

An empirical test how jealousy and sociosexuality vary among
heterosexual, homosexual, and bisexual adults

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Subject: Psychology	
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Title: An empirical test how jealousy and sociosexuality vary among heterosexual, homosexual, and bisexual adults	
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Abstract: <p>Researchers have found a substantial sex difference in jealousy (men are more sexually jealous than women and women are more emotionally jealous than men) and sociosexuality (men have higher levels of interest in uncommitted sex than women) in studies conducted among heterosexual participants (Buss, Larsen, Westen, & Semmelroth, 1992; Schmitt, 2005). Evolutionary theories have been used to explain these differences. However, these sex differences in jealousy and sociosexuality tend to vary among heterosexual, homosexual and bisexual participants. The purpose of the present study was to investigate how jealousy and sociosexuality vary as a function of sexual orientation and gender in a large population-based sample of Finnish heterosexual, homosexual and bisexual adults. To test the predictions of the evolutionary theories in jealousy and sociosexuality, we predicted heterosexual men to report sexual infidelity as more upsetting than heterosexual women, homosexual men and women, and bisexual men and women. In contrast, heterosexual women, homosexual men and women, and bisexual men and women were predicted to report emotional infidelity as more upsetting than heterosexual men. Furthermore, we predicted men to have a more unrestrictive attitude towards uncommitted sex than women overall. However, because homosexual and bisexual men have a greater selection of potential partners with a greater unrestrictive attitude towards uncommitted sex, we predicted them to have a greater unrestrictive sociosexual behavior than heterosexual men. A two-way ANOVA was conducted, and then we used pairwise comparisons to further test our hypothesis. The sample sizes were $n = 1,012$ for men and $n = 2,127$ for women. Our predictions were partly confirmed; Heterosexual, homosexual and bisexual women reported emotional infidelity as more upsetting than heterosexual men. In addition, heterosexual men reported sexual infidelity as more upsetting than homosexual men and bisexual women. Homosexual men, as well, reported a more unrestrictive sociosexual behavior than heterosexual men. However, our other predictions were not as conclusive.</p>	
<i>Key words:</i> emotional jealousy, sexual jealousy, sociosexuality, sexual orientation, sex	
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TEOLOGI**

Ämne: Psykologi	
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Arbetets titel: Empiriskt test hur avundsjuka och sociosexualitet skiljer sig mellan heterosexuella, homosexuella och bisexuella vuxna	
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Sammanfattning: <p>Tidigare studier baserade på heterosexuella deltagare har funnit en betydande könsskillnad inom avundsjuka (män är mera sexuellt avundsjuka än kvinnor medan kvinnor är mera emotionellt avundsjuka än män) och sociosexualitet (män uppvisar ett högre intresse för sex utan emotionell bundenhet än kvinnor) (Buss, Larsen, Westen & Semmelroth, 1992; Schmitt, 2005). Könsskillnaderna har förklarats med evolutionspsykologiska teorier. Däremot framträder inte samma könsskillnader då homosexuella och bisexuella deltagare inkluderas i studier. Syftet med vår studie var att undersöka hur avundsjuka och sociosexualitet varierar bland sexuell läggning och kön med ett stort populations-baserat sampel som består av heterosexuella, homosexuella och bisexuella vuxna. För att testa de evolutionspsykologiska teorierna för avundsjuka och sociosexualitet uppskattade vi att heterosexuella män skulle rapportera sexuell otrohet som mera upprörande än heterosexuella, homosexuella och bisexuella kvinnor, samt homosexuella och bisexuella män. Vi uppskattade tvärtom att heterosexuella, homosexuella och bisexuella kvinnor, samt homosexuella och bisexuella män skulle rapportera emotionell otrohet som mera upprörande än heterosexuella män. Vidare så uppskattade vi att män skulle rapportera en mera icke-restriktiv sociosexuell attityd i jämförelse till kvinnor. På grund av att homosexuella och bisexuella män teoretiskt sätt har ett större utbud av potentiella partners som har en icke-restriktiv sociosexuell attityd än vad heterosexuella män har, förväntade vi oss att homosexuella män och bisexuella män skulle rapportera ett mera icke-restriktivt sociosexuellt beteende än heterosexuell män. Vi genomförde en två-vägs ANOVA och parvisa jämförelser för att testa våra hypoteser. Sampel storleken var $n = 1,012$ för män och $n = 2,127$ för kvinnor. Våra uppskattningar blev enbart delvis bekräftade; heterosexuella, homosexuella och bisexuella kvinnor rapporterade emotionell otrohet som mera upprörande än vad heterosexuella män gjorde. Heterosexuella män rapporterade också sexuell otrohet som mera upprörande än vad homosexuella män och bisexuella kvinnor gjorde. I vår studie rapporterade även homosexuella män ett mycket mera icke-restriktivt sociosexuellt beteende än vad heterosexuella män gjorde. Däremot bekräftades inte våra andra hypoteser.</p>	
<i>Nyckelord:</i> emotionell avundsjuka, sexuell avundsjuka, sociosexualitet, sexuell läggning, kön	
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TABLE OF CONTENTS

Abstract	
Acknowledgements	
Introduction	1
Jealousy	1
The evolutionary perspective of jealousy.	1
Support for sex differences in jealousy.	2
The validity of sex differences in jealousy.	3
Sexual orientation differences in jealousy.	4
Sociosexuality	5
The evolutionary perspective in sociosexuality.	5
Support for the sex differences in sociosexuality.	6
Sociosexual attitudes and behaviors.	6
Aims and hypotheses of the present study	7
Method	9
Participants and procedure	9
Instruments	10
Measurement of sexual orientation.	10
Measurement of sexual and emotional jealousy.	10
Measurement of sociosexual orientation.	11
Missing values	12
Statistical analyses	12
Results	13
Variation in sexual jealousy	13
Variation in emotional jealousy	16
Variation in sociosexual attitudes	19
Variation in sociosexual behavior	22
Discussion	25
Jealousy	25
Sociosexuality	28
Limitations of the present study	29
Conclusions	30
Svensk sammanfattning – Swedish summary	35
References	40

Introduction

Sex differences in response to hypothetical infidelity scenarios have been replicated in many heterosexual samples across the world. Furthermore, sex differences in response to participants' willingness to engage in casual sex without emotional involvement with the partner have also been replicated in many heterosexual samples across the world. Evolutionary theories have been used to explain these differences. However, these differences tend to disappear across studies of homosexual and bisexual individuals. Therefore, there are theoretical reasons to expect variation in jealousy and sociosexuality as a function of both sexual orientation and sex. In the present study, we investigate how 1) jealousy and 2) sociosexuality vary as a function of sexual orientation and sex with a large sample of Finnish heterosexual, homosexual and bisexual adults.

Jealousy

Jealousy is a complex emotion that may involve varying degrees of sadness, anger and anxiety (Daly & Wilson, 1983). Compared to envy, which is aroused when you want something you do not have, jealousy is aroused when you want to prevent the loss of something you already have (Schmitt, 2015). According to Sheets and Wolfe (2001), jealousy can occur in any type of relationship, but it is most commonly associated with romantic relationships. Buunk (1991) defined romantic jealousy as "a negative response to the actual, imagined or expected sexual or emotional involvement of the partner with someone else" (p. 148). Romantic jealousy can be divided into sexual jealousy and emotional jealousy. Sexual jealousy occurs when the person is concerned about one's partner's sexual infidelity. For example, one is afraid that one's partner is having sex with another person, whereas emotional jealousy occurs when the person is concerned about one's partner's emotional infidelity. For example, one is afraid that one's partner is falling in love with another person. (Buss et al., 1992.)

The evolutionary perspective of jealousy. Men, but not women, face the adaptive problem of uncertainty of paternity (Trivers, 1972). A man can never be sure if he is the biological father of his partner's child and, therefore, there is a risk he is spending huge amounts of parental effort on a child not related to him (Trivers,

1972). A man can never be sure that the woman has not had sex with another partner. The uncertainty the man faces when he is not able to have full control over the situation has, according to many researchers, shaped men to be more sexually jealous than women (Buss et al., 1992). A woman never has to be concerned whether the child is hers. However, a woman faces the risk of losing a man's resources that help to guarantee the survival of her child, if her partner directs his resources to alternative partners (Trivers, 1972). Therefore, many researchers suggest that emotional infidelity is worse than sexual infidelity for women and that women have been shaped to be more emotionally jealous than men (Buss et al., 1992).

Support for sex differences in jealousy. Researchers have found a substantial sex difference in jealousy (Becker, Sagarin, Guadagno, Millevoi, & Nicastle, 2004; Buss et al., 1992; Edlund, Heider, Scherer, Frac, & Sagarin, 2006). Buss and colleagues (1992) used evolutionary theories in jealousy to hypothesize men to be more upset at the discovery of their partner's sexual infidelity than their partner's emotional infidelity. Women, in contrast, were hypothesized to be more upset over the discovery of their partner's emotional infidelity than their partner's sexual infidelity. By using a forced-choice measure regarding what distresses the participant more, the emotional aspects of the infidelity or the sexual aspects of the infidelity, they found support for their hypothesis that men are more sexually jealous than women and that women are more emotionally jealous than men. (Buss et al., 1992.) Later, several studies have investigated jealousy sex differences among heterosexual individuals. Several studies and meta-analyses have suggested a sex difference in heterosexual individuals, so that men tend to estimate sexual infidelity as more upsetting, whereas women tend to estimate emotional infidelity as more upsetting (Sagarin, Becker, Guadagno, Wilkinson, & Nicastle, 2012; Tagler & Jeffers, 2013). Sex differences in sexual versus emotional jealousy appear to be robust across cultures and a similar gender difference has been found in samples from over twenty different countries (Buunk, Angleitner, Oubaid, & Buss, 1996; Buss, 2013; Buss & Haselton, 2005). Sex differences in sexual versus emotional jealousy appear to be robust across demographic factors such as age, income levels, history of being cheated on, history of being unfaithful, whether participants have had children, relationship type and duration (Frederick & Fales, 2014; Zengel, Edlund, & Sagarin, 2013). Buss (2013) has also found robust sex differences in jealousy using objective physiological measures (e.g., sex differences are found in

heart rate, blood pressure, corrugator brow contraction, skin conductance, and other physical responses when men and women imagine different types of infidelity). In addition, Baschnagel and Edlund (2016) found physiologically-related jealousy sex differences in sexual versus emotional jealousy when observing affective modulation of startle eyeblink responses. Even fMRI studies have found support for sex differences in jealousy in the form of different patterns of brain activation for the genders; Men had more activation than women in brain regions involved in sexual/aggressive behaviors such as the amygdala and hypothalamus, and women had more activation than men in the posterior superior temporal sulcus (Takahashi et al., 2006).

