IS SPONTANEOUS SEX IDEAL? HOW (CHANGING) BELIEFS ABOUT PLANNED SEX INFLUENCES SEXUAL DESIRE, SEXUAL FREQUENCY AND SEXUAL AND RELATIONSHIP SATISFACTION

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Abstract

Sexual satisfaction contributes to relationship satisfaction, overall health and well-being, yet often declines over time, highlighting the need to identify modifiable factors that support its maintenance. Emerging research points to one such factor: people's lay beliefs (implicit theories) about maintaining sexual satisfaction in relationships, which shape how individuals interpret, evaluate, and respond to their sexual experiences. Pervasive Western media narratives portray satisfying sex as something that should "just happen," potentially fostering internalized beliefs that minimize the role of intentional planning in sexual encounters. This dissertation builds on implicit beliefs and sexual script theories to examine how beliefs about spontaneous and planned sex shape sexual and relational outcomes. Across three papers, I investigated whether these beliefs reflect lived experience, whether shifting them can improve sexual and relationship well-being, and how these insights can be translated into an accessible, scalable intervention. In Paper 1, I introduced and validated the constructs of spontaneous and planned sex beliefs and examined their associations with satisfaction using cross-sectional and dyadic daily experience methods. In Paper 2, I experimentally tested whether enhancing planned sex beliefs and encouraging planned sexual behavior improves sexual and relational outcomes in a sample of parents with young children. In Paper 3, guided by the Knowledge-to-Action (KTA) framework, I translated these findings into a brief educational video and evaluated its perceived effectiveness in community and health care professional samples, and its reach and engagement on social media. Together, this dissertation establishes spontaneous and planned sex beliefs as meaningful and malleable constructs linked to sexual and relational well-being and demonstrates their potential to be translated into scalable resources for the public and healthcare providers.

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Is Spontaneous Sex Ideal? How (Changing) Beliefs About Planned Sex Influences Sexual Desire, Sexual Frequency and Sexual and Relationship Satisfaction

Sexual satisfaction is a central component of relationship satisfaction (Józefacka et al., 2023; Park et al., 2023), and romantic relationships are important for overall health and well-being (Holt-Lunstad et al., 2010; Qin et al., 2025). Yet, research demonstrates that sexual satisfaction tends to decline over time (McNulty et al., 2016), beginning after the first year of a relationship (Schmiedeberg & Schröder, 2016). Identifying modifiable factors that shape sexual satisfaction is therefore critical. Emerging research highlights one such factor: people's lay beliefs (implicit theories) about maintaining sexual satisfaction in relationships (e.g., Maxwell et al., 2017; Raposo et al., 2021), which shape how individuals interpret, evaluate, and respond to their sexual experiences.

Western cultural and media portrayals of satisfying sex idealize spontaneity (Dune & Shuttleworth, 2009; Ward, 2003; Wiederman, 2005), positioning spontaneity as a hallmark of satisfying sex while minimizing the role of planning, coordination, and intentional effort (Dune & Shuttleworth, 2009; Ward, 2003). However, this expectation may not align with the realities of long-term relationships, where sexual encounters are often shaped by intention, coordination, and competing demands on partners' time (McCarthy & Wald, 2015; Perel, 2007). Even so, many individuals may internalize and endorse the belief that "good" sex should occur spontaneously, reinforcing the idealization of spontaneity while potentially undervaluing more intentional approaches to sexual connection (Dune & Shuttleworth, 2009; McCarthy & Wald, 2015; Wiederman, 2005). Beliefs about spontaneous and planned sex may have important implications for how individuals interpret and evaluate their sexual experiences. If satisfying sex is expected to occur spontaneously, then more intentional or planned sexual encounters may be perceived as

less desirable or less satisfying. Yet, the extent to which beliefs about spontaneity versus planning shape sexual and relationship well-being remains largely unknown.

Drawing on research on implicit theories of relationships and sexuality and sexual script theory (Franiuk et al., 2002; Knee, 1998; Knee et al., 2003; for a review, see Knee & Canevello, 2006; Maxwell et al., 2017; Simon & Gagnon, 1984), this dissertation examines how individuals' lay beliefs about spontaneous and planned sex–conceptualized as spontaneous sex beliefs and planned sex beliefs–shape sexual experiences and related sexual and relational outcomes. Across three papers, I examined: (1) how spontaneous and planned sex beliefs are endorsed and how these beliefs, as well as engaging in planned and spontaneous sex, are linked to sexual satisfaction concurrently and in daily life; (2) whether experimentally promoting people's beliefs about planned sex can improve their sexual and relational outcomes; and (3) whether disseminating findings from Papers 1 and 2, through a knowledge mobilization campaign via social media, can engage lay audiences and healthcare professionals in ways that are perceived to be accessible, relevant, and useful. Together, this work advances theoretical understanding of sexual beliefs, demonstrates their malleability as an intervention target, and evaluates their potential for real-world dissemination.

Theoretical Foundations: Lay (Implicit) Beliefs about Sexual Satisfaction

A growing body of research indicates that individuals hold implicit theories (lay beliefs) about what constitutes satisfying relationships and sex lives, and these beliefs play a meaningful role in shaping relational and sexual experiences and well-being (Knee, 1998; Knee et al., 2003; for a review, see Knee & Canevello, 2006; Maxwell et al., 2017; Raposo et al., 2021; Uppot et al., 2023). Implicit theories refer to people's assumptions about whether important attributes are fixed or can be developed over time through effort (Dweck, 1996; Knee & Canevello, 2006). In

romantic relationships, one key conceptualization of these beliefs distinguishes between destiny beliefs–the view that compatibility is fixed and partners are either compatible or not–and growth beliefs–the view that satisfying relationships are maintained through effort and that problems can be overcome (Knee & Canevello, 2006). These beliefs have important implications for relationship satisfaction, happiness, and relationship continuity (see Knee et al., 2003, for a review).

For example, individuals who hold stronger growth beliefs tend to respond more adaptively when relationships face challenges, whereas stronger destiny beliefs are often associated with poorer adjustment when difficulties arise. In a study of 61 couples, individuals higher in growth beliefs reported greater happiness and less depression when discussing discrepant views of the relationship with their partner, whereas those higher in destiny beliefs reported more hostility (Knee et al., 2001). Similarly, among 177 partnered individuals, perceiving one's partner as less than ideal was generally associated with lower relationship satisfaction, except among those higher in growth beliefs, suggesting that they were more likely to tolerate imperfections and view challenges as workable rather than as signs of incompatibility (Knee et al., 2001). Franiuk et al. (2002) found a similar pattern: for individuals who more strongly believed that relationship satisfaction depends on finding one's soulmate (akin to destiny beliefs), perceiving one's partner as ideal more strongly predicted both relationship satisfaction and relationship longevity compared to those who believed that satisfying relationships can be built through effort (akin to growth beliefs). Together, these findings suggest that believing relationships require ongoing effort and maintenance may help individuals navigate inevitable relational difficulties more constructively, whereas believing satisfaction should occur naturally or reflect inherent compatibility may make challenges feel like evidence

of relational failure. This broader distinction between effort-based and fixed beliefs provides an important foundation for understanding how similar processes may operate in the sexual domain.

Within the broader implicit theories literature, it is well-established that implicit beliefs can be domain-specific (Dweck, 1996). For example, individuals may believe that relationships require effort and that disagreements can be worked through, while simultaneously viewing sexual compatibility as fixed and sexual problems as unlikely to improve. Recognizing this distinction, Maxwell et al. (2017) argued that although people may consider the sexual aspects of their relationship when completing general measures of destiny and growth beliefs, these broader measures do not fully capture beliefs about sexual satisfaction specifically. Extending the literature on implicit theories of relationships (Knee, 1998; Knee et al., 2003; for a review, see Knee & Canevello, 2006), Maxwell and colleagues (2017) adapted the concepts of growth and destiny beliefs to the sexual domain to reflect how individuals think about maintaining sexual satisfaction in relationships, and showed that these beliefs are associated with sexual and relationship well-being above and beyond relationship destiny and growth beliefs.

Sexual growth beliefs reflect the view that satisfying sex requires effort and can be developed over time, whereas sexual destiny beliefs reflect the view that sexual compatibility is fixed and should occur naturally (Maxwell et al., 2017). Sexual growth beliefs are consistently linked with more positive outcomes, including greater sexual and relationship satisfaction, sexual desire, sexual attraction, and relationship continuance and partners who report greater satisfaction (Bohns et al., 2015; Bőthe et al., 2017; Maxwell et al., 2017; Raposo et al., 2021). In contrast, sexual destiny beliefs are associated with poorer sexual and relational outcomes, particularly in the face of sexual challenges and changes (Bohns et al., 2015; Maxwell et al., 2017; Raposo et al., 2021). For example, when women with Female Sexual Interest/Arousal

Disorder (FSIAD), a sexual problem involving persistent low sexual desire and accompanying distress, hold stronger sexual destiny beliefs, they and their partners report lower relationship satisfaction and higher conflict, and their partners report lower sexual desire, whereas women with FSIAD who hold stronger sexual growth beliefs report higher sexual desire (Raposo et al., 2021). In addition, during the transition to parenthood–during which maintaining a fulfilling sex life may be particularly challenging (Hansson & Ahlborg, 2012; Lawrence et al., 2008; Twenge et al., 2004)–postpartum parents of children aged 3-12 months who endorse high sexual growth beliefs, and whose partners endorse such beliefs, report greater sexual and relationship satisfaction (Maxwell et al., 2017). In the face of sexual challenges, then, the benefits of sexual growth beliefs may be especially salient, as couples who view sexual satisfaction as requiring ongoing effort and investment may be better equipped to navigate difficulties such as postpartum sexual changes and low sexual desire (Haugen et al., 2004).

