

Is Spontaneous Sex Ideal? Beliefs and Perceptions of Spontaneous and Planned Sex and Sexual Satisfaction in Romantic Relationships

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Abstract

Sexual satisfaction is critical for relationship quality and people hold lay beliefs (implicit theories) about what makes for satisfying sex. A common belief in Western culture is that spontaneous sex is most satisfying, but this idea has not yet been studied. In pre-registered analyses of two studies—a cross sectional ($N = 303$ individuals) and a 21-day daily experience study ($N = 121$ couples)—we found support for two distinct beliefs (spontaneous sex as satisfying; planned sex as satisfying). Across both studies, people held stronger beliefs that spontaneous sex is satisfying compared to planned sex, but stronger spontaneous sex beliefs were only associated with higher sexual satisfaction in Study 1. In Study 1, when people perceived their most recent sexual experience as planned (versus spontaneous), they felt less sexually satisfied, but this was not the case for those who endorsed stronger planned sex beliefs. In Study 2, endorsing stronger planned sex beliefs was associated with a partner's lower sexual satisfaction at baseline. There were no associations between perceptions of the extent to which sex was spontaneous and sexual satisfaction at baseline or in daily life. Future research could test whether beliefs about spontaneity and planning have value in clinical settings.

Keywords: sexual satisfaction, relationships, spontaneous, planned

Is Spontaneous Sex Ideal? Beliefs and Perceptions of Spontaneous and Planned Sex and Sexual Satisfaction in Romantic Relationships

Engaging in regular, satisfying sex with a romantic partner is associated with greater relationship satisfaction and overall health and well-being (Byers, 2005; Muise et al., 2016; for a review, see Diamond & Huebner, 2012). But, over time in relationships, desire for and engagement in sex tends to decline (McNulty et al., 2016). One strategy romantic partners use to maintain their sexual connection is to plan ahead or schedule sex (Herbenick et al., 2014; McCarthy & Wald, 2015), which may positively impact satisfaction by increasing sexual opportunities and anticipation and decreasing anxiety about whether sex will happen. However, planning sex ahead of time counters a commonly held notion in Western culture which frames spontaneous sex (i.e., “spur of the moment” sex or sex that “just happens” without any prior planning) as ideal compared to sex that is planned or scheduled ahead of time (Dune & Shuttleworth, 2009; McCarthy & Wald, 2015; Murray et al., 2017). In the current research, across two studies, we investigate a novel implicit or “lay” belief about sexuality focused on people’s beliefs about spontaneous and planned sex (two largely undefined constructs that have been only minimally discussed in previous research), and how these beliefs are associated with sexual satisfaction. We also investigate how perceptions of a recent sexual experience as planned (i.e., discussed or decided on ahead of time) or spontaneous (i.e., unplanned or happened spur of the moment) are associated with the quality of the sexual experience and if this differs based on a person’s beliefs about spontaneous and planned sex.

Implicit Beliefs about Sexuality

People hold lay beliefs (or implicit theories) about what makes for satisfying romantic relationships (i.e., implicit theories of relationships), which are associated with relationship

outcomes (Franiuk et al., 2002; Knee, 1998; Knee et al., 2003; for a review, see Knee & Canevello, 2006), as well as what makes for a satisfying sex life, which have implications for both sexual and relationship satisfaction (Bohns et al., 2015; Maxwell et al., 2017; Rossi et al., 2022). For example, *sexual growth beliefs*—the view that satisfying sex is malleable and the result of hard work and effort—tend to be associated with greater sexual and relationship well-being across various samples and contexts (e.g., relationship continuance and sexual attraction, see Bohns et al., 2015; relationship and sexual satisfaction, see Bóthe et al., 2017 and Maxwell et al., 2017; sexual desire, see Raposo et al., 2021). In contrast, *sexual destiny beliefs*—the view that natural sexual compatibility is a fixed determining factor for a satisfying sex life—have, in some cases, been linked to poorer sexual and relationship well-being (Bohns et al., 2015; Maxwell et al., 2017; Raposo et al., 2021). Previous research guided by theories of implicit sexual beliefs provides empirical support that people’s lay beliefs about sexuality are important determinants of their perception of the quality of their sex lives. People may also hold lay beliefs about sexual spontaneity and sexual planning. Believing that sex that “just happens” is satisfying is what we term here as a *spontaneous sex belief* and believing that discussing, planning or scheduling sex ahead of time is satisfying is what we term here as a *planned sex belief*.

Sexual beliefs are intricately formed through the integration of multiple sources of messaging, such as from parents and peers. Growing evidence suggests that mass media most commonly portrays that “sex ‘just happens,’” and “that being ‘swept away’ is the natural way to have sex” (Strasburger, 2005, p. 273), which may influence people’s attitudes, beliefs, and expectations about sex (Diekman et al., 2000; Séguin et al., 2018), particularly in younger audiences (Brown et al., 2001; Kinsler et al., 2019; L’Engle et al., 2006; Ward, 2003). Often, satisfying sex is portrayed in the media as occurring “instantaneously” and “without the need for

sexual communication or negotiation” (Dune & Shuttleworth, 2009, p. 98), with no planning or preparation required ahead of time, including discussions about risk and responsibility (i.e., preventing unwanted pregnancy, protecting against sexually transmitted infections and HIV/AIDS; Brown, 2002; Ward, 2003). Further, media depictions of sex often represent sex in new relationships, which do not accurately portray sex within long-term, committed relationships (McCarthy & Wald, 2015), in which desire and satisfaction tend to be difficult to maintain (McNulty et al., 2016).

The information people receive about sex from media sources helps to create “sexual scripts” (i.e., the maps that guide peoples’ thinking, feeling and actions related to individual and shared sexual experiences; Wiederman, 2005, p. 496). For example, sexual scripts can include a particular order in which sex-related activities should happen (i.e., kissing, genital stimulation, then intercourse), which may correspond to individuals’ or their partners’ sexual preferences or desires, or conversely, conflict with them (Weiderman, 2005). Research grounded in sexual script theory supports that the prevalent sexual script in Western culture is one in which sex is spontaneous (Dune & Shuttleworth, 2009; Wiederman, 2005). Yet widely, scholars write about the “myth of spontaneity,” sharing skepticism about the idea that sex “just happens” (Dune & Shuttleworth, 2009; Perel, 2007; McCarthy & Wald, 2015).

Spontaneous and Planned Sex Beliefs and Perceptions and Sexual Satisfaction in Romantic Relationships

It is possible that endorsing the predominant script in which sex happens spontaneously is associated with greater sexual satisfaction. For example, in qualitative research studying factors relating to men’s sexual desire, men reported valuing spontaneity and noted that it contributed to their sexual desire (Murray et al., 2017). The men in this study described spontaneous sex as

unfolding unexpectedly, sometimes from simply exchanging a “knowing look” (p. 324). It is possible that sex that is perceived to be spontaneous may reflect higher sexual desire or perceptions that one’s partner is authentically experiencing desire, and this tends to be associated with greater sexual satisfaction (e.g., Muise et al., 2019). Similarly, a lack of spontaneous sexual activity could be associated with lower satisfaction (Sims & Meana, 2010).

However, one potential drawback of endorsing a spontaneous sex belief is that it may inhibit more intentional approaches to creating sexual intimacy (Fraenkel, 2011, as cited by Ferreira et al., 2015). Instead, being intentional and placing value on planning sexual experiences is also seen as important for maintaining sexual satisfaction in committed relationships (Ferreira et al., 2015; Kleinplatz & Ménard, 2020). In fact, some sex therapists incorporate the “myth of spontaneity” into their work with clients to communicate that planning sex ahead of time can help to ensure it is prioritized and can build anticipation, which is linked to greater sexual desire and arousal (McCarthy & Wald, 2015; Perel, 2007). They also point out that most sexual activity in long-term relationships is planned or semi-planned due to the need to juggle work demands, having dependents, and other life responsibilities (McCarthy & Wald, 2015). The “good enough sex” model emphasizes that romantic partners should have realistic expectations about sexual activity (McCarthy & Metz, 2008; Metz & McCarthy, 2007). Applied to the current research, realistic expectations might include acknowledgment that there may be times in romantic relationships where spontaneity is more challenging and that planning sex ahead of time may ensure it is prioritized.

