

“Til’ I can get my satisfaction”:

The Role of Sexual Assertiveness in the Relationship between  
Attachment Orientation and Sexual Satisfaction

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Abstract

Even though there is knowledge about avoidant and anxious attachment orientations predicting lower levels of sexual satisfaction, research about mechanisms that deepens the understanding of this negative outcome is lacking. In the current study we expected sexual assertiveness to act as a mediator in the relationship between avoidant and anxious orientations and sexual satisfaction. We also expected gender differences in the mediating relationship. Cross-sectional data (N=806) was used to test our hypotheses. Results revealed that sexual assertiveness partially mediated the relationship between avoidant and anxious attachment orientations and sexual satisfaction, for both genders separately. We concluded that communicating and asserting sexual needs are important features for fostering sexual satisfaction regardless of attachment orientation. Topics for future research were suggested.

*Keywords:* Attachment orientation, attachment avoidance, attachment anxiety, sexual assertiveness, sexual satisfaction.

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## **Attachment Orientation and Sexual Satisfaction: The Mediating Role of Sexual Assertiveness**

A satisfying sex life seems to be of almost everybody's interest. It is evident not only within popular culture, with song and book titles such as “I can’t get no satisfaction” and “What feels good” to vouch for it. “Sexual satisfaction”, commonly defined as: “an affective response arising from one’s subjective evaluation of the positive and negative dimensions associated with one’s sexual relationship” (Lawrence & Byers, 1995, p.268), gets several hundred hits on Amazon alone, and thousands of hits in scientific databases. Given the large amount of both scientific and non-scientific literature that has been published within this area, sexual satisfaction appears to be an important subject to a lot of people.

The answer to why it is of importance to people is probably partly found in the literature on sexual satisfaction and its link to general life satisfaction. Sexual satisfaction has, namely, been positively linked to subjective well-being in both women and men over time (Schmiedeberg, Huyer-May, Castiglioni, & Johnson, 2016). Another possible answer as to why it is of importance to people to understand sexual satisfaction, is its association to relationship outcomes. For there is evidence suggesting that sexual satisfaction positively predicts overall relationship satisfaction for both women and men who are married (Henderson-King & Veroff, 1994) and dating (Byers, Demmons & Lawrence, 1998; Sprecher, 2002). Further, there are indications that changes in sexual satisfaction over time are related to changes in relationship satisfaction over time (Sprecher, 2002).

Not only does sexual satisfaction influence these outcomes, people also reach out to mental health professionals because of their dissatisfying sex life. It is a common reason for seeking marital therapy (Doss, Simpson, & Christensen, 2004). Sexual satisfaction is clearly a topic that is raised in clinical practice, but approximately how many people in the general population are dissatisfied with their sex life? According to a large-scale investigation with

participants from 27 different countries slightly more than half of both the women and the men were not satisfied with their sex life (Mulhall, King, Glina, & Hvidsten, 2008). In sum, sexual dissatisfaction seems to be a common problem, and is linked both general well-being and relationship satisfaction. Because of the implied significance of sexual satisfaction, it is necessary to examine what factors make it vary.

According to a systematic review by Sanchez-Fuentes, Santos-Iglesias & Sierra (2013), there are in fact a lot of variables contributing to the variance in sexual satisfaction, e.g. physical health, medical treatments, self-esteem, body image, sexual abuse, sociodemographic variables, stress and interpersonal factors. One of these interpersonal factors is attachment orientation (Sanchez-Fuentes, Santos-Iglesias, & Sierra, 2013). In fact, a number of studies indicate that both anxious and avoidant individuals are more dissatisfied with their sex life, than individuals with a secure attachment orientation (Butzler & Campbell, 2008; Khoury & Findlay, 2014; Milad, Ottenberger, & Artigas, 2014; Fricker & Moore, 2002; Overup & Smith, 2016 (study 2); Brassard, Peloquin, Dupuy, Wright & Shaver, 2012). These findings are also theoretically substantiated. Bowlby (1982) proposed that attachment, caregiving and sex are the three aspects constituting romantic relationships. Also in more recent literature (Hazan & Zeifman, 1994) it is suggested that, within a romantic relationship, sex and attachment are deeply intertwined. There are, in other words, both theoretical grounds for, and recent research claiming that sexual interactions are an essential part of romantic relationships. However, research aiming to explain this association is lacking. Therefore, the aim of the current study is to examine the link between attachment orientation and sexual satisfaction, and investigate a possible underlying mechanism, sexual assertiveness, as a mediator.

**Attachment theory**

Attachment orientation clearly influences sexual satisfaction, but what is attachment orientation and what theories are there to explain the concept? Attachment in childhood refers to a stable and durable inner representation of a relationship to a primary caregiver, to whom we turn for support in stressful situations. If a child receives comfort and protection when reaching out for it, the attachment bond is more likely to become secure. On the contrary, if the needs for comfort and protection are unmet, the probability for the child to develop an insecure attachment is higher (Bowlby, 1982).

Gradually, attachment functions transfer from the primary caregivers to our partners. In adult life, it is our romantic partner who becomes the primary attachment figure. Our interpersonal experiences as children and young adults have in other words been formed into inner working models that we carry with us into adulthood (Hazan & Shaver, 1994).

Traditionally attachment has been conceptualized as categories (Ainsworth, 1978; Hazan & Shaver, 1987). Brennan, Clarke & Shaver (1998), however, focused on two different attachment dimensions, attachment avoidance and attachment anxiety, also referred to as attachment orientations. Attachment anxiety includes a fear of being abandoned, an excessive need for confirmation and a depressive mood when one's partner is unavailable. Attachment avoidance, on the other hand, refers to an unwillingness for closeness, an exaggerated need for independence and difficulties opening up in intimate relationships (Wei, Russel, Mallinckrodt & Vogel, 2005). Being low on both these attachment dimensions generally imply a greater sense of security and ability to maintain close relationships (Brennan, Clarke & Shaver, 1998). Contemporary researchers seem to agree on that adult attachment is comprised of these two attachment dimensions (Mikulincer, Shaver & Pereg, 2003). Additionally, as attachment varies across individuals and a person can be high or low on both attachment avoidance and attachment anxiety, conceptualizing attachment dimensionally is

more precise than a categorical approach. Therefore, in the current study attachment will be conceptualized dimensionally in accordance with Brennan, Clarke & Shaver (1998).