The validity of sex differences in jealousy. However, there is an ongoing debate regarding the source and validity of sex differences in jealousy. For example, most prior studies that have found sex differences in jealousy have used small college, university or community samples of heterosexual participants from the U.S. (Frederick & Fales, 2014). Harris (2002) suggested that sex differences are only observed among younger participants; However, Frederick and Fales (2014) observed robust sex differences among both younger and older adults. Zegel and colleagues (2013) found significant sex differences in response to actual infidelity experiences and marginal sex differences in response to hypothetical infidelity scenarios, whereas Harris (2002) suggested that sex differences in jealousy are limited to responses to hypothetical infidelity scenarios. Some prior studies, however, have found that sex differences in jealousy does not replicate when using continuous measures (e.g., DeSteno, Braverman, & Salovey, 2002; DeSteno & Salovey, 1996; Green & Sabini, 2006; Harris, 2002; Sabini & Green, 2004; Zegel et al., 2013) while other studies found that sex differences in jealousy replicate when using continuous measures (e.g., Bendixen, Kennair, & Buss, 2015; Edlund et al., 2006; Sagarin, Becker, Guadagno, Newcastle, & Millevoi, 2003; Wiederman & Allgeier, 1993). In a continuous scale measure, participants rate how upsetting they would find sexual infidelity and also emotional infidelity on a scale from, for example, 1 to 10, in contrast from forced-choice measure, where participants are presented with a scenario asking them to imagine their partner having sex with someone else and then a scenario asking them to imagine their partner falling in love with someone else. Thereafter, participants are asked which scenario they found more upsetting. (Frederick & Fales, 2014).

Sexual orientation differences in jealousy. Finally, although sex differences in jealousy tend to appear among heterosexual women and men in most studies, these differences disappear among homosexual men and women (Bailey, Gaulin, Agyei, & Gladue, 1994; Carpenter, 2012; Dijkstra et al., 2001; Harris, 2002; Sheets & Wolfe, 2001) and also among bisexual women and men (Federick & Fales, 2014; Scherer, Akers & Krysta, 2013). Sagarin and colleagues (2003) also found that sex differences in jealousy were nonexistent when heterosexual men and women were asked to consider their opposite-sex partner's becoming involved with a rival of the same sex. Sagarin and colleagues (2012) used a forced-choice measure and hypothesized that sexes will differ only in situations in which an opposite-sex partner has become involved with a reproductively compatible rival. They found that traditional sex differences emerged when heterosexual participants were considering opposite-sex infidelities: A significantly greater proportion of men than women reported sexual infidelity as a more upsetting event. In contrast, when heterosexual participants were considering same-sex infidelities, no sex difference emerged: A comparable proportion of men and women reported sexual infidelity as a more upsetting event. A similar proportion of homosexual men and women chose the sexual infidelity as more upsetting event for both same-sex infidelities and opposite-sex infidelities. (Sagarin et al., 2012).

Later, Scherer and colleagues (2013) conducted a study with bisexual participants and also hypothesized that sexes will differ only in situations when an opposite-sex partner has become involved with a reproductively compatible rival. They hypothesized that bisexual women, regardless of the sex of the person they are dating, and bisexual men dating men would report emotional infidelity as a more upsetting event, whereas bisexual men who are dating women would report sexual infidelity as a more upsetting event. A forced-choice dilemma was used to investigate the jealousy differences. The hypothesis was supported: Among bisexual men dating men, bisexual women dating men, and bisexual women dating women, all reported emotional infidelity as a more upsetting event, while bisexual men dating women reported sexual infidelity as a more upsetting event than the other groups. Traditional sex difference in jealousy was supported when bisexual men were dating women and bisexual women were dating men. The sex differences disappeared when comparing bisexual women dating women and bisexual men dating men. (Scherer et al., 2013).

However, in a large study of 63,894 heterosexual, homosexual and bisexual adults bisexual men and women were shown not to differ significantly from each other in being upset over sexual infidelity, regardless of whether they were currently dating men or women (Federick & Fales, 2014). Frederick and Fales (2014) also used a forced-choice measure and found that heterosexual men (54%) were most likely to report sexual infidelity as the most upsetting event, whereas heterosexual women (35%), homosexual women (34%), homosexual men (32%), bisexual women (27%), and bisexual men (30%) were similar to each other in levels of being upset over sexual infidelity. Support for the sex differences in heterosexual individuals was found, but homosexual men and women did not differ. The results are, however, limited to heterosexual men and women in a relatively broad set of U.S. adults (Federick & Fales, 2014).

Sociosexuality

Banai and Pavela (2015) explained sociosexuality as “individual differences in willingness to engage in casual sex without emotional involvement with the partner” (p. 1). Individuals with a restricted sociosexuality tend to prefer emotional investment in long-term relationships. They also tend to have few sexual relationships and they rarely, if ever, have sex with a partner on one and only one occasion. Conversely, individuals with an unrestricted sociosexuality tend to feel relatively comfortable engaging in sex without emotional involvement or commitment. They also tend to more often have several different sexual partners and more often engage in sex with partners once and only once on several different occasions. (Simpson & Gangestad, 1991). Sociosexuality can be divided into a person’s attitude towards uncommitted sex and into a person’s actual behavior concerning uncommitted sex (Symons, 1979).

The evolutionary perspective in sociosexuality. Trivers’s (1972) parental investments theory is based on observations that across species, the sex that invests less in offspring tends to show a greater engagement in mating and is more likely to take advantage of multi-mating opportunities. In contrast, the sex that invests more in offspring is more discriminating in mate choice and requires more time before consenting to sex (Trivers, 1972). Beside that in humans, women tend to exhibit higher levels of parental investment in offspring than men do (Low, 1989), the sexual reproduction also requires different contributions from men and women (Buss

& Schmitt, 1993; Trivers, 1972). For men, the propagation is less demanding and does not require as much investment as it does for women. For instance, where men only need to expend a few sperms and very little time to reproduce, women must invest enormous amounts of time and effort for each child. Therefore, some research suggests that women need a partner that is emotionally invested and that women have a more restrictive sexual strategy, so that they can guarantee the survival of their offspring. Men, in contrast, tend to have a more unrestrictive sociosexual strategy, so that they can spread their genes as much as possible. (Buss & Schmitt, 1993; Trivers, 1972).

Support for the sex differences in sociosexuality. Buss and Schmitt (1993) found that men's partner preferences are less discriminating than women's, especially in the context of promiscuous or short-term sex, whereas Schmitt and colleagues (2003) found that men desire multiple short-term sex partners more than women do. Sex differences in sociosexuality have also been observed among homosexual and bisexual participants. Bailey and colleagues (1994) used a scale of "interest in uncommitted sex" and rescaled responses so that the average heterosexual woman scored 0.0. They found support that heterosexual men ($M = 4.9$) and homosexual men ($M = 4.4$) report a similar interest in uncommitted sex, and in contrast, that heterosexual women ($M = 0.0$) and homosexual women ($M = -0.6$) reported a similar interest in uncommitted sex. Schmitt (2005) investigated whether sex differences in sociosexuality are cross-culturally universal, by using a sample (also including homosexual and bisexual participants) of 48 different nations from the International Sexuality Description Project (ISDP; Schmitt et al., 2003). Support was found for the hypothesis that men are more unrestricted than women across all 48 nations (Schmitt, 2005).

Sociosexual attitudes and behaviors. Furthermore, Schmitt (2007) suggested that "it may be more useful to distinguish between sociosexual *attitudes* and sociosexual *behaviors*" (p. 186). Schmitt (2007) hypothesized that heterosexual, homosexual and bisexual men have a similar attitude towards uncommitted sex (more unrestrictive attitude than women) and that heterosexual, homosexual and bisexual women have a similar attitude towards uncommitted sex (more restrictive attitude than men). However, because homosexual and bisexual men have a greater selection of potential partners with a greater unrestrictive attitude towards uncommitted sex, they will report a greater unrestrictive behavior than heterosexual

men. In contrast, homosexual and bisexual women will report a greater restrictive behavior than heterosexual women, because they have a smaller selection of potential partners with an unrestrictive attitude towards uncommitted sex. (Schmitt, 2007). Schmitt (2007) used a sample from the ISDP and found support for the hypothesis that men report a greater unrestrictive attitude towards uncommitted sex than women and that women report a greater restrictive attitude towards uncommitted sex than men. The hypothesis that homosexual and bisexual men report a greater unrestrictive behavior than heterosexual men was also supported.

Therefore, there are theoretical reason to expect variation in sociosexuality as a function of both sexual orientation and gender. However, support for the hypothesis that homosexual and bisexual women have a greater unrestrictive behavior than heterosexual women was not found (Schmitt, 2007). The ISDP sample was seriously limited to mainly college students, which make generalizations beyond college-aged populations inappropriate (Schmitt, 2005). There is a possibility that the sociosexual lives of college-aged individuals may differ quite profoundly from older and more experienced men and women (Fisher, 2000; Schmitt et al. 2001). Therefore, Schmitt (2005) suggested that future research using representative sampling that includes older and more sexually experienced participants is needed to further refine the understanding of sex differences in sociosexuality across nations.

Aims and hypotheses of the present study

In the present study, we investigate how jealousy varies as a function of sexual orientation and gender with a hypothetical infidelity scenario and a large sample of Finnish heterosexual, homosexual and bisexual adults. To our knowledge, previous studies conducted of heterosexual, homosexual and bisexual participants have only used forced-choice measures, whereas the present study is conducted with a continuous scale measure.

In the present study, we also investigate how sociosexuality varies as a function of sexual orientation and gender by distinguishing between sociosexual attitudes and sociosexual behaviors and with a large sample of Finnish heterosexual, homosexual and bisexual adults. Based on previous research, we predict to find that:

- 1) Heterosexual men report sexual infidelity as more upsetting than heterosexual women, homosexual men, homosexual women, bisexual women and bisexual men.
- 2) Heterosexual women, homosexual men, homosexual women, bisexual women and bisexual men report emotional infidelity as more upsetting than heterosexual men.
- 3) Heterosexual, homosexual and bisexual men have a more unrestrictive attitude towards uncommitted sex than women overall, and heterosexual, homosexual and bisexual women have a more restrictive attitude towards uncommitted sex than men overall (Schmitt, 2007).
- 4) Because homosexual and bisexual men have a greater selection of potential partners with a more unrestrictive attitude towards uncommitted sex, they will therefore, report a more unrestrictive behavior than heterosexual men. In contrast, homosexual and bisexual women will report a more restrictive behavior than heterosexual women, because they have a smaller selection of potential partners with an unrestrictive attitude towards uncommitted sex (Schmitt, 2007).