Past work has found that people tend to report greater sexual and relationship satisfaction on days when sex occurs, compared to days when sex does not occur (Debrot et al., 2017; Kahneman et al., 2004; Kashdan et al., 2018), though it is not clear if perceiving a sexual

experience as planned or spontaneous is associated with satisfaction. The limited previous research on this topic suggests that both planned and spontaneous sex could be associated with more satisfying sexual experiences (Ferreira et al., 2015; Kleinplatz & Ménard, 2020; Murray et al., 2017). For example, in a recent qualitative study of “extraordinary lovers” (Kleinplatz & Ménard, 2020, p. 5)—people who report having great sex—participants often mentioned being intentional about creating the right conditions from which great sex could emerge, suggesting that planning sex ahead of time might be associated with satisfaction. Another qualitative study with 33 non-clinical couples found that couples “understood the limitations of relying on spontaneity” and that effort and intentionality (i.e., planning) were important in maintaining sexual desire and regular, satisfying sex long-term (Ferreira et al., 2015, p. 13), pointing to the possibility that beliefs about spontaneity and planning could contribute to how perceptions of sex as planned or spontaneous are linked to sexual satisfaction. For example, perhaps those who believe planned sex is more enjoyable may experience greater satisfaction when they perceive they are having planned sex, and those that have a strong internalized spontaneity belief may experience greater satisfaction when they perceive they are having spontaneous sex.

The Current Research

Across two studies, we investigated beliefs and perceptions about planned versus spontaneous sex and associations with sexual satisfaction in romantic relationships. Given that spontaneity is assumed to be a factor associated with greater sexual satisfaction (Dune & Shuttleworth, 2009; McCarthy & Wald, 2015; Murray et al., 2017), we predicted that people would endorse stronger spontaneous sex beliefs as compared to planned sex beliefs. We also explored whether beliefs about spontaneous and planned sex and perceptions of sex as occurring spontaneously or being planned ahead of time were associated with higher sexual satisfaction, as

well as whether beliefs and perceptions interact. For example, do people who endorse stronger spontaneous sex beliefs feel more satisfied following a sexual encounter that they perceive to have happened spontaneously, and do those who endorse stronger planned sex beliefs report higher satisfaction following sex that is perceived to have been planned ahead of time?

It is possible that beliefs about planned and spontaneous sex might have different associations with sexual satisfaction when people have lower sexual desire or higher sexual distress (i.e., worries or concerns related to their sexual relationship; McCarthy & Wald, 2015). An internalized spontaneity ideal (i.e., believing that good sex “just happens”) may lead to underutilizing sexual communication, a key factor of sexual and relationship satisfaction (Roels & Janssen, 2020), going along with unsatisfying sex, or experiencing distress when expectations are not met (Basson, 2000). Instead, believing in the value of planned sex might help people with lower sexual desire or more distress plan more satisfying sexual experiences. Therefore, across studies we tested whether partners’ levels of sexual desire or sexual distress moderated any of the associations.

It is also possible that gender might influence associations between beliefs about planned and spontaneous sex and sexual satisfaction. Previous work has found that some women use planning out their days to be less busy or stressful as a strategy for facilitating sex (Herbenick et al., 2014). For women, some degree of planning in anticipation of sex may be more fitting to their unique lived experience, in which anxieties about sexual coercion and abuse, unwanted pregnancies, and sexually transmitted infections are more salient (Vance, 1984; as cited in van Anders et al., 2022). Further, it is possible that planning becomes necessary when women shoulder the greater proportion of household or childcare responsibilities, which may detract from intimate time they could otherwise spend with their partners (Lachance-Grzela &

Bouchard, 2010). And while both women and men value spontaneity (Murray et al., 2017; Sims & Meana, 2010), it is possible that men may endorse spontaneity to a greater extent than planning because it may be more aligned with what they believe contributes to satisfying sex (Murray et al., 2017), and with their lived experience of sexual desire (i.e., less dependent on contextual factors; Basson, 2000). However, it is also possible that both men and women may adopt strategies for maintaining sexual connection that involve considerations of both planning and spontaneity. In the current research, we test whether any of the associations are moderated by (binary) gender.¹

Study 1

Study 1 was an initial exploratory test of our key questions and the analytic plan was pre-registered on the Open Science Framework (OSF; <https://rb.gy/hmnytj>). In addition to testing our key questions, we developed a measure of beliefs about spontaneous and planned sex (for the full scale, see Table 3). We also asked participants an open-ended question about how they felt spontaneous or planned sex contributed to their sexual satisfaction to learn how people would describe the associations between sexual spontaneity and planning and sexual satisfaction in their own words, and we coded for themes in their responses.

Participants and Procedure

Participants were recruited from the United States in June 2016 via Amazon Mechanical Turk. Eligibility criteria included being 18 years of age or older, in a cohabitating romantic relationship, and having had engaged in sexual activity with their romantic partner in the last four weeks. Participants were compensated with \$1.40 (USD) in line with rates of compensation for the survey length at that time. We recruited a total of 391 participants. We removed 89 participants for having withdrawn from the study before completing the survey, failing more than

2 of 5 attention checks, reporting that they did not live with their partner, or skipping more than 20% of a measure. The final sample included 303 participants (see Table 1 for sample characteristics).

Table 1

Sample Characteristics (N = 303)

Characteristic	<i>M</i> (range) or <i>n</i>	<i>SD</i> or %
Age (years)	35.32 (18-71)	10.14
Relationship duration (years)	9.09 (0.25-42.92)	8.13
Gender ¹		
Man	138	45.5%
Woman	165	54.5%
Ethnicity		
White	238	78.5%
African American/Black	23	7.6%
Asian American/Asian	14	4.6%
Hispanic/Latinx	18	5.9%
Indigenous/First Nations	5	1.7%
Biracial/Multiracial	4	1.3%
Middle Eastern/Central Asian	1	0.3%
Relationship status		
Living together, but not engaged or married	117	38.6%
Engaged	25	8.3%
Married	159	52.5%
Sexual orientation		
Asexual	2	0.7%
Bisexual	17	5.6%
Gay	4	1.3%
Lesbian	8	2.6%
Heterosexual	265	87.5%
Pansexual	5	1.7%
Queer	2	0.7%

¹ In this study, although we asked participants about their gender, the response options were Male, Female, Trans-identify as male, Trans-identify as female, and Other (specify if you wish). We acknowledge that this assessment was not ideal and have re-categorized here to use more inclusive language. Man includes people who identified as Male and Trans men, and Woman includes people who selected Female and Trans women. No participants selected the Other option in this study.

Measures

For all measure means, SDs, and correlations, see Table 2.

Beliefs about planned and spontaneous sex

We measured beliefs about planned and spontaneous sex by asking participants to indicate their agreement with six statements rated from 1 = “Strongly disagree” to 7 = “Strongly agree”. Items were mean aggregated with higher scores indicating the belief that spontaneous sex is satisfying (e.g., “Sex with my partner is most satisfying when it occurs spontaneously”; three items; $\alpha = .83$, 95% CI [.781, .874], $\omega = .84$, 95% CI [.782, .875]) or that planned sex is satisfying (e.g., “Sex with my partner is most satisfying when it is planned ahead of time”; three items; $\alpha = .84$, 95% CI [.790, .878], $\omega = .84$, 95% CI [.794, .879]) (see Table 3 for the full scale).

Sexual satisfaction

We assessed general levels of sexual satisfaction using the Global Measure of Sexual Satisfaction (GMSEX; Lawrance & Byers, 1998) on which participants rated the quality of their sex life using all five 7-point bipolar items (i.e., 1 = “Unpleasant” to 7 = “Pleasant”; $\alpha = .96$, 95% CI [.945, .969], $\omega = .96$, 95% CI [.949, .971]). The GMSEX provides a summed score ranging from 5 to 35, with higher scores indicating higher levels of sexual satisfaction.

