From the Bedroom to the Office: Workplace Spillover Effects of Sexual Activity at Home

Keith Leavitt
Oregon State University

Christopher M. Barnes
University of Washington

Trevor Watkins
University of Washington

David T. Wagner
University of Oregon

1Author string was determined by a complex algorithm prioritizing childish humor. The algorithm may be obtained (begrudgingly) from the last author.

Corresponding author: Keith Leavitt, Oregon State University, 370 Austin Hall Corvallis, OR 97331, USA.

Email: Keith.leavitt@oregonstate.edu
ABSTRACT

Sexual behavior represents relatively common and mundane home life behavior, with demonstrated impact on both mood and general physical and psychological well-being. Integrating emergent research on sex and mood with theory on work-life enrichment, we propose a novel model demonstrating the effects of sexual behavior at home on next-day job satisfaction and job engagement as a function of positive affect. Using a two week daily diary study of married, employed adults, we found that: 1.) when employees engaged in sex at home, they reported increased positive affect at work the following day, independent of the effects of marital satisfaction; 2.) sex at home increased both daily job satisfaction and daily job engagement as a function of increased positive affect, 3.) daily work-to-family strain-based conflict significantly reduced the likelihood of engaging in sex at home that evening. Accordingly, we extend theory on work-life enrichment by demonstrating the import of seemingly banal behavior on daily work-life, with implications for work-life impingement.

Keywords: work-family enrichment; sex; spillover; job engagement; job attitudes
INTRODUCTION

A growing body of research has found that employees’ home and work lives reciprocally influence each other, often in unanticipated ways (Judge & Ilies, 2004; Ilies, Wilson & Wagner, 2009; Gryzwacz & Marks, 2000). Indeed, even the seemingly ordinary aspects of our lives at home have been shown to significantly impact our experiences and effectiveness at work (Barnes & Wagner, 2009). For example, Lanaj, Johnson, and Barnes (2014) found that late-night smartphone use at home led to impairments in job engagement the following workday. Relatedly, Barnes, Lucianetti, Bhave & Christian (2015) found that the quality of sleep managers get at home predicted abusive supervisory behavior the next day, with consequent downstream effects on their employees’ level of job engagement.

Within the work-family enrichment literature, mood is theorized to be an especially powerful vector for spillover between work and family life (Greenhaus & Powell, 2006), with resources garnered within one domain allowing for heightened performance and mood in the other. To date, empirical work has found that both positive and negative moods spill from home to work and work to home (Song, Foo, & Uy, 2008). Moreover, daily job satisfaction, an affectively-influenced attitude, predicts both after-work mood at home (Judge & Ilies, 2004) and marital satisfaction (Ilies et al., 2007). Accordingly, home-life factors which may produce a lasting effect on mood may similarly impact how employees perceive and engage in their work the following day (Kirchmeyer, 1992; Greenhaus & Powell, 2006). In the current paper, we focus on one common but heretofore overlooked home-life behavior with potential mood-enhancing implications that may spillover to the workplace: nightly sexual behavior.

To date, the management and applied psychology literatures have largely ignored the potential impact of employees’ sex lives on workplace outcomes, instead focusing on the potential harm caused by sexual harassment while at work (Cortina & Wasti, 2005) and by
exposure to inappropriate sexual behavior at work (Berdahl & Aquino, 2009). Although Equal Employment Opportunity law and concern over hostile work environments (EEOC, 1980) have rightfully motivated organizations to “sanitize” the modern workplace (Schultz, 1998) and encouraged employees to relegate considerations of sex to the privacy of their personal lives, we argue that this normative separation of work and sex has led organizational scholars to ignore the possibility that sexual behavior outside of the work day may nevertheless influence behavior within it. Indeed, an editorial commentary in the Academy of Management Journal titled “What makes management research interesting, and why does it matter?” notes that sex and stock options are topics that immediately generate interest, but that sex is often excluded from management research because it may be perceived as taboo (Bartunek, Rynes, & Ireland, 2006). Although its discussion may often be taboo, sex is both an evolutionary necessity for reproduction, and a common behavior in which the vast majority of working-aged adults commonly engage.

Accordingly, the purpose of this paper is to extend the work-family literature to include sex at home on a given evening as an important antecedent of work phenomena. We draw from research on the physiology of human sexuality to posit that sex leads to improved mood that carries over into the next work day, with beneficial implications for job satisfaction and work engagement. To wit, we explore whether strain-based work-to-family conflict may negatively impact marital sexual activity. We base our predictions on theories of work-family enrichment and affect regulation, and we test this model with a sample of married full-time employees, using a diary study focusing on within-individual effects. We introduce to the management literature a common but heretofore overlooked home behavior that can impact work functioning. In doing so, we contribute to theory in three meaningful ways.
First, whereas research on work-life enrichment (Greenhaus & Powell, 2006) has produced an especially comprehensive resource-based model of spillover from one role to another (including broad resource sets covering skills and perspectives, psychological and physical resources, social-capital resources, flexibility and material resources), a resource-based approach implicitly assumes that resources are relatively stable and are garnered over time. According to this theoretical perspective, resources generated over time in one role allow for greater effectiveness in another role via positive emotions (e.g., income generated at work allows for reduced stress at home) and transfer of useful skills and perspectives (e.g., interpersonal skills learned at work improve relationships with children; cf. Greenhaus & Powell, 2006). This focus on stable and role-based resources gives little attention to especially banal and episodic behaviors in our home-lives, which may not result from or significantly contribute to the accumulation of role-based resources. Indeed, in their foundational theoretical piece on work-life enrichment, Greenhaus and Powell (2006) argue that “psychological and physical resources include positive self-evaluations, such as self-efficacy (Bandura, 1997; Gist & Mitchell, 1992) and self-esteem (Brockner, 1988). These resources also include personal hardiness (Blaney & Ganellen, 1990; Kobasa, 1979), positive emotions about the future, such as optimism and hope (Seligman, 2002), and physical health.” (p. 80). Although these enduring home-based resources no doubt accumulate and confer benefits for one’s work-life, we argue that the conversation about work-life enrichment also requires the “everyday” behaviors that may supplement role-based resources or sustain employees in the short-run if role-based resources are compromised. Sexual activity (independent of the resource-based factor of marital quality) represents such episodic behavior, and its introduction to the literature invites the future exploration of other understudied behaviors.
Second, we contribute to the broader literature on affective spillover across the work-family domain (Edwards & Rothbard, 2000). Although it has previously been established that daily variation in mood-based satisfaction can cross from one domain (i.e., family or work) to the other (Ilies et al., 2007; Ilies et al., 2009), spillover due to sex may be unique for two reasons. First, the use of broad constructs for examining home life, such as engagement with family (Rothbard, 2001) or marital satisfaction (Ilies et al., 2007; 2009), overlooks the fact that sex may actually compete for time with other forms of family engagement (parenting, shared family activities). Thus, sexual activity should be unpacked from other positive home-life behaviors. Second, there is reason to believe that sexual behavior may affect workplace outcomes differently than other facets of marital satisfaction. Because previously explored sources of affective spillover such as marital satisfaction (Ilies et al., 2007) are generally evaluative in nature (i.e., they reflect mood experienced in part due to cognitive appraisal), scholars have argued and found that the extent to which employees integrate or segment their work and family roles can meaningfully impact the extent to which marital satisfaction spills over to work (Rothbard, Phillips, & Dumas, 2005; Ilies, 2009). By contrast, the effect of sex on mood appears to be largely non-conscious, hormonal and evolutionarily-prepared (Brody, 2002; Damsma, Pfaus, Wenkstern, Phillips, & Fibiger, 1992). Accordingly, elevations in mood due to sex may permeate work-life boundaries, even if employees attempt to cognitively separate their work and home lives. Accordingly, by introducing sex as a unique and physiologically-relevant home-life factor, we extend the work-family affective spillover literature by suggesting that the impact of various home-life behaviors should be studied independently of one another.

