

Female Genital Cutting Restricts Sociosexuality Among the Igbo People of Southeast Nigeria

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Abstract

Female genital cutting (FGC) involves partial or total removal of the external female genitalia and causes detrimental effects on woman's physical and psychological health. Estimates suggest that 130 million women and girls have experienced FGC worldwide. A frequently cited reason for performing this procedure is to restrict female sexuality. To test this idea, we examined women's willingness to engage in uncommitted sexual relations (sociosexuality) among the traditional Igbo community in Southeastern Nigeria, a region in which FGC is prevalent. Women with FGC reported more restricted sociosexuality in all three domains (attitude, behavior, and desire) compared to women without FGC. Our results suggest that FGC significantly restricts female extra-pair behavior. We provide evidence that this practice is partially attributable to sexual conflict over reproduction by decreasing paternity uncertainty and increasing the reproductive costs to women.

Keywords

female genital cutting, Igbo people, sexual conflict, sociosexuality

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Introduction

The World Health Organization (WHO, 2014) defines female genital cutting (FGC) as procedure(s) that involve partial or total removal of the external female genitalia or other injury to the female genital organs for nonmedical reasons. According to the United Nations Children's Fund (2013), approximately 130 million women and girls have undergone FGC worldwide. Most of these women are located in 29 African countries. FGC has no health benefits: In fact, women who have undergone FGC experience many short-term (e.g., serious infections) and long-term health consequences (e.g., obstetric complications and posttraumatic stress disorder; Reisel & Creighton, 2015).

The major cause that perpetuates the practice of FGC is ensuring female conformity with social norms, particularly with those involving sexual restraint and marriageability (Almroth et al., 2001; Anis, Gheit, Awad, & Saied, 2012; Missailidis & Gebre-Medhin, 2000; Skaine, 2005). Previous research documents conflicting results. Some research documents that FGC decreases women's sexual satisfaction, orgasm frequency, and sexual desire (Alsibiani & Rouzi, 2010; Andersson, Rymer, Joyce, Momoh, & Gayle, 2012; Anis et al., 2012; Berg & Denison, 2012). In contrast, other research documents no

association between women who underwent FGC and the occurrence of premarital sex or sexual satisfaction (Ahmadu, 2007; Catania et al., 2007; Makhlof Obermeyer, 2005; Van Rossem & Gage, 2009). These measures (e.g., premarital sex, sexual satisfaction, and orgasm frequency) do not fully capture many important aspects of sociosexuality—defined by Simpson and Gangestad (1991) as individual differences in willingness to engage in uncommitted sexual relations. In particular, previous research has not yet investigated whether women with FGC are less likely to pursue extramarital affairs than women without FGC.

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Men and women have sometimes conflicting reproductive interests (Arnqvist & Rowe, 2005; Parker, 1979; Trivers, 1972) that have produced sex-specific adaptations wherein one sex manipulates the reproductive interests of the other sex (Arnqvist & Rowe, 2005; Gorelik & Shackelford, 2011). For example, a woman may commit sexual infidelity, which allows her to receive benefits from her in-pair partner (e.g., protection, resources, and paternal care for offspring; Hrdy, 2000; Scelza, 2011, 2013), while receiving different benefits from her extra-pair partner (e.g., a sire with “good genes” for her offspring; see Gildersleeve, Haselton, & Fales, 2014). Men whose partner commits sexual infidelity are at risk of cuckoldry—unwitting investment into genetically unrelated offspring. Estimates document that 1–30% of children are fathered by extra-pair copulation (Platek & Porter, 2012). In response to the significant reproductive costs of cuckoldry, men evolved “anticuckoldry” adaptations designed to thwart their partner’s sexual infidelity (e.g., jealousy in response to sexual infidelity; Platek & Shackelford, 2006). For example, men who suspect or know about their partner’s sexual infidelity are more likely to perform various anticuckoldry tactics, including mate retention behaviors (Buss, 1988; Buss & Shackelford, 1997) and partner-directed sexual coercion (Finkelhor & Yllo, 1985; Goetz & Shackelford, 2006, 2009). Because the practice of FGC may have been precipitated by male anticuckoldry tactics, FGC may be perpetuated at the cultural level (e.g., cultural tradition) because of the patrilocal and patrilineal nature of some societies (e.g., the Igbo of the current research). Thus, women’s motivation to encourage a female relative to undergo FGC may be a strategy to increase her marriageability under the context of a male-dominated society.