Sexual desire²

We assessed sexual desire with two items from both the International Index of Erectile Function (IIEF; Rosen et al., 1997) and the Female Sexual Functioning Index (FSFI; Rosen et al., 2000). These measures were administered to male and female participants, respectively, but were combined as they included near identical items (e.g., “Over the past 4 weeks, how would you rate your level (degree) of sexual desire or interest?”) measured on a 5-point scale from 1 = “Very high” to 5 = “Very low or none at all” ($r = .77$ between items). Items were subsequently coded such that higher scores reflected higher desire.

Sexual distress

We assessed sexual distress using a validated one item measure from the Female Sexual Distress Scale-Revised (FSDS-R; DeRogatis et al., 2008), which is highly correlated with FSDS-R total scores ($r = .90$; Carpenter et al., 2015; p. 7) Participants were asked to answer: “In the past four weeks, how often did you feel distressed about your sex life?” on a 5-point Likert scale (0 = “Never” to 4 = “Always”).

Perceptions of last sexual encounter being planned or spontaneous

We measured participants’ perceptions of their last sexual encounter by asking the following question: “The last time you had sex with your partner did you plan it ahead of time (i.e., discussed in advance that you would have sex) or did it happen spontaneously without any planning?” The two response options were (1) Planned ahead of time. “Yes”, “No”, and “I don’t know”, and (2) Not planned ahead of time. “Yes”, “No”, and “I don’t know”. Given that 12 participants (4%) responded “I don’t know” to both questions, we dropped the participants from subsequent analyses asking about their last sexual experience. In response to these questions, 49 participants reported that sex was planned (16%; “Yes” in response to the planned ahead of time question) and 222 participants reported that the last sexual encounter was spontaneous (73%; “Yes” to the not planned ahead of time question; of these, 3 participants also responded “I don’t know” to the planned question). No participants said their last sexual encounter was both planned and spontaneous; 20 participants (7%) reported that it was neither planned nor spontaneous. Therefore, we created a variable that included participants who answered "Yes" to the "Planned ahead of time" question (and “No” to “Not planned ahead of time”; 18.3%) who were coded as 1, compared to those who answered “No” to “Planned ahead of time” and “Yes” to “Not planned ahead of time” who were coded as 0 (81.7%).

Sexual satisfaction (last encounter)

We assessed sexual satisfaction for the most recent sexual encounter by asking participants to rate two bipolar items about their last sexual experience with their partner (1 = “Very unsatisfied” to 7 = “Very satisfied” and 1 = “Not at all positive” to 7 = “Very positive”, respectively) ($M_{days} = 3.74$, $SD_{days} = 4.47$).

Perceptions of last sexual encounter (open-ended)

We asked participants to answer an open-ended question regarding their perceptions about their last sexual encounter being planned or spontaneous and how this perception enhanced or detracted from their sexual satisfaction (i.e., “Please describe in your own words how the extent to which the sexual experience was planned ahead of time versus not planned contributed to your satisfaction with the sexual experience. How did it enhance satisfaction and how did it detract from satisfaction?”).

Data Analytic Approach

Data and syntax for all analyses were uploaded to the OSF (<https://rb.gy/m3a2kb>)³. We analyzed the data using R (R Core Team, 2020). Prior to testing our key questions, we explored the factor structure for our measure of beliefs about spontaneous or planned sex. To do this, we conducted an exploratory factor analysis (EFA) using the “psych” package (Revelle, 2022). Alpha and omega reliability coefficients were calculated using the MBESS package using a bootstrapping technique with 10,000 bootstrapped resamples to get a coefficient estimate and 95% confidence intervals (Kelley, 2019). We conducted t-tests to compare the means of participants’ responses to the spontaneous sex and planned sex subscales. To test our remaining hypotheses, we analyzed the data using simple and multiple linear regression models (R Core Team, 2020). For our moderation predictions, significant moderations were followed up with simple effects tests at high (+1 *SD*) and low (-1 *SD*) levels of the moderator (Aiken et al., 1991).

We also tested significant effects for moderations by gender, including trans men and trans women with men and women, respectively, and followed up by testing a two-intercept distinguishable model to test the effects separately for each of the gender variables. For all analyses we report unstandardized beta coefficients (*b*) (see Table 2). Additionally, we conducted thematic analysis of participants' open-ended responses regarding their perceptions about their last sexual encounter being planned or spontaneous and how this perception enhanced or detracted from satisfaction.

Table 2*Means, Standard Deviations, and Correlations with Confidence Intervals for Study 1*

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5
1. Spontaneous Beliefs	5.39	1.42					
2. Planned Beliefs	2.99	1.56	-.58** [-.65, -.49]				
3. Sexual Satisfaction (general)	6.03	1.21	.22** [.11, .33]	-.10 [-.22, .02]			
4. Sexual Satisfaction (last encounter)	6.02	1.16	.23** [.11, .34]	-.10 [-.21, .02]	.77** [.72, .81]		
5. Sexual Desire	3.65	0.94	.22** [.10, .33]	-.14* [-.26, -.02]	.40** [.29, .49]	.41** [.30, .50]	
6. Sexual Distress	0.54	0.75	-.08 [-.20, .04]	.09 [-.03, .20]	-.68** [-.74, -.61]	-.64** [-.71, -.56]	-.55** [-.63, -.46]

Note. *M* and *SD* represent mean and standard deviation, respectively. Values in square brackets indicate the 95% confidence interval for each correlation. * $p < .05$. ** $p < .01$.

Results

Measurement of Spontaneous and Planned Sex Beliefs

Before testing our key questions, we first tested whether spontaneous and planned sex were distinct beliefs. We found that the spontaneous sex items more strongly loaded onto their own latent factor and loaded weakly onto the planned sex factor (see Table 3). We conducted a scree plot and parallel analysis, which both suggested a two-factor model may be the best fit (Cattell, 1966). Next, we estimated a one-factor and two-factor exploratory factor analysis model using maximum likelihood estimation and an oblimin rotation with an oblimin weight set to .5, and compared model fit indicators (e.g., root mean squared residual, residual correlation matrix, RMSEA). First, looking at the one-factor model, the root mean square residual was not acceptable (.10) and the residual correlation matrix showed some problematically high residual correlations (.11 to .20). When looking at the two-factor model, the root mean squared residual was acceptable (.02) and the residual correlations were acceptably small (0 to .03). The fit indices of the one-factor model indicated a poor fit ($RMSEA = .24$, 90% CI [.209, .273], $TLI = .70$), while the two-factor model had a good fit ($RMSEA = .06$, 90% CI [.000, .120], $TLI = .98$; Preacher et al., 2013). In addition, the difference in the RMSEA between the one-factor and two-factor model was quite large ($RMSEA_{diff} = .18$), suggesting a two-factor model is a better fit for the data (Finch, 2020). Looking at the factor loadings of the two-factor model (see Table 3), we can see that the spontaneous sex items loaded onto the second factor, while the planned sex items loaded onto the first factor, with minimal cross-loadings (.03 to .26). The communality estimates also suggest the two factors explain a large amount of the variance in the items ($h^2 = .51$ to .78; Beavers et al., 2013). Whereas a one-factor model represents two sides of the same coin, a two-factor model represents two mutually exclusive, but correlated factors.

Table 3*Factor Loadings of Two-Factor Model of Spontaneous and Planned Sex*

Item	Planned Sex Belief	Spontaneous Sex Belief	Community
Spontaneous Sex			
1. Sex with my partner is most satisfying when it occurs spontaneously	0.23	0.98	0.63
2. I prefer not knowing when I will be having sex with my partner next	-0.02	0.72	0.54
3. It helps ignite desire if sex with my partner is in the “spur-of the moment”	0.26	1.12	0.82
Planned Sex			
1. Sex with my partner is most satisfying when it is planned ahead of time	1.05	0.29	0.67
2. I prefer to know in advance when I will be having sex next	0.82	0.15	0.48
3. It helps ignite desire if sex with my partner is arranged ahead of time	0.99	0.17	0.72

Note. Community estimates can be interpreted as the proportion of each variable’s variance explained by the factors.