Third, we contribute to theory on work engagement by demonstrating that incidental and seemingly irrelevant non-work behaviors can lead to heightened investment and motivation
within one’s work the following day. Notably, the majority of the research on job engagement focuses on work-relevant features that impact engagement, creating a tacit assumption that being highly engaged at work is a function of work context factors and individual differences (cf. Petrou, Demerouti, Peeters, Schaufeli, & Hetland, 2012). A narrative review and meta-analysis demonstrates that antecedents of job characteristics, leadership, and disposition all categorically impact job engagement (Christian, Garza, & Slaughter, 2011). We move beyond these factors to propose that ordinary non-work behavior can also significantly impact engagement with one’s work. Thus, we offer a simple point of leverage for individuals to manage their own work engagement by focusing on a relatively common non-work factor: their sex lives.

**SEX AND WORK-RELEVANT OUTCOMES**

The work-family literature has traditionally identified conditions under which work and life domains may conflict with one another (Frone, Yardley, & Markel, 1992; Greenhaus & Beutell, 1985; Netemeyer, Boles & McMurrian, 1996). Organizational scholars are increasingly interested in potential sources of positive enrichment across the two domains, often focusing on the spillover of role-based resources (Greenhaus & Powell, 2006; Edwards & Rothbard, 2000; Rothbard, 2001) or evaluative attitudes (Judge & Ilies, 2004; Ilies, Wilson & Wagner, 2009) from work life to home life. Accordingly, a meta-analysis of relationships within work and home domains found that considerable variability in job satisfaction was explained by family domain-specific variables (Ford, Heinen, & Langkamer, 2007). Thus, the authors concluded that researchers should continue to investigate home-life events and behaviors which may impact attitudes and outcomes in the workplace.

One heretofore unexplored home life behavior that may impact work outcomes is marital sexual behavior. According to a recent National Survey of Sexual Health and Behavior (NSSHB;
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2010 report, the majority of traditional working-age (18-60) married men and women report engaging in sex at least several times per month, with more than a third under the age of 40 engaging in sex at least two to three times per week. Critically, human biology research indicates that there are important hormone-based physiological processes that occur during sex that shape affective experiences, including positive mood the following day.

Mood-Based Effects of Sex

The effects of sex on mood are long-studied and well-established outside of the organizational literature, with initial research suggesting that sex and anxiety were negatively and reciprocally related over fifty years ago (Wolpe, 1958). More recently, a large-scale cross-sectional survey of 15,000 participants found that sexual activity was related to an overall sense of happiness (Blanchflower & Oswald, 2004). The effects of sex on positive affect are likely related to multiple factors, including the release of Oxytocin, which is associated with stress relief and improved social interactions (Heinrichs, Baumgartner, Kirschbaum, & Ehlert, 2003). Similarly, sexual activity appears to foster the release of opioids and dopamine, which stamp-in positive reinforcement of behavior and may increase a sense of general well-being (Agmo & Berenfeld, 1990; Exton, Kruger, Koch, Paulson, Knapp, Hartmann, & Schedlowski, 2001).

Critically, research has argued and found that sexual intercourse (as opposed to oral sex or other forms of stimulation) actually produces stronger hormonal and mood responses, likely as a function of reproductive preeminence (Brody, 2002; Damsma et al., 1992). In support of this sociobiological (evolutionary) argument, researchers have found greater dopaminergic activity involved in intercourse compared to masturbatory activity or other forms of partner-based stimulation (Exton et al., 2001; Exton, Bindert, Kruger, Scheller, Hartmann, & Schedlowski, 1999). This finding suggests that evaluations of sexual activity (i.e., satisfaction with sex or
enjoyment) may be less important for hormonal-based mood effects than simply engaging/not engaging in copulatory sexual intercourse (Brody, 2002). Thus, compared to other more evaluative drivers of mood that may spillover in to the workplace, sex appears to increase positive affect primarily by influencing hormonal and neurotransmitter activity.

While the duration of positive mood effects from sexual activity are not especially well-understood, a more recent diary study of middle-aged women found that sexual behavior with a partner on one day predicted heightened and persistent positive moods the following day (Burleson, Trevathan and Todd, 2007). Critically, this diary approach establishes temporal precedence in the direction from sex on day one to positive affect on day two. Additionally, this approach demonstrates the effect of incidental positive affect (mood), as opposed to a general sense of well-being. Thus, it is likely that positive affect stemming from sexual intercourse lasts at least until the following workday.

