



Short Communication

Women's oral sex behaviors and risk of partner infidelity

Michael N. Pham*, Todd K. Shackelford, Yael Sela

Department of Psychology, Oakland University, 130 Pryale Hall, Rochester, MI 48309, United States

ARTICLE INFO

Article history:

Received 5 December 2012

Received in revised form 6 April 2013

Accepted 11 April 2013

Available online 14 May 2013

Keywords:

Oral sex

Evolutionary Psychology

Fellatio

Infidelity

ABSTRACT

Pham and Shackelford (2013a) documented that men at greater risk of their partner's infidelity reported greater interest in and spent more time performing oral sex on their partner. The current study is an extension of their study to a female sample. We recruited 200 women to investigate whether women's oral sex behaviors are related to the risk of their partner's infidelity. The results indicate that women at greater risk of partner infidelity did not report more interest in, or spend more time performing, oral sex on their partner. Additionally, the relationships between partner infidelity risk and interest in, and time spent, performing oral sex were greater for men than women. We discuss limitations of this research and discuss explanations for the results.

© 2013 Elsevier Ltd. All rights reserved.

1. Introduction

Both men and women's infidelity has been documented in dozens of cultures worldwide (Betzig, 1989). Some published samples estimate that as many as 70% of men and women have committed infidelity at least once in their lifetime (Luo, Cartun, & Snider, 2010). Women who suspect or discover their partner's infidelity may suffer from physical and psychological problems, including major depression, anxiety, and relationship dissatisfaction (Cano & O'Leary, 2000; Betzig, 1989).

1.1. Attractiveness and infidelity risk

Both men and women estimate the risk of their partner's infidelity by attending to their partner's attractiveness. Individuals mated to a more attractive partner are at greater risk of partner infidelity. Attractive men achieve greater sexual access to women (Li & Kenrick, 2006), and attractive women are more frequently pursued as sexual partners by men (Goetz et al., 2005; Schmitt & Buss, 2001). Consequently, both men and women mated to a more attractive partner more frequently perform behaviors designed to reduce the motivation and opportunities their partner has to commit infidelity (Buss & Shackelford, 1997).

1.2. Oral sex and infidelity risk

Pham and Shackelford (2013a) documented that men at greater risk of their partner's infidelity report greater interest in and spend

more time performing oral sex on their partner. They provide three explanations for their results: Oral sex as infidelity detection, as mate retention behavior, and oral sex induced orgasm as a sperm retention strategy.

1.2.1. Oral sex as infidelity detection

Sperm competition occurs when the sperm of two or more males simultaneously occupy the female reproductive tract (Paraker, 1970). Female infidelity is an important context for human sperm competition (Shackelford & Goetz, 2012). Informed by sperm competition theory, Thornhill (2006) hypothesized that oral sex performed by a man on his regular partner may allow him to taste and smell rival semen near or within her vagina, providing cues to her recent sexual history. The hypothesized infidelity-detection function of oral sex was inspired by research documenting that men rate vaginal fluid as more pleasant-smelling when the woman is at peak fertility (Doty, Ford, Preti, & Huggins, 1975), as well as research on non-humans documenting increased frequency of male genital licking and sniffing during female estrus (Dugmore, Bailey, & Evans, 1984; Palagi, Telara, & Borgognini, 2003; Pennington, Albright, & Callahan, 1986). As in humans (Shackelford & Goetz, 2012), these primate species, in particular, experience adaptive problems related to sperm competition (Møller, 1988).

1.2.2. Oral sex as mate retention behavior

Men may perform oral sex as part of a broader mate retention strategy. Pham and Shackelford (2013b) documented that men who reported performing more mate retention behaviors, in general, and more benefit-provisioning mate retention behaviors, in particular, also reported greater interest in and spent more time performing oral sex on their female partner. Women report greater

* Corresponding author. Tel.: +1 248 370 2300; fax: +1 248 370 4612.

E-mail address: mnpham@oakland.edu (M.N. Pham).

relationship satisfaction if their male partner performs oral sex on them (Kaestle & Halpern, 2007; Santtila et al., 2008).