Pointing to a possible mechanism, Uppot et al. (2023) found that across three studies of couples facing distinct sexual challenges–including clinically low sexual desire, unmet sexual needs, and changes to couples' sex lives during the COVID-19 pandemic–holding stronger sexual growth beliefs was associated with a stronger motivation to understand and meet a partner's sexual needs. Further, across all three studies, individuals who endorsed more sexual growth beliefs were perceived by their partners as more understanding and motivated to make sexual compromises, even in the context of such difficulties, suggesting that growth beliefs may serve a protective function during periods of sexual challenge or changes to couples' sex lives. In contrast, holding stronger sexual destiny beliefs was associated with less motivation to meet a partner's sexual needs and perceptions of a partner's lower willingness to understand or make sexual compromises, particularly among couples coping with clinically low desire (Uppot et al.,

2023). Thus, in the domain of sexuality, people who hold stronger growth beliefs may remain more hopeful about the possibility of change and approach sexual challenges in more adaptive and constructive ways, such as being inclined to make sexual compromises, cultivate understanding, and possibly seek helpful resources and resist avoidance.

Together, this existing literature on lay theories in the domain of sexuality demonstrates that beliefs about sex play a central role in shaping how individuals experience and evaluate their sexual relationships, influencing whether they put in effort or disengage, and whether they stay in or leave the relationship. Beliefs about what should occur *during* sex have also been examined, for example, beliefs about when, how and for whom orgasms should occur (Séguin & Blais, 2021), whether a coital imperative exists such that "real sex" should involve penetration (McPhillips et al., 2001), or about what sexual acts should "count" as marking the transition to active partnered sexuality (TAPS, an alternative term for "virginity loss"; Dion & Boislard, 2020). However, the bulk of the research on implicit theories in the domain of sexuality is primarily focused on sexual growth and destiny beliefs (and related constructs such as work-it-out versus soulmate theories; Franiuk et al., 2002), which study people's assumptions about whether sexual satisfaction is viewed as the product of deliberate effort or inherent compatibility, and the implications these beliefs have for sexual and relational outcomes. Comparatively less attention has been paid to implicit beliefs about how satisfying sex is expected to *unfold* in everyday life, where one potentially important yet understudied dimension concerns whether satisfying sex is believed to occur spontaneously or to benefit from deliberate effort (i.e., planning).

Theoretical Extensions: Beliefs and Spontaneous and Planned Sex

Building on this framework, the present research examines a more specific and understudied set of sexual beliefs concerning whether satisfying sex should occur spontaneously or be intentionally planned ahead of time. Rather than reflecting growth or destiny beliefs per se, these beliefs may capture a distinct dimension of how individuals think satisfying sex "should" unfold–namely, whether it should happen spontaneously or if it benefits from effort, coordination, and intentionality. As such, beliefs about sexual spontaneity and planning parallel broader distinctions between letting experiences unfold versus actively cultivating them, and may shape how individuals approach, interpret and evaluate their sexual experiences and relationships.

To date, the extant literature on sexual spontaneity and planning remains underdeveloped, with an absence of empirical evidence addressing whether spontaneous sex or planned sex is associated with sexual and relational satisfaction–either in terms of held beliefs or actual experiences of spontaneous or planned sex. The present study addresses these gaps by integrating both theories of lay sexual beliefs (Maxwell et al., 2017) and sexual script theory (Simon & Gagnon, 1984). Sexual script theory posits that individuals internalize meanings derived from socially modelled behaviours or media depictions about sex, which reinforce their beliefs about and guide their sexual feelings, beliefs and behaviours (Dune & Shuttleworth, 2009; Wiederman, 2005). Some common examples include traditional heterosexual scripts such as women as the gatekeepers of sexual activity or resisting advances, and men as having strong sexual interest, being sexually skilled and initiating sexual activity, which each gender should enact to secure positive evaluation (i.e., of her virtue and his masculinity; Masters et al., 2013; Wiederman, 2005). However, rigid scripts can also create conflict and obscure the potential benefit of alternatives (Wiederman, 2005). For example, a woman's sexual assertiveness could objectively

free her partner from responsibility for taking the lead in sex, yet a man rigidly attached to the traditional male script as a dominant lover may be liable to experience her independence as a threat to his role rather than a liberation, undercutting what could have been a mutually beneficial arrangement (Wiederman, 2005).

In line with these examples, dominant cultural and media narratives frequently emphasize spontaneity as a hallmark of satisfying sex, portraying sexual experiences as something that should "just happen" (Dune & Shuttleworth, 2009; Wiederman, 2005). These portrayals highlight being "swept away" as central to satisfying sex while minimizing the role of communication and preparation (Dune & Shuttleworth, 2009; Ward, 2003). Seen through this theoretical lens, sexual scripts about spontaneity and planning may function as cognitive pathways through which individuals evaluate and assign meaning to their sexual experiences, both when common scripts are enacted as imagined or when they deviate from the norm. Despite effort being described as a common desire-promoting strategy–e.g., committing to having sex even when one's desire is neutral (Ferreira et al., 2014)–the expectation that "good" sex should occur spontaneously is a pervasive, and potentially limiting sexual script (Dune & Shuttleworth, 2009; McCarthy & Wald, 2015; Murray et al., 2017). As a result, people may implicitly adopt a more passive stance toward sexual initiation, as reflected in findings from a 30-day dyadic daily diary study of 87 mixed-sex couples, in which 43.4% of women and 41.8% of men cited "it just didn't happen" as a reason for sexual inactivity in their long-term relationship (Mark et al., 2020). Further, the rigidity with which such beliefs are held may carry particular consequences for sexual and relational outcomes, especially in contexts where spontaneous sex is difficult, potentially generating dissatisfaction or relational tension when real-world sexual experiences fail to align with internalized beliefs and scripts.

Despite cultural and media depictions of the spontaneity ideal, scholars and clinicians have challenged the assumption that satisfying sex is spontaneous, even in early dating sexual experiences when desire is often high (Impett et al., 2014). Instead, such encounters are often shaped by implicit coordination and expectation (Perel, 2007, Mintz et al., 2017), such as planning an "intimacy date" where couples choose a time where they are alert and unlikely to be interrupted (McCarthy & McCarthy, 2019; Mintz et al., 2017, p. 157)). They emphasize that while both spontaneous and planned sex are valuable, in long-term relationships, sexual encounters are often intentional or semi-planned (McCarthy & McCarthy, 2019; McCarthy & Wald, 2015), and even warn: "do not put your relationship in jeopardy by being the romantic who devalues intentional and planned dates because you idealize spontaneity and impulsive feelings" (McCarthy & McCarthy, 2019, p. 205). Some research finds support for this clinical advice; in a study of 30 individuals aged 60-82 who described their sex lives as "great," an optimal sexual relationship was not described as something that occurred spontaneously, but instead, that developed through time, intentional effort, and prioritization (Kleinplatz, 2010).

Contemporary relational contexts are characterized by busy lives that place substantial demands on relationship partners' time and attention (Finkel et al., 2014). One review of the literature comparing *spousal time*–time spouses spent alone together–between 1975 and 2003 found that spousal time decreased by 30% for those without children and 40% for those with children (Finkel et al., 2014). Accordingly, time constraints may limit opportunities for sexual connection (Mark et al., 2020; Muise et al., 2016; Sims & Meana, 2010; Tan, 2021). In a 30-day daily diary study of 87 mixed-sex couples, "We didn't have time" was reported a total of 1,232 times by both women (26.2%) and men (25.7%) as a reason couples did not engage in day-to-day sexual activity. Additionally, common barriers such as stress, fatigue, caregiving responsibilities,

health and mobility issues, or scheduling conflicts can reduce opportunities for sexual intimacy (Dune & Shuttleworth, 2009; Tan, 2021). Critiques of the sexual spontaneity script argue that when spontaneity is treated as the standard for satisfying sex, these barriers may be interpreted as signs of relational or sexual problems, increasing disappointment and avoidance (Dune & Shuttleworth, 2009; Wiederman, 2005). Similarly, clinicians argue that strong adherence to the idea that satisfying sex must be spontaneous may lead individuals to adopt rigid expectations that ultimately undermine sexual satisfaction (McCarthy & Metz, 2008). Though this proposed pathway remains speculative, as the relationship between beliefs about spontaneous or planned sex and responses to challenges with spontaneity has not yet been empirically tested, the mismatch between expectations and lived experience may nonetheless constrain opportunities for sex while simultaneously increasing the need for intentional planning. Yet, if spontaneity proves to be and remains an ideal, planned sexual experiences may be evaluated as less satisfying, even when sexual connection is maintained.