Beliefs about Spontaneous and Planned Sex

To test our prediction that people are more likely to endorse spontaneous sex beliefs as compared to endorsing planned sex beliefs, we compared the means on their respective subscales. As predicted, people were more likely to endorse the belief that spontaneous sex is more satisfying than planned sex, $M_{diff} = 2.40$, $t(267) = 14.84$, $p < .001$, 95% CI [2.082, 2.719]. Next, in a multiple regression model in which spontaneous and planned sex beliefs were entered simultaneously, we found that people who held stronger beliefs about the benefits of spontaneous sex reported higher sexual satisfaction, $b = .07$, 95% CI [.030, .112], $SE = .02$, $t = 3.40$, $p < .001$, whereas beliefs about planned sex were not significantly associated with sexual satisfaction, $b = .01$, 95% CI [-.026, .049], $SE = .02$, $t = .62$, $p = .534$.

Perceptions of the Last Sexual Encounter

We also tested whether people's perception of their last sexual encounter as spontaneous versus planned ahead of time was associated with their feelings of sexual satisfaction related to that experience. People who perceived their last sexual experience to be planned ahead of time ($M = 5.76$) reported that the experience was less satisfying, $b = -.45$, 95% CI [-.806, -.088], $SE = .18$, $t = -2.45$, $p = .015$, compared to those who reported the experience was spontaneous (i.e., unplanned; $M = 6.10$). We also asked participants how long ago the sexual encounter occurred, but associations remained significant after accounting for how long it had been since the sexual encounter (see online supplementary material [OSM]; <https://rb.gy/tbvuzj>).

Moderations by Beliefs

Next, we tested whether the association between perceptions of one's last sexual encounter as spontaneous or planned and sexual satisfaction was moderated by spontaneous and planned sex beliefs. We found that beliefs about planned sex moderated the association between

perceptions of the last sexual encounter and sexual satisfaction, $b = .15$, 95% CI [-.050, -.242], $SE = .05$, $t = 3.00$, $p = .003$, such that for people with a higher endorsement of the planned sex belief, there was no association between perceiving the last encounter as planned and sexual satisfaction, $b = -.05$, 95% CI [-.594, .487], $SE = .27$, $t = -.20$, $p = .846$, whereas for those with a lower endorsement of the planned sex belief, they reported feeling less sexual satisfaction following a recent planned sexual encounter, $b = -1.42$, 95% CI [-2.088, -.754], $SE = .34$, $t = -4.19$, $p < .001$ (see Figure S1). That is, beliefs about planned sex as satisfying buffered against the lower sexual satisfaction associated with perceiving an experience as planned ahead of time. Beliefs about spontaneous sex did not moderate the association between perceptions of the last sexual encounter and sexual satisfaction, $b = .06$, 95% CI [-.033, .163], $SE = .05$, $t = -1.29$, $p = .197$.

Moderations by Sexual Desire or Distress

We also tested whether the association between perceiving one's last sexual encounter as spontaneous or planned and sexual satisfaction was moderated by sexual desire or sexual distress because it is possible that planning is helpful when people have lower desire or are more sexually distressed. However, the link between perceiving one's last sexual encounter as planned versus spontaneous and sexual satisfaction was not moderated by sexual desire, $b = -.003$, 95% CI [-.182, .176], $SE = .09$, $t = -.03$, $p = .977$, or sexual distress, $b = -.01$, 95% CI [-.034, .017], $SE = .01$, $t = -.66$, $p = .509$, suggesting that, at least in this sample, the association between planning and sexual satisfaction did not differ based on a person's level of sexual desire or distress.

Moderations by Gender

We also tested whether gender moderated the association between beliefs about or experiences of spontaneous or planned sex and sexual satisfaction. There was no significant

mean level difference between men and women in their beliefs about spontaneous, $M_{men} = 5.40$, $M_{women} = 5.39$, $t(265) = -.08$, $p = .936$, 95% CI [-.355, .327], and planned sex, $M_{men} = 2.96$, $M_{women} = 3.02$, $t(264) = .30$, $p = .767$, 95% CI [-.318, .431]. Gender did not significantly moderate the association between beliefs about spontaneous sex, $b = -.05$, 95% CI [-.136, .034], $SE = .04$, $t = -1.18$, $p = .239$, or planned sex, $b = -.03$, 95% CI [-.110, .044], $SE = .04$, $t = -.84$, $p = .401$, and sexual satisfaction, or the association between perceptions of the last sexual encounter as planned or spontaneous and sexual satisfaction of that last encounter, $b = -.02$, 95% CI [-.755, .717], $SE = .37$, $t = -.05$, $p = .960$.

Thematic Analysis

To identify themes from participants' open-ended responses about how planning and spontaneity contributed to the satisfaction of a recent sexual encounter, we conducted a thematic analysis using an inductive (data-driven) approach following steps in Braun and Clark (2006). Following guidelines by O'Connor and Joffe (2020), a small, randomly selected portion of the dataset (15%) was independently coded by two raters, which allowed for multiple codes per response. The first author familiarized themselves with the data and generated initial codes independently. Following this step, using the codes provided, a research assistant coded the same dataset (i.e., 15%) independently. After the completion of the independent coding, any disagreements were discussed and clarified and intercoder reliability was perfectly aligned ($\kappa = 1.00$). After high agreement regarding themes and their correspondence to the responses was established, following guidelines by O'Connor and Joffe (2020), the research assistant continued to code the remaining responses.

Using thematic analyses, we identified seven themes (see Table 4 for themes, examples and percentages). Of our 303 participants, 297 responded to the open-ended question (with 6

participants excluded from these analyses for failing to provide a response, stating that they did not remember, or stating that they did not understand the question). The total number of responses for each theme was then divided by the number of participants who provided a response to calculate the percentage of responses corresponding to each theme (or percentage of responses that could not be coded). Consistent with our quantitative results, many participants' responses were coded as *spontaneity enhances satisfaction* (39.7% of total responses). Their responses noted that spontaneity added fun, adventure, excitement, surprise, desire and meaning to their sex life. However, some participant responses represented that *planned sex enhances satisfaction* (8.7%). One participant wrote: "It was planned because it was our only date night for about two weeks. It helped satisfaction knowing what we both wanted and when." But other participants expressed that *planned sex detracts from satisfaction* (12.1%). For example, one participant said: "I think it detracts from the satisfaction. It feels too planned and not spontaneous enough. It takes some of the excitement and eagerness away." Other responses coded in this theme mentioned that planning could add pressure or feel like "work", as in the case of family planning. A small percentage of participants wrote that *spontaneous sex detracts from satisfaction* (2.6%). One participant wrote: "It [sex that happened spontaneously] detracted by not letting me get aroused before penetration." These participants also gave reasons such as being tired or having distractions as factors detracting from the experience. Other participants wrote that it *does not matter if sex is planned or spontaneous* (9.4%). As one participant wrote: "I don't think it contributed to or detracted from the experience. I like the spontaneity of unplanned sex but I also don't mind planning it. I don't think it made much difference either way". Participants also commented how often they tended to engage in planned versus spontaneous sex. Some participants wrote that *sex is seldom planned* (14.8%), and a smaller

number wrote that *sex is usually planned* (5.3%), mentioning arranging for childcare ahead of time or planning because of busy schedules to create opportunities for sex. Some participants provided *indeterminable responses* that did not discuss how the planning or spontaneity of the sexual experience was associated with their satisfaction and could not be coded within the themes (30.9%).

