional limitation of the current research lies in its cross-sectional and self-report design. Participants were asked to retroactively recall their relationships with their primary caregiver, thus their recollections may be biased negatively or otherwise. However, we do not believe that this limitation negates our findings. The average age of the students in the study was 19, and thus, the relationships upon which they are describing are not that far gone in memory. Regardless, readers should heed caution in interpreting the results, especially avoiding any causal inferences or interpretations. To offset this limitation, a longitudinal design that integrates these constructs would be greatly appreciated in the literature.

Conclusion

In summary, sex guilt may be predicted by early childhood environments. However, it is not in the way that might have been expected at face value. That is, harsh early childhood environments are negatively related to sex guilt. Our findings here suggest that perhaps this relationship exists through insecure attachment styles, and ultimately, through sociosexuality as a buffer. Some past research has indicated that there are positive outcomes from engaging in casual sex, and this study would add to that literature. Oftentimes in the literature, unrestricted sociosexuality is referred to in the negative, as a trait to be avoided. However, this literature, in conjunction with other recent research might suggest there is a good side to unrestricted

sociosexuality, as it helps to assuage the influences originating in one's harsh childhood that might culminate into negative sex outcomes as an adult.

Ethical Compliance Section:

Funding: The authors have no funding to disclose.

Compliance with Ethical Standards: All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

Conflicts of Interest: The authors declare that they have no conflict of interest.

Informed Consent: Informed consent was obtained from all individual adult participants included in the study.

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