Despite the prevalence of the spontaneity script (and relative invisibility of planned sex as an attractive alternative), it remains unclear whether spontaneity is, in fact, perceived as ideal and contributes to sexual satisfaction. People generally report higher sexual satisfaction on days they engage in sex (Debrot et al., 2017; Kahneman et al., 2004; Kashdan et al., 2018; Maxwell & Meltzer, 2020; Meltzer et al., 2017), but it is not well understood whether the extent to which sex is planned or spontaneous is associated with sexual satisfaction. If people believe that sex should be spontaneous to be satisfying, then they may be more likely to experience dissatisfaction when spontaneity becomes more challenging, or when sex is perceived as planned. Thus, holding a stronger spontaneous sex belief could lead people to interpret normal changes in sexual patterns or approaches to maintaining intimacy as signs that something is wrong, rather than as a feature

of long-term relationships. Conversely, individuals who believe that planned sex can be satisfying may be better able to adapt to constraints, take a proactive approach to maintaining intimacy, and derive satisfaction from intentional sexual experiences.

Taken together, these considerations suggest that beliefs about spontaneous versus planned sex may represent an important but understudied dimension of sexual beliefs that shapes sexual and relational outcomes. However, little research has directly examined how these beliefs, as well as engagement in planned and spontaneous sexual experiences, influence sexual satisfaction and relationship well-being.

Shifting Lay Beliefs about Sexual Satisfaction

Importantly, research on sexual growth and destiny beliefs shows that such beliefs are not fixed and can be experimentally shifted, with possible consequences for how people approach sexual challenges in relationships (Sutherland & Rehman, 2018; Maxwell et al., 2017). For example, in an experimental study of 373 people, participants primed to see sexual satisfaction as being facilitated by finding a good sexual match from the outset of a relationship endorsed higher sexual destiny beliefs, whereas those primed to see the importance of working to achieve a satisfying sex life endorsed stronger sexual growth beliefs (Maxwell et al., 2017). Further, in two experimental studies ($N = 376$; 411) using a single time-point design, women primed to view women's sexual desire as fixed reported more maladaptive coping strategies in response to an anticipated desire problem than those primed to view it as malleable (Sutherland & Rehman, 2018). This research suggests that beliefs about sexual satisfaction can be shifted through relatively brief interventions, with possible implications for how individuals might approach sexual challenges and experiences.

These previous findings position sexual beliefs as a promising and potentially accessible target for change. Beliefs about spontaneous and planned sex parallel broader sexual destiny and growth beliefs in how they reflect fixed versus effort-based views of maintaining sexual satisfaction. Planned sex beliefs are conceptually congruent with sexual growth beliefs in that they both conceive satisfying sex as something that can be actively cultivated. Given that more adaptive outcomes are associated with viewing sexual satisfaction as something that can be developed through effort (Maxwell et al., 2017), encouraging people to think about planning sex as contributing to sexual satisfaction may represent a useful intervention target. Promoting the benefits of planned sex as an intervention may be especially salient for those likely to face challenges to sexual spontaneity, such as parents of young children, who report lower sexual and relationship satisfaction (Hansson & Ahlborg, 2012; Lawrence et al., 2008; Twenge et al., 2004), diminished sexual desire, and heightened sexual distress (Rossi et al., 2022) compared to non-parents or those with older children (Doss et al., 2009; Kurdek, 1999; Lawrence et al., 2008; Schwenck et al., 2020). Given the considerable demands of early parenthood, deliberately planning sexual activity may serve as an adaptive strategy for negotiating competing familial obligations while preserving relational and sexual intimacy with one's partner. Accordingly, in addition to examining how beliefs about spontaneous and planned sex, as well as engagement in these behaviors, are linked to the maintenance of sexual satisfaction over time, this dissertation also tests whether these beliefs can be experimentally shifted to promote more adaptive perspectives and experiences for parents with young children. Finally, if such beliefs can be modified in ways that support sexual and relational well-being, then they may represent a promising target for scalable interventions that can be disseminated to broader audiences beyond academic settings.

Mobilizing Knowledge on Spontaneous and Planned Sex Beliefs

Understanding how beliefs about spontaneous and planned sex shape sexual experiences not only advance theoretical models of sexual beliefs but also inform practical strategies for relationship maintenance. Because these beliefs may map onto broader fixed and growth perspectives, they are likely to be intuitive and easily understood (Plaks et al., 2009), increasing their potential to be shared, discussed, and applied in everyday contexts. As such, beliefs about whether sex should occur spontaneously or can be intentionally planned are well-suited for dissemination beyond academic settings.

Importantly, if shifting beliefs about planned sex can improve sexual and relational outcomes, as tested in this dissertation, then these beliefs represent a promising target for scalable intervention. Evidence from related work suggests that sexual knowledge can be enhanced through brief psychoeducational content (Dawson et al., 2022; Rosen et al., 2021), indicating that similar approaches may be used to educate end-users about adaptive beliefs about planned sex at relatively low cost and with minimal burden. Given that most individuals are hypothesized to encounter barriers to spontaneity over time (Tan, 2021), fostering more flexible and intentional beliefs about sexual connection may be important for maintaining satisfaction in long-term relationships. Without deliberate efforts to translate and disseminate these findings, dominant cultural narratives that idealize spontaneity are likely to persist, limiting the real-world impact of empirical evidence.

Knowledge mobilization (KMb), often conceptualized within the Knowledge-to-Action (KTA) framework (Graham et al., 2006; Nilsen, 2015; Straus et al., 2009), provides a structured approach for bridging the gap between research and practice. Rather than assuming that evidence will naturally diffuse into the collective psyche and reach end-users, KMb emphasizes the

development of accessible knowledge products, collaboration with end-users, and evaluation of how knowledge is taken up in real-world contexts (Graham et al., 2006; Nilsen, 2015; Jull et al., 2017). This approach is well-suited to the dissemination of sexual health research, as demonstrated by educational video interventions designed to enhance lay and clinical understanding of topics such as sexual configurations theory (Beischel et al, 2021), Provoked Vestibulodynia (Brotto et al. 2021), sexual mindfulness (Dawson et al., 2022), low sexual desire (Lavery et al., 2024) and sex during the transition to parenthood (Rosen et al., 2021). Sexual health is a topic in which individuals often rely on informal sources such as media and online content to inform their beliefs and behaviors (Gabarron & Wynn, 2016), which can both perpetuate misinformation and be used to correct misconceptions about sex (O'Kane et al., 2024). Misconceptions about sex are linked to poorer sexual outcomes, including lower sexual satisfaction and function (Baker & De Silva, 1988; Bakay et al., 2021; Nobre & Pinto-Gouveia, 2006; Peixoto & Nobre, 2014), yet evidence suggests that they are addressable through brief, targeted knowledge dissemination (O'Kane et al., 2024). In a study of 1,177 undergraduate students and 1,179 community members, exposure to evidence-based sexual health content reduced overall sexuality myth endorsement, even when participants did not view content about the misconceptions they endorsed (O'Kane et al., 2024), underscoring KMb as a key mechanism for addressing harmful sexual myths. Further, even a decade ago, evidence suggested that among a sample of 856 health researchers and clinicians, over a quarter (26.9%) were already using social media to obtain research evidence, and 15% to disseminate it (Tunnecliff et al., 2015), suggesting that social media represents a viable channel for reaching not only lay audiences, but also the professional communities capable of amplifying and possibly applying research findings. Mobilizing knowledge in beliefs about spontaneity and planning via social media, then,

may play an important role in challenging dominant sexual scripts and promoting more intentional sexual behavior in long-term relationships. Leveraging widely used platforms such as social media allows for the dissemination of evidence-based information in ways that are accessible, engaging, and scalable, increasing the likelihood that research findings will reach both lay audiences and healthcare professionals.

Overview of Current Dissertation

Despite a growing body of research on implicit sexual beliefs and their implications for sexual and relational well-being, important theoretical and methodological gaps remain. First, implicit theories of sexuality have primarily focused on sexual growth and destiny beliefs, which have not yet been extended to how individuals think about the conditions under which sex should unfold (i.e., spontaneously or as a result of planning). Second, although the cultural script of sexual spontaneity as an ideal has been described in clinical and theoretical writings (Dune & Shuttleworth 2009; McCarthy & Wald, 2019; Perel, 2007; Weiderman, 2005), it remains empirically untested whether individuals actually internalize this script as a personal belief and behaviour guide, whether endorsing spontaneous sex can also co-exist with endorsement for planned sex, and whether these beliefs are associated with sexual satisfaction, particularly when spontaneity is challenged. Moving beyond cross-sectional or single time-point designs and hypothetical prompts, this dissertation offers one of the first ecologically valid experimental tests of whether prompting sexual planning influences how people experience and evaluate their sex lives. Finally, although clinicians and theorists have long cautioned that the spontaneous sex ideal may discourage couples from embracing intentional approaches to sexuality (Dune & Shuttleworth 2009; McCarthy & Wald, 2019; Perel, 2007; Weiderman, 2005), no work has examined how evidence-based insights about spontaneous and planned sex beliefs can be

effectively translated and disseminated to lay audiences and healthcare professionals, without which these cultural narratives are likely to persist unchallenged. Using an established knowledge mobilization framework (KTA; Graham, 2026), this dissertation addresses this gap by developing and evaluating a brief evidence-based educational video designed to challenge the spontaneous sex ideal and communicate the benefits of planned sex to a broad audience of both community members and healthcare professionals.

The present dissertation adopts a multi-method, sequential approach across three papers to extend the study of sexual beliefs to a novel domain, examining how beliefs about spontaneous and planned sex shape sexual satisfaction, whether these beliefs can be modified to promote more adaptive experiences, and how these insights can be translated to broader audiences. Studies from all three papers were preregistered on the Open Science Framework (OSF) prior to data analyses. In Paper 1, I established and validated a framework for understanding beliefs about spontaneous and planned sex, a domain that has not previously been examined within the implicit theories of sexuality literature. Using both cross-sectional and dyadic daily experience methods, I tested whether people more strongly endorse the belief that spontaneous sex is satisfying (as compared to planned sex) and whether perceived engagement in spontaneous or planned sex is associated with sexual satisfaction.

