Emotion

Sexuality Leads to Boosts in Mood and Meaning in Life With No Evidence for the Reverse Direction: A Daily Diary Investigation

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Sexuality Leads to Boosts in Mood and Meaning in Life With No Evidence for the Reverse Direction: A Daily Diary Investigation

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Sex is rarely discussed in theories of well-being and rarely empirically examined using methods other than cross-sectional surveys. In the present study, a daily diary approach was used (for 21 days with 152 adults) to explore the relationship between the presence and quality of sexual episodes and well-being (positive affect, negative affect, meaning in life). Time-lagged analyses demonstrated that sexual activity on 1 day was related to greater well-being the next. As for the quality of episodes, higher reported sexual pleasure and intimacy predicted greater positive affect and lower negative affect the following day. When the reverse direction was tested, well-being did not predict next-day sexual activity, pleasure, or intimacy. These results suggest a unidirectional relationship in which the presence and quality of sexual activity lead to gains in well-being the following day. Contextual moderators (gender, relationship status, relationship closeness, and relationship length) allowed for tests of conditions altering the link between sexuality and well-being. Relationship closeness was the most robust moderator in predicting greater levels of meaning in life and positive affect following sexual episodes. These data provide evidence to support the continual consideration of sex in empirical work and theoretical models of elements that comprise healthy relationships and a good life.

Keywords: daily diary methodology, meaning in life, pleasure, sexuality, well-being

“Sex and Well-Being

The term “sex” encompasses a broad set of behaviors. In the present study, we define sex as an intimate encounter with another person consisting of passionate kissing, oral sex, and/or penetration. Humans have an evolutionary disposition to have sex (Stanley, 1975) and, when it occurs, we are reinforced by biological and psychological pleasure. At the physiological level, sexual activity produces immediate physiological changes such as increases in oxytocin and dopamine (Meston & Frohlich, 2000). These hormones are directly linked with the experience of positive mood states. In addition, prior research suggests that sex has a stress-response dampening effect (e.g., Kashdan et al., 2013). One daily diary study examined sexual behaviors and blood pressure and found people who had vaginal intercourse had better stress responses than people who did not have sex (Brody, 2006). Thus, sexual activity (especially when pleasurable) has potential benefits for mood.

In theoretical models of well-being, sex is rarely discussed and in many seminal articles, ignored (Diener, Emmons, Larsen, & Griffin, 1985; Diener, Suh, Lucas, & Smith, 1999; Fredrickson, 2001; Ryff, 1989; Seligman, 2002; Seligman & Csikszentmihalyi, 2000). In more recent conceptual models of well-being, the entire domain of sexuality is absent (Jayawickreme, Forgeard, & Seligman, 2012; Lent, 2004; Sheldon, 2004). Some theories include connections with others (Deci & Ryan, 2000) but without any implicit consideration of sexuality.

There are theories that offer an explanation for why sexuality should be relevant to well-being. From a social evolutionary perspective, human beings possess a sociometer or a psychological gauge to monitor whether or not there are any changes in their level of social inclusion in a group (Leary, 2005). A motivational
system shaped by natural selection to produce behaviors that increase survival and reproductive success (Kenrick, Griskevicius, Neuberg, & Schaller, 2010). When social inclusion is dangerously low, human beings are alerted via a spike in negative emotions, a drop in positive emotions, and/or a drop in momentary self-worth or meaning, which thereby motivates the individual to engage in corrective action. Considering the fundamental evolutionary motive to ensure the survival of one’s genetic lineage, the fulfillment of mating aspirations is an ideal domain for the sociocenter to be active—monitoring for signs of sexual rejection–acceptance (Kavanagh, Robins, & Ellis, 2010). If an individual gains sexual access to a romantic partner, this should raise momentary affect (higher positive affect, lower negative affect) and increase one’s sense of self-worth or meaning in life (Baumeister & Tice, 2001) and perhaps other dimensions of well-being. Beyond the mere presence of sexual experiences, if an individual experiences significant levels of intimacy or pleasure, this should only serve to contribute additional information to the sociocenter, temporarily shutting down this early warning system of potential rejection and in turn, generating a reduction in negative emotions and cognitions and an amplification of positive emotions and cognitions.

Conceptual models of positive affect (Ashby, Isen, & Turken, 1999; Fredrickson, 2001) suggest consideration of the directionality of sexual experiences indicative of successful mating aspirations and the positive emotions derived. The experience of positive emotions, which facilitate approach-oriented motivation, may increase the effort devoted to finding and securing a suitable romantic partner for sexual activity. The dopaminergic activity and neurotransmitters and neuromodulators that are active during subjectively positive experiences influence the amount of pleasure experienced during a rewarding situation such as most sexual episodes; which would explain why episodes of intimate and pleasurable sexual activity have an uplifting effect on people suffering from emotional disturbances (e.g., Kashdan et al., 2014). Thus, there is a theoretical rationale on why positive affect might lead to a greater likelihood of having sex and high-quality sex, just as there are theories to suggest why sex, particularly high-quality sex, leads to positive affect and other well-being dimensions.

Upon combining theoretical perspectives (e.g., Ashby, Isen, & Turken, 1999; Leary, 2005; Kavanagh et al., 2010; Kenrick et al., 2010) there is reason to suspect that a reduction in well-being, not just an increase, predicts the pursuit and thus presence of sexual activity. An increase in negative affect or decrease in positive affect, self-worth, or meaning in life signals the need to stop one’s current course of action and seek out a potent source of social inclusion. There is potentially no better domain than sex because access to another person’s body offers a rather objective psychological indicator of social connection. These and other related speculations are worthy of empirical examination. Presently, the theoretical sophistication on sexuality and well-being has not been matched with equally sophisticated empirical work.

Indeed, prior studies have linked sex with happiness. An epidemiological study of 16,000 American adults found that higher frequencies of sex are associated with higher levels of happiness, regardless of gender1 or age (Blanchflower & Oswald, 2004). Research also shows that both frequency and quality of sexual experiences are related, but distinct, in their relevance to well-being. In 3,800 adults, better quality sex (higher frequency of orgasms and emotional and physical satisfaction) was associated with greater subjective happiness (Cheng & Smyth, 2015). An additional study of 27,500 older adults sampled from 29 countries also found that multiple aspects of sexual behavior (e.g., satisfaction, function, and importance) were associated with greater subjective happiness (Laumann et al., 2006). Nonetheless, similar to other pleasurable activities, the effects of sex on well-being might possess an upward limit that levels off after a certain dosage (Lyubomirsky & Layous, 2013). A study of American adults in romantic relationships found that sex was related to greater subjective happiness (Muise, Schimmack, & Impett, 2016). Yet, these effects leveled off such that people who had sex multiple times per week were not happier than those who had sex once per week. These findings suggest a potential nonlinear relationship between sex and happiness, but the cross-sectional methodology limits conclusions that can be drawn about directionality.