Method

Participants and procedure

The statistical analyses in the present study were performed on a sample of 3,139 Finnish participants, of whom 1,012 were men and 2,127 were women. The participants constituted a subsample of the Genetics of Sexuality and Aggression (GSA) sample, which is population-based and consists of twins and siblings of twins (described at length in Johansson et al., 2013).

In the first data collection conducted in 2006, a total of 2,559 men and 5,197 women responded affirmatively to a question inquiring about their willingness to participate in similar studies in the future. Updated postal addresses for these subjects were obtained from the Central Population Registry of Finland. The male participants were mailed an invitation to participate in an online survey in the spring of 2012, whereas the female participants received the invitation in the fall of 2013. Individuals who had moved abroad or passed away were excluded from the study. Participants who did not respond to the initial contact were sent a reminder letter after two weeks and another reminder letter after another two weeks.

All participants were given a randomly generated eight-character code in 2006 to guarantee anonymity (Johansson et. al., 2013). The participants used the same individual code they received to log on to the online survey in the 2012/2013 data collection. To prevent positive identification, personal information and data were stored separately. The purpose of the study was clearly described and the voluntary and anonymous nature of the participants emphasized. Potential participants were informed that they could freely terminate their participation at any stage of the study without providing a reason. Written informed consent was obtained from all. The Ethics Committee of the Åbo Akademi University (Turku, Finland) approved the research plan in accordance with the 1964 Declaration of Helsinki.

The mean age of the male participants was 26.38 years ($SD = 4.60$, range 18 – 44) and the mean age of the female participants was 25.52 years ($SD = 4.97$, range 18 – 48) at the time of the 2006 data collection. Altogether 1,022 men (response rate

40%) and 2,167 women (response rate 41%) responded to the questionnaire at the time of the 2012/2013 data collection. Fifty participants had missing values on at least one of the questionnaire items relevant for this study, and were consequently excluded from the statistical analyses, thus resulting in the final sample of 1,012 men and 2,127 women at the time of 2012/2013 data collection.

Instruments

Measurement of sexual orientation. To measure self-identified sexual orientation participants were asked the following question: “*Which of the following response options do you feel most adequately describes your sexual orientation?*” (Johansson et al., 2013). The response options were “*heterosexual; homosexual; bisexual, but more attracted to the opposite sex; bisexual, equally attracted to both sexes; bisexual, but more attracted to the same sex; none of the above is an adequate description of my sexual orientation*”. Because of methodological limitations, sexual orientation is treated in this study as a trichotomous construct within each sex (i.e., heterosexual, homosexual or bisexual). The three “*bisexual*” items were combined into one group because of the low number of participants in each group.

Table 1

Distribution of Participants by Sexual Orientation

	Heterosexual	Bisexual	Homosexual
	<i>n (%)</i>	<i>n (%)</i>	<i>n (%)</i>
Men	951 (30%)	35 (1%)	26 (1%)
Women	1919 (61%)	26 (1%)	182 (6%)

Note. *n* = number of participants. Sexual orientation = heterosexual, bisexual and homosexual.

Measurement of sexual and emotional jealousy. Participants were presented with a hypothetical infidelity scenario adapted from Buss and colleagues (1992) in the 2012/2013 data collection (Johansson et al., 2013). Participants were asked the following questions: “*How upset would you be if your partner had sex with someone else on one and only one occasion?*” and “*How upset would you be if your partner developed romantic feelings for someone else (no sex)?*”. Then the participants range on a 10-point scale how upset they would feel in response to a hypothetical sexual infidelity scenario and also how upset they would feel in

response to a hypothetical emotional infidelity scenario. The scale had labeled endpoints (*1 = not at all upset/ 10 = extremely upset*).

Measurement of sociosexual orientation. The Sociosexual Orientation Inventory (SOI; Simpson & Gangestad, 1991) was used to measure individuals' willingness to engage in casual and uncommitted sex. High scores in the SOI imply that an individual reports more willingness to engage in casual and uncommitted sex without an emotional investment and has a so-called unrestricted mating orientation. On the contrary, low scores in the SOI signify that an individual prefers emotional investment in long-term relationships, instead of casual and uncommitted sex without an emotional investment, and has a so-called restricted mating orientation. (Simpson & Gangestad, 1991.) The validity and reliability of the SOI both within and across 48 nations was demonstrated in a large cross-cultural study (Schmitt, 2005). Across most nations, the alpha levels were adequate, and the overall reliability across all participants was $\alpha = 0.77$. By examining the factor structure, it showed that, in the entire sample, 44.5% of the variance was explained by a single factor and, therefore, the validity was confirmed. The convergent validity of the scale was also confirmed in comparisons to national averages and other questionnaire items with the national SOI scores (Schmitt, 2005).

Penke and Asendorpf (2008) have found support for a multidimensional conceptualization that explains individual differences in mating strategies. To distinguish between social attitude and behavior, we used a dual-factor model. Previous researchers have found support for the dual-factor model (Bailey, Gaulin, Agyei, & Glaude, 1994; Webster & Bryan, 2007; Westerlund et al., 2010), and the model was therefore adapted. In the present study, participants responded to six items of SOI, consisting of the subscales for behavior and attitude. Three items were open-ended and three of the items were responded to on a Likert-type scale ranging from 1 to 9. We recorded the open responses questions to a ranging scale format from 1 to 9 (Penke & Asendorpf, 2008). The total score for the SOI was calculated by adding the subscales behavior and attitude. In the present study, the total score for the SOI is called "SOI_behavior" and the subscale of attitude is called "SOI_attitudes". The present study was found to possess acceptable internal consistency for the measurement in 2012/2013 (behavior Cronbach's $\alpha = 0.72$, attitude Cronbach's $\alpha = 0.72$). The results were based on reliability cutoffs provided by George and Mallery (2003).

Missing values

Ten men and 40 women answered “*none of the above is an adequate description of my sexual orientation*”, and were therefore excluded from the statistical analyses.

Statistical analyses

The hypotheses were tested using a two-way ANOVA, generalized estimating equation models and pairwise comparisons in IBM SPSS Statistics version 24.0 for Windows (IBM Corp., 2016). The model fit was tested with a Wald χ^2 -test in IBM SPSS Statistics version 24.0 for Windows (IBM Corp., 2016). In hypothesis one, we were interested in whether sexual jealousy was influenced by sex and sexual orientation. Therefore, the dependent variable was "sexual jealousy", and the two independent variables were "sex" and "sexual orientation". In particular, we wanted to know whether there was an interaction between sex and sexual orientation. We tested the between-subjects effects by creating two categorical groups (sex and sexual orientation). For the factor "sex" there was only two groups, "men" and "women". We coded "Men" as 1 and "Women" as 2, whereas the factor "sexual orientation" was put into three groups "heterosexual", "bisexual" and "homosexual". We coded "heterosexual" as 1, "bisexual" as 2, and "homosexual" as 3. Two-way ANOVA only examines the effect of two factors on a dependent variable, and also examines whether the two factors affect each other to influence the continuous variable. To further test our hypotheses we used pairwise comparisons. For the hypotheses two, three and four the same procedure was used, only the dependent variable was different for each hypothesis ("emotional jealousy" for hypothesis two, "SOI_attitude" for hypothesis three, and "SOI_behavior" for hypothesis four).

Results

Variation in sexual jealousy

In our first hypothesis, we predicted that heterosexual men would report sexual infidelity as more upsetting than heterosexual women, homosexual men and women, and bisexual men and women. As shown in Figure 1, this hypothesis was partly confirmed. We found support for the hypothesis that heterosexual men would report sexual infidelity as more upsetting than homosexual men and bisexual women. We did not find support for the hypothesis that heterosexual men would report sexual infidelity as more upsetting than heterosexual and homosexual women. Instead, we found that heterosexual and homosexual women reported sexual infidelity as more upsetting than heterosexual men. We did not find a statistically significant difference between heterosexual men and bisexual men. A two-way ANOVA was conducted and we found a statistically significant interaction between the effects of sex and sexual orientation in response to sexual infidelity (see Table 2). The main effect of sex in response to sexual infidelity was significant (see Table 2). We also found a significant main effect of sexual orientation in response to sexual infidelity (see Table 2). We then compared means with pairwise comparisons to further investigate our hypothesis. Support for the hypothesis was found regarding heterosexual men reporting sexual infidelity as more upsetting than homosexual men and bisexual women, and the difference was statistically significant (see Table 3). We also found that heterosexual men reported sexual infidelity as more upsetting than bisexual men, but the difference was not statistically significant (see Table 3). Surprisingly, we did not find support for our hypothesis regarding heterosexual men reporting sexual infidelity as more upsetting than heterosexual women and homosexual women (see Table 3).

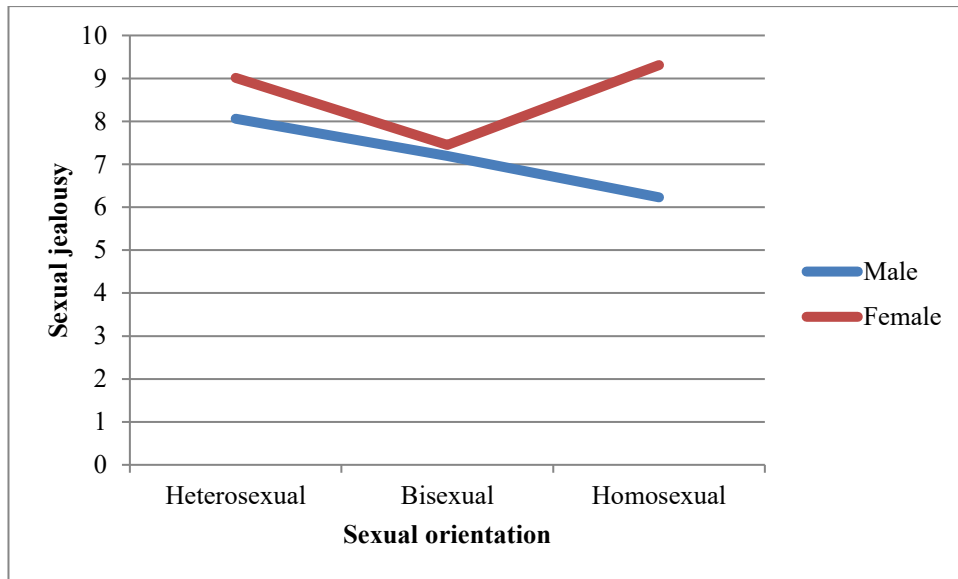


Figure 1. Estimated means of participants' response to a sexual infidelity scenario, where a high score indicates that the participants' rate sexual infidelity as more upsetting and a low score indicates that the participants' rate sexual infidelity as less upsetting.