1.2.3. Oral sex induced orgasm as a sperm retention strategy

Men may perform oral sex on their partner to induce her orgasm and consequent sperm retention. Men who ejaculate temporally near their partner's orgasm will have more of their sperm retained in their partner's reproductive tract, which may increase their success at sperm competition (Baker & Bellis, 1993). Men at greater risk of sperm competition report greater interest in their partner's orgasm (McKibbin, Bates, Shackelford, LaMunyon, & Hafen, 2010), and women are more likely to experience an orgasm when receiving cunnilingus than if they do not receive cunnilingus (Richters, de Visser, Rissel, & Smith, 2006).

1.3. Women's oral sex behaviors and partner infidelity risk

This study is an extension of Pham and Shackelford's (2013a) study using a female sample. We conducted an exploratory test of whether women at greater risk of partner infidelity report greater interest in (Prediction 1) and spend more time (Prediction 2) performing oral sex on their partner. We also investigated whether there are sex differences in the relationships between partner infidelity risk and interest in and time spent performing oral sex (Predictions 3 and 4).

2. Method

2.1. Participants

Two hundred women in a committed, sexual, heterosexual relationship lasting at least one year participated in this study. All participants reported having sex with their partner at least once in the last seven days. The mean participant age was 22.6 years ($SD = 6.3$) and the mean relationship length was 41.2 months ($SD = 43.3$).

2.2. Materials

We followed Pham and Shackelford (2013a) for all measures and procedures. Participants reported their age and current relationship length on a questionnaire. Participants answered four questions about the attractiveness of their partner on a Likert-type scale ranging from 0 (*Not at all*) to 9 (*Extremely*): How (1) physically attractive and (2) sexually attractive do you find your partner? How (3) physically attractive and (4) sexually attractive do other women find your partner?

Participants answered questions about their most recent sexual intercourse with their partner on a Likert-type scale, including: duration of sexual intercourse (0 = *Less time than is typical*, 9 = *More time than is typical*), own interest in performing oral sex (0 = *Less interested or excited than is typical for me*, 9 = *More interested or excited than is typical for me*), and duration of oral sex (0 = *Less time than is typical for me*, 9 = *More time than is typical for me*).

Finally, participants answered four questions about their relationship satisfaction on a Likert-type scale ranging from 0 (*Not at all*) to 9 (*Extremely*): How (1) sexually satisfied, (2) emotionally satisfied, and (3) overall satisfied are you with your partner?, and (4) how committed are you to your partner?

2.3. Procedures

Prospective participants were asked if they were at least 18 years old and in a committed, sexual, heterosexual relationship. Those who qualified were asked to sign a consent form and complete a questionnaire. The consent form was placed in a separate envelope to retain anonymity.

3. Results

Following Pham and Shackelford (2013a), we constructed a *relationship satisfaction* variable ($\alpha = .78$) from the mean of four variables: sexual, emotional, and overall satisfaction with partner, and commitment to partner. We constructed a *partner infidelity risk* variable ($\alpha = .78$) from the mean of four variables: how sexually and physically attractive the participant views her partner, and how sexually and physically attractive the participant believes other women view her partner. Before conducting analyses, we logarithmically transformed the relationship length variable to correct for skew (Tabachnick & Fidell, 2006).

We conducted zero-order correlations among key variables (see Table 1). Regarding Predictions 1 and 2, partner infidelity risk was *not* correlated with women's interest in, or time spent, performing oral sex. To test Predictions 3 and 4, we first replicated the multiple regression analyses conducted by Pham and Shackelford (2013a) for the current female sample by entering into the model relationship length, relationship satisfaction, sexual intercourse duration, and partner infidelity risk variables. Interest in performing oral sex was related positively to duration of sexual intercourse. Partner infidelity risk was not related to interest in, or time spent performing, oral sex, after statistically controlling for relationship length, relationship satisfaction, and sexual intercourse duration (See Table 2).

We tested Predictions 3 and 4 by comparing the beta coefficients calculated for women's reports against the parallel coefficients for men's reports, as presented in Pham and Shackelford (2013a) see also Paternoster, Brame, Mazerolle, & Piquero, 1998). Regarding Predictions 3 and 4, the relationships between partner infidelity risk and interest in, and time spent, performing oral sex were greater for men (see Table 3).

Table 1
Zero-order correlations among key variables.

	Partner infidelity risk	Relationship satisfaction	Relationship length (log transformed)	Duration of intercourse	Interest in performing oral sex
Partner infidelity risk	X				
Relationship satisfaction	.31**	X			
Relationship length (log transformed)	-.08	.02	X		
Duration of intercourse	.12	.14	.19**	X	
Interest in performing oral sex	.13	.17*	-.05	.18**	X
Duration of oral sex	.08	.08	-.04	.10	.33**

$n = 200$ women.