In addition to the influence of sex on the most widely studied component of well-being, happiness (e.g., positive and negative emotions, appraisals of life satisfaction), sex may influence a person’s presence of meaning in life. Meaning in life refers to “significance beyond the trivial or momentary, to have purpose, or to have a coherence that transcends chaos” (King et al., 2006, p. 180). Meaning in life is an indicator of well-being (Hicks & King, 2009) and can be assessed daily (e.g., Steger & Kashdan, 2013; Steger, Kashdan, & Oishi, 2008). There are empirical reasons why sexual behavior might predict meaning in life. First, in a recent study when people reported a high frequency of positive social events on a given day, they also reported greater meaning in life (Machell, Kashdan, Short, & Nezlek, 2015). This finding is congruent with research suggesting that appraisals of meaning in life are often inferred from the presence of positive experiences (King & Hicks, 2009). Sexual behavior with a partner can be considered a positive social event that might also contribute to greater daily meaning in life. Second, research demonstrates sexuality is an indicator of healthy romantic relationships (Birnbaum, 2014; Birnbaum & Finkel, 2015). Positive relationships are an important contributor to meaning in life (Baumeister & Leary, 1995; Debats, 1999; Deci & Ryan, 2000; Krause, 2007; Lambert et al., 2010). Sexual activity may be a pleasurable experience that facilitates meaningful interactions with sexual partners and on a broader level, a feeling of social belonging.

Taken together, theory and preliminary evidence offers support for a positive relationship between sex and well-being, although the specific nature of this relationship remains unclear. Prior studies have found support for linear (Blanchflower & Oswald, 2004; Cheng & Smyth, 2015; Laumann et al., 2006) and nonlinear effects (Muise et al., 2016) between sex and well-being. There are insufficient data to suggest a consensus on this relationship. Moreover, a large gap remains on the direction of influence. Sex can lead to greater well-being, well-being can lead to greater sex, or sex and well-being can bidirectionally influence each other.

1 Although we use the term “gender” here and throughout the paper, “sex” would be more accurate because we are implying differences based on the biological nature of a person. We realize that gender reflects a psychological construction that transcends the biological dichotomy of male or female. In this paper, however, we reference “sex” multiple times to refer to “sexual behavior.” Therefore, we use “gender” to imply differences between men and women to limit confusion and repetitive phrases. We understand that “gender” and “sex” are related but distinct constructs.
Sex and Well-Being in Everyday Life

Upon interpreting the quality of studies described thus far, it is worth mentioning that most rely on global cross-sectional data (e.g., the General Social Survey, National Survey of Families and Households). These surveys measured behaviors, attitudes, and demographics from different participants at one time point each—when participants being asked to report how they felt about sexual experiences that occurred over the past 12 months. They were not asked about distinct sexual episodes. Instead, participants were asked to aggregate a year’s worth of sexual experience in terms of their overall satisfaction and importance. It is unlikely that their sense of satisfaction and importance during sexual episodes was the same (or invariant) across the past 12 months. This is the major drawback of global, retrospective questionnaires—they make the assumption that participants can provide a single score across multiple episodes and that this single score is meaningful, and that variability between sexual episodes is unimportant and can be ignored. To detail the link between sex and well-being, researchers require an intensive repeated measurement approach, allowing for an examination of the same people over time, such as in daily diary studies.

Only recently have researchers started to examine the temporal relationship between sexual behavior and well-being. In a study of middle-aged women, researchers examined whether sexual behavior (physical affection, breast and genital stimulation, intercourse, orgasm with and without a partner) predicted affect the following day (Burleson, Trevathan, & Todd, 2007). Using lagged analyses, researchers found that sexual behavior was associated with reductions in negative affect and increases in positive affect the following day. Upon testing bidirectionality, the authors found that positive affect (but not negative affect) predicted greater sexual behavior the following day. Other research suggests sex may serve as a protective factor against undesired outcomes. In a study of college students, the occurrence of sexual behavior predicted fewer social anxiety symptoms and negative social comparisons the following day (Kashdan et al., 2013). In a study of couples, on days when both partners felt an increase in intimacy, couples were more likely to have sex and experiencing greater satisfaction than on days in which one or neither partner felt intimate (Rubin & Campbell, 2012). Again, we find that sex can play a beneficial role in human functioning. An experimental study, however, suggests that the benefits of sex may only exist up to a certain point. Researchers assigned couples to double the amount of times they had sex per week in an effort to improve mood (Loewenstein, Krishnamurti, Kopsic, & McDonald, 2015). Compared with a control condition (who received no instructions regarding sex frequency), couples that increased frequency of sex experienced a decline in preference for and desirability of sex and worse mood. Self-reported mood was consistently worse in the increased-sex group than in the control group across three months. From this study, we learn that there are conditions where higher frequencies of sex not only fail to predict higher levels of well-being but in fact predict worse mood. Such findings demonstrate the need for additional real-world, ecologically valid studies to capture the complex relationship between sex and well-being.

Contextual Considerations: Gender and Relationship Status, Length, and Closeness

Empirical evidence suggests at least four moderators for understanding the contextual relationship between sex and well-being—gender, relationship status, relationship length, and relationship closeness. In terms of gender differences, research suggests that upon comparing men and women, certain aspects of sex differentially contribute to happiness. For men, compared with women, frequency and self-reported satisfaction of sex were stronger predictors of happiness (Cheng & Smyth, 2015). For women, compared with men, expressing and receiving affection (e.g., touching, attention) with one’s partner were stronger predictors of happiness. For women, compared with men, negative sexual experiences, such as those characterized by arousal difficulties or physical pain, have a more adverse effect on happiness (Laumann, Paik, & Rosen, 1999). In contrast to these studies, Muise et al. (2016) found that the relationship between sexual frequency and well-being was invariant between men and women. Thus, despite broader research on gender differences in sexuality (e.g., Gebauer, Baumeister, Sedikides, & Neberich, 2014; McNulty & Fisher, 2008; Traen, 2010), it is unclear if men and women differ in the extent to which they derive well-being benefits from sexual experiences.

A second theoretically relevant moderator of the relationship between sex and well-being is whether the person reports being in a romantic relationship. In American adults, sex was associated with greater subjective happiness if individuals reported being in a serious romantic relationship (Muise et al., 2016). If participants were not in a relationship, sex had no association with happiness. In another study, on days when individuals in a romantic relationships endorsed more frequent positive relationship events, they reported a greater desire to have sex with their partners; on days when individuals reported more frequent negative events, they reported less sexual desire (Impett, Strachman, Finkel, & Gable, 2008). These findings suggest a positive relationship between sexuality and well-being for individuals in romantic relationships.