Table 4

Themes, Example Responses and Percentages from Thematic Analyses

Theme	Example responses	%
1. Spontaneous sex enhances satisfaction	It was just a random event/time. I love the sense of surprise and thought that was more meaningful vs. a set time/expectation. It made it fun and different.	39.7
2. Does not matter if sex is planned or spontaneous	I don't think that it either enhanced or subtracted from the experience. I think it would have been just as enjoyable if it was planned out.	9.4
3. Planned sex detracts from satisfaction	Sometimes it can take me out of it if we talk about it too much leading up to it.	12.1
4. Sex is seldom planned	We don't usually plan when we have sex. It usually just happens!	14.8
5. Sex is usually planned	Because of time constraints, we plan Sunday fun day. We chose to be intimate definitely on this day and spend the day together.	5.3
6. Planned sex enhances satisfaction	With our busy schedules, we tend to plan ahead of time. This enhances the experience for me because it creates a great amount of anticipation.	8.7
7. Spontaneous sex detracts from satisfaction	It was not planned and therefore not as enjoyable. I don't mean planning like "next Tuesday at 3pm", I mean planning as in deliberate "Imma light yo fire" anticipation.	2.6

Note: Percentages represent the proportion of responses corresponding to each theme (some responses had multiple codes).

Brief Discussion

In Study 1, we found support for a two-factor model of beliefs about sexual spontaneity, suggesting that spontaneity and planning beliefs are distinct constructs, in which one can believe that both planned and spontaneous sex are satisfying (though we found these factors were negatively correlated). People who more strongly endorse the belief that spontaneous sex is satisfying reported higher sexual satisfaction, whereas endorsing the planned sex belief was not associated with satisfaction. Though we found that perceiving one's most recent sexual experience as planned was associated with lower sexual satisfaction, those who more strongly endorsed positive beliefs about planned sex were buffered against lower sexual satisfaction for a recent planned sexual encounter. Our thematic analysis of participants' open-ended responses provided further insight into beliefs and perceptions of spontaneous and planned sex, supporting the finding that people are more likely to hold beliefs that spontaneous sex is satisfying, but also suggesting that there are times in which either spontaneous or planned sex can enhance or detract from satisfaction, and that for some, spontaneity does not contribute to satisfaction.

Study 2

In Study 2, we tested whether beliefs about sexual spontaneity and planning were associated with sexual satisfaction in a pre-registered 21-day dyadic daily experience study. In this study, we were able to measure participants' perceptions of the extent to which sex was planned or spontaneous and their satisfaction with those experiences close in time to when they occurred (each day). We were also able to test whether one's beliefs influenced their partner's reported level of sexual satisfaction. Based on our findings from our initial study, we predicted that overall, people would hold stronger beliefs that spontaneous sex is satisfying as compared to beliefs that planned sex is satisfying. We also predicted that on days when people perceived a sexual experience to have happened more spontaneously, they would report higher sexual

satisfaction than when they perceived a sexual experience to have been more planned ahead of time. Finally, we predicted that the associations between perceptions of a sexual experience as more spontaneous or more planned and satisfaction in daily life would be moderated by a person's beliefs. In particular, we expected that on days when a person perceived a sexual experience as having been more planned, this will be associated with lower sexual satisfaction, but people who endorse stronger planned sex beliefs would be buffered against this lower satisfaction. See OSF for preregistration (<https://rb.gy/m3a2kb>), data, and code for the analyses (<https://rb.gy/tbvuzj>).

Participants and Procedure

Participants were recruited between February 10, 2018 to July 18, 2018 online via Facebook, Reddit, Craigslist, Twitter, Kijiji and in person (e.g., Canadian university campuses, public transportation centers). Eligibility criteria included being a resident of Canada or the US, 18 years of age or older, living together with their romantic partner or seeing each other at least five out of seven days per week, sexually active in the current relationship, able to read and understand English and have daily access to a computer with internet. Participants were compensated up to \$60 CAD (\$48 USD). We recruited 122 couples; however, one couple only completed the background survey, making the final sample size 121 couples (see Table 5 for sample characteristics). We conducted sensitivity analyses which indicated that with 80% power and a two-tailed α of .05, our sample allowed for the detection of a small minimum unstandardized slope of .016 to .026 for our main research questions (see OSM for details; <https://rb.gy/tbvuzj>).

Table 5

Sample Characteristics (N = 121 couples)

Characteristic	<i>M</i> (range) or <i>n</i>	<i>SD</i> or %
Age (years)	32.63 (20-78)	10.16
Relationship duration (years)	8.13 (1-58)	8.41
Gender ¹		
Man	115	47.5%
Woman	124	51.2%
Not Listed	2	.8%
Ethnicity		
White (e.g., North American, European, etc.)	158	65.3%
Black (e.g., African Caribbean, etc.)	11	4.5%
East Asian (e.g., Chinese, Korean, etc.)	20	8.3%
South Asian (e.g., Indian, Pakistani, etc.)	18	7.4%
Latin American (e.g., Mexican, Columbian, etc.)	10	4.1%
Bi- or multi- ethnic/racial (e.g., White/Black, East Asian/South Asian, etc.)	14	5.8%
Not Listed	10	4.1%
Relationship status		
Dating	3	1.2%
Living together (not common-law or married)	71	29.3%
Common-law	33	13.6%
Engaged	19	7.9%
Married	113	46.7%
Not Listed	1	0.4%
Sexual orientation		
Asexual	7	2.9%
Bisexual	22	9.1%
Gay	2	0.8%
Lesbian	6	2.5%
Straight/heterosexual	197	81.4%
Pansexual	4	1.7%
Queer	2	0.8%
Not Listed	2	0.8%
What country do you live in?		
Canada	242	67.8%
United States	78	32.2%

¹ In this study, although we asked participants about their gender, the response options were Male, Female, Trans-identify as male, Trans-identify as female, and Other (specify if you wish). Those who specified their gender in this last category (0.8%) or those who did not list their gender (0.5%) were not included in gender moderations. We acknowledge that this assessment was not ideal and have aimed to report the categories in a more inclusive way. Man represents those who selected Male, Woman represents those who selected Female, no participants reported a Trans identity, and Not Listed reflects those who specified their gender using the Other option (0.8%). For those who specified their gender using the Other option, we did not denote them as being in a same- or mixed-gender

relationship. Five couples were same-gender couples, and the remaining couples were in mixed-gender relationships.

Measures

See Table 6 for all measure means, SDs, and correlations.

Baseline Measures

At baseline we assessed *spontaneous sex beliefs* and *planned sex beliefs* using the 6-item measure we developed in Study 1 (spontaneous; $\alpha = .75$, 95% CI [.735, .766], $\omega = .75$, 95% CI [.740, .770]; planned; $\alpha = .84$, 95% CI [.825, .845], $\omega = .84$, 95% CI [.826, .846]). As in Study 1, we assessed *sexual satisfaction* using the GMSEX (Lawrance & Byers), *sexual desire* with two items adapted from the FSFI with both questions reverse coded so that higher scores indicate higher sexual desire (Rosen et al., 2000), and *sexual distress* with a one-item validated measure from the FSDS-R (DeRogatis et al., 2008; Carpenter et al., 2015).

Daily Measures

We asked participants each day over the course of the 21-day daily experience study: “Did you and your partner have sex today?” If they answered “Yes”, they were also asked to select the point on a 7-point Likert scale that best represented the extent of their agreement with the following items: “The sexual experience was planned ahead of time.” and “The sexual experience happened spontaneously.” (1 = “Strongly disagree” to 7 = “Strongly agree”). Since the two items were highly correlated ($r = -.69$, 95% CI [-.722, -.661]), we reverse coded the second item and created a composite of these two items such that higher scores represent that the experience was more planned ahead of time and lower scores represent that the experience was more spontaneous. In our analyses, we used the person’s own perceptions, but also had their partner’s perceptions and tested the level of agreement (i.e., correlation) between partners about the extent to which the experience was planned ahead of time or spontaneous. Partners’ reports

of whether the sexual experience was planned or spontaneous were significantly correlated, suggesting agreement between partners (spontaneous: $r = .59$, 95% CI [.547, .629], $p < .001$; planned: $r = .71$, 95% CI [.673, .736], $p < .001$). Each day, we also assessed *sexual satisfaction* using the GMSEX (Lawrance & Byers, 1998) but asked about that day ($\alpha = .99$, 95% CI [.984, .986], $\omega = .99$, 95% CI [.984, .987]). We assessed *sexual desire* with one item: “Today, I felt a great deal of sexual desire for my partner” on a 7-point Likert scale (1 = “Strongly disagree” to 7 = “Strongly agree”).

