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## The association of sexual interest and sexual behaviors among adolescent women: A daily diary perspective

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### Abstract

Theoretical and empirical linkages of adult women's sexual interest and sexual behaviors are relatively well-established, but few data address similar issues in adolescent women. This paper reviews data from published reports of associations of adolescent women's sexual interest and various sexual behaviors. All of the papers reported data collected from a single longitudinal cohort of young women. The primary source of data collection was daily diaries, allowing close temporal pairing of sexual interest with sexual behaviors. Young women's sexual interest on a given day was consistently and independently associated with sexual activity on that day, whether the behavior was first lifetime coitus, coitus, fellatio, cunnilingus, anal intercourse, or coitus during menses. We also found no evidence of influence of hormonal contraceptives on young women's sexual interest. Taken together, these data demonstrate the relevance of sexual interest as a key factor in young women's sexuality and sexual behavior.

### Keywords

Adolescence; Sexual interest; Sexual behavior; Oral sex; Anal sex

### Introduction

The developmental origins of women's sexual interest, sexual desire, and sexual arousal are obscure. Genetic factors are likely since factors such as age of first sexual intercourse are correlated in mothers and daughters, and between young women and other female relatives (Rodgers, Bard et al. 2007). Prenatal hormonal influences may be important although the direction and magnitude of these influences are not well understood (Meyer-Bahlburg, Ehrhardt et al. 1985). Factors associated with pubertal development are clearly at play since these affect the growth of genitalia and provide social signals about emerging maturation as well as exert cyclic effects on mood and sexual interest (Bancroft 1995; Pillsworth, Haselton et al. 2004). However, levels of sex hormones, per se, have been linked only inconsistently with young women's sexual behaviors (Halpern, Udry et al. 1997). Such inconsistencies may be due to failure to consider young women's sexuality within the context of other developmental factors, suggesting that hormones are otherwise only probabilistic influences

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on young women's sexual behaviors (Halpern 2006; Halpern 2010). Relational and other social-cultural factors may also influence the experience and expression of desire as young women interact with potential partners (Collins, Welsh et al. 2009).

Several empirical deficiencies hinder exploration of the complex developmental systems framework proposed by Halpern (2006). Among these is the question addressed in this paper: how is sexual interest linked to adolescent women's sexual behaviors? This apparently straightforward relationship is surprisingly difficult to sort out. Few data actually address the linkage of sexual interest and sexual behavior among adolescent women. More than 20 years ago, this was labeled "the missing discourse of desire," referring to absence of this topic in the discussions of young women as well as in the larger professional dialogue focused largely on pregnancy and sexually transmitted infection (Fine 1988). A later body of research framed sexual desire in the context of "dilemmas" of gender, femininity, and expected standards of suppression of female sexuality (Tolman 1999; Tolman 2000; Tolman 2002). Given the substantial clinical attention paid to issues of 'low' sexual desire among women (Basson 2006), absence of a more detailed understanding of sexual desire in the earliest parts of women's sexual lives is a marked deficiency in our knowledge (Greydanus and Matytsina 2010).

The purpose of this paper is to synthesize published data about sexual interest drawn from a single sample of adolescent women. This will highlight data about sexual interest in young women that is dispersed in multiple publications, none of which specifically addressed sexual interest. Such a synthesis of existing data will provide a more accessible and thorough picture of sexual interest in young women, and give stronger empirical footing to new investigations.

## Material and Methods

Six peer-reviewed papers, published from 2005 to 2010, addressed adolescent women's sexual interest in association with a variety of sexual behaviors, hormonal contraceptive use, and with coitus during menstruation (Fortenberry, Temkit et al. 2005; Hensel, Fortenberry et al. 2007; Hensel, Fortenberry et al. 2008; Ott, Shew et al. 2008; Hensel, Fortenberry et al. 2010; Tanner, Hensel et al. 2010). These six papers were based on data drawn from a single longitudinal study – The Young Women's Project, initiated in 1999 and completed in 2009 – of young women living in Indianapolis, Indiana.