Beyond the mere presence of a romantic relationship, the quality of this relationship (in the present study, relationship closeness) may moderate the relationship between sex and well-being. Closeness between partners is strongly related to marital satisfaction (Oggins, Veroff, & Leber, 1993) and sexual satisfaction (Lawrance & Byers, 1995). Among couples, experiencing a boost in closeness or intimacy is positively associated with the probability of having sex and satisfaction with their sexual activities. (Rubin & Campbell, 2012). Individuals who generally feel close to their romantic partner may be readily able to derive psychological benefits from sexual activity compared with partners who feel distant from one another.

A fourth potential moderator of the relationship between sex and well-being is relationship length. Frequency of sexual intercourse tends to decline as a relationship endures (Brassard, Shaver, & Lussier, 2007). If partners are having sex infrequently, any single sexual act might yield a stronger boost in positive emotions or meaning in life compared with partners with frequent sex (variety appears to prevent hedonic adaptation; Sheldon, Boehm, & Lyubomirsky, 2012); infrequent, positive experiences might be easier to appreciate and savor. One study found that older women reported less sexual satisfaction early in their relationship and re-
ported greater sexual satisfaction later in the same relationship; this association was only observed in women, not men (Heiman et al., 2011). For older men, compared with older women, there is a positive linear relationship between relationship length and satisfaction. Nonetheless, romantic love characterized by sexual interest and intensity can and often does exist in long-term relationships (Acevedo & Aron, 2009). For this reason, individuals in long-term relationships are certainly able to derive similar well-being benefits from sex compared with newly partnered couples.

The Present Study

Using daily diary data over the course of three weeks, we used time-lagged analyses to examine the temporal association between sexual behavior and well-being. We used sexual activity, intimacy, and pleasure as indicators of sexual behavior to predict positive and negative affect and meaning in life as indicators of well-being on the following day. To examine the duration of these effects, we conducted 2- and 3-day lagged analyses. We hypothesized a positive relationship between sexual behavior and well-being. We also examined the bidirectional nature of these relationships by examining whether daily well-being predicts sexual behavior on the following day.

Given prior findings that found evidence of a nonlinear association between sex and well-being (Muise et al., 2016), we examined both linear and nonlinear effects. Theorists have argued that there is unlikely to be any unmitigated positive good as there is often asymptote when virtues become vices and an excessive imbalance of any particular experience, such as sexuality, interferes with other meaningful goal pursuits (Grant & Schwartz, 2011). There is a plausible upper limit to the frequency and quality of sexual experiences. Too many sexual experiences over the course of the week might fail to fit into a list of important activities that include work, spending time with friends and family, leisure/recreation, exercising, household, and for students, class assignments, and for parents, childcare (e.g., Christodoulou, Schneider, & Stone, 2014). There is less of a rationale to support an upper limit to sexual pleasure or intimacy, but in light of prior work suggesting that the frequency not intensity of positive experiences is most important to a satisfying life (e.g., Oishi, Diener, & Lucas, 2007), we explored a curvilinear model.

We addressed theoretically meaningful moderators of sexuality and well-being, including gender, whether or not a person was in a significant, committed romantic relationship, and if so, closeness and length of these relationships. The present study adds to a burgeoning literature on sexual behavior and well-being via time-lagged analyses with daily diary data in a sample of sexually active adults. Importantly, this research program bridges research on sexual behavior and well-being by using intensive longitudinal methodology for fine-grained temporal analyses that cross-sectional methodology (e.g., Muise et al., 2016) does not allow for, with the inclusion of a broader range of variables that span beyond affect to the presence of meaning in everyday life.

Method

Participants

Data were collected from 186 college students. Because of missing data at the person level (e.g., demographics, meaning in life questionnaire), final analyses were run with a sample of 152 participants (116 women). Participants excluded from analyses because of missing data did not significantly differ from participants included in final analyses on any demographic variables (i.e., age, sex, race/ethnicity) or any independent variables (ps > .10). Age ranged from 18 to 63 years old ($M = 24.02, SD = 9.26$); the modal age was 18 and median age was 20.5. The racial/ethnic composition was 57.2% Caucasian, 13.8% Latino/Latino/Hispanic, 11.8% Asian, 7.2% African American, 2% Middle Eastern, 0.7% Native American, and 7.2% other. In terms of relationship status, 63.8% said they were in a monogamous romantic relationship, with 61.9% of these individuals dating, 19.6% married, 10.3% living together, 6.2% engaged, and 2.1% indicating other. Participants also reported the length of time in their current romantic relationship; 3.1% reported less than one month, 11.3% reported one and six months, 17.5% reported six months to one year, 55.7% reported one to five years, and 12.4% reported more than five years. Majority (94%) of participants identified as heterosexual, 2.6% as homosexual, 2.6% as bisexual, and one person indicated “other.”

Procedure

Participants were recruited through the Psychology Department at George Mason University using an online portal, flyers, and online advertisements asking students to participate in a study about personality and behavior. Participants were compensated with course research credit and entered to win one of ten $25 gift certificates after completion of the diary portion. This research was approved by the Institutional Review Board at George Mason University.

Before participants began recording daily entries, they completed informed consent and a 1.5-hr introductory course where they provided baseline data and demographic information, and were taught how to complete the daily online survey. Participants were asked to complete the daily online survey each night before going to sleep for three consecutive weeks. To obtain at least two weekends worth of data, some participants were asked to complete an extra week of entries. Weekly e-mails were sent as a reminder for participants to complete daily diary entries and to emphasize confidentiality in the study. All diary entries were time-stamped.

To account for sexual episodes that occurred after a participant planned or attempted to go to sleep, individuals were asked to record up to three sexual episodes that they had after completing the prior day’s entry. Doing so allowed us to capture late night sexual episodes unaccounted for on participants’ prior day reporting. Thus, participants were able to report up to 6 sexual episodes per day (3 episodes from the day of reporting, 3 episodes in between the time of the previous report and current day’s report). Although participants had the option to report up to 6 sexual episodes per day, only a small number of participants ($n = 10$) reported more than one sexual episode per day during the assessment period. This low amount of episodes reported was insufficient for nesting episodes nested within days and days nested within persons (Nezlek, 2011). Therefore, multiple episodes reported per day were collapsed into one day. For continuous variables (sexual pleasure and sexual intimacy) the mean of episodes

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2 See Kashdan et al. (2011, 2014) for additional detail on methodology.
in that day was calculated, while the probability of sex variable indicated whether an individual had sex that day or not.