Table 6

Means, Standard Deviations, and Correlations with Confidence Intervals for Study 2

Variable	M	SD	1	2	3	4	5
1. Spontaneous Beliefs	5.20	1.08	.42** [.40, .45]				
2. Planned Beliefs	3.36	1.32	-.47** [-.56, -.37]	.26** [.24, .29]			
3. Sexual Satisfaction	5.87	1.63	-.00 [-.13, .12]	.07 [-.06, .20]	.40** [.38, .43]		
4. Sexual Desire	3.78	0.90	.06 [-.07, .18]	.09 [-.03, .22]	.35** [.23, .45]	.06** [.04, .09]	
5. Sexual Distress	1.18	1.05	.04 [-.09, .16]	.03 [-.09, .16]	-.37** [-.48, -.26]	-.26** [-.37, -.13]	.34** [.32, .37]

Note. *M* and *SD* represent mean and standard deviation, respectively. Values in square brackets indicate the 95% confidence interval for each correlation. * indicates $p < .05$. ** indicates $p < .01$. Correlations between partners are bolded on the diagonal.

Results

Measurement of Planned and Spontaneous Sex Beliefs

In Study 2, we conducted a confirmatory factor analysis (CFA) to confirm the two-factor structure identified by our EFA in Study 1. First, given that we have dyadic data, we calculated the intraclass correlation between actor and partner spontaneous and planned sex beliefs to better understand the interdependence between partner’s responses on this measure. Spontaneous sex

beliefs ($ICC = .42$) and planned sex beliefs ($ICC = .26$) both had relatively low intraclass correlations by common conventions (Koo & Li, 2016), suggesting a small proportion of variance in the measurement of planned and spontaneous beliefs were accounted for by dyad membership (Dogan & Dogan, 2015). Therefore, a person's spontaneous or planned sex beliefs may not be interdependent (i.e., influenced by their relationship/partner) and responses from individuals within a couple are likely to be as similar as two people from different couples. As such, we did not conduct a dyadic CFA. We estimated a two-factor CFA model and report robust fit statistics when possible. The two-factor model fit the data very well based on common fit statistic cut-offs (Browne & Cudeck, 1993; MacCullum et al., 1996), $RMSEA = .06$, 90% CI [.038, .082], $CFI = .962$, $TLI = .947$, $SRMR = .05$. We compared this to a one-factor model, however the one factor model did not fit the data well, $RMSEA = .14$, 90% CI [.119, .153], $CFI = .702$, $TLI = .736$, $SRMR = .10$. We conducted a chi-square difference test to compare the two-factor and one-factor model and found the two-factor model fit the data significantly better, $\chi^2_{diff} = 134.5$, $p < .001$. Comparing the AIC and BIC of these models suggests the two-factor model, $AIC = 9016.9$, $BIC = 9121.1$, fit the data better than the one-factor model, $AIC = 9204.7$, $BIC = 9291.5$. In the two-factor model, the items loaded highly onto their respective factors (.66 to .83; see Table 7). Therefore, we conclude that a two-factor model of spontaneous and planned sex beliefs is the best fit for the data and conducted subsequent analyses with this structure.

Table 7

Unstandardized and Standardized Factor Loadings from Two-factor Confirmatory Factor Analysis Model

Items	Unstandardized Estimates	Standardized Estimates
Spontaneous Sex		

1. Sex with my partner is most satisfying when it occurs spontaneously	.846	.655
2. I prefer not knowing when I will be having sex with my partner next	.984	.702
3. It helps ignite desire if sex with my partner is in the “spur-of the moment”	.998	.799
Planned Sex		
1. Sex with my partner is most satisfying when it is planned ahead of time	1.116	.735
2. I prefer to know in advance when I will be having sex next	1.229	.807
3. It helps ignite desire if sex with my partner is arranged ahead of time	1.224	.831

Beliefs about Planned and Spontaneous Sex

In Study 2, we replicated our finding from Study 1 that people were more likely to endorse spontaneous sex beliefs, $M_{diff} = 1.84$, $t(241) = 13.88$, $p < .001$, 95% CI [1.579, 2.101] compared to planned sex beliefs (see Table 6). Unlike in Study 1, however, there was no association between endorsing spontaneous sex beliefs or planned sex beliefs and sexual satisfaction at baseline (see Table 8), except for a negative association between a partner’s planned sex beliefs and sexual satisfaction in which people who endorsed stronger planned sex beliefs had partners who reported lower sexual satisfaction. When predicting sexual satisfaction in daily life, there were no significant associations with a person’s or their partner’s spontaneous or planned sex beliefs and sexual satisfaction (see Table 8).

Table 8*Associations Between Beliefs about Spontaneous and Planned Sex and Sexual Satisfaction at Baseline and in Daily Life in Study 2*

	Baseline					Daily				
	b	t	p	LL	UL	b	t	p	LL	UL
Actor Spontaneous Sex Beliefs	.02	.52	.604	-.053	.090	-.03	-.69	.493	-.101	.048
Partner Spontaneous Sex Beliefs	-.03	-.95	.344	-.106	.037	-.03	-.71	.479	-.102	.047
Actor Planned Sex Beliefs	.04	1.48	.140	.014	.102	-.02	-.53	.598	-.080	.046
Partner Planned Sex Beliefs	-.06	-1.98	.049	-.117	-.001	-.01	-.24	.813	-.070	.055

Note. *LL* and *UL* are the lower and upper limit of the 95% confidence intervals.

Perceptions of Sex as Planned and Spontaneous in Daily Life

Next, we tested how the extent to which sex was perceived to be spontaneous or planned in participants' daily lives was associated with daily sexual satisfaction. Using a composite measure of perceiving sex as being more spontaneous or more planned (higher scores indicate more planned), perceiving sex as more planned ahead of time compared to happening more spontaneously was not associated with sexual satisfaction at the daily level (within-person), $b = -.01$, 95% CI [-.025, .012], $SE = .01$, $t = -.72$, $p = .475$, or across the entire study (aggregate), $b = -.04$, 95% CI [-.105, .027], $SE = .03$, $t = -1.17$, $p = .242$. That is, when participants reported engaging in sex, the extent to which they perceived it as having happened spontaneously versus planned was not linked to how satisfied they felt with their sex life that day.

Moderations by Planned and Spontaneous Sex Beliefs

There was no significant moderation of the link between perceiving sex as more planned at the daily level and sexual satisfaction by beliefs about spontaneous, $b = .003$, 95% CI [-.002, .008], $SE = .01$, $t = 1.14$, $p = .253$, or planned sex, $b = .01$, 95% CI [-.001, .011], $SE = .003$, $t = 1.67$, $p = .095$. There was also no significant moderation of the link between perceiving sex as more planned over the 21-day study and sexual satisfaction by beliefs about spontaneous, $b = .005$, 95% CI [-.014, .023], $SE = .01$, $t = .49$, $p = .628$, or planned sex, $b = .01$, 95% CI [-.004, .028], $SE = .01$, $t = 1.49$, $p = .137$. Therefore, regardless of people's beliefs about the benefits of planned or spontaneous sex, there were no significant associations between the extent to which people perceived a sexual experience in daily life to be planned versus spontaneous and sexual satisfaction.