Thus, we propose that sexual intercourse should lead to experiencing positive affect at work the following day.

_Hypothesis 1: Sexual intercourse on a given evening has a positive effect on state positive affect the next morning at work._

**Effects of Sex on Job Satisfaction**

Although much of the research on job satisfaction has focused on cognitive-based drivers of satisfaction, affective events (including incidental moods) have also been theorized (Weiss & Cropanzano, 1996) and demonstrated (Scott, Barnes, & Wagner, 2012) to drive a meaningful portion of the variance in job satisfaction. Moreover, one of the primary ways in which spillover effects may permeate the boundary between work and home is through the spillover of mood (Edwards & Rothbard, 2000). Although the effect of mood at work on daily job satisfaction has
already been empirically demonstrated (Judge & Ilies, 2004; Fisher, 2002), the sources of episodic mood are diverse and the impact of non-work factors on job satisfaction is less well understood as researchers have oft focused on enduring life circumstances that may affect job satisfaction (Ford, Heinen, & Langkamer, 2007). However, it is reasonable to expect that sources of positive mood from outside of the workplace may drive satisfaction at work, as momentary affect and mood at work drive interpretations of work circumstances (Brief & Weiss, 2002). As Judge and Ilies (2004) noted, “the study of affect in job satisfaction research holds the promise of explaining within-individual variation in job satisfaction that would otherwise be missed” (p. 661).

Further, it has been long established that the causes of moods may be easily misattributed, leading to differences in judgments of unrelated stimuli (Ashby & Isen, 1999; Schwartz & Clore, 1983). Thus, we propose that employees viewing their work day through the positive lens of sex-induced positive moods will experience and report greater job satisfaction compared to days that do not follow sexual activity. Accordingly, we propose the following two hypotheses:

*Hypothesis 2: Sexual intercourse on a given evening has a positive effect on job satisfaction the next day at work.*

*Hypothesis 3: State positive affect mediates the effect of sex on job satisfaction.*

**Effects of Sex on Job Engagement**

Job engagement connotes high levels of personal investment in the work tasks performed at a job, as well as a persistent positive motivational state (Kahn, 1990; Rich, LePine, & Crawford, 2010; Maslach, Schaufeli, & Leiter, 2001). Job engagement is conceptually and empirically distinct from work attitudes (including job satisfaction), and is a critical
organizational outcome for both scholars and practitioners (Christian, Garza, & Slaughter, 2011). Moreover, job engagement is a critical mediator between many distal antecedents and job performance, suggesting that it should be of substantial import to organizations (Christian et al., 2011). Although organizations are increasingly aware of the importance of job engagement and actively track it within their ranks, a 2014 Gallup poll of the U.S. working population found that less than one-third (31.5%) of employees report being engaged at work; globally, the percentage of engaged employees is roughly 13% (Gallup.com). While job engagement is described in terms of an enduring state, job engagement has also been shown to demonstrate substantial intra-individual variation (Sonnentag, 2003). Ironically, we propose that one important factor which drives daily employee engagement occurs outside of the purview of the organization, and argue that employee sexual behavior should significantly predict heightened levels of job engagement the following day as a function of increased positive affect.

The Broaden-and-Build theory of positive emotions (Frederickson, 2001) posits that “experiences of positive emotions broaden people’s momentary thought-action repertoires, which in turn serve to build their enduring personal resources.” (p. 218). Indeed, positive affect can drive psychological resiliency and coping (Frederickson, 2001), and positive moods create motivational effects relevant to job performance (Tsai, Chen, & Liu, 2007). Accordingly, we suggest that sex on a given day should lead to heightened engagement at work the following day, as heightened positive affect creates resilience against stress and negative events while promoting positive motivation. Further, activities that promote recovery from the previous day’s work have been demonstrated to drive high levels of engagement the next day (Sonnentag, 2003). Although Sonnentag’s work broadly focused on pleasurable leisure activities that promote recovery, it is reasonable to expect that sexual behavior (as a pleasurable, non-work activity)
should similarly promote engagement the following day as a function of increased positive affect.

Thus, we propose the following two hypotheses:

*Hypothesis 4: Sexual intercourse on a given evening has a positive effect on work engagement the next day at work.*

*Hypothesis 5: Positive affect mediates the effect of sex on work engagement.*

**Negative Effects of Strain-Based Work-to-Family Conflict on Sex**

Having elaborated on the manner in which sex might positively impact an employee’s work life, we now explore how the experience of work might conversely influence sexual behaviors. Recent research has highlighted how specific workplace activities influence employees’ investment of time with their spouses later that evening (Harrison & Wagner, 2016) as well as employees’ home lives (Wagner, Barnes, & Scott, 2014). Moreover, meta-analytic estimates among stressors, involvement, and support within work and home domains indicate that job stress is one of the strongest cross-domain predictors of family satisfaction (Ford et al., 2007). Similarly, a meta-analysis directly examining the effects of work-to-family conflict (WFC) found that WFC has been associated with serious stress related consequences (including somatic symptoms), as well as negatively related to home-life consequences (including family satisfaction, family performance and marital satisfaction) (Allen, Herst, Bruck, & Sutton, 2000). Thus, work-based impingement and the strain it creates appear to have a broad negative impact on home life satisfaction. Critically, these authors found inconsistent estimates across studies for the effects of WFC on several domains of marital and life satisfaction, and concluded that a better understanding of the effects would be gleaned by focusing on more specific aspects of
non-work life (Allen et al. 2000). Accordingly, we answer this call by proposing that WFC conflict should negatively impinge on employees’ sex behavior.

Work-to-family strain-based conflict is generally described in terms of work-related stress negatively encroaching on enjoyment of home and family life following work (Schaufeli et al., 2006). As Hulin (2002) has argued, the boundary between work and home life continues to erode, and the possibility for work and home experiences to encroach upon one another has accordingly increased. This can be problematic for employees’ sex lives because stress and negative emotions (which may carry over from work to home) have been shown to inhibit sexual response. For instance, research has found that anger and anxiety reduce sexual arousal in otherwise sexually functional men (Beck & Bozman, 1995). Supportingly, studies which experimentally induced incidental state affect found that negative mood was associated with decreased objective genital sexual response among males following the mood induction (Mitchell, DiBartolo, Brown, & Barlow, 1998).