**Trait Measures**

**Relationship status.** Participants were asked whether they were currently in a committed romantic relationship (1 = yes, in a relationship, −1 = no, not in a relationship).

**Closeness in romantic relationship.** To capture closeness felt within current romantic relationships, we used the Inclusion of Other in the Self Scale (Aron et al., 1992). Seven Venn-like diagrams displayed two interlocking circles, with one circle representing “the self” and the other circle representing one’s romantic partner. The circles increasingly overlapped from the first to the seventh set; the first image contains two circles that did not overlap at all, and the seventh image contained two circles that overlapped nearly entirely. These seven pairs of circles served as a 7-point Likert response format. Participants were instructed to “indicate the picture which best describes your relationship with your current romantic partner.” Participants who reported they were not currently in a romantic relationship did not complete this measure. Prior research has supported the construct validity of the IOS scale, with positive associations with marital satisfaction and commitment (Aron et al., 1992, 1997).

**Relationship length.** To measure relationship longevity, we asked participants, “How long have you been involved in your romantic relationship?” Participants chose from one of five options: “less than one month,” “between one and six months,” “between six months and one year,” “between one and five years,” and “more than five years.” To analyze this variable in moderation analyses, we transformed responses from ordinal to continuous by rescaling the values in terms of months in the following way: 1 month, 6 months, 12 months, 60 months, and 120 months, respectively.

**Daily Measures**

**Meaning in life.** Participants were asked, “How meaningful did you feel your life was today?” (MLQ; Steger et al., 2006). Participants responded using a Likert scale from 1 = not at all to 7 = very much. Similar singular item scales of meaning in daily diary studies have demonstrated acceptable validity (Kashdan & Steger, 2007; Steger & Kashdan, 2013; Steger, Kashdan, & Oishi, 2008).

**Positive and negative affect.** We used 4-item positive affect (i.e., enthusiastic, happy, satisfied, excited) and 4-item negative affect (i.e., embarrassed, disappointed, anxious, sad) subscales of the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988) to assess daily positive and negative affect. Participants were asked “how well each adjective described their mood today” and responded using a 7-point Likert scale from 1 = not at all to 7 = very much.

**Sexual activity.** Each day, participants were asked whether they had sex (yes or no); and could report up to six sexual episodes per day. For each sexual episode, they recorded the type of sex they had (passionate kissing, oral sex, penetration) and rated their feelings of pleasure (1 = none to 9 = very much). They also rated their feelings of sexual intimacy, using the same 7-point Likert format of the Inclusion of Other in the Self Scale (Aron et al., 1992) for relationship closeness. Using seven sets of interlocking circles, participants were asked to “indicate the picture below which best describes how close and connected you felt to your partner during sex.”

**Overview of Analyses**

We conceptualized our data as hierarchically nested, with days (Level 1) nested within persons (Level 2). We conducted analyses using a series of multilevel models using Hierarchical Linear Modeling (HLM) Version 7.01 (Raudenbush et al., 2011), which provides robust estimates for data missing at random and corrects hypothesis tests accordingly (McKnight, McKnight, Sidani, & Figueredo, 2007). In the first set of analyses, we examined whether people had sex on a given day. All participants who reported valid diary data were included, regardless of whether they recorded the presence of a sexual episode. In the second set of analyses, we examined feelings of pleasure and closeness reported about sexual episodes. Thus, only participants who reported having a sexual episode were included in these analyses. We grand-mean centered trait continuous predictors, group mean-centered daily continuous predictors and left categorical variables uncentered.

**Preliminary Analyses**

During data collection, participants described an average of 7.2 sexual episodes (SD = 6.84) over 24.88 days (SD = 4). Of the 152 total participants, 121 (79.6%) participants reported at least one sexual episode, of whom 76.3% were women and 23.7% were men. In total, participants reported 681 sexual episodes over a possible 3,781 days reported during assessment. We compared participants who reported sexual episodes with those who did not, and found no significant differences in gender, age, or race/ethnicity (ps > .50). We present descriptive statistics in Table 1 and the intercorrelations between our trait and daily variables of interest in Table 2. As for the reliability (i.e., internal consistency) of our daily affect measures, we computed alpha by day. The estimates of raw alpha were as follows—positive affect: 0.85 (95% CI [0.84, 0.86]) and negative affect: 0.63 (95% CI [0.61, 0.66]). Despite the difference estimates of internal consistency, we believe these estimates are far higher than most daily diary studies would observe and mostly reflect the brevity of the instrument rather than the nature of the construct.

**Table 1**

<table>
<thead>
<tr>
<th>Measure</th>
<th>M (SD)</th>
<th>Within-person variance</th>
<th>Between-person variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trait</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>.53 (.85)</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Relationship status</td>
<td>.50 (.87)</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Relationship closeness</td>
<td>5.34 (1.39)</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Daily</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meaning in life</td>
<td>4.47 (1.80)</td>
<td>1.89 (55%)</td>
<td>1.52 (45%)</td>
</tr>
<tr>
<td>Positive affect</td>
<td>16.90 (5.82)</td>
<td>13.82 (39%)</td>
<td>21.18 (61%)</td>
</tr>
<tr>
<td>Negative affect</td>
<td>9.66 (4.58)</td>
<td>6.80 (33%)</td>
<td>14.05 (67%)</td>
</tr>
<tr>
<td>Sexual activity</td>
<td>.22 (.42)</td>
<td>.83 (47%)</td>
<td>.92 (53%)</td>
</tr>
<tr>
<td>Sexual pleasure</td>
<td>6.02 (1.32)</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Sexual intimacy</td>
<td>5.66 (1.40)</td>
<td>1.20 (59%)</td>
<td>.84 (41%)</td>
</tr>
</tbody>
</table>
than the true reliability of the instrument. Cronbach’s alpha is extremely sensitive to instrument length (i.e., number of items) and, as a result, unfairly penalizes our scales due to brevity. We did not calculate reliability estimates for 1-item measures.

Temporal Process Analyses

We examined how sexual behavior (sexual activity, pleasure, intimacy) predicts next-day well-being (positive affect, negative affect, meaning in life). We ran time-lagged analyses to assess whether sex on a given day (day \( n \)) predicted next-day meaning in life, positive affect, and negative affect (day \( n + 1 \)). Because emotions felt are likely to be similar on successive days, we accounted for expected autocorrelation of the outcome measure on adjacent days by including the prior day’s outcome (i.e., controlling for day \( n \) affect). To clarify the directionality of lagged effects, we ran reverse sequence models in which well-being predicted next-day sexual activity, controlling for day \( n \) sexual activity. Our analyses involving sexual pleasure and sexual intimacy only included days in which participants reported a sexual episode (\( n = 681 \)).