Since, as mentioned, one's romantic partner becomes the primary attachment figure in adulthood, they are also our greatest source of both emotional and physical intimacy, e.g. sexual activities (Hazan & Shaver, 1994). For that reason, one can assume that previous relationship experiences might influence behaviors, thoughts and feelings of individuals with an avoidant or anxious attachment orientation in sexual settings. It has indeed been indicated that individuals with an anxious attachment orientation are more attentive to and distressed by how available, committed and interested their partner is, in contrast to individuals with an avoidant attachment orientation who seem to be able to deactivate their attachment system and suppress possible anxiety (Fraley & Shaver, 1997). It has been proposed that the vigilance experienced by the anxious individuals makes them more sensitive to rejection during sex (Gentzler & Kerns, 2004) and more probable to engage in sexual activity to assure themselves that their partners stay invested in the relationship (Schachner & Shaver, 2004). Avoidant individuals, on the other hand, have difficulties with intimacy and need to ensure their own independence in sexual situations (Brennan & Shaver, 1995). There seem to be two primary strategies for doing so; either by avoiding sex in long-term relationships (Brassard, Shaver, & Lussier, 2007) or by engaging in casual sex (Brennan & Shaver, 1995). Furthermore, it has been shown that individuals with both avoidant and anxious attachment orientations engage in consensual but unwanted sex (Gentzler & Kerns, 2004).

These findings correspond well with Ainsworth's (1978) contributions to attachment theory. According to her, individuals with an anxious attachment orientation had primary caregivers that were inconsistent, which made these individuals constantly attentive to others needs, instead of their own. Whereas the primary caregivers of individuals with an avoidant attachment orientation were supposedly emotionally distanced, which made these individuals

suppress their needs for intimacy. Both anxious and avoidant individuals adjusted to their caregivers to oblige them and thereby gain their closeness. It is likely that having these issues with not being able to tend to one's own needs, makes it more difficult for individuals with avoidant and anxious attachment orientations to enjoy sex.

In sum, the nature of attachment varies across individuals but our ability to form emotional bonds is evident in our adult romantic relationships. Our romantic relationships generally involve sexual interactions, and the satisfaction that we derive from them are proposedly influenced by our early interpersonal experiences.

### **Attachment and sexual satisfaction**

Research on attachment has progressed since the time of Bowlby. Recent studies have focused on the link between attachment orientation and sexual satisfaction. The majority of these studies display a negative correlation between insecure attachment orientations and sexual satisfaction, for both women and men (eg Butzler & Campbell, 2008; Khoury & Findlay, 2014; Milad, Ottenberger, & Artigas, 2014; Fricker & Moore, 2002; Overup & Smith, 2016 (study 2); Brassard, Peloquin, Dupuy, Wright & Shaver, 2012). However, there are some inconsistencies in the results, with some studies indicating that avoidance has a more pronounced association with sexual dissatisfaction, than anxiety (Peloquin, Brassard, Delisle & Bedard, 2013; Peloquin, Brassard, Lafontaine & Shaver, 2014; Overup & Smith, 2016 (study 1)).

What might explain these different results? The studies that demonstrate a more distinct association between avoidant attachment orientation and sexual satisfaction all use scales for measuring sexual satisfaction that consists of either a single item or five items. The other studies, that indicate a relationship between both avoidant and anxious attachment orientations and sexual satisfaction, measure sexual satisfaction with more extensive scales. This methodological issue might explain the inconsistent results. It could, for example, be that

extensive scales of sexual satisfaction more correctly measures how anxious individuals perceive their sexual pleasure, than limited scales. The extensive scales measure several facets of sexual satisfaction, e.g. interpersonal factors. As already mentioned, Gentzler & Kerns (2004) proposed that anxious individuals are sensitive to rejection and attentive to their partner's needs, and the extensive scales might better capture this variation.

Moreover, some of the studies examining the relationship between attachment orientation and sexual satisfaction report gender differences. The results of one study indicate that only avoidant men but both avoidant and anxious women have lower levels of sexual satisfaction (Leclerc et al, 2015). Opposite results, lower levels of sexual satisfaction for avoidant women but for both avoidant and anxious men, have also been demonstrated (Peloquin, Brassard, Lafontaine & Shaver, 2014). Further, one study, that included both women and men, indicate that anxious and avoidant men had higher levels of sexual satisfaction, the correlation was thus positive, while the opposite was true for women (Dunkley, Dang, Change, & Gorzalka, 2016). Yet another study shows no association for men between attachment orientation and sexual satisfaction, while there was an association between the variables for the women in the study (Goldsmith, Dunkley, Dang, & Gorzalka, 2016).

In sum, most studies indicate that both women and men, who have either an anxious or avoidant attachment orientation, experience lower levels of sexual satisfaction. However, the results from a few studies indicate that this relationship is more consistent for women than for men. The reason for gender differences is a topic that is widely debated, and two general perspectives commonly discussed are nature vs. nurture, for further readings on these theories, see Gagnon (1990) and Buss & Schmitt (1993).

### **Sexual assertiveness as a possible mediator**

The association between attachment orientation and sexual satisfaction is moderately explored, but the underlying mechanisms explaining that link are not. However, researches have tried to investigate this gap, by looking at possible mediators. A variable is a mediator “to the extent that it accounts for the relation between the predictor and the criterion” (Baron & Kenny, 1986, p. 1176). A mediation effect can be either full or partial. Full mediation indicates that, when the mediator is accounted for (a pathway called  $c'$ ), the relationship between the predictor and the outcome disappears. In other words,  $c'$  becomes non-significant. When  $c'$  is significant, one has encountered a partial mediation. The difference between the two is simply to what extent the mediator accounts for the relation between the predictor and the outcome (MacKinnon, Fairchild, & Fritz, 2007). Mediators that have so far been examined, in the relationship between attachment orientation and sexual satisfaction, are e.g. caregiving (Peloquin, Brassard, Delisle & Bedard, 2013), gender role ideology (Goldsmith, Dunkley, Dang & Gorzalka, 2016) and sexual communication (Khoury & Findlay, 2014; Timm & Keiley, 2011; Goldsmith, Dunkley, Dang & Gorzalka, 2016; Davis et al., 2006).