I also tested whether this association differed (was moderated) by people's beliefs about spontaneous and planned sex to see if engaging in sex aligned with a person's beliefs was more satisfying. Finally I tested whether any of the associations differed by (binary) gender. Differences in men's and women's endorsement of sexual growth and destiny beliefs do not consistently moderate associations with sexual satisfaction (Maxwell et al., 2017), therefore, we did not have clear expectations about the role of gender in the associations between spontaneous

and planned sex beliefs and sexual satisfaction. While women appear to use scheduling as a desire-facilitating strategy (Herbenick et al., 2014) and men's desire has been conceptualized as less context-dependent (Basson, 2000), both appear to value spontaneity (Murray et al., 2017; Sims & Meana, 2010). Together, these studies demonstrated that although spontaneous sex is widely endorsed, it is not consistently more satisfying than planned sex for either men or women. Importantly, beliefs about planned sex were shown to buffer against lower satisfaction during planned encounters, highlighting their potential as a target for intervention.

Then, in Paper 2, I tested whether experimentally enhancing planned sex beliefs–and encouraging planned sexual behavior–at baseline positively impacts sex and relationship outcomes two weeks later at follow-up (i.e., sexual desire, sexual frequency, sexual distress, sexual satisfaction and relationship satisfaction) in a sample of parents with young children. In doing so, I provided novel evidence that planned sex beliefs can be successfully shifted through a brief, and potentially scalable intervention, and that endorsement of planned sex can enhance both sexual and relational outcomes in the short-term.

Finally, in Paper 3, I extended this program of research by translating the findings from the first two papers into an accessible, evidence-based knowledge product. That is, I developed and disseminated a brief educational video designed to challenge the spontaneous sex ideal and communicate the benefits of planned sex to both community members and healthcare professionals. Guided by the KTA framework (Graham et al., 2006), as well as established knowledge translation planning tools (Barwick, 2008, 2013, 2019), I evaluated the video's implementation and reach using a multi-method approach: two surveys assessing community participants' and healthcare professionals' perceptions of the video, complemented by tracking social media reach metrics. Together, these metrics assessed how effectively evidence-based

insight about spontaneous and planned sex beliefs and behaviours could be communicated, adopted, and shared via social media to challenge spontaneous sex as ideal and support awareness of the benefits of planning sex.

Overall, this three-paper dissertation collectively advances understanding of how individuals' lay beliefs about spontaneous and planned sex shape sexual and relational outcomes. By identifying these beliefs as influential and potentially malleable, this dissertation highlights the promotion of planned sex beliefs as a novel cognitive pathway through which sexual satisfaction may be supported. Moreover, by extending this work beyond theory and experimental evidence to include knowledge mobilization, this research demonstrates how such insights can be translated into accessible, scalable interventions with the potential to promote sexual well-being in everyday life and support healthcare professionals' work to improve the sexual and relational lives of individuals and relationship partners.

Is Spontaneous Sex Ideal? Beliefs and Perceptions of Spontaneous and Planned Sex and 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 preregistered 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 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 that romantic partners use to maintain their sexual connection is to plan 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 investigated 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 were associated with sexual satisfaction. We also investigated 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) were associated with the quality of the sexual experience and if this differed 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 Bőthe et al., 2017; 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 people's 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 (Wiederman, 2005). Sexual script theorists posit 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; McCarthy & Wald, 2015; Perel, 2007).

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, two-thirds of men in the study ($N = 20$) 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 in 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 (Metz & McCarthy, 2007; McCarthy & Metz, 2008). 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 reported 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.

Overview of 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 tested whether any of the associations are moderated by (binary) gender.

Study 1

Study 1 was an initial exploratory test of our key questions and the analytic plan was preregistered on the Open Science Framework (OSF). In addition to testing our key questions, we developed a measure of beliefs about spontaneous and planned sex (for the full scale, see Measure of Spontaneous and Planned Sex Beliefs in the Supplementary Materials for Paper 1). 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 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	*M* (range) or *n*	*SD* or %
Age (years)	35.32 (18-71)	10.14
Relationship duration (years)	9.09 (0.25-42.92)	8.13
Gender[2]		
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%

[2] *Note.* 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

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 Supplementary Materials for Paper 1 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 desire[1]

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) (*Mdays* = 3.74, *SDdays* = 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.[2] We analyzed the data using R (R Core Team, 2020). Before 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). We evaluated and compared the model fit indices (e.g., RMSEA, SRMR, CFI, TLI, etc.) of the one factor and two factor models and selected the more parsimonious model with the best fit supported by existing theory, following commonly used fit indice cutoffs (Browne & Cudech, 1993; Hu & Bentler, 1999; MacCallum et al., 1996; McNeish et al., 2018). 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. To identify themes from participants' open-ended responses, we conducted a thematic analysis using an inductive (data-driven) approach following steps in Braun and Clarke (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.

Results

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

Table 2

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

Variable	*M*	*SD*	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. *$p < .05$. **$p < .01$.

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 was 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 suggested the two factors explained 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

Unstandardized Factor Loadings of Two-Factor Model of Spontaneous and Planned Sex

Item	Planned Sex Belief	Spontaneous Sex Belief	Communality
Sex with my partner is most satisfying when it occurs spontaneously	0.23	0.98	0.63

I prefer not knowing when I will be having sex with my partner next	-0.02	0.72	0.54
It helps ignite desire if sex with my partner is in the "spur-of the moment"	0.26	1.12	0.82
Sex with my partner is most satisfying when it is planned ahead of time	1.05	0.29	0.67
I prefer to know in advance when I will be having sex next	0.82	0.15	0.48
It helps ignite desire if sex with my partner is arranged ahead of time	0.99	0.17	0.72

Note. Communality 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 Timing of Last Sexual Encounter in the Supplementary Materials for Paper 1).

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 in the Supplementary Materials for Paper 1). 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

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 endorsed 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 preregistered 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 endorsed stronger planned sex beliefs would be buffered against this lower satisfaction. See OSF for preregistration (https://osf.io/sbhqz/files/y3cer), data, and code for the analyses (https://rb.gy/tbvuzj).

Table 1

Sample Characteristics (N = 121 couples)

Characteristic	*M* (range) or *n*	*SD* or %
Age (years)	32.63 (20-78)	10.16
Relationship duration (years)	8.13 (1-58)	8.41
Gender[2]		
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%

[2]*Note.* 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%).

Participants and Procedure

Participants were recruited between February 10, 2018, and 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 1 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 Sensitivity Analysis in the Supplementary Materials for Paper 1 for details).

Data Analytic Approach

Prior to testing the key questions, we wanted to verify the two-factor structure observed in the initial study: one representing a preference for spontaneous sex and the other representing a preference for planned sex. To do this, we conducted a confirmatory factor analysis using the measure of perceptions about planned versus spontaneous sex as we developed these items for

this study. All analyses were conducted in R (R Core Team, 2020). We used dyadic confirmatory factor analysis (CFA) with maximum likelihood estimator using the "lavaan" package (Rosseel, 2012) to estimate a two factor model, given the results of an EFA in the initial study and compared this to a one factor model. As in the initial study, one- and two-factor solutions were compared using standard fit indices and established cutoffs (Browne & Cudeck, 1993; Hu & Bentler, 1999; MacCallum et al., 1996; McNeish et al., 2018), retaining the most parsimonious theoretically supported model.

To test our key questions, we used multilevel modelling guided by the actor partner interdependence model (Kenny et al., 2006) to conduct our analyses at background and over the daily diary. For the analyses at background, we used a 2-level multilevel model with partners nested within couples. For analyses using the daily surveys, we used a cross-classified multilevel model with partners nested within couples and partner and day crossed to account for both partners completing the surveys on the same day. Our models included random intercepts and we tested for random slopes. Analyses were conducted using the "lme4" package (Bates et al., 2015). We tested indistinguishable models with actor and partner effects simultaneously, and tested both the within (i.e., change within people over the 21 days) and between person effects (i.e., difference between people over the 21 days) by entering both the person-mean centered and aggregated predictors in the model. For our moderation predictions, any significant moderations were followed up with simple effects tests at high (+1SD) and low (-1SD) levels of the moderator. We also tested for moderations by gender and planned to follow-up by testing a two-intercept distinguishable model to test the effects separately for men and women, for any the effects moderated by gender.

Measures

See Table 2 for all measure means, SDs, and correlations.

Table 2

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.

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, 1998), 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 (Carpenter et al., 2015; DeRogatis et al., 2008).

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 (α = .99, 95% CI [.984, .986], ω = .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”).

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 had 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 cutoffs (Browne & Cudeck, 1992; MacCallum 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 models 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 suggested 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 3). Therefore, we concluded that a two-factor model of spontaneous and planned sex beliefs was the best fit for the data and conducted subsequent analyses with this structure.

Table 3

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 to know in advance when I will be having sex 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 not knowing when I will be having sex with my partner 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 2). 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 4), 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 4).