**Does sexual activity predict next-day well-being?** We examined how sexual activity on a given day predicted well-being the following day (see Table 3). Results confirmed hypotheses that sex leads to well-being benefits. The presence of a sexual episode on a given day was positively associated with meaning in life (\( b = .21, t = 2.92, p < .01 \)) and positive affect (\( b = 1.16, t = 3.69, p < .001 \)) the following day. The presence of a sexual episode was inversely associated with next-day negative affect (\( b = - .47, t = 2.32, p < .05 \)).

As for quality, greater sexual pleasure on a given day predicted greater next-day positive affect (\( b = .52, t = 2.01, p < .05 \)) and less next-day negative affect (\( b = -.40, t = 2.30, p < .05 \)). Sexual pleasure did not predict next-day meaning in life (\( p > .10 \)). Sexual intimacy was unrelated to next-day meaning in life, positive affect, and negative affect (\( p > .10 \)). Thus, pleasurable sexual episodes (but not necessarily intimate sexual episodes) predicted greater next-day positive affect and less next-day negative affect. Neither pleasure nor intimacy of sex predicted next-day meaning in life.

**Does well-being predict next-day sexual activity?** We tested for directionality of effects by running reverse sequence models (i.e., well-being predicting next-day sexual activity). For all three predictors (i.e., meaning in life, positive affect, negative affect), well-being on a given day was unrelated to the presence of a sexual episode on the following day (\( p s > .06 \)); see Table 3. On days when people had sex, prior day well-being was unrelated to the pleasure or intimacy of the sexual experience (\( p s > .10 \)). These analyses offer support for a temporal relationship of well-being predicting sexual activity but not the reverse. Specifically, the presence and quality of sexual behavior on a given day leads to next-day gains in well-being, but well-being on a given day does not lead to next-day sexual activity.

Fine-Grained Analyses Detailing Sexual Activity Predicting Well-Being

**Does sexual activity predict well-being in two and three days later?** We examined how sexual activity on a given day predicted well-being two days later (see Table 3 for full results). Results demonstrated that only sexual intimacy predicted well-being benefits two days later. Specifically, greater sexual intimacy on a given day predicted greater positive affect two days later (\( b = .67, t = 2.64, p < .05 \)). The relationship between sexual intimacy and negative affect two days later was in the expected direction but not statistically significant (\( b = -.50, t = 1.88, p = .06 \)) in the direction we would expect. Sexual intimacy on a given day was unrelated to meaning in life two days later (\( p > .18 \)). The presence of a sexual episode on a given day was unrelated to meaning in life, positive affect, or negative affect two days later (\( p s > .54 \)). Sexual pleasure on a given day was also unrelated to meaning in life, positive affect, or negative affect two days later (\( p s > .25 \)).

To investigate how long sexual intimacy on a given day was related to well-being benefits in subsequent days, we tested these models for positive and negative affect three days later. Greater
SEX AND WELL-BEING

Table 3
Lagged Analyses Between Sexual Activity and Well-Being

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Meaning in life</th>
<th>Positive affect</th>
<th>Negative affect</th>
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<tbody>
<tr>
<td></td>
<td>b</td>
<td>t</td>
<td>p</td>
</tr>
<tr>
<td>Sexual activity</td>
<td>.21</td>
<td>2.92</td>
<td>.004</td>
</tr>
<tr>
<td>Sexual pleasure</td>
<td>.09</td>
<td>1.47</td>
<td>.14</td>
</tr>
<tr>
<td>Sexual intimacy</td>
<td>.13</td>
<td>1.54</td>
<td>.12</td>
</tr>
</tbody>
</table>

Table 4
Lagged Curvilinear Analyses for Sexual Activity Predicting Well-Being

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Meaning in life</th>
<th>Positive affect</th>
<th>Negative affect</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b</td>
<td>t</td>
<td>p</td>
</tr>
<tr>
<td>Sexual activity</td>
<td>.04</td>
<td>.92</td>
<td>.38</td>
</tr>
<tr>
<td>Sexual pleasure</td>
<td>.09</td>
<td>1.08</td>
<td>.28</td>
</tr>
<tr>
<td>Sexual intimacy</td>
<td>-.02</td>
<td>.22</td>
<td>.83</td>
</tr>
</tbody>
</table>

Note. Curvilinear effects for the presence of sex are not included because squaring a dichotomous variable is not meaningful.

The curvilinear coefficient was significant (equation for sexual pleasure predicting next-day meaning in life, p < .001). When we included the curvilinear (squared) coefficient in the longer a positive significant association with next-day well-being. In areas a certain high level of pleasure or intimacy of sex, there is no significant curvilinear coefficient would indicate that upon reaching a point where the benefits decline and costs are incurred (Grant & Schwartz, 2011). We examined how sexual activity on a given day predicted next-day well-being in a curvilinear (as opposed to linear) estimation (see Table 3 for full results). We computed a curvilinear variable for sexual intimacy and sexual pleasure by centering and squaring the original variables. Because daily sexual activity is dichotomous (yes/no), it does not make conceptual sense to examine curvilinear relationships. For intimacy and pleasure, we entered both the original linear variable and the curvilinear (squared) variable as predictors of day n + 1 well-being, while controlling for day n well-being. A significant curvilinear coefficient would indicate that upon reaching a certain high level of pleasure or intimacy of sex, there is no longer a positive significant association with next-day well-being. When we included the curvilinear (squared) coefficient in the equation for sexual pleasure predicting next-day meaning in life, the curvilinear coefficient was significant (b = -.08, t = 2.38, p < .05) and the linear effect was not significant (b = .04, t = 2.38, p = .53). Of note, the original linear association between sexual pleasure and next-day meaning in life (without the quadratic term) was also not significant. These results suggest a curvilinear association between sexual pleasure and meaning in life best explains the relationship between sexual pleasure and meaning in life. Curvilinear coefficients were not significant for any other model (ps > .27). See Table 4 for full curvilinear results.4

Construct Specificity

Researchers have suggested that judgments about meaning in life are influenced by mood (Hicks & King, 2009). To examine this possibility, across primary analyses we tested whether study results for one aspect of well-being (e.g., meaning in life) remained stable after controlling for another aspect of well-being on the same day (e.g., positive affect). Adding these additional covariates to models did not change the significance value of the initial independent variable; all effects remained significant (ps < .05).

Trait-Level Moderator Analyses

We explored the existence of trait level moderators that may alter the relationship between daily sex and well-being (see Table 5). Because all effects were in the expected direction (i.e., sexual activity predicting next-day well-being), but not the reverse, we conducted all moderator analyses using this model (day n sex predicting day n + 1 well-being). Moderators were gender, relationship status, relationship closeness, and relationship length.