## The Young Women's Project

The Young Women's Project (YWP) was a longitudinal cohort study of sexual relationships, sexual behaviors and sexually transmitted infections among a cohort of young women in middle- to late-adolescence. Young women provided data on sexual behaviors from face-to-face interviews (completed at enrollment and each 3 months subsequently) and from daily sexual diaries. Interviews were used to establish the prevalence and incidence of sexual behaviors; diaries were used to establish event-level factors associated with sexual behaviors. Daily diaries are particularly useful for study of phenomena such as sexual interest that may be completely absent on any given day, and may vary in intensity from day to day (Gillmore, Gaylord et al. 2001; Green, Rafaeli et al. 2006). Moreover, daily reporting is important since sexual interest may or may not be associated with occurrence of partnered sexual behaviors, especially if other contextual factors (e.g., partner availability or adequate opportunity for sexual interaction) are more relevant antecedents of sexual activity.

The diary form was a pre-printed, single-page. Participants were asked to complete diaries at the end of each day (or when remembered, if forgotten), responding to cues assessing partner-specific interactions, sexual interactions (received and given oral-genital, vaginal,

anal) and condom use for vaginal and anal sexual events. Additional items assessed other events specific to that day (for example, menstrual bleeding or substance use) as well as items related to mood, sexual interest, emotional state and quality of partner interaction. Diary back-filling was possible but completed diaries were collected weekly during two 12-week periods each year. The research was approved by the institutional review board of Indiana University/Purdue University at Indianapolis – Clarian, with informed consent obtained from each participant and permission obtained from a parent or legal guardian.

Participants were 387 adolescent women receiving health care as part of the patient population in one of three primary care adolescent health clinics serving primarily lower- and middle-income families residing in areas with high rates of unintended pregnancy and STI. Potential participants were eligible if they were 14 to 17 years of age, spoke English, and were not pregnant. Sexual experience was not a criterion for entry: at enrollment, about one quarter (93/387) of subjects in the sample reported no lifetime penetrative sexual experience (vaginal or anal intercourse). However, all subjects reported at least one episode of vaginal or anal intercourse during the follow-up period of up to 8 years.

## Measures

*Sexual Interest* was assessed by a single diary item reflecting the proportion of the day (none, some, about half, most, all) associated with sexual feelings. For analysis, reports were coded as 0 (none) through 4 (all). In the earlier part of the study, the cue for this diary item was “Sexual.” In the latter part of the study, the diary cue was “interested in having sex.” This approach to operationalization of sexual interest is most closely related to that proposed as “Desire 1;” in other words, sexual interest that is not specifically linked to a sexual stimulus (Levin 2002). The measure may also be compatible the first of two components in a model proposed by Bancroft: an incentive motivation component (sexual interest/desire); and, an arousal component (Bancroft 2009). This measure would also most closely resemble that described by Basson as “initial” sexual desire that generates increased attention to sexual stimuli, and variable subjective and physiologic arousal (Basson and Schultz 2007). Although not addressed in our measure, initial sexual interest may address external or internal sources of interest, or both. For example, external sources of interest could be derived from the direct physical presence of a romantic partner at school, at a party, or in a work environment. Internal sources of interest could be from fantasies. This type of sexual interest may be related to sexual self-schema based in cultural standards for sexual behavior or factors such as erotophobia/erotophilia (Carvalho and Nobre 2010). Among adolescent women, we have shown that two components of sexual self-schema – sexual openness and sexual self-esteem – increase during adolescence. A third component – sexual anxiety – decreases (Hensel, O’Sullivan et al. 2011). The measure clearly does not differentiate sexual interest from sexual arousal although adult women report difficulty in making this distinction (Graham, Sanders et al. 2004).