Table 2

Associations between Sex, Sexual Orientation, and Response to Sexual Infidelity

Effect	<i>F</i>	df	<i>p</i>
Main effect of sex	43.17	1	.01
Main effect of sexual orientation	21.22	2	.01
Interaction of sex and sexual orientation	10.32	2	.01

Note. The main effect and interaction were significant at $p < .05$. df = Degrees of freedom.

Table 3

Pairwise Comparisons of Response to Sexual Infidelity in Hetero-, Bi-, and Homosexual Men and Women

Group A	Group B	Mean Difference (A-B)	SE	df	p	95% Wald Confidence Interval	
						Lower	Upper
Heterosexual men	Bisexual men	.89	.57	1	.12	-.23	2.01
Heterosexual men	Homosexual men	1.86	.60	1	.01	.68	3.03
Heterosexual men	Heterosexual women	-.97	.08	1	.01	-1.13	-.80
Heterosexual men	Bisexual women	.63	.21	1	.01	.23	1.04
Heterosexual men	Homosexual women	-1.24	.18	1	.01	-1.60	-.88

Note. A positive mean difference indicates that group A reported sexual infidelity as more upsetting than group B. A negative mean difference indicates that group A reported sexual infidelity as less upsetting than group B. The mean difference was significant at $p < .05$. SE = standard error. df = Degrees of freedom.

Variation in emotional jealousy

In our second hypothesis, we predicted that heterosexual women, homosexual men and women, and bisexual men and women would report emotional infidelity as more upsetting than heterosexual men. As shown in Figure 2, our hypothesis was partly supported. We found support for our hypothesis that heterosexual, homosexual and bisexual women would report emotional infidelity as more upsetting than heterosexual men. We did not find support for our hypothesis that homosexual and bisexual men would report emotional infidelity as more upsetting than heterosexual men. A two-way ANOVA was conducted and we did not find a statistically significant interaction between the effects of sex and sexual orientation in response to emotional infidelity (see Table 4). The main effect of sexual orientation in response to emotional infidelity was non-significant (see Table 4). We found a significant main effect for sex in response to emotional infidelity (see Table 4). We then compared means with pairwise comparisons to further investigate our hypothesis. Support for the hypothesis was found regarding heterosexual women, homosexual women and bisexual women reporting emotional infidelity as more upsetting than heterosexual men, and the difference was significant (see Table 5). However, we did not find support for the hypothesis regarding bisexual men and homosexual men reporting emotional infidelity as more upsetting than heterosexual men (see Table 5).

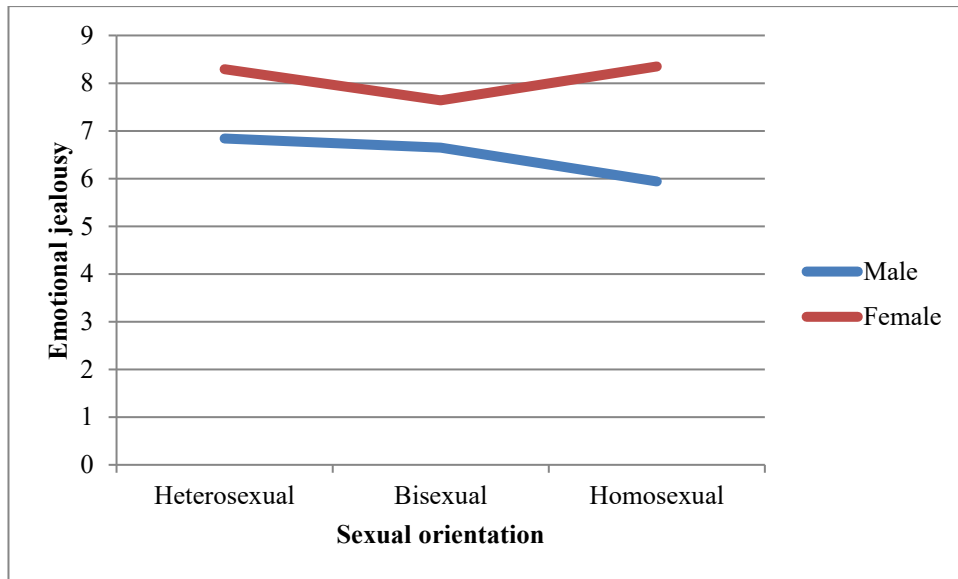


Figure 2. Estimated means of participants' response to an emotional infidelity scenario, where a high score indicates that the participants' rate sexual infidelity as more upsetting and a low score indicates that the participants' rate sexual infidelity as less upsetting.

Table 4

Associations between Sex, Sexual Orientation, and Response to Emotional Infidelity

Effect	<i>F</i>	df	<i>p</i>
Main effect of sex	42.73	1	.01
Main effect of sexual orientation	2.60	2	.07
Interaction of sex and sexual orientation	1.91	2	.15

Note. The main effect and interaction were significant at $p < .05$. df = Degrees of freedom.

Table 5

Pairwise Comparisons of Response to Emotional Infidelity in Hetero-, Bi-, and Homosexual Men and Women

Group A	Group B	Mean Difference (A-B)	SE	df	p	95% Wald Confidence Interval	
						Lower	Upper
Bisexual men	Heterosexual men	-.22	.63	1	.73	-1.44	1.01
Homosexual men	Heterosexual men	-.93	.47	1	.05	-1.85	-.01
Heterosexual women	Heterosexual men	1.45	.09	1	.01	1.27	1.64
Bisexual women	Heterosexual men	.77	.21	1	.01	.37	1.18
Homosexual women	Heterosexual men	1.49	.42	1	.01	.67	2.31

Note. A positive mean difference indicates that group A reported emotional infidelity as more upsetting than group B. A negative mean difference indicates that group A reported emotional infidelity as less upsetting than group B. The mean difference was significant at $p < .05$. *SE* = standard error. *df* = Degrees of freedom.

Variation in sociosexual attitudes

In our third hypothesis, we predicted that heterosexual, homosexual and bisexual men would have a more unrestrictive sociosexual attitude than heterosexual, homosexual and bisexual women. As shown in Figure 3, our hypothesis was not supported. We did not find support for the hypothesis that heterosexual, homosexual and bisexual men have a more unrestrictive sociosexual attitude than women overall. Instead, we found that heterosexual and homosexual women have a more unrestrictive sociosexual attitude than heterosexual and bisexual men. A two-way ANOVA was conducted and we did not find a statistically significant interaction between the effects of sex and sexual orientation for sociosexual attitudes (see Table 6). The main effect of sexual orientation for sociosexual attitudes was significant (see Table 6). We also found a significant main effect of sex for sociosexual attitudes (see Table 6). We then compared means with pairwise comparisons to further investigate our hypothesis. Surprisingly, we found that heterosexual women have a more unrestrictive sociosexual attitude than heterosexual men, homosexual men and bisexual men, and the difference was statistically significant (see Table 7). We also found that homosexual women have a more unrestrictive sociosexual attitude than heterosexual men and bisexual men, and the difference was significant (see Table 7). However, we found that bisexual women have a more restrictive sociosexual attitude than heterosexual men and homosexual men, but the difference was not significant (see Table 7). Bisexual men in contrast have a more unrestrictive sociosexual attitude than bisexual women, but the difference was not significant (see Table 7).

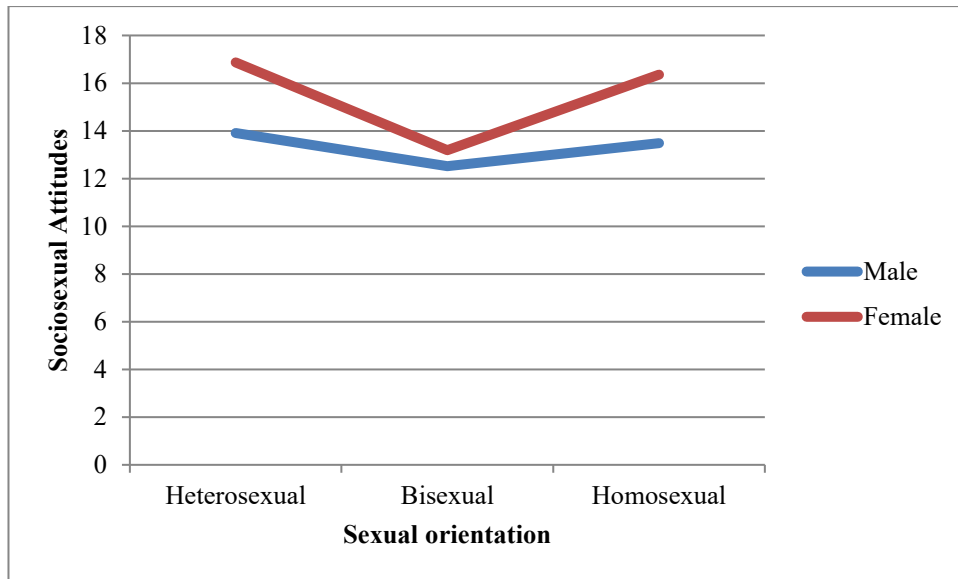


Figure 3. Estimated means of participants' response on sociosexual attitudes (SOI_attitudes), where a high score indicates that the participants' have a more unrestrictive sociosexual attitude and a low score indicates that the participants' have a more restrictive sociosexual attitude.

Table 6

Associations between Sex, Sexual Orientation, and Response to Sociosexual Attitudes

Effect	<i>F</i>	df	<i>p</i>
Main effect of sex	8.64	1	.01
Main effect of sexual orientation	6.67	2	.01
Interaction of sex and sexual orientation	1.32	2	.27

Note. The main effect and interaction were significant at $p < .05$. df = Degrees of freedom.