Gender. Gender did not moderate the relationship between sexual activity and next-day meaning in life, positive affect, or negative affect (ps > .22). Gender failed to moderate the relationship between sexual pleasure and next-day meaning in life, positive affect or negative affect (ps > .36). Finally, gender failed to moderate the relationship between sexual intimacy and next-day meaning in life, positive affect, or negative affect (ps > .54).

Presence of a romantic relationship. Relationship status moderated the relationship between the presence of a sexual epi-
sode and next-day negative affect \( (b = -0.71, t = 3.16, p < 0.01) \). Upon decomposing this interaction by examining simple slopes, we found that for people not in a romantic relationship, the presence of a sexual episode was related to less negative affect the next day \( (b = -0.72, t = -3.48, p < 0.001) \), and for people in a romantic relationship, the presence of a sexual episode was unrelated to next-day negative affect \( (p > 0.30) \). Relationship status failed to moderate the effect of having sex on next-day meaning in life or positive affect \( (p > 0.18) \). We did not find moderation effects for sexual quality; relationship status did not moderate the effect of sexual pleasure or intimacy on next-day meaning in life, positive or negative affect \( (p > 0.50) \).

**Relationship closeness.** Relationship closeness failed to moderate the relationship between sexual activity and next-day meaning in life, positive affect, or negative affect \( (p > 0.16) \). As for sexual pleasure, relationship closeness moderated the relationship between sexual pleasure and next-day meaning in life \( (b = 0.27, t = 2.19, p < 0.05) \). For individuals with higher relationship closeness, the relationship between sexual pleasure and next-day positive affect in a similar way \( (b = 0.56, t = 3.05, p < 0.01) \). Upon examining simple slopes, people who reported greater closeness in their relationship and greater sexual pleasure on a given day were more likely to report greater meaning in life \( (b = 0.39, t = 2.97, p < 0.01) \). Upon examining simple slopes, people who reported greater closeness within their relationship and greater sexual intimacy on a given day were more likely to report greater next-day meaning in life \( (b = 0.34, t = 2.32, p < 0.05) \); this relationship was nonsignificant for individuals with less relationship closeness \( (b = 0.09, t = 2.43, p = 0.61) \). Relationship closeness also moderated the link between sexual intimacy and next-day positive affect \( (b = 0.59, t = 2.97, p < 0.01) \). Finally, relationship length did not moderate the relationship between sexual intimacy and positive affect \( (p > 0.15) \).

**Relationship length.** Relationship length moderated the association between presence of sex on a given day and next day negative affect \( (b = 0.01, t = 2.10, p < 0.05) \). Upon examining simple slopes, we found that people in a romantic relationship for a shorter period of time, also reporting the presence of sex on a given day, experienced greater negative affect the next day \( (b = 0.18, t = 6.31, p < 0.001) \); a weaker effect between the presence of sex and negative affect the next day was found for people in a romantic relationship for a longer period of time \( (b = 0.20, t = 2.85, p < 0.01) \). Relationship length did not moderate the relationship between sexual activity and next-day meaning in life or positive affect \( (p > 0.06) \). Relationship length failed to moderate associations between sexual pleasure and next-day meaning in life, positive or negative affect \( (p > 0.06) \). Finally, relationship length failed to moderate the associations between sexual intimacy and next-day meaning in life, positive or negative affect \( (p > 0.42) \).

### Discussion

There is good reason to assume that sex is closely linked with well-being. Yet, empirical investigations are sparse and most theoretical models of well-being neglect sex entirely. Of the existing
empirical literature, methodologies have been limited to cross-sectional designs with global self-reports that fail to address the temporal relationship between sex and well-being. To fill this gap, the present study examined people’s sexual behavior and well-being each day for three consecutive weeks. Results suggest that sexual episodes with another person predict boosts in well-being the following day. The reverse direction was not supported as well-being did not predict next-day sexual activity.

In addition to establishing temporality, the present study included tests of contextual factors that increase the presence and extent of well-being benefits that arise from sexual episodes. More so than the presence or absence of a romantic relationship, an existing romantic relationship perceived to possess greater intimacy boosted the well-being benefits of sexual episodes. Contrary to popular assumption (and prior research e.g., Cheng & Smyth, 2015), gender had no impact on the benefits of sex.

**Sex Yields Well-Being Benefits**

Results from this study suggest a temporal relationship in which sex leads to future gains in well-being—namely, increased positive affect, increased meaning in life, and decreased negative affect. Beyond just the occurrence of sex, quality matters. Greater pleasure during a sexual episode led to greater next-day positive affect and less next-day negative affect. Sensory pleasures (taste, olfactory, touch, hearing, sight) can be distinguished from nonsensory pleasures (competition/achievement, thrill, physiological relaxation, social), the latter of which refers to the inputs that produce pleasure (Biswas-Diener et al., 2015).

More work is needed to detail the mechanisms that link the sensory pleasures of sexual activity to short-term increases in positive emotions and decreases in negative emotions. A multi-level framework will be ideal (Sheldon, 2004), addressing cultural beliefs and prejudices about sexual practices (especially outside of serious monogamous relationships), relationship factors such as felt security and commitment in a romantic context, and the life narratives, goals and motives, and personality traits that connect particular events and personality types to experience different sexual outcomes.

At the physiological level, sexual activity produces immediate physiological changes such as increases in oxytocin and dopamine (Meston & Frohlich, 2000). These hormones are directly linked with the experience of positive mood states. In addition, prior research suggests that sex has a stress-response dampening effect (e.g., Kashdan et al., 2014). One daily diary study examined sexual behaviors and blood pressure and found people who had vaginal intercourse had better stress responses than people who did not have sex (Brody, 2006). Taken together, sexual activity, especially when pleasurable, has potential benefits for mood.

At a cognitive level, it is worth reviewing existing research on the 237 motivations underlying human reasons for having sex (Meston & Buss, 2007). Some of the most common reasons, for both men and women, are hedonistic—"It feels good"; "I wanted to experience the physical pleasure"; "I was ‘horny.’" Relationship-based reasons such as desiring emotional closeness and wanting to express love for the person are also common for men and women. Other motivations for sex are as diverse as spirituality ("I wanted to feel closer to God"), social status ("I wanted to enhance my reputation"), and vindictiveness ("I wanted to make someone else jealous"). To understand sexuality and the ensuing benefits, researchers need to be comprehensive, empirically investigating instead of assuming the psychological ingredients that increase and decrease subsequent well-being.

Our study was limited to pleasure and intimacy, and yet with even these two dimensions of sexual behavior divergent results emerged. Surprisingly, the amount of intimacy during a sexual episode did not significantly predict the amount of well-being experienced the next day—adding to a growing body of evidence that often hedonic pleasures and motives are as important to cultivating a good life as deep, meaningful, or virtuous activity (Kashdan, Biswas-Diener, & King, 2008; Quoidbach, Mikolajczak, & Gross, 2015).