Table 4

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

	Background					*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	**.050**	-.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. 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 found 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) made 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 toward each other). In line with Perel (2007), Fraenkel (2011, as cited in Ferreira et al., 2015) wrote 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 (McCarthy & Wald, 2015; Perel, 2007; 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 toward 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 (Muise 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 reestablish 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 behaviors, thoughts and feelings, or grooming and dressing up to feel sexy, which people may or may not consider 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 saw 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 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 found 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.

Footnotes

1. Although we preregistered analyses predicting relationship satisfaction and sexual desire, we have included these analyses in the Supplementary Materials for Paper 1 to focus the paper on our key questions about associations between sexual spontaneity and sexual satisfaction.
2. Due to privacy reasons we have not included the gender variable in our data and syntax.

Can Shifting Beliefs About Planned Sex Lead to Engaging in More Frequent Sex and Higher Desire and Satisfaction? An Experimental Study of Parents with Young Children.

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Abstract

Although people idealize spontaneous sex, planned sex is associated with lower satisfaction only when valued less. This research tested how manipulating planned-sex beliefs and intentions affects sexual frequency, desire, distress, and satisfaction among parents of young children, who are more vulnerable to lower sexual and relationship satisfaction. Following a Pilot Study testing the manipulation ($N = 215$), participants in the Main Study ($N = 514$) were assigned to either the experimental group ($n = 310$) that read about the benefits of planned sex and were encouraged to plan sex or the control group ($n = 204$) whose existing beliefs and routines were affirmed. Two weeks later, the experimental group reported more frequent planned sex and more frequent sex overall and greater desire as compared to the control group. For the control group, perceiving a recent sexual experience as more planned was linked to lower sexual satisfaction and greater distress, whereas the experimental group was buffered against these effects. Moreover, the experimental group reported higher relationship satisfaction when sex was perceived as planned, unlike the control group. Shifting people's planned-sex beliefs and intentions encourages more frequent sex, enhances desire, and impacts sexual and relationship satisfaction and distress when partners plan sex.

Keywords: Sexual desire, frequency, satisfaction, relationships, planned

Can Shifting Beliefs About Planned Sex Lead to Engaging in More Frequent Sex and Higher Desire and Satisfaction? An Experimental Study of Parents with Young Children.

For most couples, a fulfilling sexual relationship is a critical component of relationship satisfaction and maintenance (Regan, 2000) and people's beliefs about sexuality have important implications for their sex lives and relationships (Kovacevic et al., 2023; Maxwell et al., 2017; Raposo et al., 2021; Uppot et al., 2023). A commonly held belief in Western culture is that sex is most satisfying when it happens spontaneously, compared to sex that is planned or scheduled ahead of time (Kovacevic et al., 2023). Although people idealize spontaneous sex, engaging in planned sex is associated with lower sexual satisfaction only when valued less (Kovacevic et al., 2023). Although relying on sexual spontaneity might work well in the early, passionate phase of a relationship, especially within a Western context that idealizes romantic love, spontaneous sex might be more challenging over time, especially once couples have children. The transition to and the early years of parenthood can be a vulnerable time for couples' sexuality; during this time, declines in sexual desire, frequency and satisfaction and a rise in sexual distress are common and may negatively impact the relationship (Hansson & Ahlborg, 2012; Rossi et al., 2022; Schröder & Schmiedeberg, 2015). Thus, in the current research, we investigated whether enhancing positive beliefs about planned sex in a sample of parents with young children and encouraging them to try planning sex (compared to a control condition in which their existing beliefs were affirmed and who were instructed to continue with their sex life as they typically would) would lead to more planned sex experiences, higher sexual frequency, and greater sexual and relationship satisfaction. We also explored whether people in the planned-sex condition would report higher sexual desire and less sexual distress, and whether they would feel more sexual obligation, compared to the control group. Finally, we also tested whether people in the

planned-sex condition reported differences in their sexual and relationship satisfaction and sexual distress when they engaged in planned sex compared to the control group.

Planned-Sex Beliefs and Spontaneous-Sex Beliefs

Planned-sex beliefs are the extent to which a person holds beliefs that planning sex ahead of time contributes to sexual satisfaction. Endorsing planned-sex beliefs indicates that a person values planning sex. A person with stronger planned-sex beliefs (higher scores) might prefer to know when they will be having sex next, agree that sex is most satisfying when planned ahead of time or that arranging sex ahead of time helps ignite their desire, whereas weaker planned-sex beliefs (lower scores) emphasize that a person disagrees that planning ahead contributes to sexual satisfaction (Kovacevic et al., 2023). In addition, spontaneous-sex beliefs are beliefs about the extent to which spontaneity contributes to sexual satisfaction. Thus, stronger spontaneous-sex beliefs (higher scores) indicates that a person prefers sexual spontaneity and believes it contributes to sexual satisfaction, whereas weaker spontaneous-sex beliefs (lower scores) underscore disagreement about the importance of spontaneity for sexual satisfaction (Kovacevic et al., 2023). Previous research shows that planned-sex and spontaneous-sex beliefs are negatively correlated, yet distinct constructs. Thus, higher planned-sex beliefs do not automatically equate to lower spontaneous-sex beliefs.

To our knowledge, only one previous set of studies has investigated the associations between beliefs about and engagement in planned and spontaneous sex and sexual satisfaction (Kovacevic et al., 2023). Across both studies, people had a strong preference for spontaneous sex (compared to planned sex) and described it as more passionate and satisfying. However, one of these studies tracked couples' daily experiences, and found no differences in sexual satisfaction for planned versus spontaneous sex. In the other study, although people reported lower overall

sexual satisfaction for a recent planned sex experience, those who endorsed positive beliefs about planned sex were buffered against lower satisfaction when they perceived their recent experience to be planned (Kovacevic et al., 2023). These studies extended past research on implicit (lay) sexual beliefs by finding that people hold distinct beliefs about both planned and spontaneous sex and that beliefs can, at times, moderate perceptions of sexual satisfaction. However, this past work is correlational, and we do not yet know if shifting beliefs and intentions toward planned sex can increase sexual frequency and sexual and relationship well-being.

Shifting Planned-Sex Beliefs and Intentions

People hold relatively stable beliefs about whether certain aspects of their sexual relationships are fixed or malleable and these beliefs have implications for satisfaction and desire (Maxwell et al., 2017). For example, people who believe they have control over their sexual satisfaction and that work and effort contribute to its maintenance (i.e., sexual growth beliefs) tend to report higher sexual and relationship satisfaction (Maxwell et al., 2017) and are more responsive to a partner's sexual needs, even when they face sexual challenges (Uppot et al., 2023). In contrast, people who believe in natural compatibility and that sexual satisfaction is fixed and evident right from the start (i.e., sexual destiny beliefs) tend to report lower sexual desire and relationship satisfaction when they face sexual issues or differences (Maxwell et al., 2017; Raposo et al., 2021; Uppot et al., 2023). In the current research, we investigated distinct, specific sexual beliefs focused on the value of spontaneity and planning for sexual satisfaction.

Given the limited research on planned and spontaneous sexual beliefs, we draw on the previous experimental research on other implicit sexual beliefs (i.e., sexual growth and destiny beliefs). Research by Maxwell et al. (2017) demonstrated that priming people to think about good sex as requiring effort can enhance sexual satisfaction. Similarly, Sutherland and Rehman

(2018) have shown that priming people to adopt the theory that changes in their sexual desire over time are normal helped to mitigate maladaptive coping strategies in response to perceived sexual challenges. Thus, it is possible to orient people to beliefs and attitudes about sex that center adaptability as the mechanism by which people can maintain or even enhance sexual satisfaction and better cope with perceived or future sexual challenges.

Similar to sexual growth beliefs, planned-sex beliefs emphasize the importance of effort and intentionality in maintaining a satisfying sex life. In contrast, spontaneous-sex beliefs are akin to sexual destiny beliefs, as they reinforce the idea that sex is satisfying when it "just happens" without forethought or effort. Thus, it is possible that planned-sex beliefs may be protective–whereas spontaneous-sex beliefs could potentially be detrimental–for sexual well-being and relationship satisfaction, especially when sex is perceived as planned or scheduled. It is possible that if people held more positive beliefs about planned sex, then they may be more intentional in making time for sex amidst their busy schedules (Ferreira et al., 2015; Kleinplatz & Ménard, 2020), which could potentially lead to more frequent sex, greater anticipation and desire for sex, and greater sexual and relationship satisfaction and lower distress when they have planned sex (Frederick et al., 2016; Muise et al., 2016).

However, research has not yet tested whether it is possible to shift beliefs about planned sex, and whether helping people to recognize the value of planned sex enhances sex and relationship outcomes. For people who tend to hold the common belief that planned sex is less satisfying than spontaneous sex (Kovacevic et al., 2023), they may not view planning as a helpful strategy to create more sexual opportunities (i.e., increase sexual frequency), even during times when spontaneous sex is challenging, but instead may see planned sex as a sign of dwindling passion (i.e., lower desire and satisfaction), more distressing, and experience less

sexual and relationship satisfaction when they engage in planned sex. For others, planning sex ahead of time might contribute to sexual distress such as increasing worry, frustration or pressure. For example, in previous work, some people reported that planning sex ahead of time added pressure or felt like work (Kovacevic et al., 2023).