* $p < .05$.

** $p < .01$ (two-tailed).

Table 2
Multiple regression analyses assessing relationships between partner infidelity risk and target oral sex variables, controlling for relationship length, relationship satisfaction, and duration of intercourse.

Outcome variable	Predictor variable							
	Partner infidelity risk		Relationship length ¹		Relationship satisfaction		Duration of intercourse	
	B	t	B	t	B	t	B	t
Interest in performing oral sex	.11	.84	-.52	-1.10	.26	1.74	.20	2.43*
Duration of oral sex	.08	.61	-.36	-.78	.10	.70	.10	1.37

n = 200 women, *B* = unstandardized beta coefficients, *t* = test statistic associated with *B*.

* *p* < .05 (two-tailed).

¹ Log transformed.

Table 3
Sex differences in the relationships between partner infidelity risk and target oral sex variables, controlling for relationship length, relationship satisfaction, and duration of intercourse.

	Men (<i>n</i> = 231)		Women (<i>n</i> = 200)		<i>Z</i>
	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>	
Interest in performing oral sex	.27	.11	.11	.13	5.52***
Duration of oral sex	.25	.11	.08	.13	5.86***

Note: Results from the male sample were acquired from Pham and Shackelford (2013).

B = unstandardized beta coefficients associated with partner infidelity risk, *SE* = standard error, *Z* = test statistic associated with beta coefficient differences between male and female samples.

*** *p* < .001 (two-tailed).

4. Discussion

The results of the current study and of Pham and Shackelford (2013a) indicate that men's, but not women's oral sex behaviors are related to their partner's risk of infidelity. Men but not women at greater risk of partner infidelity report greater interest in, and spend more time performing, oral sex on their partner. Furthermore, the relationships between partner infidelity risk and interest in, and time spent, performing oral sex are statistically larger for men.

The current research used women's partner's attractiveness as an estimate of partner infidelity risk. However, the discrepancy between women's attractiveness and their partner's attractiveness may provide a more valid estimate of partner infidelity risk (Buss & Shackelford, 1997). The current research is an extension of Pham and Shackelford's (2013a) study, who assessed only partner attractiveness in assessing partner infidelity risk. We replicated their methodology exactly to minimize threats to internal validity. Future research investigating the relationship between partner infidelity risk and oral sex behaviors may benefit from securing reports of both self- and partner-attractiveness.

A potential confound in the current research manifests in the asymmetrical risk of contracting sexually transmitted diseases (STDs) for fellatio and cunnilingus. STDs are more easily contracted from fellatio than from cunnilingus (Edwards & Carne, 1998). This greater cost of oral sex may have placed a ceiling on women's but not men's interest in, and time spent, performing oral sex. Future research would benefit from securing reports of attitudes and behaviors regarding disease avoidance.

The current results provide support for the infidelity detection hypothesis of oral sex; the differences in fluid quantity left behind by a rival (i.e., semen from a rival male vs. vaginal fluids from a rival female), may influence the effectiveness of, and motivation to, use oral sex as a means to detect infidelity. The current results also support the sperm retention hypothesis of oral sex; men but not women are concerned with their sperm being retained in their partner's reproductive tract. The current results do not support

the sexual satiation hypothesis of oral sex because the occurrence of oral sex is positively associated with both men's and women's relationship satisfaction (Ashdown, Hackathorn, & Clark, 2011).