When reviewing the area, sexual communication appeared to be one of the recurring underlying mechanisms linking attachment orientation and sexual satisfaction (Khoury & Findlay, 2014; Timm & Keiley, 2011; Goldsmith, Dunkley, Dang & Gorzalka, 2016; Davis et al., 2006). Menard & Offman (2009) argue that sexual communication has been largely defined as the ability to disclose sexual needs, which entails sharing sexual preferences with one's intimate partner. They suggest that other aspects of sexual communication should be explored, since there might be a difference between simply disclosing sexual needs to a partner and acting upon them. This suggestion is supported by more recent research, Brassard, Dupuy, Bergeron & Shaver (2015) namely propose that a broader definition of sexual



communication, that includes initiation and refusal of sex, would be necessary. The term sexual assertiveness has been defined as the emotional, cognitive and behavioral aspects in communicating one's needs to an intimate partner. This concept includes both ability to self-disclose as well as initiation and refusal of sex (Hurlbert & Pierce, 1999). According to Morokoff et al. (1997) sexual assertiveness is a fundamental skill for the development of a healthy sexuality, it helps protect individuals from risky sexual behaviors.

To our knowledge, there is only one previous study using that broad definition of sexual assertiveness which has examined sexual assertiveness as a mediator for the relationship between attachment orientation and sexual satisfaction. The results from that study showed that sexual assertiveness was a mediator, but only for women (Leclerc, et al., 2015). However, the study focused on a clinical sample of women suffering from vestibulodynia, a cause of pain during intercourse (Meana & Binik, 1994), and their male partners. Only including clinical diagnosed participants might be problematic, since if one's partner experiences pain during sexual interactions, there are presumably other variables, other than one's own sexual assertiveness, that are of importance. Perhaps in such cases, partner-oriented factors, e.g. partners' perception and expression of sexual pleasure are more relevant.

Besides the previous attempt to examine sexual assertiveness as an underlying mechanism, there are also other reasons to believe that sexual assertiveness has a link to both attachment orientation and sexual satisfaction, and could serve as a mediator between the two variables. As described, individuals with avoidant and anxious attachment orientations engage in unwanted sex (Gentzler & Kerns, 2004). Since saying no to sex is a part of sexual assertiveness (Hurlbert & Pierce, 1999), this behavior can be considered an example of low sexual assertiveness. As expected, anxious and avoidant attachment, in both women and men, has previously been linked to lower levels of sexual needs expression (Davis, et al., 2006; Khoury & Findley, 2014), which is also a part of sexual assertiveness (Hurlbert & Pierce,

1999). This tendency to not acknowledge and assert one's own needs, could in turn make an individual less sexually satisfied. Unsurprisingly, Menard & Offman (2009) found a positive relationship between sexual assertiveness and sexual satisfaction, in a sample of both men and women, indicating that individuals who reported lower levels of sexual assertiveness were more sexually dissatisfied.

### **Current study**

We aimed to examine the association between attachment orientation and sexual satisfaction, and to investigate if sexual assertiveness mediated this relationship. The sample consisted of both men and women. By examining sexual assertiveness, using a broader definition than previously, in a non-clinical sample, we aimed to fill an existing research gap. The inclusion of both genders also extended and varied the research area.

In the current study we expected that attachment avoidance would negatively predict sexual satisfaction, and that attachment anxiety would negatively predict sexual satisfaction. Further, we expected sexual assertiveness to mediate the relationship between attachment avoidance and sexual satisfaction, and the relationship between attachment anxiety and sexual satisfaction. We presumed that there would be no gender differences in the associations between attachment avoidance or attachment anxiety and sexual satisfaction. However, we expected gender differences in the nature of the mediating relationship.

## **Method**

### **Participants**

Data was collected from 819 participants between the ages of 18-65 ( $M=27,06$ ,  $SD=8,12$ ). Five participants were excluded due to not answering a sufficient number of questions. In most of these cases, answers to an entire scale were omitted. One participant was excluded for not meeting the criterion of being in a relationship. Seven participants were excluded on the basis of non-credible answer patterns (e.g. when answers on reversed items

consistently did not correspond with the overall response pattern), this was decided through visual inspection of the data. After exclusion, 806 participants remained in the sample. The majority of participants were female, students, heterosexual and denoted Swedish as their first language. The majority of the participants estimated that they engaged in sexual interactions at least once a week during the last six months. Around 40% of the participants were in a relationship that had lasted for more than 3 years. Lastly, roughly half of the sample reported that they had experienced some kind of sexual dysfunction during the last six months. Frequencies and Percentages for Demographics Characteristics of Participants are demonstrated in table 1.

**Table 1**

Frequencies and Percentages for Demographics Characteristics of Participants

<b>Variable</b>	<b>n</b>	<b>%</b>
<b>Gender</b>		
Men	202	25.1
Women	600	74.4
Non-binary	4	.5
<b>Mother language</b>		
Swedish	761	94.4
Other	41	5.1
Missing data	4	.5
<b>Sexual Orientation</b>		
Heterosexual	693	86.0
Homosexual	16	2.0
Bisexual	84	10.4
Other	12	1.5
Missing data	1	0.1
<b>Employment</b>		
Student	531	65.9
Employed	249	30.9
Sick/unemployed/other	16	1.2
Missing data	10	1.2
<b>Sexual Frequency</b>		
Less than once a month	26	3.2
Once a month	73	9.1
Once every other week	136	16.9
Once a week	162	20.1
Twice a week	188	23.3
Three to four times a week	183	22.7
Once a day	29	3.6
More than once a day	9	1.1
<b>Relationship Length</b>		
0-6 months	94	11.7
7 months – 1 year and 6 months	182	22.6
1 year and 7 months – 3 years	201	24.9
More than 3 years	328	40.7
Missing data	1	1.1
<b>Sexual Dysfunction (during last 6 months)</b>		
Yes	412	51.1
No	394	48.9

## Procedure

**Literature search.** Literature for the study was collected using the database PsychInfo. Only peer-reviewed articles written in English, were included. Search terms, combined in different ways, were “attachment”, “attachment orientation”, “sexuality”, “sexual function”, “sexual satisfaction”, “sexual communication” “sexual assertiveness” and “assertiveness”.