Several other diary items addressed partner-specific interactions, partnered sexual behaviors, condom use, vaginal bleeding, oral contraceptive pill (OCP) use, feeling in love, and positive and negative mood. Partner-specific interactions included multiple items addressing both supportive and conflictual partner interactions. Sexual behaviors included coitus, given oral-genital sex (fellatio), received oral-genital sex, and anal sex. Condom use was assessed for coitus and anal sex. Vaginal bleeding, OCP use, and feeling in love were each single items. Positive and negative mood were multiple item scales. Readers are referred to the original papers for more precise details on these measures.

All of the reported analyses were conducted with multivariate statistical methods appropriate for the multiple within-person observations generated by daily diary data. In most of the analyses, additional statistical analyses controlled for patterns of recent behavior, or

variation of behaviors as a function of day of week. The major findings of these six papers relative to sexual interest are summarized in Table 1.

## Results

### Sexual interest and first coitus

A young woman's first coitus is an event associated with great personal, cultural, and public health meaning. From a young woman's perspective, first coitus brings into focus the intersection of sexuality, romantic/sexual relationships, social status, fertility, and exposure to sexually transmitted infections. From a cultural perspective, first coitus represents a status change of "virgin" to "not a virgin." This status change retains much significance, even in contemporary societies. From a clinical and public health perspective, attempts to influence on the age and marital timing of first coitus remains an important part of adolescents' sexuality education (Jemmott, Jemmott et al. 2010). Focus on timing, on coercion, on regret, and on contraceptive use dominates much of the scientific discourse around adolescent women's first coitus (Santelli, Abma et al. 2004; O'Sullivan and Brooks-Gunn 2005).

These various emphases have obscured understanding of young women's first coitus as a *sexual* event. For example, a substantial proportion of young women report first coitus associated with sexual interest and arousal, and about 10% of women report orgasm with first coitus (Thompson 1990; Carpenter 2002; Tolman 2002; Fugl-Meyer, Oberg et al. 2006). Only about 25% of college-aged women retrospectively report considerable or extreme physical sexual satisfaction associated with first sex (Higgins, Trussell et al. 2010). However, less is known about levels of sexual interest associated with first coitus. If, for example, first coitus were primarily associated with partner and situational factors, sexual interest on the day of first coitus should be similar to that of the day before, or day after, first coitus. We would also expect to see higher levels of sexual interest in subsequent coital events, as young women learn to associate sexual interest and sex. Using daily diary reports from the Young Women's Project, we were able to identify a small group of young women whose first coitus was recorded in diary collection period. This allowed us to capture some insight into the association of sexual interest with first coitus (Tanner, Hensel et al. 2010).

Interviews and daily diaries were used to identify days of first coitus. First, using interviews, we classified young women (98/387; 25.4%) without prior coital experience at enrollment as those who answered "no" to the questions "Have you ever had vaginal sex in your lifetime?" and "Have you had vaginal sex in the past three months?" From these 98, 34 (36.7%) subjects with inconsistent data were omitted. About a third (14/36; 38.8%) were omitted because their follow up interviews were inconsistent after enrollment (e.g., a subject responded "no" to the question "Have you ever had vaginal sex in your lifetime?" *after* a previous affirmative response). The other 22 (61.1%) had diaries that were incongruent with interviews. Of the remaining 62 subjects, 41 (64%) subjects reported first coitus in a daily diary, allowing identification of the date on which first coitus occurred.

Analyses showed three findings related to sexual interest and first coitus. First, sexual interest was higher on the day of first coitus (mean sexual interest = 3.07), compared to either the day before first coitus (mean sexual interest = 2.07), or the day after first coitus (mean sexual interest = 1.90). This suggests that, on average, young women's sexual interest on the day of first coitus is compatible with the behavior they engage in. However, because of the limitations of the daily diary method, we cannot discern whether sexual interest leads to coitus or whether partnered sexual interactions generated the reported sexual interest, as proposed by Basson (2002).

Second, level of sexual interest associated with second and subsequent coital events was similar to that reported in association with first coitus for a given young woman. Thus, we saw no evidence of an effect of accumulating coital experience on reports of sexual interest associated with those experiences. This suggests that the aspects of sexual interest associated with sexual behavior are already in place as coital behaviors are initiated and subsequently become recurrent.