Though there is little empirical evidence to support the effectiveness of promoting sexual planning, many sex therapists endorse planning sex to maintain regular intimacy and protect against falling into the trap of sex avoidance (McCarthy & Wald, 2015; Perel, 2007; Weiner & Avery-Clark, 2017). In a qualitative study of 179 women, one of the top four self-reported strategies for maintaining sexual desire in long-term relationships included scheduling sex (Herbenick et al., 2014). In another qualitative study, participants mentioned being intentional about creating the right conditions–atmosphere, attire, adequate time–from which *great* sex could emerge (Kleinplatz & Ménard, 2020). Many sex therapists even suggest planning sex to clients coping with sexual issues to allow them to set aside time for intimacy with their partner and to discuss and prepare for sex (McCarthy & Wald, 2015; Weiner & Avery-Clark, 2017). Therefore, planning or scheduling sex may positively impact desire and satisfaction by increasing anticipation and providing adequate time to get mentally and physically prepared. Planning sex may also be linked to better sexual communication, which has been shown to reduce sexual distress in both people with and without sexual dysfunction (Hayes et al., 2008; Pazmany et al., 2015). Whereas these potential benefits seem to outweigh possible downsides, it seems unlikely for people to engage in behavior change without first shifting their attitudes about planned sex.

Therefore, in the current research, we oriented people toward the value of planned sex (i.e., strengthen their planned-sex beliefs) and instructed them to discuss and plan for sex with

their partner ahead of time. We tested whether experimentally enhancing people's beliefs about the value of planned sex in a sample of parents with young children (compared to a control group whose existing beliefs and behaviors we affirmed) led to them engaging in more planned sex, more frequent sex, and greater sexual and relationship satisfaction, and had implications for sexual desire, sexual distress and feelings of sexual obligation.

Sexuality Among Parents with Young Children

Despite spontaneous sex being idealized (Kovacevic et al., 2023), sexual activity in long-term relationships is often planned or semi-planned due to the need to juggle work demands, caring for children, and other life responsibilities (McCarthy & Wald, 2015). Therefore, planning sex may be a particularly useful strategy for parents with young children, who are more vulnerable to declines in sexual frequency (Schröder & Schmiedeberg, 2015), lower sexual and relationship satisfaction (Hansson & Ahlborg, 2012; Lawrence et al., 2008; Schmiedeberg & Schröder, 2016; Twenge et al., 2004) and lower sexual desire and higher sexual distress (Rossi et al., 2022), compared to those without kids or with older kids (Doss et al., 2009; Kurdek, 1999; Lawrence et al., 2008). Parents with young children may need to coordinate family and other life responsibilities to maintain a sexual connection with their partner. Therefore, given that people value spontaneous sex, but there are certain times (such as when couples are parenting young children) in which spontaneity is challenging, it is possible that enhancing planned-sex beliefs is beneficial in this population. Further, we focused on parents with young children in the current research to represent couples who may have constraints on their time and energy and may struggle with making time for sex.

Overview of Current Research

Given that people's beliefs about planned sex are associated with greater satisfaction with planned sex experiences (Kovacevic et al., 2023), an important next step in this research is to test whether manipulating people's beliefs and instructing them to have planned sex can promote engagement in planned sex and have implications for sex and sexual and relationship satisfaction during times when spontaneity may be a challenge (e.g., early parenthood). Here, we aimed to manipulate planned-sex beliefs as well as behavior in line with behavioral interventions widely recommended and in use by sex and relationship therapists (i.e., planning sex; McCarthy & Wald, 2015; Weiner & Avery-Clark, 2017). We ran an initial Pilot Study to first validate our manipulation. Then, in the Main Study, we tested our preregistered predictions (available on the Open Science Framework; OSF) that people assigned to receive instructions that enhance positive planned-sex beliefs and intentions (compared to the control group) will engage in more frequent sex (overall and for planned sex specifically) over a two-week period and report higher sexual and relationship satisfaction. In the Main Study, we also explored the effect of condition on sexual desire, sexual distress and sexual obligation. Next, we tested whether condition moderated the relationship between the extent to which a recent sexual encounter was planned and sexual and relationship satisfaction, as well as sexual distress. That is, we tested whether engaging in planned sex was associated with satisfaction and distress differently between conditions. Finally, to gain additional information about participants' experience of being instructed to engage in planned sex, we analyzed their open-ended responses to a question about any changes they experienced from participating. We used content analysis to complement the quantitative findings and identify key themes in how participants interpreted and responded to the planned sex instructions.

Pilot Study

We first conducted a Pilot Study to test our manipulation. In our Pilot Study, we developed a manipulation in which participants read one of two articles designed to either promote the belief that planned sex is satisfying (i.e., experimental group) or affirm their existing beliefs by indicating that it is not clear whether spontaneous or planned sex is more satisfying (control condition). From past research, we know that on average, people more strongly endorse the belief that spontaneous sex is satisfying compared to planned sex (Kovacevic et al., 2023), regardless of gender, therefore affirming their beliefs means that they are likely to hold higher spontaneous-sex beliefs. We then tested whether our manipulation boosted people's endorsement of planned sex and influenced their expected sexual satisfaction in the coming two weeks.

Pilot Study: Method

Participants and Procedure

Participants were recruited from the United States, Canada, United Kingdom, Australia and New Zealand using Prolific Academic in February 2024. Eligibility criteria included being 18 years of age or older, in a cohabiting romantic relationship, in the relationship for at least one (1) year, being able to read/understand English, and confirming that their youngest child living at home was between three (3) months and five (5) years old. Prolific Academic collects demographic data on all participants, which makes it possible to screen potential participants based on desired criteria. For the purpose of our study, we only recruited people on Prolific who already indicated that they were in a romantic relationship and that their youngest child was born between 2019–2024. The study was inclusive to all individuals regardless of gender, sex, and sexual orientation. To ensure high-quality data, we restricted recruitment to only those who had 90% or higher approval rates on Prolific and had not previously participated in a study in which

we had assessed sexual attributions. Participants were compensated with $1.52 USD for completing the survey (estimated to take approximately 10 minutes), in line with rates of compensation for the survey length at that time. We recruited a total of 229 participants. We removed 10 participants for having withdrawn from the study before completing the survey, one participant who reported that they did not live with their partner, and three participants who reported that they did not have a child between the age of three (3) months and five (5) years. All participants passed our preregistered attention check criteria (i.e., passing at least 2 out of 3 attention checks), zero participants skipped more than 20% of a measure, and all participants reported answering the questions in the survey honestly. The final sample included $N = 215$ participants who were randomly assigned to one of two conditions ($n = 109$ in the experimental condition; $n = 106$ in the experimental condition). Participants were between 22 to 49 years old, had been in their relationship for an average of 11.07 years, and identified as a man (60.93%) or a woman (39.07%). All participants resided in five Western countries, with most living in the United Kingdom (70.7%). See Table 1 for all sample characteristics across both studies.

Table 1

Sample Characteristics Across Studies

	Pilot ($N = 215$)		Study 1 ($N = 514$)	
Characteristic	M (range)	SD or %	M (range)	SD or %
Age (years)	35.26 (22-49)	4.89	33.64 (18-65)	5.61
Relationship duration (years)	11.07 (1.58-26.92)	4.65	9.42 (1.17-27.75)	4.65
Country of Residence				
United States	17	7.91%	288	56.03%
Canada	34	15.81%	40	7.78%
United Kingdom	152	70.7%	182	35.41%
Australia	11	5.12%	4	0.78%
New Zealand	1	0.47%		
Ethnicity				

White (e.g., North American, European, etc.)	174	80.93%	346	67.32%
Black (e.g., African, Caribbean, etc.)	11	5.12%	83	16.15%
East Asian (e.g., Chinese, Korean, etc.)	6	2.79%	17	3.31%
South Asian (e.g., Indian, Pakistani, etc.)	12	5.58%	20	3.89%
Latin American (e.g., Mexican, Columbian, etc.)	1	0.47%	26	5.06%
Indigenous (e.g., First Nations, Metis, Inuit etc.)			1	0.19%
Middle Eastern (e.g., Egyptian, Saudi Arabian, etc.)	1	0.47%	5	0.97%
Bi/Multiethnic (e.g., East Asian/South Asian, etc.)	8	3.72%	13	2.53%
Not listed (please specify if you wish)	2	0.93%	3	0.58%
Relationship Status				
Casually Dating			1	0.19%
Seriously Dating	17	7.91%	30	5.84%
Engaged	18	8.37%	38	7.39%
Common-law	20	9.30%	36	7.0%
Married	152	70.70%	405	78.79%
Other	8	3.72%	4	0.78%
Relationship Agreement				
Monogamous	215	99.1%	508	98.83%
Consensually non-monogamous			5	0.97%
Other (please specify)	2	0.93%	1	0.19%
Gender				
Man	131	60.93%	191	37.16%
Woman	84	39.07%	319	62.06%
Non-binary (e.g., genderfluid, genderqueer)			2	0.39%
Self-identify			2	0.39%
Sexual Orientation				
Bisexual	18	8.37%	44	8.56%
Asexual	1	0.47%	2	0.39%
Gay	1	0.47%	3	0.58%
Lesbian	2	0.93%	6	1.17%
Straight/Heterosexual	188	87.44%	446	86.77%
Pansexual	2	0.93%	7	1.36%
Queer	2	0.93%	4	0.78
Unsure/Questioning			1	0.19

Note. In the pilot study, two participants listed their sexual orientation as something else (one participant specified they were “pair-bonded”), and two participants listed their sexual relationship status as other (one participant specified they were "technically CNM, but

monogamous in practice"). In Study 1, two participants identified their gender as something else (i.e., “Ftm transgender”, “My sex is female”), one participant identified their sexual orientation as something else (i.e., “demisexual”), and one participant stated their sexual relationship status as not listed and specified they were “mono/poly (I am mono, he is poly)”.