The Current Research

Men may benefit from partnering with a woman with FGC (compared to a woman without FGC). Women with FGC may experience decreased interest in extramarital relationships and, consequently, are less likely to place their partner at risk of cuckoldry. We hypothesize that women who have undergone FGC will have a more restricted sociosexuality than women who have not undergone FGC. We used data obtained from the Igbo people, a preindustrial society living in in Southeastern Nigeria where it is believed, according to Igbo oral tradition, that FGC reduces woman’s sexual arousal and prevents extramarital sexual behavior. This view is consistent with traditional views of the ancestral origin of FGC in many cultures (e.g., Almroth et al., 2001; Anis et al., 2012). Data for testing this hypothesis are difficult to obtain due to the sensitive nature of the subject (Reisel & Creighton, 2015). Furthermore, original African tribes are disappearing or being replaced by modern equivalents (Gutkind, 1970; Jones, 2014). There is consequently an urgent need to investigate this topic to plan effective interventions (Abdulcadir, Rodriguez, & Say, 2015). The aim of this study is to examine whether FGC suppresses woman’s willingness to engage in uncommitted sexual relations.

Material and Method

Participants

Women ($N = 93$) from a rural Igbo community in South-eastern Nigeria participated. The Igbos are among the most populous ethnic group in Nigeria and inhabit five states of Southeastern Nigeria. The community is located about 50 km from the city center. There is limited exposure to modern life within the community and no electricity is supplied to the area. There is no hospital facility and members of the community travel up to 15 km to access medical facilities in a nearby community. The major means of transport is by foot and motorcycles because of the poor state of the local (unpaved) roads. The community is comprised mainly of farmers, the majority of whom live in farm houses built with local materials. Participants were predominantly subsistence farmers of extremely low-economic status (more than half of population is unemployed). We drew our sample from a single rural community (a village), where FGC is predominant (see Results section). Although the exact population of the community is not documented, we estimated that this village contained 120 households. We surveyed all the available women in the community at the time of the study and all those who volunteered to participate were included in the study.

Although FGC is common in most Igbo communities, research demonstrates that not all women undergo FGC (Adinma, 1997; Okemgbo, Omideyi, & Odimegwu, 2002; Snow, Slanger, Okonofua, Oronsaye, & Wacker, 2002). The reasons that some women do not undergo FGC remain unclear. Igbo communities do not coerce but rather encourage people to undergo FGC. Because FGC is performed at an early age, the family members ultimately influence whether young girls undergo FGC. However, recent campaigns aimed at discouraging this practice has led to the decline in FGC in most communities. Indeed, women from earlier generations are more likely to have undergone FGC than females from later generations.

Igbos are predominantly patrilineal and patrilocal and the community that we sampled is a typical case. Extended family significantly influences lives of the Igbo, including aspects pertaining to marriage choices, fertility, sexual life, and parenting (Smith, 2010). The Igbo society places great social restrictions on women’s sexuality. Although there is mild tolerance when *unmarried* women participate in casual sexual encounters, there is zero tolerance when *married* women participate in casual sexual encounters (i.e., infidelity; Smith, 2010). Women who are married are expected to remain sexually faithful to their partner, even though husbands are socially permitted to pursue extramarital affairs (Smith, 2010). Further, women have difficulty in remarrying because the Igbo society frowns upon divorce. Indeed, divorce rates appear to be relatively low ($\sim 2\%$; Odimegwu & Zerai, 1996). Thus, female sexuality is highly restricted in the Igbo society (Smith, 2010).