Moderations by Sexual Desire and Sexual Distress

We tested whether the link between perceptions of sex occurring as spontaneous or planned daily and sexual satisfaction over the 21-day study was moderated by general level of sexual desire, however there was no significant moderation by actor, $b = .01$, 95% CI [-.033, .021], $SE = .01$, $t = 1.96$, $p = .050$, or partner's sexual desire, $b = -.004$, 95% CI [-.005, .008], $SE = .01$, $t = -.59$, $p = .557$ (assessed at baseline). There was also no moderation of the link between perceptions of sex occurring as spontaneous or planned over the 21-day study and sexual satisfaction by general level of actor, $b = -.01$, 95% CI [.000005, .024], $SE = .01$, $t = -.47$, $p = .640$, or partner, $b = -.02$, 95% CI [-.016, .009], $SE = .01$, $t = -1.44$, $p = .151$, and sexual desire. We also tested whether the link between perceptions of sex occurring as spontaneous or planned and sexual satisfaction over the 21-day study was moderated by sexual distress. There was no significant moderation of the link between perceiving sex as planned daily and sexual satisfaction by an actor's, $b = .01$, 95% CI [.014, .030], $SE = .01$, $t = .73$, $p = .465$, or a partner's sexual distress, $b = -.001$, 95% CI [-.024, .022], $SE = .01$, $t = -.09$, $p = .926$. There was also no significant moderation of the link between perceiving sex as planned across the 21-day study and sexual satisfaction by actor's, $b = -.02$, 95% CI [-.057, .026], $SE = .02$, $t = -.72$, $p = .471$, or partner's sexual distress, $b = .04$, 95% CI [-.003, .090], $SE = .01$, $t = 1.81$, $p = .072$. Therefore, in this sample, there were no significant differences between planned and spontaneous sex and sexual satisfaction based on either partner's general level of sexual desire or distress.

Moderations by Gender

We also tested whether the association between spontaneous or planned sex beliefs and sexual satisfaction was moderated by gender. For these analyses, we only focused on participants who identified as a man or woman (there were no participants who identified as transgender). First, there was no significant mean level difference between men and women in their beliefs of

spontaneous, $M_{men} = 5.06$, $M_{women} = 5.31$, $t(237) = 1.77$, $p = .078$, 95% CI [-.028, .519], and planned sex, $M_{men} = 3.53$, $M_{women} = 3.21$, $t(237) = -1.85$, $p = .065$, 95% CI [-.651, .020]. As in Study 1, gender did not moderate the association between spontaneous sex beliefs, $b = .02$, 95% CI [-.145, .184], $SE = .08$, $t = .23$, $p = .820$, or planned sex beliefs, $b = -.005$, 95% CI [-.130, .121], $SE = .06$, $t = -.07$, $p = .941$, and sexual satisfaction. Gender also did not moderate the association between daily perceptions of sex as planned, $b = -.05$, 95% CI [-.117, .009], $SE = .03$, $t = -1.70$, $p = .091$, or perceptions of sex as planned over the 21-day study, $b = -.02$, 95% CI [-.199, .164], $SE = .09$, $t = -.20$, $p = .841$, and sexual satisfaction.

Brief Discussion

In Study 2, we found support for a two-factor structure for items corresponding to spontaneous and planned sex beliefs, in which participants could vary in the extent to which they endorsed either spontaneous or planned sex. Unlike in Study 1, we did not find associations between a person's beliefs about spontaneous or planned sex and sexual satisfaction, both generally (i.e., cross-sectionally) and in daily life (greater endorsement of planned sex was only associated with a partner's lower satisfaction at baseline). On each day that sex occurred, we asked participants whether they perceived sex to be more spontaneous or more planned and their sexual satisfaction with that experience. We did not find any associations between daily perceptions of sex as more spontaneous or more planned (on days that sex occurred) and sexual satisfaction, regardless of general spontaneous and planned sex beliefs. We also did not find any significant moderations by sexual desire, sexual distress or gender.

General Discussion

Despite spontaneity often being portrayed as a sexual ideal in Western culture (Dune & Shuttleworth, 2009; McCarthy & Wald, 2015; Murray et al., 2017), scientific investigations of

this topic are limited. In the first empirical investigation of planned versus spontaneous sex to our knowledge, we find evidence that the belief about spontaneous sex as ideal was endorsed more strongly than a planned sex ideal. However, the associations between beliefs about planned and spontaneous sex and sexual satisfaction were mixed across studies. In Study 1, greater endorsement of the belief that spontaneous sex is satisfying was associated with higher sexual satisfaction, but this was not replicated in Study 2. Instead, in Study 2, when a person endorsed greater planned sex beliefs, their partners reported lower sexual satisfaction at the outset of the study, but we did not find an association between stronger endorsement of spontaneous sex beliefs and sexual satisfaction for either partner generally (i.e., cross-sectionally) or in daily life. Importantly, in Study 1, we found that when people perceived their most recent sexual experience as planned ahead of time, they reported less sexual satisfaction compared to when it was perceived as spontaneous, however this was moderated by beliefs about planned sex. Specifically, although overall people who perceived their last sexual experience to be planned reported lower sexual satisfaction, this was buffered when people held stronger beliefs that planned sex is more satisfying. Also, across both studies there were no moderations by sexual desire, sexual distress, or gender.

Extending Research on Implicit Sexual Beliefs

The current studies extend research on implicit sexual beliefs by finding that people hold distinct beliefs about both planned and spontaneous sex. Research guided by theories of implicit beliefs demonstrates that sexual destiny beliefs—the belief that sexual satisfaction will come naturally if you find the right partner—are most detrimental to sexual satisfaction when romantic partners face sexual issues (Bohns et al., 2015; Bőthe et al., 2017; Maxwell et al., 2017; Raposo et al., 2021). Spontaneous sex beliefs are also about sexual satisfaction being tied to natural

compatibility, in which sex occurs effortlessly without planning or discussion. Although people generally had stronger beliefs about spontaneous sex being satisfying, we did not find consistent associations between beliefs and perceptions about spontaneous sex and sexual satisfaction (in Study 1, more strongly endorsing spontaneous sex beliefs were generally associated with sexual satisfaction, but not so for the most recent sexual encounter). In our thematic analysis, we discovered that spontaneous sex, more often than planned sex, inspired participants to describe excitement, passion, meaning, desire, satisfaction and feeling wanted by a partner.

One reason that people may value spontaneity is because they link it to more authentic passion and desire, akin to the early stages of a relationship. However, they might underestimate the planning that goes into seemingly spontaneous sexual encounters. On the “myth of spontaneity,” Perel (2007) makes the point that even spontaneous sex in the early stages of a relationship is probably more planned than people perceive it to be (e.g., natural outgrowths from planning romantic dates, personal grooming, and efforts to turn towards each other). In line with Perel (2007), Fraenkel (2011, as cited in Ferreria et al., 2015) writes that people may take for granted how their “relational rhythms,” including when sex happens in a committed relationship, result from intentions, aims, and choices made over time that allow for such connection. For example, romantic partners may pre-emptively plan for sex by getting a prescription for birth control or purchasing contraceptives, discussing when they are more likely to be in the mood (e.g., in the morning/evening, after sharing emotional intimacy, during less stressful periods at work), and engaging in activities that support their overall sexual functioning, well-being and confidence (e.g., getting regular exercise, grooming, maintaining an active social life). Additionally, romantic partners may create routines and schedules which aid in facilitating their sexual connection, or plan time off from work to spend more time together (e.g., booking flights,

cars, hotels, and arranging for childcare when going on vacation). Thus, in simply enacting the sexual script in their relationship (e.g., sex on date nights, on weekend mornings) romantic partners may perceive sex as more spontaneous than it actually is. Moreover, people may perceive sex to be spontaneous not only when it is seemingly unplanned, but also when something novel happens during sex (e.g., when introducing a new sexual position, location, fantasy), which has been linked to higher sexual satisfaction (Lehmiller et al., 2021). Therefore, people might value spontaneous sex, in part because they overlook the role of planning in many of their sexual experiences.