Taken together, we propose that the experience of strain-based work-to-family conflict should negatively impact the probability of sex:

\textit{Hypothesis 6: Strain-based work-to-family conflict has a negative effect on the probability of having sex later that night.}

\section*{METHOD}

\textbf{Participants}

Participants were recruited via Amazon Mechanical Turk and resided within the Eastern Standard Time (EST) time zone of the United States\(^1\). With the growing popularity of online data sources, scholars have compared the quality of such data with those obtained from more traditional sources. Findings suggest that data obtained via Mechanical Turk yields data similar
in quality to traditional samples, and that is more diverse than typical college student samples (Buhrmester, Kwang, & Gosling, 2011). Moreover, a recent meta-analysis of the relative consistency of data from online panels and traditional sources (Walter, Seibert, Goering, & O’Boyle, 2016) has shown these sources to be comparable in quality to more conventional data sources.

Participants worked in a wide variety of industries including education, healthcare, financial services, retail, manufacturing, information technology, government, and military. Potential participants read a brief description of the study posted on the Amazon internet platform and those who were interested followed a URL to the online entry survey. A total of 174 individuals completed the entry survey. Phase two of the study consisted of a daily diary study in which participants completed an online survey in the morning before work, in the afternoon at work, and in the evening before retiring to bed. The 159 individuals who participated in this phase of the study demonstrated a relatively high rate of completion, responding to 88%, 83%, and 87% of the morning, afternoon and evening surveys, respectively. Moreover, matching surveys for an individual on a given day yielded a final sample of 1479 observations, an average of 8.5 matched days per participant. This response rate meets or exceeds those in recent organizational studies utilizing the experience sampling methodology (e.g., Johnson, Lanaj, & Barnes, 2014; Song et al., 2008; Trougakos, Beal, Cheng, Hideg, & Zweig, 2015).

As described in the recruitment materials for the study, participants were required to be employed full time (at least 30 hours/week), married and currently living with their spouse. We chose to limit our daily diary study to married participants in order to exhibit greater stability in our independent variable—survey research has found that married couples actually have more
sex than single people (Center for Sexual Health Promotion, Indiana University). Participants had an average age of 35 (median age = 32), 59.2% were female, and 64.9% had at least one child. The sample was largely Caucasian (79.9%) and also included a substantial number of African-American (5.7%), Asian-American (5.2%) and Hispanic (4.6%) participants (4.6% reported biracial or other). The majority of participants self-reported as heterosexual (90.8%), with a number reporting bisexual (7.5%) or homosexual (1.2%) orientation, with one participant declining to answer.

Procedure

Participation in the study entailed completion of an entry survey that captured the various demographic characteristics described above as well as completion of short surveys in the morning, afternoon, and evening of each workday during the two-week diary study. Each of these surveys was completed online and participants were able to respond to the respective surveys during specified time windows. The morning survey was to be completed between 6 and 9 AM upon the employee’s arrival at work. The afternoon survey was to be completed between 3 and 6 PM at the employee’s workplace, and the evening survey was to be completed between 8 and 11 PM prior to the employee retiring to bed for the night. In order to create temporal separation between independent and dependent variables, and thus eliminate concerns of common method variance, we measured the elements of our model on the different surveys. Participants were paid $.50 for each completed daily survey and to incentivize completion of all surveys on a given day, we paid participants a daily bonus of $.50 for each day on which they completed all of the day’s surveys. Altogether, a participant who completed the entry survey and every survey on each day of the diary study could earn a total of $21.50 over the course of the
study. However, to avoid undue coercion to participate in each survey, participants were allowed to continue participating in the study even if they missed surveys or days of surveys.

**Measures**

**Sexual intercourse.** On each morning of the study survey participants were asked “How many times did you have sexual intercourse between the end of your work shift yesterday and right now?” (Burleson et al., 2007). Due to the discrete and objective nature of this construct, we captured sexual intercourse with this single item, which is preferred practice when measuring narrow, objective, easily defined constructs or self-reported facts (Wanous, Reichers, & Hudy, 1997).

**State positive affect.** To assess the employee’s state positive affect at the beginning of the workday, we used the PANAS short form (MacKinnon et al., 1999; Watson, Clark, & Tellegen, 1988), asking participants to indicate the extent to which they felt each of five positive adjectives “right now” (e.g., inspired, alert, excited, enthusiastic, determined) on a scale from 1 = very slightly or not at all, to 5 = extremely. The average daily reliability of this measure across the days of the study was .92.

**State job satisfaction.** Accumulating research has shown that in addition to its relatively stable elements, job satisfaction also varies from day to day (e.g., Judge & Ilies, 2004; Scott et al., 2012). We assessed daily job satisfaction on the afternoon survey using five commonly used items from Brayfield and Rothe’s (1951) measure of job satisfaction. Specifically, we asked participants to indicate the extent to which they agreed with five items assessing their job satisfaction that day on a scale from 1 = strongly disagree, to 5 = strongly agree. Example items include “today I feel fairly well satisfied with my job” and “today I found real enjoyment in my work” and the average daily reliability of the measure was .85.
**State work engagement.** Each afternoon we assessed the extent to which the employee was engaged at work that day using three items from Schaufeli’s (Schaufeli et al., 2006) measure of work engagement, modified to reflect state engagement. Example items include “today while working, I forgot everything else around me” and “today, I was immersed in my work” with responses provided on a scale ranging from 1 = *strongly disagree*, to 5 = *strongly agree*. The average daily reliability of the measure was .86.