Procedure

We conducted face-to-face interviews with individual participants after obtaining their consent. All interviewers were female assistants trained by Ike E. Onyishi and Chiedozie O. Okafor. The questionnaire was used to collect information on whether the participant had undergone FGC and, if so, at what age the FGC was performed. Note that FGC is both common and socially acceptable among the Igbo people, so responses are unlikely to be influenced by social desirability biases. A total of 75 women self-reported having undergone FGC and 18 women did not. Although the respondents in our study were unable to explain the exact type of FGC they had, we presumed that majority of them had the simple excision, which is the commonest type (98.4% of FGC cases) in Igbo communities (Adinma, 1997).

We asked participants whether they were married ($n = 88$), single ($n = 3$), or divorced ($n = 2$). Participants reported their current age, their age when they underwent FGC procedure, and their sexual orientation (100% reported to be exclusive heterosexuals).

Measuring Sociosexuality

For purposes of this study, we defined sociosexuality as individual willingness to engage in a sexual relationship with other person than own current sexual partner. We measured sociosexuality using the Revised Sociosexual Orientation Inventory (SOI-R; Penke & Asendorpf, 2008; $\alpha = .73$), which was translated into the Igbo language and the responses were coded by researchers. The SOI-R is a 9-item scale that provides an overall measure of sociosexual orientation (SOI—Total score). The validity and reliability of sociosexuality-type measures have been established across various cultures, including Africa (Schmitt, 2005), suggesting that the SOI-R was an appropriate for the current research. The SOI-R scale has three subscales. The *Behavior* subscale (SOI—Behavior) measures the number of casual sex partners and frequency of change in partners. The *Attitude* subscale (SOI—Attitude) measures the participant's disposition toward short-term sexual encounters. The *Desire* subscale (SOI—Desire) measures the frequency of sexual fantasies or arousal in relation to potential mates with whom the individual is not currently in a committed relationship (see Appendix for the full version of the SOI-R). A high SOI-R score indicates unrestricted sociosexual orientation (i.e., a propensity to engage in more short-term sexual relationships and to commit infidelity).

Ethics Statement

This research was approved by the Institutional Ethical Committee, Department of Psychology, University of Nigeria (No: Ref/Psy/E/14/010). All participants provided verbal consent to participate in this study. No written consent could be obtained, because most of the participants were not literate and could not understand or sign the consent form. All

Table 1. A Comparison of the Mean Scores of the Three Sociosexual Orientation Inventory Domains.

Treatment	SOI			<i>n</i>
	Behavior	Attitude	Desire	
With FGC	1.60 (0.09)	1.61 (0.12)	2.08 (0.13)	75
Without FGC	2.54 (0.18)	3.09 (0.24)	3.54 (0.26)	18
$F(1, 90)$	14.7	25.82	19.53	—
p	.001	<.0001	<.0001	—
η_p^2	0.14	0.22	0.18	—
Observed power	0.97	0.99	0.99	—

Note. Standard errors are given in the parentheses. SOI = Sociosexual Orientation Inventory; FGC = female genital cutting.

consents were recorded with paper-and-pencil method. This consent procedure was approved by the Institutional Ethical Committee.

Results

Women with FGC (age: $M = 38.9$, $SE = 1.01$, $n = 75$) were older than women without FGC (age: $M = 33.2$, $SE = 2.1$, $n = 18$), $t(91) = 2.48$, $p < .05$. Because sociosexuality is correlated with age (Meskó, Láng, & Kocsor, 2014), we conducted an analysis of covariance (ANCOVA) to predict participants' SOI-R scores from whether or not they had undergone FGC, controlling statistically for their age. We conducted Box-Cox transformations on SOI-R scores to achieve normality. η_p^2 was used to measure the effect size. Statistical tests were performed with Statistica (v8, StatSoft 2007, Tulsa, OK, <http://www.statsoft.com>).