Third, a young woman's level of sexual interest on the day of her first coitus was about the same as the level of sexual interest on days reported by the larger sample of coitally experienced young women. Thus, average sexual interest reported associated with first coitus was 3.07, compared to 2.92 reported by young women on "usual" coital days.

### Sexual interest and coitus

One characteristic of sexual behavior of adult women is that coitus is typically recurrent but is not typically daily behavior, occurring on average about twice weekly. However, the lack of coincidence of sexual interest, access to a partner, appropriate privacy and time, may affect coital frequency (Hornsby and Wilcox 1989; Rao and DeMaris 1995). Adolescent women, in particular, may have difficulty in arranging privacy and access to a partner, and it has been suggested that much of adolescents' sexual activity is opportunistic. If this were true, one would expect patterns of young women's coital activity to be largely unrelated to sexual interest, and to other emotional and interpersonal factors. Thus, we conducted an analysis of diary data from the Young Women's Project to address the question of whether days on which coitus occurred could be differentiated from days when coitus did not occur (Fortenberry, Temkit et al. 2005).

These analyses occurred relatively early in the Young Women's Project, representing 146 women and 28,376 diary days. Coital activity was reported on 8.3% of these days, and the average number of coital events per participant was 16.1. The average daily level of sexual interest was 1.6, but was higher on days with sex, compared to days without sex. Sexual interest was correlated to positive mood ( $r=0.18$ ) and with negative mood ( $r=0.16$ ).

In bivariate analyses, sexual interest was associated with occurrence of coitus on a given day – (Odds Ratio [OR]=2.84 [95% CI 2.59, 3.12]). Coitus was more likely on Fridays and on weekend days (compared to weekdays), and was much less likely on days associated with vaginal bleeding. However, multivariable analyses adjusting for these factors produced only a small reduction in the association of sexual interest and coitus on a given day: OR=2.50 [95% CI 2.36, 2.65](see Table 2).

These data demonstrated the strong association of sexual interest and occurrence of coitus on a given day. The data do not support the idea that adolescent sexual behavior is simply opportunistic. Rather – as is true for adults – sexual activity follows socially-prescribed patterns of work and leisure, inter-personal interactions with partners, and intra-personal interest in having sex at all.

### Sexual interest and oral-genital sexual behaviors

To this point, we have considered young women's sexual interest only in the context of coitus. Obviously, behaviors other than penile-vaginal intercourse may characterize part, or all, of a given sexual event. However, less complex events (for example, consisting only of fellatio, or only coitus) may constitute qualitatively different sexual phenomena compared to more complex events where combinations of behaviors occur. Thus, we asked if sexual events characterized only by fellatio or only by cunnilingus differed from events in which fellatio or cunnilingus was combined with coitus (Hensel, Fortenberry et al. 2008).

Several findings relative to sexual interest emerged from these analyses (Table 3). First, sexual interest was lower on days when fellatio or cunnilingus occurred alone, compared to days when coitus was the only sexual behavior. One interpretation of this finding is that oral-genital sex may be chosen as a substitute for coitus on days when a young woman's partner desires sex but she does not.

Second, sexual interest was significantly higher on days when fellatio or cunnilingus occurred in conjunction with coitus, compared to days when coitus occurred alone. This is consistent with other studies that show a more complex sexual repertoire is associated with higher levels of sexual satisfaction and orgasm (Richters, Visser et al. 2006).

Third, these findings were similar to – but independent of – the influence of positive mood, suggesting that sexual interest is not reported by young women as a surrogate for a more general activated mood state. Negative mood in general was neither higher nor lower on days when sexual events included fellatio or cunnilingus, either alone or in tandem with coitus.

Finally, young women reported lower levels of sexual interest on days where the only sexual behavior was fellatio. However, they reported *higher* feelings of being in love on those days. These data suggest that sexual interest can be differentiated from other relationship emotions, at least from a behavioral perspective.