**Daily work-family conflict.** To assess the extent to which an employee experienced work-to-family conflict on a given day, we asked the employee to respond to the three-item strain-based work-family conflict scale developed by Carlson, Kacmar, and Williams (2000). The scale was modified to reflect the employee’s experience on that given day, and was completed by employees in the evening survey. Example items include “today when I got home from work I was too frazzled to participate in family activities/responsibilities” and “due to all the pressure at work today, I came home too stressed to do the things I enjoy” with ratings given on a scale ranging from 1 = *strongly disagree*, to 5 = *strongly agree*. The average daily reliability of the measure was .94.

**Controls.** In addition to our substantive variables, we also measured a number of variables to serve as controls\(^2\). In particular, job satisfaction and engagement in the workplace have been shown to be related to many factors, including workplace stressors (Cavanaugh, Boswell, Roehling, & Boudreau, 2000), affect (Bledow, Schmitt, Frese, & Kuhnel, 2011), and marital satisfaction (Ilies et al., 2009). We therefore assessed the extent to which each participant experienced both challenge and hindrance stressors on a given day with the afternoon survey, utilizing the six- and five-item measures (respective daily averages of \(\alpha = .94\) and \(\alpha = .83\)) developed by Cavanaugh et al. (2000). We also measured the extent to which each participant
was experiencing anxiety when completing the evening survey using the PANAS-X (Watson & Clark, 1994; daily average $\alpha = .82$). Because marital satisfaction and job satisfaction have been shown to be related (Ilies et al., 2009) we controlled for previous day marital satisfaction. We assessed marital satisfaction each evening, with the five-item scale developed by Norton (1983), adapted to reflect the day level (e.g., “Today, we have a good marriage”; daily average $\alpha = .97$). Controlling for marital satisfaction also allows us to demonstrate the potential incremental effect of sexual intercourse above and beyond cognitive assessments (e.g., marital satisfaction), which aligns with our theoretical development.

Analysis

The nature of our research questions necessitated the daily diary design of the study. Given that the daily measures obtained in such data are nested within individuals, and given our interest in understanding how fluctuations in employees’ day-to-day sexual behaviors influence their engagement in the workplace, we examined our data utilizing a hierarchical linear modeling (HLM) framework. Such a framework allows us to account for the non-independence of the daily measurements. Moreover, by centering the day-level measures at each individual’s personal mean, the analyses allow us to examine how intra-individual fluctuations in behaviors during employees’ personal time cascade into their workplace behaviors and affective states.

Specifically, we created a two-level HLM, with daily measures of behaviors, affective states, and attitudes at level one nested within individuals at level two of the model. In all of our analyses, predictors and outcomes were examined at the daily level, with predictors person-mean centered and error terms allowed to freely vary. Control variables, measured the day prior the focal analyses, were also person-mean centered. For the mediation analyses, we followed the
recommendations of Krull and MacKinnon (1999) for testing mediated effects within multi-level models.

Finally, to determine whether daily work-to-family conflict would influence the likelihood of engaging in sex on a given evening, we conducted another HLM analysis. However, because the outcome of sexual intercourse is a discrete count variable, a traditional multilevel regression is sub-optimal; we therefore conducted a Poisson HLM analysis (Raudenbush & Bryk, 2002). One assumption of the Poisson distribution is that the mean and the variance of the count variable are equal, yet the distribution of the sexual intercourse variable in our data is positively skewed, with an inflated number of zeros. Ignoring this overdispersion could enhance the likelihood of Type I errors (Perumean-Chaney, Morgan, McDowall, & Aban, 2013), and we therefore acknowledged the overdispersion in HLM when conducting the analysis (Zhou, Perkins, & Hui, 1999).

RESULTS

The daily correlations among the variables in our analyses are presented in Table 1 and show that sexual intercourse is significantly correlated with morning positive affect, job satisfaction, previous day work-family conflict, previous day marital satisfaction, and previous day challenge stressors. Morning positive affect is also significantly correlated with job satisfaction, job engagement, previous day marital satisfaction, and previous day anxiety.

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Hypothesis 1 predicted that sexual intercourse on a given night would be positively related to state positive affect at work the next morning. The results of the analyses testing this
hypothesis indicate a significant positive relationship ($\gamma = .15$, $p < .01$, 95% CI [.05, .25]), providing support for Hypothesis 1. Hypothesis 2 examined the impact of sex on workplace attitudes, specifically predicting a positive relationship between sexual intercourse on a given night and the employee’s job satisfaction the next afternoon at work. Results of our analyses testing this prediction revealed a significant positive connection ($\gamma = .15$, $p < .01$, 95% CI [.07, .23]), thereby supporting hypothesis 2. Hypothesis 3 predicted that morning state positive affect mediates the positive connection between evening sexual intercourse and next-day job satisfaction. Our analyses indicate that this mediation indeed holds with a meaningful portion of the effect mediated through positive affect ($b = .08$; 95% CI [.03, .13]), supporting hypothesis 3.

Insert Table 2 about here

Hypothesis 4 placed the focus of our study on workplace behaviors, specifically predicting that sexual intercourse on a given night would be positively related to work engagement the next day. Tests of this hypothesis revealed no significant direct relationship between the two measures ($\gamma = .04$, $p > .10$), failing to support Hypothesis 4. Hypothesis 5 predicted that morning state positive affect would mediate the effect of sex on next-day workplace engagement. Because we did not find evidence of a significant direct effect between sex and engagement, any intermediated effect between the two would be considered an indirect effect, rather than mediation which is a special form of indirect effect (Mathieu & Taylor, 2006). Our analyses indicate that state positive affect carries a significant indirect effect of sex on engagement ($b = .03$; 95% CI [.01, .06]), providing support for Hypothesis 5.
Our final prediction, Hypothesis 6, looks beyond the impact of sex on workplace affect, attitudes, and behaviors to examine how strain generated in the workplace can influence subsequent likelihood of engaging in sexual intercourse. Such a prediction closes the loop to examine how work and other life domains influence one another for good or bad. Specifically, Hypothesis 6 predicted that strain-based work-to-family conflict would be negatively related to the likelihood of engaging in sex on a given evening. Results of our analyses indicate that work-family conflict is negatively related to sex on a given evening ($\gamma = -.20, p < .05, 95\% \text{ CI} [-.08, -.32]$), providing support for Hypothesis 6.