**Recruitment and Advertisement.** The survey targeted a broad population; individuals from ages 18-65 who were currently sexually active and involved in an ongoing relationship. The reason for only including individuals currently having sex within an ongoing romantic relationship was to do with one of the main disadvantages of retrospective data. When asking participants to answer questions in hindsight, there is an imminent risk of them not remembering accurately (Svartdal, 2001). The primary function of memory is recoding information rather than recording events and experiences, and comparisons between concurrent self-reports and retrospective data show little relationship (Kazdin, 2013). There are therefore apparent advantages of asking participants about recent experiences. Further, a current romantic relationship equals to an activated attachment system (Broberg, Granqvist, Ivarsson, & Mothander Risholm, 2006), which simply implies that attachment related thoughts, feelings and behaviours are present and accessible.

To get a width in the answers and to reach a sufficient number of participants the survey was promoted to both students and professionals, mainly in Örebro, but also in other Swedish cities. Students were primarily targeted via large student groups on Facebook. Professionals from large companies in Örebro were selected and asked to participate. Overall, the participants were chosen based on availability, therefore the sample is one of convenience. However, since participants could spread the survey, via an internet link, there was probably also a “snowball effect”.

The advertisement informed participants that the topics of the study were relationship and sexual experiences, and the inclusion criteria were stated. Following this general information, participants were given an internet link to the questionnaire.

**The online survey.** The survey was constructed using “OruSurvey”, a questionnaire tool provided by Örebro University. Three different, already existing, scales were combined into one cohesive questionnaire. The scales measured attachment orientation, sexual assertiveness and sexual satisfaction, and are described more in detail in the measurement section. To control for possible order effects, participants were asked to press a button in the beginning of the survey that randomized them into six different groups. The groups consisted of different combinations of the three scales. The survey contained an information page that shortly described the background of the study, the inclusion criteria and research ethics, such as e.g. voluntary participation. Anonymity and secure storage of data was also guaranteed. For participation, individuals had to be in a relationship and be sexually active. The information page included contact details for the researchers conducting the study. Further, demographics such as age, gender, occupation, sexual orientation and relationship status were collected. Other than demographic variables, three additional items (sexual frequency, sexual dysfunction and relationship length) were included. All these variables have a previously established association with, and possible influence on, our outcome variable sexual satisfaction. They were therefore treated as possible covariates in the current study. Specifically, sexual frequency has been positively linked to sexual satisfaction (Yucel & Gassanov, 2010), sexual dysfunction has been shown to negatively predict sexual satisfaction (Velten & Margraf, 2017) and length of relationship has been negatively associated with sexual satisfaction (Sprecher, 2002). In the current study, sexual frequency was defined as how often participants had engaged in sexual interactions during the last six months and sexual dysfunction was defined as any sexual dysfunction (such as delayed ejaculation,

premature ejaculation, vestibulodynia and orgasmic disorder) that had affected participants' life and well-being considerably during the last six months. Relationship length was defined as for how long participants had been in a romantic relationship with their current partner.

**Ethics.** Since attachment and sexuality can be considered sensitive matters, the survey information contained phone numbers to different organizations working with supporting women and men with issues such as violence, sexual abuse and relationship difficulties.

## **Measurements**

**Experiences in Close Relationships.** Adult attachment was measured using the Swedish version of Experiences in Close Relationship scale (ECR) (Brennan, Clark & Shaver, 1998). ECR is a 36-item self-report scale used for examining attachment orientations, more specifically attachment anxiety and attachment avoidance. These dimensions are measured continuously. Ten of the items on the scale are reversed. Each item assesses individuals feelings about romantic relationships on a 7 point likert scale from 1 "disagree strongly" to 7 "agree strongly". Examples of questions are "I worry about being alone" and "I prefer not to show a partner how I feel deep down". Higher scores on the dimensions indicate higher level of attachment insecurity. "Erfarenheter i nära relationer", is the Swedish version of ECR that was translated by Broberg & Granqvist (2003). In a study of its psychometric properties (Strand & Ståhl, 2008) the value of Cronbach Alpha was .91 for both subscales. These values were consistent in the current study, with values of Cronbach Alpha of .90 for both subscales in the whole sample.

**The New Sexual Satisfaction Scale.** Sexual satisfaction was measured with The New Sexual Satisfaction Scale, the NSSS (Stulhofer, Busko, & Brouillard, 2010), an instrument designed to assess the individual, interpersonal and behavioural dimensions of sexual satisfaction. It's a self-report questionnaire that consists of 20 items which are rated on a 5-point likert scale. Items are stated e.g. as following: "The intensity of my sexual arousal",

“The way I sexually react to my partner”, “My partner’s initiation of sexual activity”. The NSSS has good concurrent, convergent and discriminative validity, as well as high Cronbach alpha values, ranging from .87 to .96, for both genders. The test-retest reliability has also proven to be satisfactory (Stulhofer, Busko, & Brouillard, 2010). In the current study, the Cronbach alpha was .92 in the whole sample. All in all, the NSSS is considered an effective measure irrespective of gender, sexual orientation and relationship status (Stulhofer, Busko, & Brouillard, 2010). For the purpose of this study, the NSSS was translated into Swedish. To ensure the quality of the translation two individuals, independent of each other, translated The NSSS back to English, a procedure called back-translation.

**The Hurlbert Index of Sexual Assertiveness.** Sexual assertiveness was measured with The Hurlbert Index of Sexual Assertiveness (Pierce & Hurlbert, 1991), which is a 25-item self-report questionnaire targeting the cognitive, emotional and behavioural aspects of expressing sexual needs to an intimate partner. The items are rated on a 5-point likert scale. Twelve items on the scale are reversed. The following statements are examples of items: “It is hard for me to say no, even when I do not want sex”, “I feel comfortable in initiating sex with my partner”, “It is easy for me to discuss sex with my partner”. The Index has been demonstrated to possess good content validity (Hurlbert, 1991), predictive validity, concurrent validity (Apt & Hurlbert, 1992) and discriminative validity (Apt & Hurlbert, 1993; Apt, Hurlbert & Powell, 1993). The index has been validated in greater occurrence for women than for men, but the test-retest reliability is adequate (.83-.88) for both women and men (Pierce & Hurlbert, 1999), as well as the internal consistency, with Cronbach alpha values of .88 for men (Apt, Hurlbert & Powell, 1993) and .91 for women (Hurlbert, 1991). In the current study the Cronbach alpha values were .90 in the whole sample. For the purpose of this study The Hurlbert Index of Sexual Assertiveness was translated into Swedish and a back-translation was then performed.