Beyond positive and negative affect, sex has implications for meaning in life. On days when people had sex, a greater sense of meaning in life was experienced the following day. Meaning in life often arises when an individual feels their basic need for belonging is met with someone (Hicks & King, 2009; Lambert et al., 2013). Sex requires a level of vulnerability and trust that readily facilitates opportunities for deep, meaningful social connection (Baumeister & Leary, 1995; Deci & Ryan, 2000). Although we hypothesized that meaning in life would be greater following sexual activity for individuals in a relationship, relationship status did not moderate this relationship. Still, regardless of relationship status, sex might be a positive social event that leads to well-being boosts. When measured at the daily level, meaning in life has been shown to fluctuate in response to daily positive events (Machell et al., 2015) and emotional states (Kashdan & Steger, 2007; King et al., 2006). Current work suggesting that having sex can yield similar changes in meaning in life fits with an expanding body of research on how meaning in life is not limited to profound events and in fact, often derives from living in a world that appears to be reliable and comprehensible (George & Park, 2016).

For those who believe that there are two qualitatively different types of well-being, hedonics and eudaimonia (Biswas-Diener, Kashdan, & King, 2009; Kashdan et al., 2008), questions could be raised about the specificity of benefits in the aftermath of sex. As further evidence for the lack of distinctiveness between these categories (Disabato, Goodman, Kashdan, Short, & Jarden, 2016), the frequency and magnitude by which the presence or quality of sex led to greater positive affect the next day was similar for daily meaning in life. We failed to find distinctive patterns based on the type of well-being index used. Another question is whether the results for aspects of well-being (e.g., meaning in life) remain stable when controlling for another aspect of well-being (e.g., positive affect)? Across analyses, the answer is yes. Conservative tests of construct specificity suggest that sexuality does influence changes in the multiple dimensions of well-being measured in this study.

**Sex in Romantic Relationships**

In addition to the nature of sexual episodes, we explored how the presence and closeness of being in a romantic relationship offers explanatory power to the link between sex and well-being. Our results suggest that whether or not a person was in a committed romantic relationship had almost no impact on the relationship between sex and well-being (cf., Muise, Schimmack, & Impett, 2016). More important than the presence of a romantic relationship was the quality of this relationship. Results showed that when
people in close relationships had pleasurable and/or intimate sex, they experienced greater gains in meaning in life and positive affect. Empirical studies have demonstrated positive relationships between sexual satisfaction and relationship quality (Sprecher et al., 2004). Relationship closeness is a cornerstone of satisfying romantic relationships, and sex is one mechanism couples use to generate feelings of intimacy (Birnbaum & Finkel, 2015). Meaning in life is often derived from high quality social connections (Hicks & King, 2009; Krause, 2007; Lambert et al., 2010). Results of the present study suggest that simply being in a committed relationship is insufficient to derive benefits from pleasurable activities. Rather than assuming sex between committed partners is more meaningful or enjoyable than sex between single persons, more research is needed on the quality of the interpersonal connections of mating partners. Additionally, including measures of relationship satisfaction at the daily level could yield novel information about how fluctuations in relationship satisfaction contribute to daily sexual activity and its effect on daily well-being.

We offer several explanations for an intriguing result suggesting that for people in a romantic relationship for a shorter period of time, having sex led to greater negative emotions the next day whereas the effect was weaker for people in longer lasting relationships. This moderation effect could be a statistical artifact based on the large number of moderator analyses conducted (a chance finding). It could be a regression to the mean—if you have sex today, today is likely to be viewed as psychologically better than tomorrow. Alternatively, it could be a conceptually meaningful finding. Someone has sex today and then the effect dissipates. On the day they had sex, negative emotions were lower. We are predicting change in negative emotions from the day when sex occurred to the next day. If someone is in a longer lasting romantic relationship, they might experience homeostasis in their lives (e.g., Sheldon et al., 2012). Having sex on a given day is less likely to influence the emotional tenor from one day to the next. Their sex life has been integrated and there is less reactivity. If someone is in a shorter time romantic relationship, their mood is likely to be more reactive in the aftermath of sex. On the day they had sex, negative affect is probably lower and the change to the next day is greater. This speculative explanation might be worthy of future investigation of the contextual influences on the benefits of sexual activity.

It is worth noting that we partially replicated a recent set of three studies providing initial evidence that the benefits of sexual frequency on relationship satisfaction remain static or decline after approximately once per week (Muise et al., 2016). Although we did not find evidence for an upper limit of the frequency of sexual activity in daily life on well-being, we did find that the effects of the amount of pleasure derived from sexual activity on meaning in life peaked below the maximal level. This fits with prior work suggesting that the frequency, not the intensity, of positive experiences are most importance for a satisfying, meaningful life (e.g., Oishi et al., 2007). It seems plausible that individuals are satiated with a certain amount of sexual pleasure and there is no appreciably benefit beyond the moment for anything more extreme. Now that two independent research teams have found a similar effect, it is worth using a person-centric as opposed to variable-centric approach (Kashdan & McKnight, 2011). That is, are there subgroups of people who do require maximal pleasure for maximal benefit in the sexual domain, akin. If so, these individuals might experience more difficult decision-making, avoidance coping, and impoverished well-being (including regret) that plagues maximizers compared with satisficers (e.g., Schwartz et al., 2002). Future work on other positive experiences and traits should follow the lead of these research studies to include tests of nonlinear consequences.