Supplementary Analysis

In addition to the central research question addressed via our formal hypotheses, we also present supplementary analyses to determine whether our results might differ on the basis of participant gender. Running a cross-level model produced an interaction term that was not significantly different from zero for the outcomes of morning positive affect ($\gamma = .06, p > .10$), job satisfaction ($\gamma = .08, p > .10$), and job engagement ($\gamma = -.16, p > .10$). These results suggest that the effects of sexual intercourse on workplace outcomes are not meaningfully different for men and women. One implication of this finding is that the generative effect of sex during personal time is positively impactful for work outcomes across genders.
In our supplementary analyses we also set out to examine the effects of sex hinged on its subjective quality. Although we did not explicitly ask participants about “sexual intercourse quality,” we did ask for the number of times the participant orgasmed over the relevant time span covered by the survey (orgasm is characterized as an overall indication of the quality of one’s sex life; Derogatis, 1998). Our analyses did not reveal a significant interaction coefficient for morning positive affect ($\gamma = .06$, $p > .10$), job satisfaction ($\gamma = -.02$, $p > .10$), or job engagement ($\gamma = .07$, $p > .10$), suggesting that the workplace benefits of sexual intercourse do not necessarily depend on the quality of the sexual intercourse.

In addition to the primary goal of illustrating the instances in which there are and are not effects, we also present supplementary analyses that quantify the influence of sexual intercourse. Our analyses suggest that employees experience a five percent increase in mood at work the next day for each time they engaged in sex the previous evening. When examining results in this manner, the practical relevance of sexual intercourse on workplace mood becomes clear. We believe it is worth noting that research has generally found mood to be quite transitory (e.g., researchers often manipulate it using simple stimuli such as short video clips or giving participants cookies), and that overnight sleep serves as something of a “reset” on mood (Cartwright et al., 2003). Accordingly, “night before” sex must compete with dispositional affective tendencies, other potential mood-impacting events during the day (such as a stressful morning commute, headlines about a recent election or bad weather), and biological resetting due to sleep. Thus, we believe that showing an activity from the prior night can influence next morning mood, which in turn sets the tone for the rest of the workday, is both novel and a strong test.

DISCUSSION
General Discussion

We hypothesized that sex would spillover to positive affect at work the following day, with positive implications for both daily job satisfaction and job engagement. Additionally, we hypothesized that strain-based work-to-family conflict would negatively impinge on sexual behavior following the workday. Our study demonstrates that sexual behavior does in fact positively impact both job satisfaction and job engagement the next day as a function of increased positive affect. Additionally, our results demonstrate that strain-based work-to-family conflict undermines sexual behavior following the work day. Further, our study relied upon a large sample of working adults, and leveraged the strengths of a within-subjects design to establish the temporal unfolding of these relationships.

Scholars have previously established that the increasingly permeable boundary between work and family life allows for emotional spillover from one domain to the other (cf. Rothbard, 2001) and for work to negatively impact marital and family life (Allen et al., 2000). However, this is the first empirical study we know of which specifically links sexual behavior at home to work-relevant outcomes. Our work contributes theoretically to the work-family enrichment literature (cf. Greenhaus & Powell, 2006), by identifying non-resource based sources of enrichment at home that may positively impact work life. While resource-based spillover effects are no doubt important for understanding work performance, our findings suggest that activities which improve mood hormonally (with no impact on or consequence from resources) may augment positive enrichment effects.

Implications for Theory and Future Research

Our research has both practical implications for employees and organizations, as well as theoretical implications for researchers studying spillover between work and home domains. For
employers, there is value in recognizing that work-based strains may negatively impact the health of employees’ home lives in one additional and non-obvious way: work-based strains can negatively impinge upon the sex lives of employees. As the boundary between work and home life continues to erode through technology and increasing expectations of availability, employers would be wise to consider practices (such as limiting urgent-response emails in the evening) when employees may be engaging in physical intimacy (which appears to positively affect work behavior the following day). Relatedly, employees who seek advancement within their organizations or who rely upon their own work engagement to generate income (such as self-employed persons or those doing contract work) should be especially mindful of tending to their sex lives. Engaging in marital sex appears to create mood-driven positive outcomes the following day, but work-related strains appear to inhibit sex. Accordingly, making a concerted effort to withdraw from work activities at home could create meaningful home and work-life benefits.

In addition to practical implications, the results suggest several promising avenues for future research examining the effects of employees’ sex lives on work behavior. First, because positive mood has been associated with beneficial workplace outcomes ranging from coping with abusive supervision (Harvey, Stoner, Hochwarter, & Kacmar, 2007) to engaging in cooperative behavior (George, 1991), the implications of sexual behavior (as a driver of positive mood the following day) may be particularly relevant for a broad swath of organizational phenomena.

Relatedly, while research on work-life enrichment (cf. Greehaus & Powell, 2006; Edwards & Rothbard, 2000) and marital satisfaction (Ilies et al., 2009; 2007) have treated home-life as a general appraisal, we suggest that there is value in “unpacking” employee home-life and examining separate activities that may differentially affect mood and well-being. Given that many home-life activities may compete against one another for time (e.g., staying up to help a
child with homework is likely to come at the expense of sexual intimacy with one’s spouse), scholars should consider exploring activities in tandem and comparing their relative effect sizes and duration. For example, while our data show that sex has an acute effect on next day mood (accounting for approximately five percent of the variance in daily affect), activities that do build role-based resources (such as spending quality time in a shared activity as a family) may have smaller acute but longer duration effects on work outcomes. Similarly, behaviors that may be rated as hedonically pleasurable in the immediate (e.g., watching a movie and eating junk foods) may have an especially short-lived effect on mood (and possibly undermine the development of role-based resources in the long-term).