Table 7

Pairwise Comparisons of Sociosexual Attitudes in Hetero-, Bi-, and Homosexual Men and Women

Group A	Group B	Mean Difference (A-B)	SE	df	p	95% Wald Confidence Interval	
						Lower	Upper
Heterosexual men	Heterosexual women	-2.96	.27	1	.01	-3.49	-2.43
Heterosexual men	Homosexual women	-2.45	1.25	1	.05	-4.89	-.00
Heterosexual men	Bisexual women	.72	.55	1	.19	-.36	1.80
Homosexual men	Heterosexual women	-3.39	1.17	1	.01	-5.68	-1.10
Homosexual men	Homosexual women	-2.88	1.68	1	.09	-6.18	.42
Homosexual men	Bisexual women	.29	1.26	1	.82	-2.19	2.77
Bisexual men	Heterosexual women	-4.35	1.19	1	.01	-6.69	-2.01
Bisexual men	Homosexual women	-3.84	1.70	1	.02	-7.17	-.50
Bisexual men	Bisexual women	-.67	1.28	1	.60	-3.18	1.85

Note. A positive mean difference indicates that group A reported a more unrestrictive sociosexual attitude than group B. A negative mean difference indicates that group A reported a more restrictive attitude than group B. The mean difference was significant at $p < .05$. *SE* = standard error. *df* = Degrees of freedom.

Variation in sociosexual behavior

In our fourth hypothesis, we predicted that because homosexual and bisexual men have a greater selection of potential partners with a more unrestrictive attitude towards uncommitted sex, they should report a more unrestrictive behavior than heterosexual men. However, we did not find support for the hypothesis that homosexual and bisexual men have a greater selection of potential partners with a more unrestrictive sociosexual attitude than heterosexual men. In contrast, we predicted that homosexual and bisexual women would report a more restrictive sociosexual behavior than heterosexual women, because they have a smaller selection of potential partners with an unrestrictive sociosexual attitude. However, we did not find support for the hypothesis that homosexual women have a smaller selection of potential partners with an unrestrictive sociosexual attitude. Our fourth hypothesis was only partly confirmed (see figure 4). We found support for the hypothesis that homosexual men have a more unrestrictive sociosexual behavior than heterosexual and bisexual men. We did not find support for the hypothesis that homosexual and bisexual women have a more restrictive sociosexual behavior than heterosexual women. Instead, heterosexual women had a more restrictive sociosexual behavior than bisexual women. A two-way ANOVA was conducted and we found a statistically significant interaction between the effects of sex and sexual orientation for sociosexual behavior (see Table 8). The main effect of sex for sociosexual behavior was significant (see Table 8). We also found a significant main effect of sexual orientation for sociosexual behavior (see Table 8). We then compared means with pairwise comparisons to further investigate our hypothesis. Support for the hypothesis was found regarding homosexual men reporting a more unrestrictive sociosexual behavior than heterosexual men, and the difference was statistically significant (see Table 9). The difference was not statistically significant regarding our hypothesis that bisexual men would report more unrestrictive sociosexual behavior than heterosexual men (see Table 9). We did not find support for the hypothesis regarding homosexual and bisexual women reporting a more restrictive sociosexual behavior than heterosexual women (see Table 9).

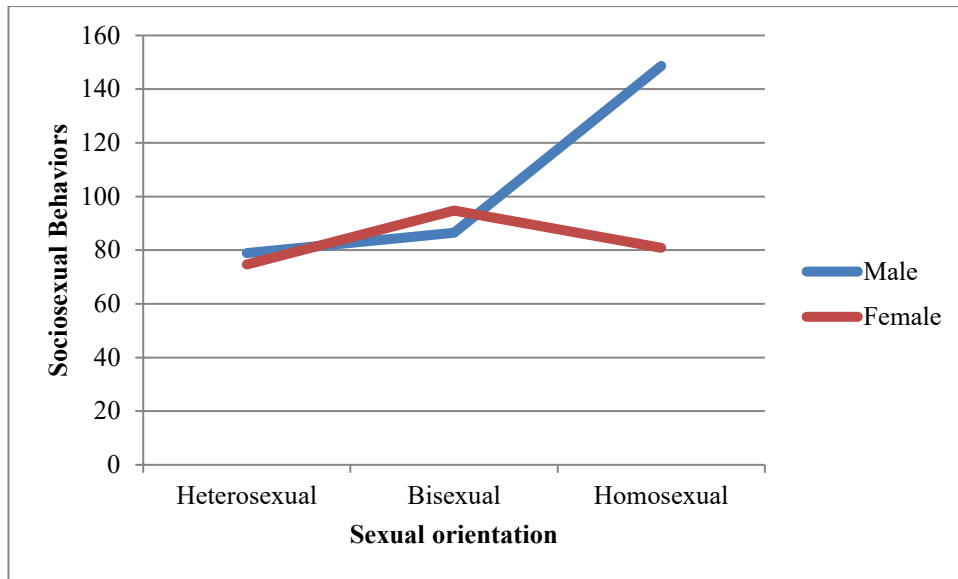


Figure 4. Estimated means of participants' response on sociosexual behaviors (SOI_behavior), where a high score indicates that the participants' have a more unrestrictive sociosexual behavior and a low score indicates that the participants' have a more restrictive sociosexual behavior.

Table 8

Associations between Sex, Sexual Orientation, and Response to Sociosexual behavior

Effect	<i>F</i>	df	<i>p</i>
Main effect of sex	16.53	1	.01
Main effect of sexual orientation	14.71	2	.01
Interaction of sex and sexual orientation	10.08	2	.01

Note. The main effect and interaction were significant at $p < .05$. df = Degrees of freedom.

Table 9

Pairwise Comparisons of Sociosexual Behaviors in Hetero-, Bi-, and Homosexual Men and Women

Group A	Group B	Mean Difference (A-B)	SE	df	p	95% Wald Confidence Interval	
						Lower	Upper
Heterosexual men	Bisexual men	-7.53	12.57	1	.55	-32.16	17.10
Heterosexual men	Homosexual men	-69.74	17.18	1	.01	-103.41	-36.07
Homosexual men	Bisexual men	62.21	21.14	1	.01	20.77	103.65
Heterosexual women	Bisexual women	-20.10	4.98	1	.01	-29.87	-10.34
Heterosexual women	Homosexual women	-6.19	9.35	1	.51	-24.52	12.14
Homosexual women	Bisexual women	-5.59	15.56	1	.72	-36.10	24.91

Note. A positive mean difference indicates that group A reported a more unrestrictive sociosexual behavior than group B. A negative mean difference indicates that group A reported a more restrictive behavior than group B. The mean difference was significant at $p < .05$. SE = standard error. df = Degrees of freedom.

Discussion

Based on previous research, we hypothesized that 1) heterosexual men report sexual infidelity as more upsetting than women regardless of their sexual orientation, as well as homo- and bisexual men; 2) women regardless of their sexual orientation and non-heterosexual men would report emotional infidelity as more upsetting than heterosexual men; 3) men have a more unrestrictive attitude towards uncommitted sex than women regardless of sexual orientation, and 4) because homosexual and bisexual men have a greater selection of potential partners with a more unrestrictive attitude towards uncommitted sex, they will report a more unrestrictive sociosexual behavior than heterosexual men and, in contrast, homosexual and bisexual women will report a more restrictive sociosexual behavior than heterosexual women, because they have a smaller selection of potential partners with an unrestrictive attitude towards uncommitted sex.

Jealousy

In the present study, we found a statistically significant main effect for sex and sexual orientation, and a significant interaction between sex and sexual orientation in response to sexual infidelity. We then compared means for each group, and found a significant mean difference between heterosexual men reporting sexual infidelity as more upsetting than homosexual men and bisexual women. We also found a significant mean difference between heterosexual men and heterosexual women, and between heterosexual men and homosexual women. Contrary to our predictions, we found heterosexual women and homosexual women reporting sexual infidelity as more upsetting than heterosexual men. Therefore, our hypothesis was only partly confirmed.

In the present study, we found a statistically significant main effect for sex in response to emotional infidelity. Our present study did not find a statistically significant main effect for sexual orientation, or a significant interaction between sex and sexual orientation in response to emotional infidelity. We compared means for each group and found that heterosexual, bisexual and homosexual women reported emotional infidelity as more upsetting than heterosexual men. The difference between the means was significant. We did not find support for our hypothesis that

bisexual and homosexual men would report emotional infidelity as more upsetting than heterosexual men. Therefore, our hypothesis was only partly confirmed.

Buss and colleagues (1992) used evolutionary hypothesis and provide a clear prediction based on sex differences in reproduction: Men always face the problem of parental uncertainty; Women, in contrast, never face this problem. This uncertainty may lead heterosexual women to become more upset about emotional infidelity than men, and heterosexual men to become more upset about sexual infidelity than women (Frederick & Fales, 2014). However, in our study we did not find support for this evolutionary hypothesis. The results from the present study partly support findings from previous research and the evolutionary theories on jealousy, according to which women would report emotional infidelity as more upsetting than men (Buss et al., 1992, 1999). However, we also found that heterosexual women report sexual infidelity as more upsetting than heterosexual, homosexual and bisexual men. Therefore, the results from the present study do not support findings from previous research and the evolutionary theories on jealousy, suggesting that men would report sexual infidelity as more upsetting than women (Buss et al., 1992, 1999).

Furthermore, we found no support for competing evolutionary theories on sex differences, such as the double-shot hypothesis (DeSteno & Salovey, 1996) or the reproductive threat-based model (RTBM; Sagarin et al., 2012). According to the double-shot hypothesis, one infidelity type also implies the other type. For instance, for women, emotional infidelity by their partner implies that their partner has committed sexual infidelity (Scherer et al., 2013). In contrast to evolutionary theories on jealousy, the double-shot hypothesis states that it is the gender of the unfaithful partner that determines the meaning and threat implied by infidelity and not the gender of the betrayed partner (Scherer et al., 2013). The double-shot hypothesis therefore suggests that homosexual men would react to their partner's infidelity in the same way as heterosexual women, i.e. report the emotional aspects of the infidelity as more upsetting, while homosexual women would react to their partner's infidelity in the same way as heterosexual men, i.e. report the sexual aspects of the infidelity as more upsetting (Scherer et al., 2013). Contrary to the double-shot hypothesis, the RBTM suggests that sexes would differ only in situations where an opposite-sex partner has become involved with a reproductively compatible rival (Sagarin et al., 2012).