Measures

Beliefs About Planned and Spontaneous Sex

Prior to the manipulation, we administered the Beliefs About Planned and Spontaneous Sex Scale (Kovacevic et al., 2023) measuring participants’ beliefs toward planned and spontaneous sex using 6 items, which are rated on a 7-item Likert scale (1 = *strongly disagree* to 7 = *strongly agree*). Items were mean aggregated, with higher scores indicating the belief that spontaneous sex is more satisfying (three items; e.g., “Sex with my partner is most satisfying when it occurs spontaneously”; $\alpha = .84$, 95% CI [.776, .885]), or that planned sex is more satisfying (three items; e.g., “Sex with my partner is most satisfying when it is planned ahead of time”; $\alpha = .85$, 95% CI [.799, .888]).

Manipulation

In the experimental condition, participants were shown a research summary highlighting the importance of planning sex for a satisfying sex life, which was intended to shift their beliefs to view planned sex as beneficial in relationships (see the supplement for the full description of our manipulation). Participants were then asked to try and incorporate planned sex with their partner in the subsequent two weeks and indicate whether they intended to take this suggestion and provide more information about their decision (“No–if not, why?”/“Maybe–if maybe, how will you go about doing this?”/“Yes–if yes, how will you go about doing this?”). In the control condition, participants were shown a research summary highlighting how researchers are not sure whether planned or spontaneous sex is more satisfying, which was intended to hold their preexisting beliefs toward planned and spontaneous sex stable. Participants were then asked to

go about sex with their partner as they normally do in the subsequent two weeks and indicate whether they intended to take these instructions ("No–if not, why?"/"Yes"/"Maybe"). We also asked participants to confirm their comprehension of the research summaries by providing a response to this question: "Which of the following best represents the main message from the information you read?" and asked them to select from 6 options (see Main Study: Part 1 Inclusion Criteria in the Supplementary Materials for Paper 2 for more details).

Manipulation Checks

We used two items to assess whether endorsement for planned sex or spontaneous sex shifted after participants read their assigned articles. We asked participants to rate their agreement from 1 = *strongly disagree* to 7 = *strongly agree* to the following statements: "After reading about this information, to what extent do you agree with the following items: (1) "In order to maintain a good sexual relationship, a couple should have planned sex," and (2) "In order to maintain a good sexual relationship, a couple should have spontaneous sex."

Expected Sexual Satisfaction

As a preliminary test of the effect of the manipulation on sexual satisfaction we used a single item to assess how sexually satisfied participants expected to feel in the following two weeks rated from 1 = *not at all* to 7 = *extremely*.

Data Analytic Approach

We analyzed the data using R (R Core Team, 2022). We conducted t-tests to compare the means of participants' responses to the spontaneous-sex and planned-sex beliefs subscales. To test our remaining hypotheses, we analyzed the data using simple linear regression models with condition (0 = control; 1 = planned-sex beliefs) predicting key outcomes. For all linear regression analyses, we report unstandardized beta coefficients (*b*) which reflect the difference in the

outcome for people in the experimental versus control group. All participants were included in the analyses except when testing effects on expected sexual satisfaction–in that model, we excluded participants who indicated that they did not intend to follow the manipulation instructions ($n = 14$ from the experimental condition, $n = 5$ from the control condition). We have posted all data and code on OSF to promote transparency and reproducibility.

Pilot Study: Results

As predicted, prior to the manipulation, people reported greater endorsement of spontaneous sex as satisfying ($M = 5.21$, $SD = 1.35$) compared to planned sex ($M = 3.19$, $SD = 1.42$), $t(426.93) = 15.104$, $p < .001$, and the experimental group and the control group did not significantly differ in their endorsement of planned, $t(211.46) = -0.60$, $p = .551$, 95% CI [−0.498, 0.267], or spontaneous-sex beliefs prior to the manipulation, $t(210.12) = .49$, $p = .628$, 95% CI [−0.274, 0.453]. Following the manipulation, the experimental group ($M = 5.39$, $SD = 1.40$) endorsed significantly higher planned-sex beliefs than the control group ($M = 4.46$, $SD = 1.10$; $b = .92$, $SE = .17$, $t = 5.37$, $p < .001$). The experimental group ($M = 4.08$, $SD = 1.52$) also endorsed significantly lower spontaneous-sex beliefs than the control group ($M = 4.55$, $SD = 1.22$; $b = -0.46$, $SE = .19$, $t = -2.471$, $p < .05$). We also asked people about their *expected* level of sexual satisfaction over the next two weeks. In analyses that only included those who indicated they were at least somewhat likely to adhere to the instructions in the manipulation, the experimental group ($M = 5.19$, $SD = 1.23$) expected to be more sexually satisfied in the upcoming weeks compared to the control group ($M = 4.69$; $SD = 1.74$; $b = .50$, $SE = .22$, $t = 2.29$, $p < .05$).

Main Study: Method

Given that in the Pilot Study the manipulation shifted people's planned-sex beliefs as expected, we conducted a larger experimental study ($N = 514$) to test the predictions that shifting

people's beliefs about planned sex at baseline would increase sexual frequency overall, planned sexual frequency specifically, and both sexual and relationship satisfaction. We explored whether experimentally manipulating people's planned-sex beliefs would increase their sexual desire and reduce their sexual distress and feelings of sexual obligation over two weeks. We also explored whether condition moderated the relationship between the extent to which a recent sexual encounter was perceived to be planned and sexual and relationship satisfaction and sexual distress. Specifically, we tested whether when people in the planned sex (versus) control condition had planned sex during a recent sexual encounter, they would report higher sexual and relationship satisfaction and lower sexual distress. In this study we also had participants report on their baseline level of sexual desire and sexual distress to explore whether the effects of condition differ for people higher versus lower in desire or distress. Finally, in this study, to inform directions for future research and provide insight into how the manipulation was working, we asked participants in the experimental study to respond to an open-ended question about if and how study participation had influenced their sexual beliefs.

Participants and Procedure

Participants were recruited on Prolific Academic from the United States, Canada, United Kingdom, Australia, and New Zealand in July 2024. Eligibility criteria were the same as in our Pilot Study, with the addition that participants who completed the Pilot Study were ineligible to participate in the Main Study. People of all genders and sexual orientations were welcome to participate. Participants were compensated with $2.02 USD for each survey completed (i.e., baseline and follow-up, estimated to take approximately 12 and 5 minutes, respectively) in line with rates of compensation for the survey length at that time.

In calculating the sample size, we did not have a previous effect size for predicting our key outcomes based on our manipulation of planned-sex beliefs. Instead, we drew on the effect size of expected sexual satisfaction from our Pilot Study ($d = .34$) and from another manipulation of sexual beliefs (sexual growth and destiny beliefs; $d = .30$, Maxwell et al., 2017), using the more conservative effect size from previous research ($d = .30$). We conducted a power analysis for the effect of condition on our key outcomes using G*Power (Faul et al., 2009); at 80% power and an alpha of .05, we aimed to have a final sample size of $n = 185$ in the experimental group and $n = 167$ in the control group (Total $N = 352$). Given high rates of attrition and/or noncompliance with instructions on another multi-part study we conducted with similar criteria, we oversampled to account for attrition and noncompliance. We recruited a total of 897 participants at baseline. After removing participants based on our preregistered exclusion criteria (see Main Study: Part 1 Inclusion Criteria in the Supplementary Materials for Paper 2 for details), the final sample included $n = 310$ in the experimental group and $n = 204$ in the control group (Total $N = 514$ participants). Participants were between 18 to 65 years old, had been in their relationship for an average of 9.4 years, and identified as a man (37.2%), a woman (62.1%), or non-binary (0.4%). All participants resided in five Western countries, with most living in the United States (56.03%) or the United Kingdom (35.4%). See Table S1 in the Supplementary Materials for Paper 2 for all sample characteristics.

After providing informed consent, eligible participants were invited to participate in a two-part online survey. At baseline, participants were asked to complete demographics and sex and relationship measures. After participants were randomly assigned to conditions using Qualtrics' built-in randomization function, participants were provided with one of two research articles written to 1) enhance the belief that planned sex is satisfying (i.e., planned-sex belief

enhancement condition) or 2) affirm their existing beliefs by telling them that it is not clear whether spontaneous or planned sex is more satisfying (control condition). Although participants received condition-specific instructions, they were not explicitly informed of the study's two-condition experimental design or their specific condition. To ensure participants thoroughly read the research summary, we recorded time spent on the manipulation page of the survey (all participants spent enough time reading the articles, i.e., less than three standard deviations from the mean). This step was followed by one manipulation check and one honesty check to assess whether the manipulation was successful at enhancing planned-sex beliefs and whether participants' responses were sincere and true.

One week after completing the baseline survey, participants received an e-mail message in their Prolific inbox containing an educational booster (see Main Study: Part 2 Inclusion Criteria in the Supplementary Materials for Paper 2) to remind them of what they read in their assigned research summary at baseline. One week after receiving the booster, participants received an e-mail message containing the study link for the follow-up survey. In the follow-up survey, participants were asked to reiterate the main takeaway from the article they read, indicate whether they read the booster message, and whether they followed the instructions. Only participants who responded correctly to the question at follow-up about the main takeaway from the articles and those who indicated they followed instructions were included in the analyses (see supplement for details of exclusion criteria). Then, participants completed a series of measures asking about their sexual and relationship experiences over the past two weeks, an honesty check, and an opportunity to provide feedback regarding the study. Finally, participants were debriefed and given the opportunity to re-consent to the data being used in the study.