Additionally, while our focus was on the role of positive affect, several other potential workplace consequences may result from the release of neuropeptides such as Oxytocin and Vasopressin following sex. Both Oxytocin and Vasopressin have been linked to social attachment and bonding in humans (Donaldson & Young, 2008). Accordingly, scholars interested in highly interpersonal workplace behaviors should explore the possibility that increases in Oxytocin and Vasopressin due to sex may lead to more civil and concerned interactions with coworkers and customers. Oxytocin infusion has also been shown to improve the ability to recognize the emotions of others (Domes, Heinrichs, Berger, & Herpertz, 2007), as well as willingness to engage in generalized trust (Kosfeld, Heinrichs, Zak, Fischbacher, & Fehr, 2005). Thus, researchers interested in social judgments in the workplace should consider the potential role of sex-relevant hormones in contexts where accurately gauging the intentions of others is paramount or when trust is especially critical (e.g., high-reliability teams).

Finally, controlling sexual impulses has been argued to be especially ego resource-intensive (Baumeister & Exline, 1999)—to the extent to which sex might be ego-restorative by
reducing a source of temptation or enabling better sleep quality (Barnes et al., 2011), our understanding of important outcomes related to self-control in the workplace (e.g., deviance, fraud) would likely also benefit from research examining the effects of sex on workplace outcomes. In sum, we believe that organizational scholars would be well advised to consider the role of home life sexual behavior within organizational life.

**Limitations of the Current Study**

Although our sample is relatively large for the power afforded by an experience sampling approach, our study is not without limitations. First, our data were collected at a single level of analysis (experience-sampled data), without focusing on dispositional factors (aside from gender) which may moderate our effects. Although this is not uncommon in diary studies of a novel phenomenon (e.g. Sonnentag, 2003), future research should explore stable life factors and individual differences which add boundary conditions to our findings. Second, because sex is a socially-sensitive topic, it is possible that participants over or under-reported the frequency of their sexual encounters. However, our exploration of individual fluctuation (averaging over eight useful observations per participant) reduces much concern about socially desirable responding.

Another potential limitation of our study is that we confined our population to married participants. It is possible that the context of extra-marital sex produces different affective experiences (e.g., additional excitement tied to novelty; anxiety tied to potential scandal; ambivalence or regret tied to spontaneous choices). Accordingly, caution should be exercised when considering the generalizability of our findings to sexual encounters outside of married individuals or individuals living within long-term committed relationships.

Regarding measurement, we inquired about frequency of sexual intercourse “between the end of your work shift yesterday and right now.” Such a framing most likely includes all
instances of sexual intercourse between couples. However, the framing also leaves the timing of
the sexual intercourse as underspecified, which is a limitation of our study. Also, although we
were able to control for many factors and conduct supplementary analysis, we are not able to rule
out all alternative explanations from other activities individuals engage in after work. Activities
such as exercise, drinking, movie watching, etc., may pose as potential confounds. Future
research can enhance the internal validity of our findings by controlling for other non-work
activities.

Finally, although our study establishes temporal precedence by predicting second-day
behavior from sex the night before, future scholars may consider using experimental methods in
tandem with diary studies (i.e., randomly assigning participants to engage or abstain from sexual
activity on various nights during the course of the study), which would allow for drawing causal
conclusions. Such an approach could also be used to assess, with greater precision, the extent to
which the effects of sex on workplace outcomes fade or persist over hours or days.

Conclusion

Our understanding of employee workplace behavior has greatly improved as researchers
have considered fluctuations within intra-individual processes in their work. While norms of
propriety have rightfully separated discussion of employees’ sex lives from their workplace, our
research finds that sexual activity nevertheless influences next day work outcomes; similarly,
organizational life may also inadvertently encroach upon the sexual behavior of employees. Just
as organizational scholars have recently uncovered a broad swath of meaningful workplace
outcomes that stem from sleep quality the night before (Barnes & Wagner, 2009; Barnes,
Schaubroeck, Huth & Ghumman, 2011; Christian & Ellis, 2011; Wagner, Barnes, Lim & Ferris,
2012), we believe that the time has come to systematically examine how employees’ sex lives and work experiences may reciprocally influence one another.
REFERENCES


FOOTNOTES

1 In order to ensure the quality of our sample, we took a number of steps. First, we required that participants complete at least 100 Mechanical Turk surveys with an approval rate of at least 95 percent. Second, we added attention checks to our entry survey and did not invite participants to complete the daily surveys if they failed an attention check. And third, we removed any responses from our dataset that were taken at inappropriate times (e.g., the following day).

2 We present results for hypotheses 1-5 that include all controls. We also ran analyses without controls, and with only marital satisfaction as a control. There were no meaningful differences in the results of these various analyses. We present results for Hypothesis 6 without controls. We also ran analyses with all controls, and with only marital satisfaction as a control, and again, there were no meaningful differences in the results of these analyses. These analyses are available upon request.
Table 1

Descriptive Statistics and Correlations

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Sexual Intercourse</td>
<td>.41</td>
<td>.72</td>
<td>.11</td>
<td>.09</td>
<td>.05</td>
<td>-.10</td>
<td>.07</td>
<td>.04</td>
<td>-.10</td>
<td>-.04</td>
<td></td>
</tr>
<tr>
<td>2 Morning Positive Affect</td>
<td>2.78</td>
<td>1.02</td>
<td>.21</td>
<td>.46</td>
<td>.11</td>
<td>.00</td>
<td>.06</td>
<td>-.07</td>
<td>.02</td>
<td>.00</td>
<td></td>
</tr>
<tr>
<td>3 Job Satisfaction</td>
<td>3.50</td>
<td>.82</td>
<td>.09</td>
<td>.61</td>
<td>.25</td>
<td>-.07</td>
<td>.03</td>
<td>-.09</td>
<td>-.06</td>
<td>-.03</td>
<td></td>
</tr>
<tr>
<td>4 Job Engagement</td>
<td>3.35</td>
<td>1.02</td>
<td>-.09</td>
<td>.41</td>
<td>.47</td>
<td>-.02</td>
<td>.04</td>
<td>-.09</td>
<td>.00</td>
<td>.02</td>
<td></td>
</tr>
<tr>
<td>5 PD Strain WFC</td>
<td>2.07</td>
<td>1.04</td>
<td>.08</td>
<td>-.11</td>
<td>-.43</td>
<td>-.09</td>
<td>-.24</td>
<td>.21</td>
<td>.28</td>
<td>.13</td>
<td></td>
</tr>
<tr>
<td>6 PD Marital Satisfaction</td>
<td>4.16</td>
<td>.85</td>
<td>.17</td>
<td>.34</td>
<td>.41</td>
<td>.23</td>
<td>-.34</td>
<td>-.24</td>
<td>-.06</td>
<td>-.04</td>
<td></td>
</tr>
<tr>
<td>7 PD Anxiety</td>
<td>1.18</td>
<td>.41</td>
<td>.09</td>
<td>-.06</td>
<td>-.29</td>
<td>-.18</td>
<td>.37</td>
<td>-.30</td>
<td>.13</td>
<td>.05</td>
<td></td>
</tr>
<tr>
<td>8 PD Challenge Stressors</td>
<td>2.20</td>
<td>.98</td>
<td>.04</td>
<td>-.05</td>
<td>-.29</td>
<td>.03</td>
<td>.52</td>
<td>-.16</td>
<td>.14</td>
<td>.46</td>
<td></td>
</tr>
<tr>
<td>9 PD Hindrance Stressors</td>
<td>1.55</td>
<td>.69</td>
<td>.11</td>
<td>-.02</td>
<td>-.37</td>
<td>-.05</td>
<td>.55</td>
<td>-.29</td>
<td>.31</td>
<td>.65</td>
<td></td>
</tr>
</tbody>
</table>