## **Data Analysis**

Participants were divided into six different groups, based on order of questions. To control for order effects, an ANOVA analysis was conducted. No order effects were found and therefore all groups were combined. To make the main analyses more comprehensible, variable categories with a very low percentage were treated as missing data (homosexual, non-binary, gender defined as “other” and unemployed). The reason for this decision is that compared to the population these groups represent, they were too small to draw inferences from. This is in line with well-established research guidelines; sample sizes need to be large enough to reflect the characteristics for a given population (Field, 2009).

Descriptive statistics, including means, standard deviation and bivariate correlations between the study variables were estimated. Assumptions for parametric tests were examined before every analysis. All data violated the assumption of normality. However, skewness and kurtosis values were within the acceptable range (Kim, 2013), hence no data was transformed. To examine whether attachment orientation predicted sexual satisfaction, regression analyses were performed. To test the main research question, mediation analysis in the PROCESS module for SPSS (Hayes, 2013), was used. Attachment orientation was entered as the independent variable, sexual satisfaction as the dependent variable and sexual assertiveness as the mediator. Demographic variables were also entered in the model, as covariates. To examine the significance of the indirect effect, we used both the Sobel test and bias-corrected bootstrapped confidence intervals.

## **Results**

### **Descriptive analysis**

Table 2 presents bivariate correlations, means, standard deviations of the study variables. As expected, both attachment avoidance and attachment anxiety was negatively

correlated with sexual assertiveness and sexual satisfaction. Also as expected, sexual assertiveness had a positive correlation with sexual satisfaction. Regarding the demographic variables, age was correlated with attachment anxiety, gender with attachment avoidance and attachment anxiety. Further, sexual orientation had a correlation with both attachment avoidance and attachment anxiety, and employment had a correlation with attachment anxiety. Finally, sexual frequency was correlated with attachment avoidance, sexual assertiveness and sexual satisfaction. Relationship length was correlated with both attachment orientations and sexual satisfaction. Sexual dysfunction was correlated with both attachment orientations, sexual assertiveness and sexual satisfaction.

**Table 2***Correlations, Means and SD of the study variables.*

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Age	27,06	8,12	-											
2. Gender <sup>a</sup>	1,75	0,44	-.12**	-										
3. Language <sup>b</sup>	1,05	0,22	.00	-.01	-									
4. Sexual Orientation <sup>c</sup>	1,12	0,31	-.07	.12**	-.04	-								
5. Employment <sup>d</sup>	1,32	0,47	.49***	-.08*	-.08*	.00	-							
6. Sexual Frequency <sup>e</sup>	4,39	1,52	-.18***	-.03	.01	-.05	-.11**	-						
7. Relationship Length <sup>f</sup>	2,95	1,05	.31***	.05	.03	.01	.21***	-.39***	-					
8. Sexual Dysfunction <sup>g</sup>	1,49	0,50	.11**	-.19***	-.03	-.04	.09*	.08*	-.06	-				
9. Attachment Avoidance	2,24	0,90	.02	-.11**	-.03	.11**	-.03	-.17***	-.14***	-.12**	-			
10. Attachment Anxiety	3,33	1,18	-.19***	.19***	.05	.08*	-.14***	-.03	-.10**	-.15***	.24***	-		
11. Sexual satisfaction	72,80	12,67	.02	.03	.03	-.06	.01	.43***	-.17***	-.34***	-.43***	-.27***	-	
12. Sexual assertiveness	67,71	12,48	.04	-.02	-.01	.00	.03	.24***	-.05	.23***	-.39***	-.20***	.59***	

*Note.* <sup>a</sup>Men=1 and Women=2. <sup>b</sup>Mother language Swedish=1, other mother language=2. <sup>c</sup>Heterosexual=1 Bisexual=2. <sup>d</sup>Student=1 Employed=2. <sup>e</sup>Less than once a month=1 Once a month=2 Once every other week=3 Once a week=4 Twice a week=5 Three to four times a week=6 Once a day= 7 More than once a day=8. <sup>f</sup>0-6 months=1, 7 months-1 year and 6 months=2, 1 year and 7 months – 3 years=3, More than 3 years = 4. No sexual dysfunction= 1 Sexual dysfunction =2.

**The relationship between insecure attachment orientations and sexual satisfaction**

To examine whether attachment orientation predicts sexual satisfaction, regression analyses were performed. Table 3 summarizes the standardized regression coefficients from these analyses.

As expected, the results of the univariate regression analysis showed that 18% of the variance in sexual satisfaction across the whole sample was significantly explained by attachment avoidance,  $F(1,804) = 178.48, p < .001$ . Higher levels of avoidance indicated lower levels of sexual satisfaction,  $\beta = -.43, p < .001$ . Further, 7% of the variance in sexual satisfaction across the whole sample was significantly explained by attachment anxiety,  $F(1,804) = 63.90, p < .001$ . Higher levels of anxiety indicated lower levels of sexual satisfaction,  $\beta = -.27, p < .001$ .

For men, 13 % of the variance in sexual satisfaction was significantly explained by attachment avoidance,  $F(1,200) = 30.76, p < .001$ . Higher levels of avoidance indicated lower levels of sexual satisfaction,  $\beta = -.37, p < .001$ . As for attachment anxiety, it explained 10% of the variance in sexual satisfaction for men,  $F(1,200) = 23.67, p < .001$ . Higher levels of anxiety indicated lower levels of sexual satisfaction,  $\beta = -.33, p < .001$ . This finding is in line with our hypothesis.