All participants who underwent FGC reported receiving the procedure within the first 12 months of their life, the majority (76%) of whom had undergone the procedure during the first 5–8 days of life. In support of the hypothesis, women with FGC had a significantly lower SOI—Total score ($M = 15.9$, $SE = 0.65$, $n = 75$) compared with females without FGC ($M = 27.11$, $SE = 2.1$, $n = 18$), ANCOVA, $F(1, 90) = 31.98$, $p < .0001$, $\eta_p^2 = 0.26$. The statistical power of this difference was high (observed power = 0.99), suggesting that the sample sizes were sufficient for rejecting the null hypothesis. The age of the women did not have a significant effect on the SOI—Total score, ANCOVA, $F(1, 90) = 2.63$, $p = .11$, $\eta_p^2 = 0.03$. Separate ANCOVAs for each of the three SOI-R subscales showed that women with FGC scored significantly lower on all three SOI subscales compared with women without FGC (Table 1). Frequency data for each SOI-R item are shown in the Appendix. Observed power of statistical tests was very high for all SOI subscales (Table 1). This suggests that if the study were to be replication 100 times, we would correctly reject the null hypothesis during 97–99% of those replications. The effect of age was not significant for the SOI—Attitude and SOI—Desire, $F(1, 90) = 0.05$ and 1.31, $p = .83$ and .26, $\eta_p^2 = 0.0005$ and 0.01, respectively, but

there was a significant association between the age of the females and the SOI—Attitude subscale, $F(1, 90) = 3.93$, $p = .05$, $\eta_p^2 = 0.04$. This suggests that the SOI—Attitude score decreased as the age of the women increased ($\beta = -0.19$). When the SOI—Total score, $F(1, 90) = 24.31$, $p < .0001$, $\eta_p^2 = 0.21$, observed power = 0.99, or scores from the three subscales (SOI—Attitude, Desire, and Behavior) were controlled for the effect of relationship status with residual analysis, the results remained almost identical, $F(1, 90) = 23.46$, 11.91, and 10.49; $p < .0001$, $< .001$, and $< .002$; $\eta_p^2 = 0.21$, 0.12, and 0.10; observed power = 0.99, 0.93, and 0.89, respectively. The effect of age was not significant (all p s $> .09$).

Discussion

The results of the current research support the hypothesis that women who have undergone FGC have a more restricted sociosexual orientation than women who have not undergone FGC. One of the major motivations for FGC is to ensure that a woman will be uninterested in sexual relationships outside marriage (Skaine, 2005; WHO, 2014), although most Igbo women seem to be unaware of this (Adinma & Agbai, 1999). Studies demonstrating that women who have undergone FGC have lower sexual satisfaction provide some indirect evidence for this idea (Alsi-biani & Rouzi, 2010; Andersson et al., 2012; Anis et al., 2012; Berg & Denison, 2012; but see Ahmadu, 2007; Catania et al., 2007; Makhlof Obermeyer, 2005), but no direct test of this question has been made.

The current research is the first to document that a woman's interest in engaging in a sexual relationship with an extra-pair partner(s) is significantly inhibited by FGC. The current research provides support for the previously hypothesized motivations for FGC across cultures (Almroth et al., 2001; WHO, 2014), including the Igbo community. From an evolutionary perspective, FGC decreases men's paternity uncertainty by restricting women's sociosexuality—including women's desires to pursue extramarital relationships. Women may obtain benefits from extra-pair matings (e.g., a higher number of children: Scelza, 2011; food for children: Scelza, 2013; and offspring protection and survival: Hrdy, 2000). FGC is costly to women and potentially beneficial to men, indicating that the origin and maintenance of FGC is partially attributable to sexual conflict over reproduction (Gorelik & Shackelford, 2011).

Another possible cost of "unrestricted sexuality" is contracting sexually transmitted diseases and unwanted pregnancies. These costs are exacerbated in rural conditions where our research was carried out because women receive minimal medical care (e.g., contraception and treatment for various infections). Thus, FGC could be ancestrally motivated to reduce mortality from infectious diseases and unwanted pregnancies.