Although sexual planning is strongly endorsed by sex therapists (Perel, 2007; McCarthy & Wald, 2015; Weiner & Avery-Clark, 2017), we found that people are less likely to endorse planned sex beliefs, and that a stronger endorsement of planned sex beliefs is linked with a partner's lower sexual satisfaction (in Study 2). Planned sex may espouse anti-erotic associations of responsibility, duty, and obligation, which may be associated with lower satisfaction (Vannier & O'Sullivan, 2010). In contrast, having more positive feelings towards planned sex may be protective with respect to sexual satisfaction. This is what we found in Study 1—although there was an association between perceiving a recent sexual experience as planned and lower sexual satisfaction, those with a greater endorsement for planned sex were buffered from this effect. Though there is a lack of empirical evidence thus far to support the effectiveness of sexual planning, one reason for its popularity among clinicians is that intentionality is thought to protect partners from falling into the trap of sex avoidance (McCarthy & Wald, 2015). More frequent sex is associated with greater relationship satisfaction and well-being (Muisse et al., 2016); as compared to days when sex does not occur, on sex days, people tend to report greater relationship quality, positive affect, and well-being (Debrot et al., 2017; Kahneman et al., 2004;

Kashdan et al., 2018). Therefore, associations between engaging in sex and sexual and relationship quality might happen regardless of whether sex is seen as spontaneous or planned, and beliefs about sexual spontaneity may be inconsequential when romantic partners are having satisfying sex on a regular basis. As one participant wrote in response to our question about whether spontaneity or planning enhanced or detracted from their last sexual experience: “It didn’t, that [whether sex happened spontaneously or was planned] did not contribute at all it was just good hot sex”.

Across both studies, we also tested whether the associations would differ for people with lower desire or higher sexual distress, but we did not find any moderations by desire or distress. However, our non-clinical samples were comprised of individuals and couples who generally had high sexual desire and low sexual distress (i.e., as moderators, sexual desire and sexual distress had low variability in our studies and we only assessed dyadic desire, as we were most interested in desire for their partner, and not solitary desire). When romantic partners face sexual challenges—as they might in contexts where this strategy is proposed (i.e., sex and relationship therapy)—planning or intentional sex may be one way to help them create or re-establish regularity of the sexual relationship to maintain satisfaction. Important next steps for this work include testing associations with these beliefs in clinical samples of couples or couples navigating a sexual problem. Sex therapists frequently discuss the myth of sexual spontaneity with their clients to challenge such beliefs. In fact, most people—not just those seeking sex therapy—hold greater endorsement for spontaneous sex as compared to planned sex. And in Study 1, we found a general positive association between greater endorsement for spontaneous sex and sexual satisfaction, although our sample was not a clinical one. It may be possible that when romantic partners encounter a sexual issue or are limited in their ability to be spontaneous

(e.g., by a new baby, living situation, health issues), a stronger endorsement of spontaneous sex beliefs may then be associated with lower sexual satisfaction (rupturing one's felt sense of sexual compatibility), whereas a stronger endorsement of planned sex beliefs may be akin to sexual growth beliefs, wherein people put work into restoring or enhancing intimacy. Future research should test for overlap between measures of sexual destiny and growth beliefs and spontaneous and planned sex beliefs, which would help support the validity of the measurement of these novel constructs.

As well, clinicians may be well advised to first discuss clients' expectations and beliefs about sexual spontaneity and planning, and importantly, the meanings and associations they hold for each when helping clients overcome sexual challenges. It would also be important for future research to test whether sexual communication might moderate the association between beliefs about spontaneity and planning and sexual satisfaction. For example, it is possible that greater spontaneous sex beliefs may be associated with poorer sexual communication, given that spontaneous sex beliefs involve thinking that sex is best when it "just happens," and it is possible that when spontaneous sex beliefs are accompanied by poorer sexual communication, they may be most likely to detract from sexual satisfaction. Poorer sexual communication might be most detrimental for clinical populations given the importance of sexual communication when facing a sexual challenge (Merwin et al., 2017).

Limitations and Future Directions

Despite the strengths of the current research, the limitations are worth noting. It is possible that the way we measured planned sex (i.e., by asking if people preferred sex that was "arranged ahead of time"), may have influenced participants to think about planned sex more narrowly as *scheduled* sex. Although scheduled sex falls under the umbrella of planning, it may

differ from other planned efforts, such as discussing sexual fantasies or planning a romantic date ahead of time, or from individual efforts to plan sex, as scheduling sex implies that partners have discussed and agreed to a plan. We also described spontaneous sex as sex that occurs in the “spur of the moment”, however, there are many other features that could make people view a sexual encounter as planned or spontaneous. For example, planning often encapsulates a number of behaviours, thoughts and feelings, or grooming and dressing up to *feel sexy*, which people may or may not take into account when asked to define their sexual experiences as planned ahead of time or not. We recognize the limited use of a dichotomous measure in Study 1, as it might not always be clear whether sex is planned versus spontaneous, and in Study 2, when we use the continuous measure, we see that the extent to which people perceive sex as being either spontaneous or planned does vary. We also acknowledge that the way we asked participants about whether their most recent sexual encounter was planned (i.e., “discussed in advance that you would have sex”) was limited, as we did not ask participants to indicate how far ahead of time it was discussed. It is possible that planning farther ahead or having a regularly scheduled time for sex might have different associations with sexual satisfaction than sex planned earlier that same day or closer in time to when sex occurs.

From insights gained through this research process, we offer the following definitions for consideration: (1) planned sex may be defined by an intention to have sex sometime in the near future with one’s partner accompanied by immediate or future actions to ensure that sex will happen, and/or *awareness* that sex is likely to happen because of actions that have been taken to facilitate it, whereas (2) spontaneous sex may best be defined by a *lack of expectation* that sex will happen when it does happen between consenting partners. One suggested direction for future research then is to study how people themselves identify or define sexual spontaneity and

planning, and to use the main components from their responses to arrive at clearer definitions and assessment of these terms. The generalizability of our findings is also limited given that our initial studies were conducted with individuals and couples who identified as mostly heterosexual and reported a binary gender (i.e., men and women). Further, our assessment of gender conflated sex and gender, two concepts that are importantly distinct (Dessie & Lewiss, 2021). Future research is needed to determine whether the results are generalizable to individuals of all genders and sexual orientations, as well as more diverse relationship structures.

Conclusion

In this paper, extending research on people's "lay" beliefs about sexuality, we tested novel questions about how people's beliefs about spontaneous and planned sex are associated with sexual satisfaction. Across two studies, we find greater endorsement for a *spontaneous sex belief* (i.e., that sex that "just happens" is satisfying) than for a *planned sex belief* (i.e., that sex that is planned or discussed ahead of time is satisfying). However, greater endorsement of spontaneous sex was only associated with higher satisfaction in Study 1, and those with greater planned sex beliefs were buffered from lower satisfaction when their last sexual experience was perceived as planned. In Study 2, greater planned sex beliefs were only associated with a partners' lower sexual satisfaction at baseline, and there was no association between having spontaneous sex and sexual satisfaction at baseline or the daily level, even for those who more strongly endorsed spontaneous sex. Further, we did not find moderations by sexual distress or sexual dysfunction, though our samples were comprised of highly sexually satisfied individuals and couples. The findings may have implications for future research on shifting people's beliefs about sexual spontaneity and planning, perhaps most importantly within clinical samples coping with a sexual challenge but research with this population is needed.

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Footnotes

¹ In this study, although we asked participants about their gender, the response options were Male, Female, Trans-identify as male, Trans-identify as female, and Other (specify if you wish). We acknowledge that this assessment was not ideal and have re-categorized here to use more inclusive language. Man includes people who identified as Male and Trans men, and Woman includes people who selected Female and Trans women. No participants selected the Other option in this study.

² Although we preregistered analyses predicting relationship satisfaction and sexual desire, we have included these analyses in the OSM to focus the paper on our key questions about associations between sexual spontaneity and sexual satisfaction (see OSM; <https://rb.gy/tbvuzj>).

³ Due to privacy reasons we have not included the gender variable in our data and syntax. However, if you are interested in replicating our gender moderation analyses, please reach out to

the corresponding author.