Some of our results stand in contrast to what has previously been reported in the literature. For instance, the present study found that heterosexual and homosexual women reported both emotional and sexual infidelity as more upsetting than the other groups. To our knowledge, no prior study has found a significant effect in the opposite direction (women reporting sexual infidelity as more upsetting than men) than the present study. However, certain differences between the present study and previously conducted studies may explain, at least in part, why we were unable to confirm any of our hypotheses. For instance, most prior studies that have found support for the sex differences in jealousy have used small college, university or community samples of heterosexual participants from the U.S (Frederick & Fales, 2014). Buss and colleagues (1999) investigated sex differences in jealousy across the world. However, all samples across the world consisted of heterosexual participants from colleges (Buss et al., 1999), whereas our study consisted of a large sample of Finnish heterosexual, bisexual and homosexual adults. Furthermore, Frederick and Fales (2014) used a large sample of heterosexual, homosexual and bisexual adults from the U.S to investigate jealousy differences. However, the study was conducted with a forced-choice measure (Frederick & Fales, 2014). In contrast, we used a continuous scale measure. The forced-choice measure forces the participants to choose which of the infidelity they find more upsetting, and allows for a cleaner separation between the sexes' reactions to both types of infidelity. However, the continuous measure gives the participants the advantage of separately assessing how upsetting they find each type of infidelity instead of assuming that all participants would be upset by their partner's sexual or emotional infidelity and, therefore, the sex difference may be more difficult to detect. Some researchers have argued that the sex difference in jealousy is an artifact of the forced-choice measure and that the results do not replicate with continuous measures (DeSteno et al., 2002; Harris, 2003). Conflicting results have been found by studies that have assessed heterosexual women and men's jealousy in response to both emotional and sexual infidelity using continuous measures. For instance, some studies have not found that sex differences replicate with continuous measures (DeSteno et al., 2002; DeSteno & Salovey, 1996; Green & Sabini, 2006; Harris, 2002; Sabini & Green, 2004).

Sociosexuality

In the present study, we found a significant main effect for gender and sexual orientation for sociosexual attitudes. Our present study did not find a statistically significant interaction between sex and sexual orientation for sociosexual attitudes. We compared means for each group and found that heterosexual and homosexual women had a more unrestrictive sociosexual attitude than heterosexual, homosexual and bisexual men. These results do not support findings from previous research and the evolutionary theories in sociosexuality, suggesting men to have a greater sociosexual attitude than women (Schmitt, 2005, 2007).

In our study, we found a statistically significant main effect for sex and sexual orientation, and a significant interaction between sex and sexual orientation for sociosexual behavior. We then compared means for each group, and found a significant mean difference between homosexual men reporting greater sociosexual behavior than heterosexual men, and between homosexual men reporting greater sociosexual behavior than bisexual men. We also found a significant mean difference between heterosexual women and bisexual women. Contrary to our predictions, we found bisexual women reporting greater sociosexual behavior than heterosexual women. Surprisingly, we did not find a significant mean difference between bisexual men and heterosexual men, between homosexual women and heterosexual women, or between bisexual women and homosexual women. Therefore, our hypothesis was only partly confirmed.

To our surprise, all our hypotheses were only partly confirmed or rejected. The present study did not find support for the hypothesis that men have a more unrestrictive sociosexual attitude than women. In contrast, heterosexual and homosexual women reported a more unrestrictive sociosexual attitude than men in the present study. These results do not support previous research (Schmitt, 2007). The present study did not find support for the hypothesis that because homosexual and bisexual men have a greater selection of potential partners with a more unrestrictive attitude towards uncommitted sex, they will report a more unrestrictive sociosexual behavior than heterosexual men, even though we found that homosexual men report a more unrestrictive sociosexual behavior than heterosexual men. However, heterosexual women reported a more unrestrictive sociosexual attitude than homosexual men. In contrast, heterosexual women reported a more restrictive sociosexual behavior than homosexual men. Schmitt (2007) also found that

homosexual men report a more unrestrictive sociosexual behavior than the other groups. Contrary to the present study, Schmitt (2007) found that homosexual men also have a more unrestrictive sociosexual attitude than women overall.

We did not find support regarding the hypothesis that homosexual and bisexual women will report a more restrictive behavior than heterosexual women, because they have a smaller selection of potential partners with an unrestrictive sociosexual attitude. In contrast, we found that heterosexual and homosexual women reported a more unrestrictive sociosexual attitude than the other groups. However, we also found that homosexual and bisexual women report a more restrictive sociosexual behavior than heterosexual women. Similar results were found in a study conducted by Schmitt (2007), where bisexual women also showed a more unrestrictive sociosexual behavior than heterosexual women.

These results mostly stand in contrast to what has previously been reported in the literature. However, certain differences between the present study and previously conducted studies may explain, at least in part, why we were unable to confirm any of our hypotheses. For instance, contrary to Schmitt (2007), our study did not distinguish between the subscales attitude and behavior. Instead, we used the total scale of SOI (conducted of both attitudes and behaviors) as a measure of a participant's sociosexual behavior. Therefore, the present study distinguished between the total scale of SOI and the subscale attitudes from SOI. Furthermore, contrary to previous studies that mostly have used college samples, our study was conducted on a large sample of Finnish heterosexual, homosexual and bisexual adults. Older participants more likely are in a relationship or enter into marriage and, therefore, the participants' sociosexual behaviors are limited to some degree to their partners.

Limitations of the present study

In this study, sexual orientation is limited to self-identified labeling, instead of measured as multifactorial dimensions of desire, attraction, fantasy, and behavior over time (Klein, Sepekoff, & Wolf, 1985; Savin-Williams, 2006). Variability in sexual orientation is assumed to be complex, multiply determined, and changeable. However, in the present study sexual orientation is limited to a one-time assessment of self-labeled sexual orientation identity across biological sex and culture (Schmitt, 2007).

The continuous measures have several limitations. For one, people generally tend to score highly on these measures; Therefore, both forms of infidelity potentially have substantial costs for men and women. Second, participants report how they react to an infidelity scenario, which potentially differs from how they would react to actual infidelity. However, continuous measures give the participants the advantage of separately assessing how upsetting they find each type of infidelity, instead of assuming that all participants would be upset by their partner's sexual or emotional infidelity (Frederick & Fales, 2014).

Conclusions

The present study did not find support for the typical sex differences in jealousy and sociosexuality. For instance, our present study found that heterosexual women and homosexual women reported sexual infidelity as more upsetting than heterosexual men and that heterosexual and homosexual women have a greater unrestrictive sociosexual attitude than heterosexual and bisexual men. Even though these results remain unclear, the results show that a hypothesis based on heterosexual participants cannot be generalized to other sexual orientations. Further research should focus on clarifying possible mechanisms that cause the difference in sex and sexual orientation in jealousy and sociosexuality. One such factor could be heterosexual, homosexual and bisexual participants' reaction to truly expired infidelity or sociopolitical factors, such as political, economic, and relational equity.

SVENSK SAMMANFATTNING – SWEDISH SUMMARY

Empiriskt test hur avundsjuka och sociosexualitet skiljer sig mellan heterosexuella, homosexuella och bisexuella vuxna**Inledning**

Tidigare studier har funnit en könsskillnad mellan hur heterosexuella män och kvinnor rapporterar avundsjuka och sociosexualitet. Dessa könsskillnader som framträder i studier om avundsjuka och sociosexualitet har bland annat förklarats med evolutionspsykologiska teorier. Däremot har studier som även inkluderat homosexuella och bisexuella deltagare inte funnit samma könsskillnader. Därför undersöker denna studie hur 1) avundsjuka och 2) sociosexualitet skiljer sig mellan heterosexuella, homosexuella och bisexuella vuxna.

Avundsjuka

Avundsjuka är en komplex emotion som innehåller olika grad av sorg, ilska och ångest (Daly & Wilson, 1983). Avundsjuka kan delas upp i sexuell avundsjuka och emotionell avundsjuka. Sexuell avundsjuka uppstår då en person misstänker att ens partner är sexuellt otrogen, som till exempel att partnern är sexuellt aktiv med någon annan person. Emotionell avundsjuka uppstår däremot då en person misstänker att ens partner är emotionellt otrogen, som till exempel att partner är förälskad i en annan person. (Buss, Larsen, Westen & Semmelroth, 1992).

Den evolutionära förklaringen om avundsjuka avspeglar sig på att det enbart är män som utsätts för osäkerheten om de faktiskt är den biologiska fadern till barnet, medan kvinnor aldrig behöver tvivla på om de är den biologiska modern till barnet (Trivers, 1972). En man kan aldrig vara säker på att en kvinna inte har haft sex med en annan man, och riskerar därmed att spendera massvis med tid på ett barn som inte är släkt till honom. Enligt vissa forskare har denna osäkerhet format män till att vara mera sexuellt avundsjuka än kvinnor. En kvinna behöver inte vara orolig över att barnet inte är släkt med henne, men däremot riskerar hon att gå miste om en mans resurser som hon behöver för att garantera barnets överlevnad om mannen istället använder sina resurser på en annan kvinnas barn. Därför anser vissa forskare att risken att gå miste om en mans resurser till en annan kvinna har format kvinnor till mera emotionellt avundsjuka. (Buss m.fl., 1992).

Buss m.fl. (1992) använde sig av evolutionära förklaringar till avundsjuka, och hypotiserade att män skulle vara mera upprörda över att deras partner är sexuellt otrogen än emotionellt otrogen. De hypotiserade tvärtom för kvinnor, det vill säga att kvinnor skulle vara mera upprörda över att deras partner är emotionellt otrogen än sexuellt otrogen. De använde sig av en metod där deltagaren tvingades välja mellan två alternativ. Först presenterades ett scenario om otrohet för deltagarna, och därefter skulle deltagarna avgöra vilket som skulle vara mera upprörande: att deras partner är sexuellt otrogen eller emotionellt otrogen. I studien av Buss m.fl. (1992) rapporterade en högre procent män sexuell otrohet som mera upprörande och en högre procent kvinnor emotionell otrohet som mera upprörande, och därmed hittades stöd för hypotesen. Därefter har ett flertal studier som undersökt sexuell och emotionell avundsjuka bland heterosexuella deltagare hittat stöd för hypotesen att män är mera sexuellt avundsjuka och tvärtom att kvinnor är mera emotionellt avundsjuka.