Our data suggest that FGC reduces the risk of female infidelity. More than 30% of Himba women living in Namibia,

for example, reported having had at least one extramarital affair resulting in 17.6% of extra-pair children (Scelza, 2011), which are highest rates of extra-pair paternity than have been recorded among small-scale societies (but see Strassmann et al., 2012, for low rates [1.8%] of extra-pair paternity in a traditional African population). Himba women do not, however, undergo FGC (Brooke A. Scelza, personal communication, March 6, 2015), which may at least partially explain the high rates of their extra-pair behavior relative to other similar small-scale societies. Unfortunately, genetic data on extra-pair paternity in traditional societies are scarce (Neel & Weiss, 1975; Strassmann et al., 2012), and so the available data are likely insufficient for more rigorous tests of nonpaternity rates among societies with FGC versus without FGC.

For obvious ethical reasons, we did not employ an experimental design for the current research. Consequently, we cannot conclude that FGC per se directly causes the restriction of sociosexuality. It is possible that girls who undergo FGC—relative to those who do not undergo FGC—received familial upbringings that more strongly endorse female sexual fidelity. In other words, parents who endorse their daughters receiving FGC also raise their daughters to be more sexually restricted. Thus, a third variable (e.g., familial upbringing) may mediate the relationship between women who undergo FGC and their sociosexuality. Future research should collect data on the sociosexuality of parents to probe potential mediation effects. Another limitation is that some factors beyond FGC could account for some variance of the results. For example, a survey in Egypt showed that females with FGC are less educated and are less wealthy than those who did not undergo FGC (El-Zanaty & Way, 2009). Women's wealth is associated with higher degree of polyandry in some traditional societies (Ardener, Ardener, & Warming-ton, 1960), and wealthy women may have more sexual opportunities due to enhanced attraction to males. Further research needs necessarily to control for these potentially confounding variables.

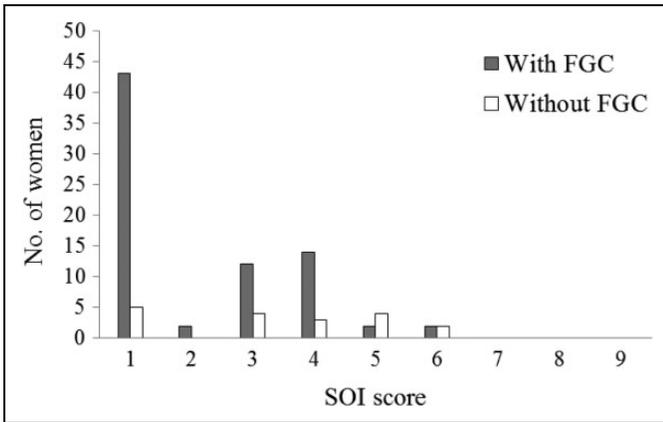
To conclude, FGC is a manifestation of sexual conflict over reproduction. Practicing FGC may be considered an extended phenotype of men's sexual proprietariness at the expense of women's reproductive interests: It appears that the practice of FGC restricts women's sociosexuality—including their desire to commit sexual infidelity—which may decrease men's paternal uncertainty. A deeper understanding of the proximate mechanisms that inhibit sociosexuality among women with FGC requires further research.

Appendix

Frequencies of women's responses on SOI-R questionnaire with respect to occurrence of FGC. More details regarding classification of SOI scores can be found in Penke and Asendorpf (2008).

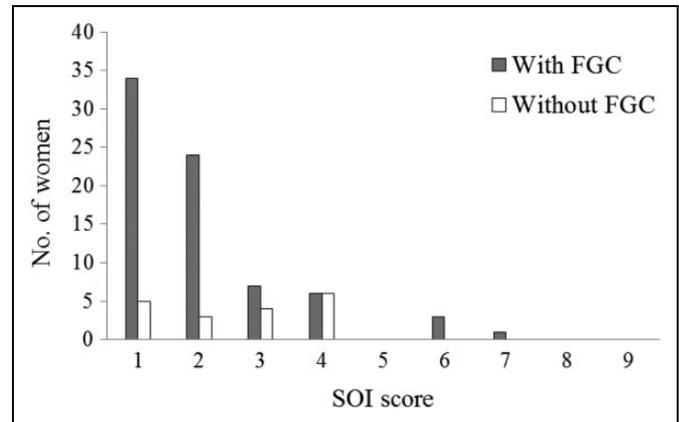
a. SOI—Attitude subscale

Item: Sex without love is OK.