Limitations

Several study limitations warrant discussion. First, our sample was limited to college students. College students often possess distinct patterns of sexual behavior, such as “hookup culture” characterized by brief uncommitted sexual encounters among non-dating adults (Garcia, Reiber, Massey, & Merriwether, 2012). Thus, results from this study may not generalize to community adults. Moreover, because all participants were from an American university, it is possible that results would not generalize to individuals in countries with different cultural norms regarding sexuality. Second, most study participants (94%) identified as heterosexual. It is possible that sexual behavior and their benefits differ among people who identify as homosexual, bisexual, or pansexual. Third, although all recorded episodes involved two or more people, our investigation was limited to the perspective of one sexual partner. Simultaneously examining data from both partners could offer insight into the dynamics of sexual episodes over time (e.g., Butzer & Campbell, 2008). Nonetheless, there is no better reporter than first-person accounts to understand subjective well-being changes in the aftermath of sexual episodes. Future researchers can address the degree of agreement between sexual partners on the quality and benefits of sexual episodes, and any individual difference and relational variables that moderate effects. Fourth, despite the longitudinal design, our assessment period (21 days) represents a snapshot into a person’s sex life. It might require weeks or months for the benefits (or costs) of sexual activity to materialize. It is possible, for example, that having regular sex with a romantic partner (e.g., twice per week) does not influence momentary satisfaction, but over time contributes to long-term satisfaction. Changes in relationship satisfaction might serve as a useful mechanism to account for the relationship between sex and well-being. Fifth, our daily diary methodology is an improvement over traditional cross-sectional studies with global trait questionnaires, however temporality analyses were limited to day lags. Single end of day reports do not allow examinations of within-day fluctuations. Methodologies that record several responses in a single day (e.g., ecological momentary assessment) are needed to examine these fine-grained fluctuations. It is plausible that well-being benefits are felt immediately after a sexual episode (i.e., on the same day). Beyond physiological releases of hormones (e.g., oxytocin), sexual experiences can create feelings of meaning, happiness, and intimacy with a partner immediately following the occurrence; controlling for the prior day’s experience of well-being may be too conservative of a statistical test to capture the effects of sexual episodes. Similarly, it is possible that for the reverse direction—well-being predicting sex—momentary emotions increase the likelihood of sex on a given day, but this effect is not strong enough to spillover from nighttime into the next day.

It would be premature to conclude that well-being does not prospectively predict sexual activity. It is possible that sex and well-being reciprocally influence each other in an upward spiral of
positivity (Ashby et al., 1999; Fredrickson, 2001). High positive affect might increase the likelihood that a person has sex, which in turn leads to a boost in positive affect, which in turn leads to increased positive affect, and so on. In this way, it is difficult to determine which comes "first" and it is plausible that either could precede the other. From social evolutionary perspectives, the presence of sex, especially high-quality sex, offers information that a person is experiencing a sense of social inclusion and fundamental goals for survival, acquiring mates, affiliation, and social status are presently being met (e.g., Kavanagh et al., 2010; Kenrick et al., 2010)—turning off the evolutionarily adaptive, early warning system for potential rejection, exclusion, and ostracism (Leary, 2005).

The psychological experience from the stopping of this early warning system is an increase in well-being; a benefit that is relatively absent in people suffering from emotional disturbances (Kashdan et al., 2011). Once again, from these evolutionary accounts, it is difficult to determine the temporal order of sex and well-being. An association that is likely to be influenced by environmental cues and situational contexts. A topic worthy of future investigation with efforts to assess the psychological situations and environments (Rauthmann, Sherman, & Funder, 2015).

Concluding Thoughts

Research on sex and well-being is in its infancy. Several suggestions are offered for extending the current research program. First, future research can examine sexual motives (Meston & Buss, 2007). Assumptions for why people have sex are often limited to the obvious—to reproduce or experience pleasure. Yet research suggests that people have sex for dozens of reasons, some of which are socially desirable and others that are vengeful and deceitful. For example, individuals can be motivated to have sex for extrinsic reasons (e.g., to not lose one’s partner, feeling pressured) and/or intrinsic reasons (e.g., to express intimacy, to reduce stress). Individual differences in motives for having sex have been linked with discrete sexual behaviors. A study of sexual behavior among young adults found that enhancement motives for sex (appetitive self-focused motivations such as to enhance physical pleasure) were positively related to risky sexual behaviors, whereas intimacy motives are inversely related to risky sexual behaviors (Cooper, Shapiro, & Powers, 1998). In another study of adult couples, approach motives for sex (a focus on promotion of positive experiences) predicted greater frequency of sexual activity than avoidance motives (a focus on prevention of negative experiences) (Impett, Peplau, & Gable, 2005). Moreover, sex motives had different associations with well-being—approach sex motives were positively associated with positive affect and satisfaction with life, whereas avoidance sex motives were positively associated with negative affect. The current study focused on the sexual episode and related outcomes (i.e., well-being); research that addresses meaningful mediators and moderators from sex motive taxonomies will offer insight into the precursors of healthy sexuality.

Second, expectations for sexual episodes are likely to be influential. Expectations are concerned with what an individual anticipates will occur during a sexual episode whereas motives are concerned with the rationale for pursuing sex. For example, individuals possess expectations about the sexual skill and/or performance of their partner. One study found that among heterosexual individuals, both men and women agreed that men were expected to stimulate an orgasm for their female partner (Salisbury & Fisher, 2014). As another example, men are often expected to initiate and lead sexual encounters more than women (Vannier & O’Sullivan, 2011). A priori expectations and the extent to which expectations are fulfilled are both relevant. Consider the following scenario. A woman expects that sex with her partner will fulfill her need for belongingness. She has sex, her need for belonging is met, and she experiences a boost in well-being. A second woman has the same expectations for belonging, but feels disconnected with her partner after sex, and subsequently experiences a decline in well-being. These two women had similar expectations, yet the well-being effects depended on whether or not expectations were met. Discrepancies between anticipated versus actual experiences offers insight into the relationship between sex and well-being.

Third, future research can examine sexual activity that occurs outside of traditional two-person sexual intercourse (e.g., orgy, masturbation, pornography). Consider masturbation, a still stigmatized sexual behavior (so much so, it cost the U.S. Surgeon General Jocelyn Elders her job in 1994 after she suggested incorporating masturbation into sexual education; Greenberg, 1994). Research is sparse, and findings are mixed. Some research suggests that masturbation can promote positive body image (Shulman & Horne, 2003) and self-esteem (Hurlbert & Whittaker, 1991) and serves to enhance sexual satisfaction and health (Coleman, 2003), whereas other research suggests that masturbation is linked with risky sexual activity (Gerressu, Mercer, Graham, Wellings, & Johnson, 2008; Pinkerton et al., 2003) and feelings of guilt (Mosher & Vorderheide, 1985). Masturbation is a common sexual behavior that warrants further study; findings from the National Survey of Sexual Health estimate that among adults (18 to 70+), 80.1% to 94.3% of men and 58.3% to 84.6% of women masturbated at least once (Herbenick et al., 2010). Mixed findings suggest a potentially complex relationship between masturbation, sexual activity, and well-being.

Despite sex being a frequent occurrence and source of well-being for a large portion of the population, it is relatively absent in empirical investigations and theoretical frameworks of well-being. If science is to reflect reality, how can theories of well-being not include sexual behavior? Perhaps the topic of sex is viewed as taboo and thus avoided. Perhaps the measurement of sexual behavior seems complicated and invasive. Perhaps sex is considered irrelevant to well-being. Regardless of the reason for a dearth of research, the present study provides empirical support for a positive association between sex and well-being; specifically, sexual activity leads to next-day gains in well-being. To understand the full scope of human flourishing, research on well-being needs to incorporate more rigorous scientific inquiries of sexual behavior.

References