En debatt pågår angående hur tillförlitliga resultaten i studier av könsskillnader inom avundsjuka är. De flesta tidigare studier som har funnit en könsskillnad inom avundsjuka har bland annat använt sig av små sampel som består av amerikanska heterosexuella studerande. Enligt vissa tidigare studier uppstår inte samma könsskillnader inom avundsjuka då avundsjuka mäts med ett kontinuerligt mått (DeSteno, Braverman & Salovey, 2002; DeSteno & Salovey, 1996; Green & Sabini, 2006; Harris, 2002; Sabini & Green, 2004; Zegel, Edlund & Sagarin, 2013), medan vissa studier å andra sidan hittar stöd för könsskillnader inom avundsjuka genom att använda ett kontinuerligt mått (Bendixen, Kennair & Buss, 2015; Edlund, Heider, Scherer, Frac & Sagarin, 2006; Sagarin, Becker, Guadagno, Nicastle & Millevoi, 2003; Wiederman & Allgeier, 1993). Ett kontinuerligt mått ger deltagarna möjlighet att uppskatta hur upprörda de skulle vara om deras partner var sexuellt otrogen och hur upprörda de skulle vara om deras partner skulle vara emotionellt otrogen, istället för att tvinga dem att välja mellan två alternativ och uppskatta vilket som skulle vara mera upprörande. Även om de flesta studier hittar en könsskillnad inom avundsjuka mellan heterosexuella män och kvinnor, tenderar dessa könsskillnader att försvinna när man jämför med homosexuella män och kvinnor (Bailey, Gaulin, Agyei & Gladue, 1994; Carpenter, 2012; Dijkstra m.fl., 2001; Harris, 2002; Sheets & Wolfe, 2001), samt bisexuella män och kvinnor (Federick & Fales, 2014; Scherer, Akers & Krysta, 2013).

Tidigare studier som undersökt sexuell och emotionell avundsjuka bland homosexuella eller bisexuella deltagare har bland annat funnit att könsskillnaderna inom sexuell och emotionell avundsjuka enbart uppstår då deltagarens partner har risk att föröka sig med den partner den är otrogen med, det vill säga då en deltagarens partner är en man som är otrogen med en annan kvinna, eller tvärtom att deltagarens partner är en kvinna som är otrogen med en annan man. Däremot har studier inte hittat en könsskillnad inom sexuell och emotionell avundsjuka då deltagarens partner inte har en risk att föröka sig med partner som den är otrogen med, som exempelvis då en deltagarens partner är en kvinna och är otrogen med en annan kvinna (Sagarin m.fl., 2012; Scherer m.fl., 2013). I en stor studie som inkluderat heterosexuella, homosexuella och bisexuella deltagare hittades stöd för att heterosexuella män rapporterar sexuell otrogenhet som mera upprörande än heterosexuella kvinnor, homosexuella kvinnor och män, samt bisexuella kvinnor och män (Frederick & Fales, 2014). Däremot rapporterade heterosexuella kvinnor, homosexuella kvinnor och män, samt bisexuella kvinnor och män sexuell otrogenhet som ungefär lika upprörande. Därmed hittades enbart stöd för könsskillnader inom avundsjuka mellan heterosexuella män och kvinnor, men inte bland de andra sexuella läggningarna. Tidigare studier som har inkluderat heterosexuella, homosexuella och bisexuella deltagare har använt sig av metoden där deltagarna tvingas välja mellan två alternativ för att undersöka skillnader bland sexuell och emotionell avundsjuka. (Frederick & Fales, 2014).

Syftet med denna studie är att undersöka hur kön och sexuell läggning skiljer sig från varandra i fråga om avundsjuka i ett stort sampel bestående av finländska heterosexuella, homosexuella och bisexuella vuxna som uppskattar hur upprörda de skulle vara gentemot sexuell och emotionell otrogenhet. Till vår kännedom har tidigare studier som inkluderat heterosexuella, homosexuella och bisexuella deltagare enbart använt metoden där deltagare tvingas välja mellan två alternativ för att undersöka skillnader inom avundsjuka, medan vår studie är utförd med ett kontinuerligt mått. Baserat på tidigare studier förväntar vi följande resultat:

- 1) Heterosexuella män rapporterar sexuell otrogenhet som mera upprörande än heterosexuella kvinnor, homosexuella män, homosexuella kvinnor, bisexuella män och bisexuella kvinnor.

- 2) Heterosexuella kvinnor, homosexuella män, homosexuella kvinnor, bisexuella män och bisexuella kvinnor rapporterar emotionell otrohet som mera upprörande än heterosexuella män.

Sociosexualitet

Sociosexualitet beskriver individuella skillnader i personers benägenhet att engagera sig i kortvariga sexuella relationer. En person med en icke-restriktiv sociosexualitet är mera öppen att ha tillfälligt sex med flertal olika partners där det förekommer enbart en ytlig, eller ingen, emotionell investering. En person med en restriktiv sociosexualitet är mera obekvämt med att ha sex med en partner utan emotionell investering. (Simpson & Gangestad, 1991.) Sociosexualitet kan delas upp i sociosexuella attityder och sociosexuella beteenden (Symons, 1979).

Det är mera krävande för kvinnor att skaffa barn än vad det är för män. Det är inte tidskrävande för män att föröka sig, de behöver enbart producera sperma. För kvinnor däremot är det mera tidskrävande och bindande att skaffa ett barn. Därmed påstår vissa forskare att män har en mera icke-restriktiv sociosexualitet och kvinnor däremot en mera restriktiv sociosexualitet. (Trivers, 1972).

Bailey m.fl. (1994) studerade hur heterosexuella, homosexuella och bisexuella svarar på en skala gällande intresse över tillfälliga sexuella relationer. De fann stöd för att heterosexuella och homosexuella män visade ett liknande intresse för tillfälliga sexuella relationer (dvs. ett mera icke-restriktiv intresse än kvinnor), och att heterosexuella kvinnor och homosexuella kvinnor däremot visade ett liknande intresse för tillfälliga sexuella relationer (dvs. ett mera restriktivt intresse än män). Schmitt (2005) fann liknande resultat, det vill säga att män har en mera icke-restriktiv sociosexualitet, då han undersökte sampel från 48 olika länder.

Däremot lyfte Schmitt (2007) fram vikten att göra en skillnad mellan sociosexuella attityder och sociosexuella beteenden. Schmitt (2007) hypotiserade att heterosexuella, homosexuella och bisexuella män har en liknande sociosexuell attityd (en mera icke-restriktiv sociosexuell attityd än kvinnor) och att heterosexuella, homosexuella och bisexuella kvinnor däremot har en liknande sociosexuell attityd (mera restriktiv sociosexuell attityd än män). Eftersom homosexuella och bisexuella män teoretiskt sätt har flera potentiella partners med en mindre restriktiv sociosexuell attityd, förväntas de att ha ett mera icke-restriktiv sociosexuellt beteende än heterosexuella män. Motsvarande förväntas homosexuella och bisexuella kvinnor att

ha ett mera restriktivt sociosexuellt beteende än heterosexuella kvinnor, eftersom de har färre potentiella partners med en icke-restriktiv sociosexuell attityd. Schmitt (2007) fann delvis stöd för hypotesen. Män hade överlag en mindre restriktiv sociosexuell attityd än kvinnor. Homosexuella och bisexuella män hade också ett mera icke-restriktivt sociosexuellt beteende än heterosexuella män. Däremot hittade Schmitt (2007) inte stöd för hypotesen att homosexuella och bisexuella kvinnor har ett mera restriktivt sociosexuellt beteende än heterosexuella kvinnor. Tidigare studier om sociosexualitet med homosexuella och bisexuella har enbart använt unga studerande i sitt sampel, och därmed rekommenderat att framtida studier fokuserar på äldre individer och hur skillnaderna ser ut mellan dem (Schmitt, 2005).

Syftet med denna studie är att undersöka hur kön och sexuell läggning skiljer sig från varandra inom sociosexualitet genom att separera på sociosexuella attityder och sociosexuella beteenden. Vårt sampel består av finländska heterosexuella, homosexuella och bisexuella vuxna. Till vår kännedom har tidigare studier som inkluderat heterosexuella, homosexuella och bisexuella deltagare enbart bestått av unga studerande. Baserat på tidigare studier uppskattar vi följande resultat:

3) Heterosexuella, homosexuella och bisexuella män har en mera icke-restriktiv sociosexuell attityd än heterosexuella, homosexuella och bisexuella kvinnor.

4) På grund av att homosexuella och bisexuella män teoretiskt sätt har flera potentiella partners med en icke-restriktiv sociosexuell attityd kommer de att ha ett mera icke-restriktivt sociosexuellt beteende än heterosexuella män.

Däremot kommer homosexuella och bisexuella kvinnor att ha ett mera restriktivt sociosexuellt beteende än heterosexuella kvinnor på grund av att de har färre potentiella partners med en icke-restriktiv sociosexuell attityd. (Schmitt, 2007).

Metod

Samplet i den föreliggande studien bestod av totalt 3139 i åldern 18 – 48, varav 1012 var män och 2127 var kvinnor. Deltagarna utgjorde ett delsampel av populationsdata, bestående av tvillingar och deras syskon, insamlat vid Åbo Akademi (Johansson m.fl., 2013). Den första datainsamlingen utfördes år 2006 för både män och kvinnor. Den andra datainsamlingen utfördes år 2012 för män och 2013 för kvinnor. Vid den

första datainsamlingen var medelåldern för män 26.38 år ($SD = 4.60$) och 25.52 år ($SD = 4.97$) för kvinnor. Data insamlades genom en anonym och säker webbenkät vid båda mättillfällena.

Mått

För självrapportering angående sexuell läggning fick deltagarna ange vilket av de sex olika svarsalternativen (heterosexuell, homosexuell, bisexuell och mera intresserad av motsatta kön, bisexuell och mera intresserad av samma kön, bisexuell lika intresserad av båda kön, inget av dessa alternativ beskriver min sexuella läggning) som bäst beskriver deras sexuella läggning. I den föreliggande studien begränsades sexuell läggning till heterosexuella, homosexuella och bisexuella (alla bisexuella lades ihop i en grupp) på grund av metodologiska begränsningar.

För självrapportering av sexuell och emotionell avundsjuka fick deltagarna svara på två frågor angående otrohet tillämpade från Buss m.fl. (1992), varav den ena frågan relaterade till sexuell otrohet och den andra frågan relaterade till emotionell otrohet. Höga poäng på skalan antydde att personen upplevde händelsen som extremt upprörande, medan låga poäng på skalan antydde att personen inte upplevde händelsen som upprörande.

För självrapportering angående sociosexualitet svarade deltagarna på sex frågor från frågeformuläret "Sociosexual Orientation Inventory" (SOI; Simpson & Gangestad, 1991). Höga poäng i skalan antydde att personen var mer benägen att engagera sig i tillfälliga sexuella kontakter med olika partners, dvs. hade en icke-restriktiv sociosexualitet. Låga poäng i skalan tydde däremot på att personen önskade emotionell närhet i sina förhållanden och var mer obekväma med att engagera sig i tillfälliga sexuella kontakter, dvs. hade en mer restriktiv sociosexualitet. (Simpson & Gangestad, 1991.) För att möjliggöra beräkningen av sociosexuella attityder svarade deltagarna på tre frågor som avsåg mäta sociosexuella attityder och frågorna besvarades på en skala från 1 till 9. För att möjliggöra beräkningen av sociosexuella beteenden svarade deltagarna på ytterligare tre öppna frågor som kodades i skalformat (från 1 till 9), därefter adderades poängtalerna för alla sex frågor ihop.