*Note: N at level 1 = 1479, N at level 2 = 159. PD = previous day. WFC = Work-to-Family Conflict.
Correlations above the diagonal are day-level, with correlations $r \geq .06$ significant at $p < .05$ and $r \geq .07$ significant at $p < .01$.
Correlations below the diagonal are person-level, with correlations $r \geq .16$ significant at $p < .05$ and $r \geq .21$ significant at $p < .01$.
Sexual Intercourse (1) and Positive Affect (2) were measured in the morning survey. Job Satisfaction (3), Job Engagement (4), PD Challenge Stressors (8), and PD Hindrance Stressors (9) were measured in the afternoon survey. PD Strain WFC (5), PD Marital Satisfaction (6) and PD Anxiety (7) were measured in the evening survey.*
Table 2

Direct Effects with Controls

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Outcome: Positive Affect</th>
<th></th>
<th></th>
<th>Outcome: Job Satisfaction</th>
<th></th>
<th></th>
<th>Outcome: Job Engagement</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>γ</td>
<td>SE</td>
<td>t</td>
<td>γ</td>
<td>SE</td>
<td>t</td>
<td>γ</td>
<td>SE</td>
</tr>
<tr>
<td>Intercept (γ_{00})</td>
<td>2.74</td>
<td>.07</td>
<td>40.51**</td>
<td>3.49</td>
<td>.05</td>
<td>69.21**</td>
<td>3.32</td>
<td>.06</td>
</tr>
<tr>
<td>PD Marital Satisfaction (γ_{10})</td>
<td>.01</td>
<td>.06</td>
<td>.20</td>
<td>-.05</td>
<td>.05</td>
<td>-.98</td>
<td>-.03</td>
<td>.08</td>
</tr>
<tr>
<td>PD Anxiety (γ_{20})</td>
<td>-.14</td>
<td>.1</td>
<td>-1.40</td>
<td>-.19</td>
<td>.08</td>
<td>-2.51*</td>
<td>-.22</td>
<td>.11</td>
</tr>
<tr>
<td>PD Challenge Stressors (γ_{30})</td>
<td>.06</td>
<td>.04</td>
<td>1.81</td>
<td>-.03</td>
<td>.04</td>
<td>-2.79</td>
<td>.03</td>
<td>.05</td>
</tr>
<tr>
<td>PD Hindrance Stressors (γ_{40})</td>
<td>-.01</td>
<td>.05</td>
<td>-.18</td>
<td>.02</td>
<td>.06</td>
<td>.74</td>
<td>.04</td>
<td>.09</td>
</tr>
<tr>
<td>Sexual Intercourse (γ_{50})</td>
<td>.15</td>
<td>.05</td>
<td>2.86**a</td>
<td>.15</td>
<td>.04</td>
<td>3.49**b</td>
<td>.04</td>
<td>.06</td>
</tr>
</tbody>
</table>

Note: N at level 1 = 1479, N at level 2 = 159 PD = previous day.

* p < .05  
** p < .01

| **a** 95% CI [.05, .25] | **b** 95% CI [.07, .23] |
Table 3

Indirect Effects with Controls

<table>
<thead>
<tr>
<th>Path</th>
<th>Estimate</th>
<th>SE</th>
<th>LLCI</th>
<th>ULCI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sexual Intercourse -&gt; Positive Affect -&gt; Job Satisfaction</td>
<td>.08**</td>
<td>.03</td>
<td>.03</td>
<td>.13</td>
</tr>
<tr>
<td>Sexual Intercourse -&gt; Positive Affect -&gt; Job Engagement</td>
<td>.03*</td>
<td>.04</td>
<td>.01</td>
<td>.06</td>
</tr>
</tbody>
</table>

* Note: N at level 1 = 1479, N at level 2 = 159 PD = previous day.

LLCI = 95% confidence interval lower limit.

ULCI = 95% confidence interval upper limit.

* significant at 95% CI.

** significant at 99% CI.
Table 4

Work-to-Family Conflict Predicting Sexual Intercourse

<table>
<thead>
<tr>
<th>Predictor</th>
<th>$\gamma$</th>
<th>$SE$</th>
<th>$t$</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept ($\gamma_{00}$)</td>
<td>-1.07</td>
<td>.1</td>
<td>-10.73**</td>
<td>0.34</td>
</tr>
<tr>
<td>Work-to-Family Conflict ($\gamma_{10}$)</td>
<td>-.20</td>
<td>.06</td>
<td>-3.30**a</td>
<td>0.82b</td>
</tr>
</tbody>
</table>

Note: $N$ at level 1 = 897, $N$ at level 2 = 145. PD = previous day

a 95% CI [-.32, -.08]
b For each one unit increase in Work-to-Family Conflict, there is an 18% decrease in the odds of Sexual Intercourse on a given evening

* p < .05
** p < .01