### Sexual interest and heterosexual anal intercourse

Heterosexual anal intercourse (and other anal sexual behaviors) appears to have become more accepted and more common, but some studies suggest that anal intercourse is more common among older compared to younger women (McBride and Fortenberry 2010). Moreover, there are no data to address factors linked to inclusion of anal intercourse in a repertoire of sexual behaviors that could be chosen with any given sexual encounter. Using daily diary data from the Young Women's Project, we explored the role of sexual interest on the occurrence of anal intercourse (Hensel, Fortenberry et al. 2010).

Anal intercourse among adolescent women was relatively uncommon. Only 547/132,707 (0.4%) diary days included a report of anal intercourse. Higher level of sexual interest was associated with anal intercourse in both bivariate (OR=1.65, 95% CI 1.56, 1.75) and multivariable models (OR=1.18, 95% CI 1.09 1.29)(See Table 4). Condom use for anal intercourse was associated with sexual interest in bivariate but not in multivariable models.

Odds ratios of situational variables such as vaginal bleeding were associated with marked increases in the likelihood of anal sex on a given day. However, neither alcohol nor marijuana use were associated with occurrence of anal sex (Table 4). Odd ratios of interpersonal variables such as partner support were significantly lower, and partner negativity was significantly higher, on days when anal sex occurred. Other affective variables such as positive and negative mood showed patterns of association different from those associated with coitus (see above). For example, positive mood was significantly lower and negative mood significantly higher on days with anal intercourse. These data suggest that the association of sexual interest and anal sex is not simply a reflection of positive interactions with partners or overall positive mood. In fact, the data support the importance of considering the interplay of sexual interest, mood, and partner interaction, as these interactions differ somewhat when the sexual behavior is anal intercourse than when it is coitus.

### Sexual interest and hormonal contraceptive use

Changes in mood and in sexual interest associated with hormonal contraceptive use are relatively common reasons for method dissatisfaction and discontinuation (Emans, Grace et al. 1987; Sanders, Graham et al. 2001; Higgins, Hoffman et al. 2008). However, despite relatively high rates of hormonal contraceptive use by adolescent women, few data address the potential impact of initiation of combined ethinyl estradiol/progestin oral contraceptives, or injected depot medroxy-progesterone (DMPA) contraceptives on adolescent women's self-reported sexual interest, and positive and negative mood (Ott, Shew et al. 2008).

For this study, participants' contraceptive method during any give 12-weeks diary period was classified into one of 5 groups: stable oral contraceptive pill (OCP) use (using OCP at the beginning and end of a diary period); started OCP use (using OCP at the end, but not beginning, of a diary period); stopped OCP use (using OCP at the beginning, but not the end, of a diary period); DMPA use; and, non-users of any hormonal contraceptive method. We reasoned that these groups would identify patterns of sexual interest change associated with long-term use, as well as those that might be identified during method initiation or cessation.

We saw no significant differences in average daily sexual interest in a series of contrasts based on hormonal contraceptive method. For example, sexual interest was not different in comparisons of stable OCP users, and non-users of any method. Likewise, DMPA users reported no differences in sexual interest, compared to non-users of any hormonal method.

On the other hand, both positive and negative mood were associated with hormonal contraceptive use. Positive mood was higher and negative mood lower among stable OCP users, compared to non-users, or those initiating OCP use. Among DMPA users, positive mood was lower and negative mood higher, compared to stable OCP users.

### Sexual interest and sex during menstruation

Studies of menstrual cycle variation typically show that sexual interest is lowest during menses (Bancroft 1995). Many adult women avoid coital activity during menstruation, and several analyses of the Young Women's Project data have also demonstrated that vaginal sex is almost completely suppressed during menses, and both fellatio and anal intercourse become more likely (Hensel, Fortenberry et al. 2004; Hensel, Fortenberry et al. 2008; Hensel, Fortenberry et al. 2010). However, neither sexual interest nor coital activity completely disappear during menses, so we used Young Women's Project diary data to explore the associations of sexual interest and other factors on the occurrence of coitus during menses (Hensel, Fortenberry et al. 2007).