For women, attachment avoidance significantly explained 20% of the variance in sexual satisfaction,  $F(1,598) = 149.85, p < .001$ . Higher levels of avoidance indicated lower levels of sexual satisfaction,  $\beta = -.45, p < .001$ . Attachment anxiety explained 7% of the variance in sexual satisfaction for women,  $F(1,598) = 47.74, p < .001$ . Higher levels of anxiety indicated lower levels of sexual satisfaction,  $\beta = -.27, p < .001$ . This finding is also in line with our hypothesis.

In sum, individuals with avoidant and anxious attachment orientations, regardless of their gender, were less satisfied with their sex life.

**Table 3**  
Prediction of sexual satisfaction

Predictor variable	B	SE B	$\beta$	P
<b>All participants</b>				
Attachment Avoidance	-6.00	.44	-.43	<.001
Attachment Anxiety	-2.91	.36	-.27	<.001
<b>Men</b>				
Attachment Avoidance	-5.20	.94	-.37	<.001
Attachment Anxiety	-3.95	.81	-.33	<.001
<b>Women</b>				
Attachment Avoidance	-6.46	.53	-.45	<.001
Attachment Anxiety	-2.87	.42	-.27	<.001

### The mediating role of sexual assertiveness between attachment orientation and sexual satisfaction

We performed a mediation analysis to examine whether each of the attachment orientations significantly predicted sexual satisfaction, when sexual assertiveness was included as a mediator. Demographics (age, gender, language, employment, sexual orientation) were entered as covariates in these models. Table 4 summarizes the magnitude and test of indirect effects in the whole sample.

As expected, results revealed that attachment avoidance negatively predicted sexual assertiveness,  $B = -5.89, p < 0.001$ . Sexual assertiveness positively predicted sexual satisfaction,  $B = 0.49, p < 0.001$ . Approximately 40 % of the variance in sexual satisfaction was accounted for by attachment avoidance, sexual assertiveness and the demographic variables

( $R^2 = 0.395$ ). The direct effect of attachment avoidance on sexual satisfaction was significant,  $B_{\text{direct}} = -3.45, p < 0.001$  and the indirect effect of attachment avoidance on sexual satisfaction was significant,  $B_{\text{indirect}} = -2.91, z = 9.64, p < 0.001, 95\% \text{ CI} = -3.62, -2.33$ .

Further, also as expected, attachment anxiety negatively predicted sexual assertiveness,  $B = -2.05, p < 0.001$ . Sexual assertiveness positively predicted sexual satisfaction,  $B = 0.56, p < 0.001$ . Approximately 38% of the variance in sexual satisfaction was accounted for by attachment anxiety, sexual assertiveness and the demographic variables ( $R^2 = .378$ ). The direct effect of attachment anxiety on sexual satisfaction was significant,  $B_{\text{direct}} = -1.87, p < 0.001$  and the indirect effect of attachment anxiety on sexual satisfaction was significant,  $B_{\text{indirect}} = -1.15, z = -4.95, p < 0.001, 95\% \text{ CI} = -1.63, -.62$ .

In sum, as hypothesized, the findings showed that sexual assertiveness partially mediated the effect of both attachment orientations on sexual satisfaction. This means that individuals with an insecure attachment orientation had lower levels of sexual assertiveness, and in turn, lower levels of sexual satisfaction. These effects were independent of the demographic variables.

Since previous research suggests that sexual frequency (Yucel & Gassanov, 2010), sexual dysfunction (Velten & Margraf, 2017) and relationship length (Sprecher, 2002) are important third variables, that influence sexual satisfaction, they were entered as additional covariates, along with the demographic variables, in to the mediation model. Sexual frequency, sexual dysfunction and relationship length, the demographic variables, attachment avoidance and sexual assertiveness accounted for approximately 52% of the variance in sexual satisfaction ( $R^2 = .521$ ). Sexual frequency, sexual dysfunction and relationship length, the demographic variables, attachment anxiety and sexual assertiveness accounted for approximately 51% of the variance in sexual satisfaction ( $R^2 = .507$ ). However, sexual

assertiveness still partially mediated the association between both attachment orientations and sexual satisfaction when controlling for these additional variables.

We also fitted the mediation model with demographics as covariates (age, gender, language, employment, sexual orientation) for each gender, since we expected gender differences. However, results showed that sexual assertiveness partially mediated the relationship between both attachment orientations and sexual satisfaction, separately for both genders.

**Table 4**  
Magnitude and test of indirect effects in the whole sample

Relationship	Mediator	<i>B</i>	<i>z</i>	<i>p</i>
Attachment avoidance to sexual satisfaction	Sexual assertiveness	−1.15	−4.94	<.001
Attachment anxiety to sexual satisfaction	Sexual assertiveness	−2.91	−9.64	<.001

## Discussion

This study aimed to further explore sexual assertiveness as a preplanned mediator for the relationship between attachment orientation and sexual satisfaction in a sample of both women and men. We expected that attachment avoidance would negatively predict sexual satisfaction, and that attachment anxiety would negatively predict sexual satisfaction. Further, we expected sexual assertiveness to mediate the relationship between attachment avoidance and sexual satisfaction, and the relationship between attachment anxiety and sexual satisfaction. We presumed that there would be no gender differences in the associations between attachment avoidance or attachment anxiety and sexual satisfaction. However, we expected gender differences in the nature of the mediating relationship.

**Attachment orientation and sexual satisfaction**

As expected, the results of this study showed that individuals with avoidant and anxious attachment orientations have lower levels of sexual satisfaction. This finding is in line with a number of previous studies, suggesting that there is a negative relationship between attachment orientation and sexual satisfaction (Butzler & Campbell, 2008; Khoury & Findlay, 2014; Milad, Ottenberger, & Artigas, 2014; Fricker & Moore, 2002; Overup & Smith, 2016 (study 2); Brassard, Peloquin, Dupuy, Wright & Shaver, 2012). As described initially, there are potential explanations for this association. Infants and children need their caregivers' love and closeness, otherwise they will not survive. The anxious and avoidant individuals had to adapt to their caregivers needs to gain intimacy. In order to do so, they had to overlook their own needs (Broberg, Granqvist, Ivarsson, & Mothander Risholm, 2006). These ways of coping and inner representations of a close relationship gradually transfer into adult relationships where our romantic partner is our primary source of intimacy and sex (Hazan & Shaver, 1994). It is likely that having issues with not being able to tend to one's own needs, which individuals with insecure attachment orientations do, also makes it more difficult for them to enjoy sex.