References

- Ashdown, B. K., Hackathorn, J., & Clark, E. M. (2011). In and out of the bedroom: Sexual satisfaction in the marital relationship. *Journal of Integrated Social Sciences*, 2, 40–57.
- Baker, R. R., & Bellis, M. A. (1993). Human sperm competition: Ejaculate manipulation by females and a function for the female orgasm. *Animal Behaviour*, 46, 887–909.
- Betzig, L. (1989). Causes of conjugal dissolution: A cross-cultural study. *Current Anthropology*, 30, 654–676.
- Buss, D. M., & Shackelford, T. K. (1997). From vigilance to violence: Mate retention tactics in married couples. *Journal of Personality and Social Psychology*, 72, 346–361.
- Cano, A., & O'Leary, K. D. (2000). Infidelity and separations precipitate major depressive episodes and symptoms of nonspecific depression and anxiety. *Journal of Consulting and Clinical Psychology*, 68, 774–783.
- Doty, R. L., Ford, M., Preti, G., & Huggins, G. R. (1975). Changes in the intensity and pleasantness of human vaginal odors during the menstrual cycle. *Science*, 190, 1316–1318.
- Dugmore, S. J., Bailey, K., & Evans, C. S. (1984). Discrimination by male ring-tailed lemurs (*Lemur catta*) between the scent marks of male and those of female conspecifics. *International Journal of Primatology*, 5, 235–245.
- Edwards, S., & Carne, C. (1998). Oral sex and the transmission of viral STIs. *Sexually Transmitted Infections*, 74, 6–10.
- Goetz, A. T., Shackelford, T. K., Weekes-Shackelford, V. A., Euler, H. A., Hoier, S., Schmitt, D. P., et al. (2005). Mate retention, semen displacement, and human sperm competition: A preliminary investigation of tactics to prevent and correct female infidelity. *Personality and Individual Differences*, 38, 749–763.
- Kaestle, C. E., & Halpern, C. T. (2007). What's love got to do with it? Sexual behaviors of opposite-sex couples through emerging adulthood. *Perspectives on Sexual and Reproductive Health*, 39, 134–140.
- Li, N. P., & Kenrick, D. T. (2006). Sex similarities and differences in preferences for short-term mates: what, whether, and why. *Journal of Personality and Social Psychology*, 90, 468–489.
- Luo, S., Cartun, M. A., & Snider, A. G. (2010). Assessing extradyadic behavior: A review, a new measure, and two new models. *Personality and Individual Differences*, 49, 155–163.
- McKibbin, W. F., Bates, V. M., Shackelford, T. K., LaMunyon, C. W., & Hafen, C. A. (2010). Risk of sperm competition moderates the relationship between men's satisfaction with their partner and men's interest in their partner's copulatory orgasm. *Personality and Individual Differences*, 49, 961–966.

- Møller, A. P. (1988). Ejaculate quality, testes size and sperm competition in primates. *Journal of Human Evolution*, 17, 479–488.
- Palagi, E., Telara, S. M., & Borgognini, T. (2003). Sniffing behavior in *Lemur catta*: Seasonality, sex, and rank. *International Journal of Primatology*, 24, 335–350.
- Parker, G. G. (1970). Sperm competition and its evolutionary consequences in the insects. *Biological Review*, 45, 525–567.
- Paternoster, R., Brame, R., Mazerolle, P., & Piquero, A. (1998). Using the correct statistical test for the equality of regression coefficients. *Criminology*, 36, 859–866.
- Pennington, J. A., Albright, J. L., & Callahan, C. J. (1986). Relationship of sexual activities in estrous cows to different frequencies of observation and pedometer measurements. *Journal of Dairy Science*, 69, 2925–2934.
- Pham, M. N., & Shackelford, T. K. (2013a). Oral sex as infidelity-detection. *Personality and Individual Differences*, 54, 792–795.
- Pham, M. N., & Shackelford, T. K. (2013b). Oral sex as mate retention behavior. *Personality and Individual Differences*, 55, 185–188.
- Richters, J., de Visser, R., Rissel, C., & Smith, A. (2006). Sexual practices at last heterosexual encounter and occurrence of orgasm in a national survey. *Journal of Sex Research*, 43, 217–226.
- Santtila, P., Wager, I., Katarina, W., Harlaar, N., Jern, P., Johansson, A., et al. (2008). Discrepancies between sexual desire and sexual activity: Gender differences and associations with relationship satisfaction. *Journal of Sex and Marital Therapy*, 34, 29–42.
- Schmitt, D. P., & Buss, D. M. (2001). Human mate poaching: Tactics and temptations for infiltrating existing mateships. *Journal of Personality and Social Psychology*, 80, 894–917.
- Shackelford, T. K., & Goetz, A. T. (Eds.). (2012). *The Oxford handbook of sexual conflict in humans*. New York: Oxford University Press.
- Tabachnick, B. G., & Fidell, L. S. (2006). *Using multivariate statistics* (5th ed.). Boston, MA: Allyn & Bacon.
- Thornhill, R. (2006). Foreword: Human sperm competition and women's dual sexuality. In T. K. Shackelford & N. Pound (Eds.), *Sperm competition in humans: Classic and contemporary readings (v-xix)*. New York: Springer.