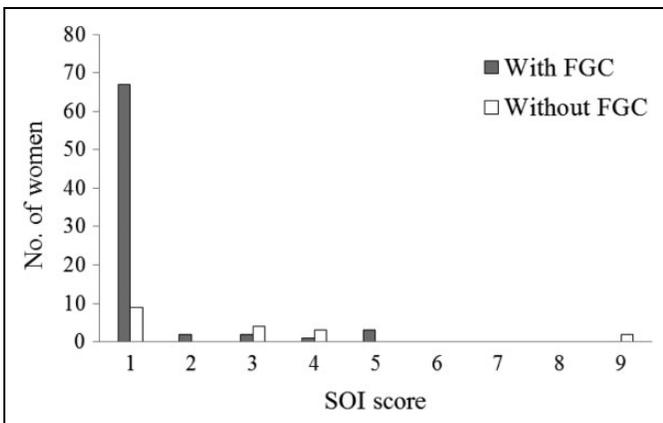


b. SOI—Behavior subscale

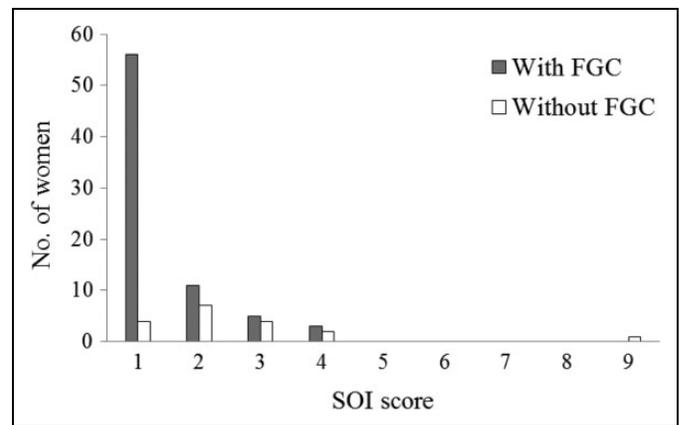
Item: With how many different partners have you had sex within the past 12 months?



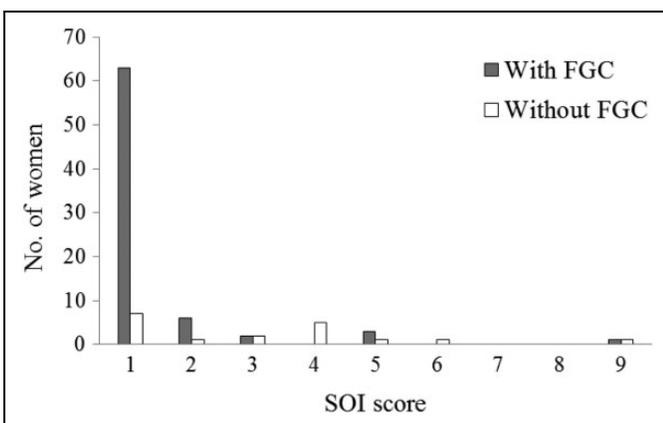
Item: I can imagine myself being comfortable and enjoying “casual” sex with different partners.