Statistiska analyser

För alla statistiska analyser användes IBM SPSS *Statistics version 24.0. for Windows* (IBM Corp., 2016) och hypoteserna testades med hjälp av en två-vägs

ANOVA, ekvationsmodeller och parvisa jämförelser. För att testa modellens lämplighet använde vi oss av ett Wald χ^2 -test. För hypotes ett undersökte vi om den beroende variabeln sexuell avundsjuka påverkas av de oberoende variablerna kön och sexuell läggning. Vi testade effekten mellan subjekten genom att skapa två kategoriska grupper (kön och sexuell läggning) och genom att sedan använda en tvåvägs ANOVA. För att vidare testa vår hypotes använde vi oss av parvisa jämförelser och kunde därmed jämföra medelvärden mellan olika grupper. För hypotes två, tre och fyra utförde vi samma procedur. Vi ändrade enbart den beroende variabeln enligt hypotesens syfte. För hypotes två var den beroende variabeln emotionell avundsjuka, för hypotes tre sociosexuell attityd, samt för hypotes fyra sociosexuellt beteende.

Resultat och diskussion

Såvitt vi vet är det den första omfattande studien som undersökt sexuell och emotionell avundsjuka med ett kontinuerligt mått bland heterosexuella, homosexuella och bisexuella deltagare. Därtill är det också den första omfattande studien som undersökt sociosexuella attityder och beteenden bland vuxna heterosexuella, homosexuella och bisexuella.

I enlighet med våra hypoteser, uppvisade heterosexuella män sexuell otrohet som mera upprörande än homosexuella män och bisexuella kvinnor. Resultaten i vår studie visade på att det är signifikant mera sannolikt att heterosexuella och homosexuella kvinnor upplever sexuell otrohet som mera upprörande än heterosexuella män, vilket inte stöder tidigare forskning (Buss m.fl., 1992; Frederick & Fales, 2014).

I likhet med tidigare forskning (Buss m.fl., 1992; Frederick & Fales, 2014) visade resultaten från vår studie på att heterosexuella, homosexuella och bisexuella kvinnor upplever emotionell otrohet som mera upprörande än heterosexuella män. Däremot gav resultaten från vår studie belägg för att heterosexuella män upplever emotionell otrohet som mera upprörande än homosexuella män och bisexuella män, vilket inte stöder tidigare forskning (Frederick & Fales, 2014).

I motsats till våra förväntningar framkom inga tydliga bevis för evolutionspsykologiska teorin om att män upplever sexuell otrohet som mera upprörande än kvinnor på grund av att de aldrig kan vara säkra på att en avkomma är deras biologiska barn (Buss m.fl., 1992). Däremot gav våra resultat stöd för evolutionspsykologiska teorin om att kvinnor aldrig behöver vara osäkra på om en

avkomma är deras biologiska barn, men å andra sidan riskerar att mista en mans resurser om han spenderar dem på en annan kvinna, och att kvinnor därför upplever emotionell otrohet som mera upprörande än män (Buss m.fl., 1992). Våra resultat kan även tolkas som att heterosexuella och homosexuella kvinnor överlag upplever både sexuell och emotionell otrohet som mera upprörande än exempelvis heterosexuella män.

Till skillnad från tidigare forskning som använt en metod där deltagaren tvingas välja mellan två alternativ, använde denna studie ett kontinuerligt mått för att mäta skillnader inom sexuell och emotionell avundsjuka. Jämfört med metoden som tvingar alla deltagare att välja vilket alternativ som är mera upprörande, möjliggör det kontinuerliga måttet att en deltagare själv får uppskatta hur upprörande både sexuell och emotionell otrohet är. Därmed blir skillnaden mellan kön och läggning inte lika tydlig som med metoden där deltagarna tvingas välja mellan två alternativ, samtidigt som alla inte antas uppleva sexuell eller emotionell otrohet som upprörande när avundsjuka mäts med ett kontinuerligt mått. (Frederick & Fales, 2014).

I motsats till våra förväntningar framkom det att heterosexuella och homosexuella kvinnor hade en mera icke-restriktiv sociosexuell attityd än heterosexuella, homosexuella och bisexuella män, vilket inte stöder tidigare forskning (Schmitt, 2005, 2007).

I enlighet med vår hypotes, visade våra resultat på att homosexuella män har ett mera icke-restriktivt sociosexuellt beteende än heterosexuella män, vilket stämmer överens med tidigare forskning (Schmitt, 2007). Däremot fanns enbart partiellt stöd för hypotesen med tanke på att heterosexuella och homosexuella kvinnor uppvisade en mera icke-restriktiv sociosexuell attityd än homosexuella män. Därmed kan inte det icke-restriktiva sociosexuella beteendet som framträder hos homosexuella män förklaras med att homosexuella män har ett större antal potentiella partners med en liknande sociosexuell attityd, eftersom detta inte är i enlighet med våra resultat, tagande i beaktande både sociosexuella attityder och beteenden. I motsats till våra förväntningar, framkom att bisexuella kvinnor hade ett mera icke-restriktivt sociosexuellt beteende än heterosexuella kvinnor. Resultaten är motstridiga med tanke på att heterosexuella kvinnor hade en mera icke-restriktiv attityd än bisexuella kvinnor. I tidigare forskning framkom liknande resultat

angående skillnaden mellan bisexuella kvinnor och heterosexuella kvinnor (Schmitt, 2007).

Till skillnad från tidigare studier bestod vårt sampel inte enbart av unga studerande utan inkluderade även vuxna deltagare. Vuxna deltagares sociosexuella attityd och beteende kan till en viss del se annorlunda ut än unga studerandes, exempelvis är det mera sannolikt att vuxna har en partner eller är gifta, och därmed påverkar även en partners sociosexuella attityder och beteenden.

Begränsningar i den föreliggande studien

I vår studie mäts sexuell läggning enbart genom att deltagaren själv skattar sin upplevda sexuell läggning, istället för att mäta sexuell läggning som en multifaktoriell dimension av njutning, attraktion, fantasi och beteende över tid (Klein, Sepekoff & Wolf, 1985; Savin-Williams, 2006). Därtill har det kontinuerliga måttet flera begränsningar. För det första, tenderar människor att poängsätta relativt höga poäng på detta mått, vilket kan medföra att båda formerna av avundsjuka har stor inverkan för både män och kvinnor (Frederick & Fales, 2014). För det andra, kan det variera hur människor reagerar på påhittad otrohet, gentemot hur det skulle reagera på äkta otrohet (Frederick & Fales, 2014).

Sammanfattning

Utgående från resultaten från den föreliggande studien har vi sammanfattningsvis inte kunnat konstatera att det förekommer de typiska könsskillnader inom avundsjuka och sociosexualitet som presenterats i tidigare forskning. Till exempel, visade resultaten från den föreliggande studien att heterosexuella och homosexuella kvinnor upplever sexuell otrohet som mera upprörande än heterosexuella män, och att heterosexuella och homosexuella kvinnor har en mera icke-restriktiv attityd än heterosexuella och bisexuella män. Även om resultaten förblir oklara, kan vi sammanfattningsvis konstatera vikten av att inte generalisera resultat från studier med heterosexuella på andra sexuella läggningar. Framtida forskning kunde fokusera på att undersöka olika mekanismer som orsakar skillnader mellan kön och sexuella läggningar inom avundsjuka och sociosexualitet. Ett möjligt fokus för framtida forskning kunde exempelvis vara att undersöka hur heterosexuella, homosexuella och bisexuella reagerar på äkta upplevd otrohet, eller sociopolitiska faktorer, som politiska, ekonomiska och relationsmässig jämlikhet.

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PRESSMEDDELANDE

Heterosexuella och homosexuella kvinnor verkar vara mer avundsjuka

Pro gradu-avhandling i psykologi

Fakulteten för humaniora, psykologi och teologi

Resultaten från en pro gradu-avhandling vid Åbo Akademi visar att heterosexuella och homosexuella kvinnor är mera sexuellt och emotionellt avundsjuka än heterosexuella män. Resultaten visar också att heterosexuella och homosexuella kvinnor har en mera icke-restriktiv sociosexuell attityd än heterosexuella och bisexuella män. Däremot visar resultaten på att homosexuella män har ett mera icke-restriktivt sociosexuellt beteende än heterosexuella män. Fanny Lindfors har undersökt skillnader mellan kön och sexuell läggning inom avundsjuka och sociosexualitet utgående från evolutionspsykologiska teorier om avundsjuka och sociosexualitet. Enligt teorin om avundsjuka upplever män sexuell otrohet som mera upprörande än kvinnor och kvinnor däremot emotionell otrohet som mera upprörande än män. Teorin utgår ifrån att män upplever en osäkerhet då de aldrig kan vara säkra över att en avkomma är deras biologiska barn, medan kvinnor aldrig behöver uppleva den osäkerheten. Enligt teorin om sociosexualitet har män en mera icke-restriktiv sociosexuell attityd än kvinnor. Homosexuella män har teoretiskt sätt flera potentiella partners med en icke-restriktiv sociosexuell attityd och därmed antas homosexuella män ha ett mera icke-restriktivt sociosexuellt beteende än heterosexuella män. Teorin utgår ifrån att det är mera gynnsamt för män att ha flertals sexuella partners eftersom det inte kräver en lika stor föräldrainvestering som för kvinnor.

Enligt Lindfors uppvisade resultaten inte empiriskt stöd för teorierna om avundsjuka och sociosexualitet. För tillfället finns det få studier gällande avundsjuka och sociosexualitet som inkluderar både kön och sexuell läggning. Resultaten i Lindfors studie uppmuntrar till vidare forskning kring olika mekanismer som förklarar skillnaden inom kön och sexuell läggning, med målsättning att bidra till en fördjupare förståelse om hur avundsjuka och sociosexualitet formas. Studien utfördes med hjälp av ett populationsbaserat urval som bestod av 1012 män och 2127 kvinnor. Materialet samlades in med hjälp av webbenkät och analyserna genomfördes med en två-vägs ANOVA och parvisa jämförelser. Fortsatta studier gällande sexualitet kommer att utföras av Patrick Jern; professor, akademiforskare och Lindfors handledare.

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