Further, in a few earlier studies the negative relationship between attachment orientation and sexual satisfaction did not exist for men. In the current study, however, the results are the same as for the majority of previous studies, namely that the relationship between attachment orientation and sexual satisfaction apply to both genders. Perhaps the relatively small male samples in previous research are the reason for not finding significant results for that gender. In some instances, results from small groups cannot be used to draw inferences to a whole population (Field, 2009). It is evident that recruiting men for these kinds of studies has not been as easy as recruiting women. Most researchers have used convenience- and snowball recruitment, which seemingly attracts females but not males. Perhaps another method for



recruitment would be beneficial. Therefore, a suggestion for future research is to more directly target men.

### **Mediating Role of Sexual Assertiveness in the Association between Attachment Orientation and Sexual Satisfaction**

Probably the most unique finding of the current study is that sexual assertiveness partially explained why both attachment orientations were associated with sexual satisfaction. Specifically, individuals with high levels of avoidant attachment and individuals with high levels of anxious attachment both displayed lower rates of sexual assertiveness, and in turn, lower levels of sexual satisfaction.

Since the existing knowledge about underlying mechanisms, explaining the relationship between attachment orientation and sexual satisfaction, is limited, the findings from this study add important and valuable information. It indicates, in line with Morokoff et al. (1997), that sexual assertiveness is a fundamental part of developing a healthy sexuality. Previously it has been shown that both avoidant and anxious individuals engage in unwanted sex (Gentzler & Kerns, 2004). Expressing an unwillingness for sex is a conceptual part of sexual assertiveness (Hurlbert & Pierce, 1999), therefore that behavior could be regarded as an example of low sexual assertiveness. In turn, this pattern of not asserting one's needs might make an individual less satisfied sexually.

Further, results of the current study indicated a mediation of sexual assertiveness between attachment orientation and sexual satisfaction for both women and men, separately. This mediational relationship has been confirmed in one previous study, but only for women (Leclerc et al, 2015). As previously described, the results only being significant for the women in that study, could be due to the clinical sample. The study only included women with provoked vestibulodynia and their male partners. If the women expressed that sexual interactions were painful, one can assume that other variables, other than one's own sexual

assertiveness, were more relevant to the males in this study. Perhaps partner-oriented factors, such as partners' perception of sex and expression of sexual pleasure, had a greater impact.

Another noteworthy result regarding our mediation analyses is the change in variance when including the additional variables (sexual frequency, sexual dysfunction and relationship length) into our model. The variance in sexual satisfaction explained by our predictor, the demographics and the additional variables increased a considerable amount in comparison with the original mediation model (with just the demographics included as covariates). Since  $R^2$  is an estimate of how well a model fits the data (Field, 2009), these results imply that the additional variables (sexual frequency, sexual dysfunction and relationship length) are indeed important factors that make sexual satisfaction vary. Future research should look further into what roles these factors might play in relation to attachment and sexuality.

### **Limitations and strengths**

A possible limitation of the current study is that the majority of the participants were students. Students differ from the general population in terms of e.g. demographics, socioeconomic class and intelligence. However, Kazdin (2013) suggests that even if characteristics such as demographics relate to the specific variables of interest in a study, an overrepresentation of students does not necessarily mean that results cannot be generalized to other groups. For example, in our study the students were younger than the participants who were employed, and age in turn had a significant relation to several of our variables of interest. Older participants had less sex, were less anxious, had been a relationship longer and reported sexual dysfunction to a greater extent than younger participants. In sum, findings from the current study apply mainly to students but according to Kazdin (2013) this might not compromise generalizability to other groups.

Further, a second limitation of the current study regards only including individuals in an ongoing romantic relationship. This might have contributed to attachment not being normally distributed in our sample and an automatic exclusion of individuals with high levels avoidant and anxious attachment. For there is evidence suggesting that avoidant and anxious individuals have more difficulties retaining a stable, long-term relationship, than secure individuals (Hazan & Shaver, 1994). Nevertheless, we measured attachment orientation continuously, instead of categorically, and therefore regardless of this hopefully captured the variation in attachment. Besides, according to recommendations by Kim (2013), the skewness and kurtosis values were well within the acceptable range, which indicates that some diversity was accounted for.

Another possible limitation is that we interpreted avoidant and anxious individuals engaging in unwanted sex (Gentzler & Kerns, 2004) as signs of low sexual assertiveness. Perhaps there are other possible explanations for engaging in unwanted sex. For example, fear of hurting or offending your partner, gaining status among friends or conforming to societal norms could proposedly also increase the likelihood of engaging in unwanted sex. There is a need for research identifying what behaviors that could be due to low sexual assertiveness. If these behaviors are singled out, it also becomes easier to target them in, for example, behavioral interventions.

Furthermore, an additional limitation concerns other possible mediators than sexual assertiveness. Attachment and sexuality are two major and complex topics. There are a range of factors that could help explain why they relate. As already seen, some researchers have tried to examine this by looking at other factors besides sexual communication and sexual assertiveness, for example gender role ideology (Goldsmith, Dunkley, Dung & Gorzalka, 2016) and caregiving (Peloquin, Brassard, Delisle & Bedard, 2013). This study confirms that there are other factors, besides sexual assertiveness, that are important. This conclusion is

supported by the results indicating partial rather than full mediation. Future research should continue to examine other possible mediators.

The cross-sectional data in the current study is also considered a limitation, since, due to this, causality cannot be established. There is always a risk that associations between variables could be reciprocal or bidirectional in cross-sectional data (Kazdin, 2013). For example, in our study it could be the case that already low levels of sexual satisfaction influence one's level of sexual assertiveness. Further, one's level of sexual assertiveness could affect one's attachment orientation. However, this is maybe less likely since we know from previous research that attachment is established early in life and is relatively robust over time (Hazan & Shaver, 1994). Sexual assertiveness becomes relevant first when engaging in sexual activities, proposedly in adolescence. Despite this, there is a need for longitudinal research further confirming the direction of these relationships.