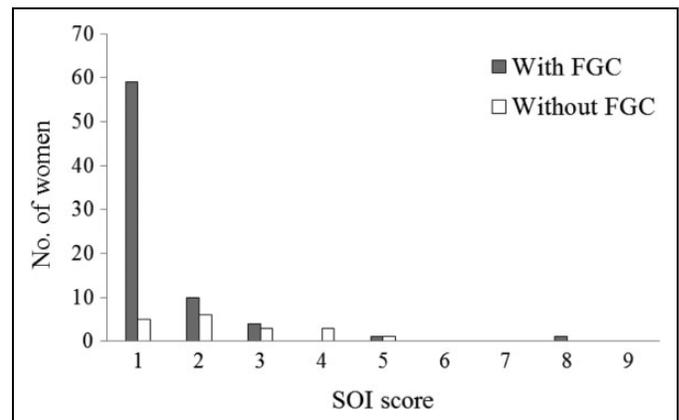
Item: With how many different partners have you had sexual intercourse on one and only one occasion?



Item: I do not want to have sex with a person until I am sure that we will have a long-term serious relationship (note that this item is reverse scored).

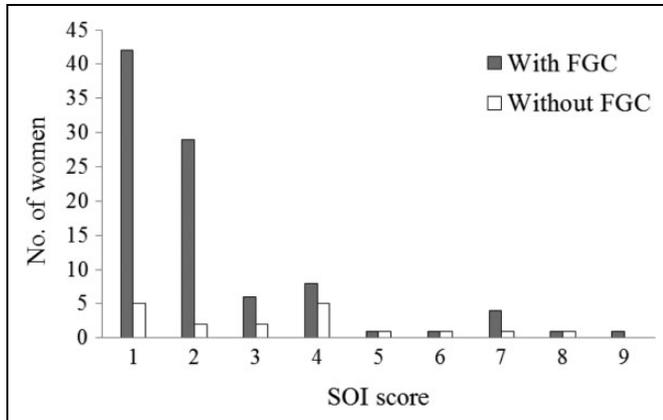


Item: With how many different partners have you had sexual intercourse without having an interest in a long-term committed relationship with this person?

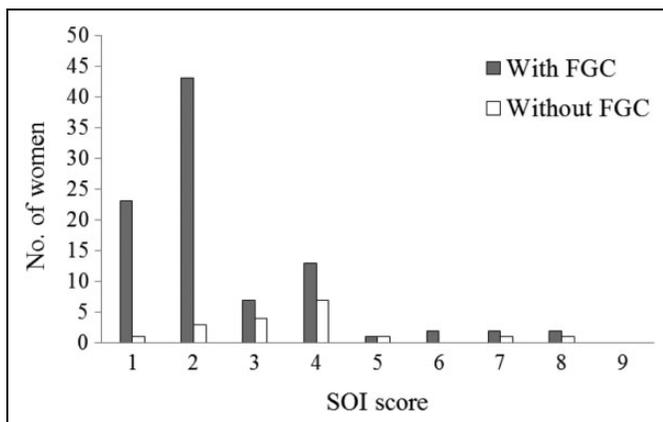


c. SOI—Desire

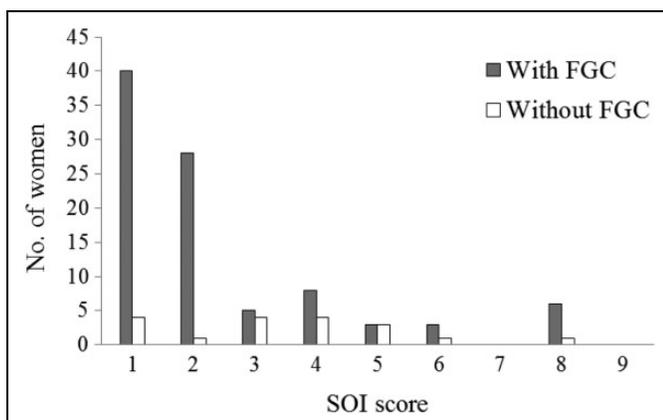
Item: How often do you have fantasies about having sex with someone with whom you do not have a committed romantic relationship?



Item: How often do you experience sexual arousal when you are in contact with someone with whom you do not have a committed romantic relationship?



Item: In everyday life, how often do you have spontaneous fantasies about having sex with someone you have just met?



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