These analyses occurred after full enrollment but before completion of all follow-up. Vaginal bleeding was reported on 18,131/167,260 (10.8% of all days). Coitus was reported on 10,257/167,260 (6.1% of days). Less than 4% (393/10,257) of days with coitus occurred on days when vaginal bleeding was reported.

Sexual interest was associated with increased likelihood of sex during menses in both bivariate (OR=1.74, 95% CI 1.63 1.87) and multivariable (OR=1.62, 95% CI 1.46 1.79) analyses. Partner support showed a similar pattern, with higher levels of partner support associated with greater likelihood of coitus during vaginal bleeding. A multiplicative interaction term between sexual interest and partner support was also significant, showing that coitus during menses became much more likely when both sexual interest and partner support were high. A high level of sexual interest had little effect on coitus during menses when partner support was low.

## Discussion

This synthesis of previously published data about sexual interest in a single longitudinally followed cohort of young women allows a substantially new picture of young women's sexuality to emerge. One is struck by the consistent event-level association of sexual interest with a variety of sexual behaviors. Although adolescent women, like adult women, may engage in sexual behaviors for many reasons (not all of which are explicitly sexual), the data demonstrate a consistent association of sexual interest and sexual behavior. This finding suggests that young women are capable of agentic sexual decision-making, where an internal motivational state (in this case, sexual interest) matches a behavior (i.e., sexual behavior) (Welsh 2000). Moreover, the data show that sexual interest can be expressed in fairly nuanced ways, depending on circumstances such as menses, or even her feelings for her partner on that day. These data are inconsistent with a somewhat pervasive idea that adolescent women are sexually passive partners to male's insistent sexuality. The artificial contrast of "adolescent" and "adult" sexuality may create distinctions that hinder, rather than promote, understanding of women's sexual development through the lifespan. For example, we wonder if clinicians would respond with diagnostic and therapeutic options to complaints of "low sexual desire" of a 15 year old sexually active adolescent woman.

The data also demonstrate the usefulness of daily diary methodologies for providing insight into the complex intra- and inter-personal contexts associated with any given sexual event. Cross-sectional surveys – conducted weeks or months after one or more events – simply cannot reliably capture details comparable to those provided by daily diaries. Even regularly spaced measures in cohort studies are often too infrequent to capture the day-to-day variations in sexual interest and in sexual behaviors to allow one to disentangle other mood, partner, and situational effects.

Many of the limitations of these data should already be obvious. The sample itself is relatively small and from a single geographic area in a particular historical context. Of course, this particular limitation should only serve as an incentive to larger investigations in more diverse contexts.

Issues with the measurement of sexual interest warrant additional discussion. Our measure addressed a motivational aspect of sexual interest not specifically tied to sexual stimulus. However, the process by which sexual interest is linked to sexual behavior remains unclear. Higher levels of sexual interest on a given day were associated with increased likelihood of sex on a given day. On the other hand, sex was not invariant on days with higher levels of sexual interest, suggesting that other factors (commitment to abstinence, partner unavailability, menses, lack of contraception) are also involved. We also know, based on data not shown here, that some participants reported sexual activity on days when sexual interest was low or absent. This may reflect the idea that at least some adult women report never experiencing spontaneous sexual interest (Basson 2002) and is consistent as well with the model of consensual but unwanted (at least, undesired) sex (Peterson and Muehlenhard 2007). Obviously, some of these types of events may represent sexual coercion. An ecologic momentary assessment (EMA) approach – with before/after sexual encounter measures of affect, sexual interest, and sexual/relationship satisfaction – could disentangle these relations. For example, an EMA study of sexually active adolescents showed that positive mood increased prior to sex, peaked around the time of sex, then returned to baseline (Shrier, Koren et al. 2010).