Lastly, a final possible limitation concerns the conceptualization of sexual dysfunction in the current study. According to the Diagnostic and Statistical Manual of Mental Disorders, DSM-5 (American Psychiatric Association, 2013) there are different sexual dysfunctions, but participants in the current study were asked if they had experienced any one of these sexual dysfunctions during the last six months. They were not asked about each one separately. This might have contributed to the high frequency of sexual dysfunction in the sample. Moreover, participants were not asked to estimate if their difficulties were lifelong, acquired, generalized or situational, aspects the DSM-5 consider. For these reasons, the prevalence of sexual dysfunction in the current study might not be representative and should therefore be interpreted with caution. Further, since we have argued that the current study is, on several accounts, different from the one by Leclerc et al. (2015), who investigated sexual assertiveness and sexual satisfaction in women with vestibulodynia and their partners, it can be considered a limitation that such a large percentage of our sample reported sexual

dysfunctions. However, in the current study the sexual difficulties were self-reported using one question, and in the study by Leclerc et al. (2015) participants were diagnosed by a professional. Even though there is no guarantee that our sample is not to some extent clinical, there is a difference between simple screening and clinically diagnosing a condition, which should have implications for the results. Perhaps future research should be clear on distinguishing between clinical and non-clinical samples using established questionnaires to assess sexual dysfunctions.

Despite these limitations, the current study has a number of strengths that should be highlighted. Findings from the current study have e.g. implications for clinical practice. A lot of couples who seek therapy do so because of difficulties with sexual satisfaction (Doss, Simpson & Christensen, 2004) and as mentioned, attachment orientation is relatively consistent over time (Hazan & Shaver) whereas communication and assertiveness could be processes that are less stable, and therefore easier and more effective to target in therapy. Our findings suggest that clinical interventions should focus on sexual communication, specifically self-disclosure and building skills that make it easier to refuse unwanted sex and initiate sex when it is desired, for individuals with insecure attachment orientations. One way to enhance and practice asserting needs could be by role playing with a therapist in a professional and safe environment. Developing self-help programs focusing on sexual communication and sexual assertiveness could be another way to address sexual dissatisfaction.

There are also some methodological strengths of the current study. When reviewing previous research, a few inconsistencies were found. In some studies avoidance had a more pronounced association with sexual satisfaction (Peloquin, Brassard, Delisle & Bedard, 2013; Peloquin, Brassard, Lafontaine & Shaver, 2014; Overup & Smith, 2016 (study 1)). A possible explanation for these differences in results was proposed. Namely, we found that the studies

that illustrated a relationship for both avoidant and anxious attachment orientations and sexual satisfaction used quite extensive scales for measuring sexual satisfaction, while the studies that indicated a more pronounced association between attachment avoidance and sexual satisfaction used scales with fewer items (one-five items). This could give a reason for the different findings. It could be that extensive scales of sexual satisfaction also more correctly measures how anxious individuals perceive their sexual pleasure. For example, the NSSS, used in the current study, measures several facets of sexual satisfaction, e.g. satisfaction with partner behaviors and expressions. As already mentioned, Gentzler & Kerns (2004) proposed that anxious individuals are sensitive to rejection and attentive to their partner's needs. Therefore, a strength of the current study is that we used an extensive scale for measuring sexual satisfaction, which might better capture the variation in attachment.

Another methodological strength of the current study is the inclusion of a scale that measures both self-disclosure of sexual needs, and initiation and refusal of sex (Hurlbert & Pierce, 1999), whereas previous studies have focused mainly on the ability to self-disclose sexual needs (Menard & Offman, 2009). According to Brassard, Dupuy, Bergeron & Shaver (2015), the existing research base was lacking in studies measuring sexual assertiveness by this broader definition. As previously argued, overlooking one's needs, which individuals with avoidant and anxious attachment orientations tend to do, might make it harder to be sexually assertive. Perhaps it is even so that this inability becomes even more evident in situations that require explicitly expressing sexual needs by saying "yes" or "no", or acting on desire or actively displaying one's unwillingness for sex. The Hurlbert Index of Sexual Assertiveness (Hurlbert, 1991), used in this study, is designed to address this. Findings of the current study indicate that more research on this broad definition of sexual assertiveness is needed, but also that initiation and refusal of sex should be investigated separate from self-disclosure to gain knowledge about the active components of sexual assertiveness.

The current study differs from earlier research on an important point, namely, statistical power. Power can be defined as the probability to find an effect, assuming that it exists in the population. One should aim to achieve a power of .8, which in other terms means that an 80% chance of detecting an effect, if it exists. To do this, an important ingredient is a sufficient sample size (Field, 2009). According to Fritz and MacKinnon (2007), who presents guidelines for number of participants required to detect a mediation effect using Sobel test and Bias-corrected bootstrapping, our sample of about 800 participants is more than sufficient.

One final strength is that the sample included both men and women. This is considered advantageous since previous research on attachment and sexual satisfaction has focused more on recruiting female participants. To our knowledge this is, moreover, the only study to confirm sexual assertiveness as a mediator for the relationship between attachment orientation and sexual satisfaction, for both genders separately. However, the majority of participants in the current study are females, and as mentioned earlier perhaps future researchers should target men more directly and not rely on convenience sampling when recruiting.

## **Conclusions**

This study aimed to examine the relationship between attachment orientation and sexual satisfaction, and to investigate if sexual assertiveness mediated this relationship. It adds to previous research by examining a broad definition of sexual assertiveness in a non-clinical sample including both men and women. The result showed that sexual assertiveness is one distinct mechanism in the pathway between attachment orientation and sexual satisfaction. Further, this mediational model was significant for both genders separately.

These findings have implications for clinicians as well as for researchers. Professionals that encounter avoidant or anxious individuals who are dissatisfied with their sex life should,

preferably, target sexual assertiveness through different interventions as it is probably less persistent over time and easier to change than attachment orientation.

Even though this study adds to the understanding of the relationship between attachment orientation and sexual satisfaction, it also raises new questions. Future research should continue to examine a broad definition of sexual assertiveness but also particular features of sexual assertiveness and other preplanned mediators. There is also a need for longitudinal research, examining the mediating role of sexual assertiveness in the association between attachment orientation and sexual satisfaction. Investigating these topics would provide even more specific knowledge about the relationship between attachment orientation and sexual satisfaction.



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