The conceptual issues associated with meaning of the measure of sexual interest – for example, the distinction of sexual interest and sexual arousal – are not trivial. However, much of our understanding sexual arousal in adult women depends on a variety of objective



measures of brain (for example, with functional MRI) or genital (for example, with vulvar thermography) changes in response to sexual stimuli such as erotic film segments (Deliganis, Maravilla et al. 2002; Komisaruk and Whipple 2005; Prause and Heiman 2010). Given substantial social and public health concerns over potential harmful effects of pornography on adolescent development (Braun-Courville and Rojas 2009), it seems unlikely that a developmental psychophysiology of young women's sexual interest and sexual arousal will emerge in the near future. The acknowledged relative lack of specificity of our measure of sexual interest could be improved, however. Qualitative inquiry into young women's subjective sexual experiences, similar to research with adult women (Graham, Sanders et al. 2004), would be useful.

## Conclusions

Sexual interest is relevant to a variety of sexual and contraceptive behaviors among adolescent women. Inclusion of perspectives drawn from younger women may be useful in development of new models for sexual function and dysfunction among women of all ages.

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**Table 1**

Summary of main findings in association of sexual interest, sexual behaviors, hormonal contraceptive use, and coitus during menses – adolescent women

<b>Behavior (Source Article)</b>	<b>Main Finding</b>
First Coitus (Tanner, Hensel et al. 2010)	Higher level of sexual interest on day of 1 <sup>st</sup> coitus compared to day before or day after
Coitus on a given day (Fortenberry, Temkit et al. 2005)	Level of sexual interest on a given day associated with increased likelihood of coitus on that day
Oral-genital sexual behaviors (Hensel, Fortenberry et al. 2008)	Sexual interest associated with increased likelihood of combined oral-genital sex and coitus, and decreased likelihood of oralgenital sex as only sexual behavior of the day
Anal sex (Hensel, Fortenberry et al. 2010)	Increased likelihood of anal intercourse
Hormonal contraceptives use (Ott, Shew et al. 2008)	No association of oral or injected hormonal contraceptive use on sexual interest
Coitus during menses (Hensel, Fortenberry et al. 2007)	Higher levels of sexual interest associated with increased likelihood of coitus during menses

**Table 2**

Within-day situational, interpersonal and intra-personal factors and occurrence of coitus

	Odds Ratio	
	Univariate	Multivariate
Day of Week		
Friday*	1.40	1.25
Weekend	1.35	1.19
Interpersonal		
Partner Support	2.45	2.12
Partner Argument	1.57	1.30
Intra-personal		
Sexual Interest	2.84	2.50
Positive Mood	1.14	**
Negative Mood	0.90	0.93

\* Reference category is weekday

\*\* p>0.05; otherwise, all odds ratios p<0.05

Adapted from (Fortenberry, Temkit et al. 2005)

**Table 3**

Association of sexual interest and other factors with fellatio and cunnilingus

	Fellatio		Cunnilingus	
	Fellatio Only	Fellatio + Coitus	Cunnilingus Only	Cunnilingus + Coitus
Age	1.08*	1.01	1.05	0.98
Partner Support	0.61*	1.18*	0.94	1.11*
Sexual Interest	0.75*	1.06*	0.88*	1.06*
In Love	1.51*	1.07	1.02	0.93
Positive Mood	0.90*	1.03*	1.00	1.05*

All numbers are odds ratios; Reference is days with coitus only for all comparisons.

\*  
p<0.05

Adapted from (Hensel, Fortenberry et al. 2008)

**Table 4**

Within-day situational, interpersonal and intra-personal factors and occurrence of anal intercourse

	Odds Ratio	
	Bivariate	Multivariable
Situational factors		
Vaginal bleeding	1.67	1.49
Alcohol use	2.79	1.22*
Marijuana use	2.01	0.97*
Interpersonal		
Partner Support	0.25	0.91
Partner Negativity	1.23	1.11
Intra-personal		
Sexual Interest	1.65	1.18
Positive Mood	0.94	0.96
Negative Mood	1.06	1.05

\*  $p > 0.05$ ; otherwise, all odds ratios  $p < 0.05$

Adapted from (Hensel, Fortenberry et al. 2010)