Measures

Baseline Pre-Manipulation Variables

Planned and Spontaneous-Sex Beliefs. At baseline, we measured planned and spontaneous-sex beliefs with the same measure as the Pilot Study, $\alpha = .78$, 95% CI [.733, .813] (spontaneous-sex beliefs subscale); $\alpha = .80$, 95% CI [.756, .828] (planned-sex beliefs subscale).

Sexual Desire. We assessed sexual desire using two items from the Female Sexual Functioning Index (FSFI; Rosen et al., 2000), which can be answered by all participants regardless of gender. We asked participants: "Over the past 4 weeks, how often have you felt sexual desire or interest for your partner?" rated on a 5-point Likert scale (1 = *almost never or never* to 5 = *almost always or always*) and "Over the past 4 weeks, how would you rate your level (degree) of sexual desire or interest?" rated on a 5-point Likert scale (1 = *very low or none at all* to 5 = *very high*), $r = .77$, 95% CI [.731, .802].

Sexual Distress. We measured sexual distress using one item adapted from the Female Sexual Distress Scale-Revised, which can also be answered by participants regardless of gender (FSDS-R; DeRogatis et al., 2008): "In general, how distressed do you feel about your sex life?" rated on a 5-point Likert scale (1 = *never* to 5 = *always*).

Baseline Post-Manipulation Variables

Manipulation Checks. To assess whether our manipulation was successful in shifting beliefs about planned sex in the experimental group while holding beliefs about spontaneous and planned sex consistent in the control group, at baseline participants were asked to answer the following questions immediately after the manipulation: "After reading about this information, to what extent do you agree with the following items: "In order to maintain a good sexual

relationship, a couple should have" 1) "spontaneous sex," and 2) "a couple should have planned sex" rated on a 7-point Likert scale (1 = *strongly disagree* to 7 = *strongly agree*).

Two-Week Follow-Up Variables

Sexual Frequency. At the two-week follow-up, participants were asked "Over the last two weeks, how often did you and your partner engage in sexual activity?" Participants responded to this item using a 7-point Likert scale (1 = *not at all* to 6 = *daily*) and had the option not to disclose. Participants who responded *not at all* to this item were not shown items that asked about sex within the last two weeks.

Planned Sex Frequency. We assessed the frequency of planned sex experiences over the two-week study period by asking participants: "To what extent was the sex you had over the last two weeks planned ahead of time?" and asking them to choose a response from a 5-point Likert scale (1 = *never* to 5 = *always or almost always*).

Relationship Satisfaction. We assessed relationship satisfaction using the relationship satisfaction subscale from the Perceived Relationship Quality Components Scale (PRQC; Fletcher et al., 2000) with three items (adjusted to assess for *current* satisfaction, e.g., "Right now, how satisfied are you with your relationship?"). The items were highly correlated in both those who had recent sex, $\alpha = .97$, 95% CI [.956, .975], and those who did not, $\alpha = .97$, 95% CI [.912, .990].

Sexual Satisfaction. We used five items from the Global Measure of Sexual Satisfaction Scale (GMSEX; Lawrance & Byers, 1998) adjusted to assess for *current* satisfaction, e.g., "Please rate how you feel about your sex life right now on the following dimensions." The items were highly correlated in both those who had recent sex, $\alpha = .94$, 95% CI [.922, .953], and those who did not, $\alpha = .90$, 95% CI [.808, .931].

Sexual Desire. We used two items from the FSFI (Rosen et al., 2000) adjusted to assess desire *over the past two weeks* (e.g., "Over the past 2 weeks, how often have you felt sexual desire [or interest] for your partner?"), which were highly correlated for both people who had recent sex, $r = .78$, 95% CI [.737, .809] and those who did not, $r = .62$, 95% CI [.418, .766].

Sexual Distress. We used the same item from the FSDS-R (DeRogatis et al., 2008) adjusted to assess sexual distress *in the past two weeks* (i.e., "In the past 2 weeks, how often did you feel distressed about your sex life?").

Sexual Obligation. We measured feelings of obligation to have sex with one's partner using one item: "Over the last two weeks, I felt obligated to engage in sex with my partner even if I was not interested" rated on a 5-point Likert scale (1 = *never* to 5 = *always*; created by the researchers).

Perceptions of Recent Sexual Experience. At the two-week follow-up, we asked about the degree to which participants' most recent sexual experience was planned or spontaneous by asking participants to indicate their agreement or disagreement with the following items: "The sexual experience was planned ahead of time (i.e., you were intentional about making it happen)" and "The sexual experience happened spontaneously (i.e., it just 'happened' without any planning ahead of time)" on a 7-point Likert scale (1 = *strongly disagree* to 7 = *strongly agree*) (Kovacevic et al., 2023). These measures are meant to be continuous, versus dichotomous to capture that there are degrees of planning and/or spontaneity.

We also assessed sexual satisfaction for participants' most recent sexual experience with five items from the GMSEX (Lawrance & Byers, 1998) adapted to be specific to the *most recent* sexual experience, $\alpha = .95$, 95% CI [.934, .960].

Study Reflection. To gain additional information about participants' experiences in the experimental condition, we asked them to express how being in the study impacted their sex life and relationship with the following open-ended question: "Please share in your own words if and how the information you learned from this study influenced your sexual and relationship satisfaction over the last 2 weeks."

For all other main study measures, see Measures in the Supplementary Materials for Paper 2.

Data Analytic Approach

We conducted t-tests to confirm no differences pre-manipulation between conditions on key variables at baseline. All other analyses focus on our data from the two-week follow-up. We ran regression analyses to test our predictions about the effect of condition (0 = control; 1 = planned-sex beliefs) on our key outcomes using R (R Core Team, 2022) and for our moderations focused on the association between planned sex and satisfaction and distress moderated by condition. Significant moderations were followed up with simple effects tests comparing the relevant effect for participants in the control versus the experimental group.

Additionally, using NVivo qualitative data analysis software (QSR International, 2024; version 12.7.0), we conducted inductive content analysis for participants' open-ended responses to a question asking participants to share if and how the information they learned from the study influenced their sexual and relationship satisfaction over the past two weeks. Content analysis is an approach that involves systematically identifying, categorizing, and quantifying concepts within data (Downe-Wamboldt, 1992). Given the novelty of the subject matter and our large sample size, we used inductive content analysis, which allowed us to make interpretations of the data versus applying existing frameworks or theoretical models (as recommended by Lauri &

Kyngäs, 2005), instead of using approaches that utilize deductive analysis or are at greater risk for subjective interpretability (Grbich, 2013; Humble & Mozelius, 2022). Our aim was to identify themes in the open-ended responses to complement our quantitative analysis, that is, to provide further evidence of the general patterns in response to our manipulation. It was also important for us to quantify the themes in the open-ended responses to determine the percentage of our sample who reported different responses of the manipulation. Since our aim was to assess the impact of our experimental manipulation, we analyzed responses from participants in the experimental group only ($n = 310$). We selected entire responses (i.e., one or two-sentence paragraphs) as our unit of analysis given that participants' responses were typically quite brief. To capture nuance and richness in our data, we allowed for multiple codes per response.

The process began with the first author carefully examining the complete dataset to identify distinct and recurring units of meaning (categories) and create initial codes that were then shared with the third author. The third author then familiarized herself with the dataset while considering the initial codes generated by the first author, and taking note of any suggested additions, revisions, or deletions to the initial codes. The authors then met with a senior author to discuss reflections on the coding process, further refine the codes and group them into broader categories, creating a final codebook with a hierarchical structure of six categories, with four containing sub-categories (15 in total). Then, using the established codebook, the first and third author independently coded a randomly selected subset (15%, or $n = 47$), as recommended by O'Connor and Joffe (2020), to assess intercoder reliability (ICR). They arrived at an initial unweighted Cohen's kappa of $\kappa = .84$, indicating almost perfect agreement (McHugh, 2012). They met to resolve minor discrepancies arriving at perfect agreement–i.e., ICR of $\kappa = 1.00$. Following this, the third author independently coded the remaining responses ($n = 310$). The

percentages displayed beside each main category represent the proportion of responses coded under that category relative to the total number of coded responses.

Main Study: Results

Differences between Groups at Baseline

There were no differences between conditions at baseline (pre-manipulation) on any of the key variables, including planned and spontaneous-sex beliefs (see supplement for details). As in the Pilot Study, at baseline, overall people held stronger spontaneous-sex beliefs ($M = 5.34$, $SD = 1.17$) compared to planned-sex beliefs ($M = 3.35$, $SD = 1.38$), $t(999.81) = 24.974$, $p < .001$, 95% CI [1.834, 2.147].

Manipulation Check

As in the Pilot Study, our manipulation was successful in shifting planned-sex beliefs, such that those in the experimental condition reported greater endorsement of planned sex as satisfying following the manipulation (for mean comparisons across conditions on key outcomes, see Table S2 in the Supplementary Materials for Paper 2). However, the manipulation also shifted spontaneous-sex beliefs such that those in the experimental condition reported lower spontaneous-sex beliefs compared to the control group.

Effect of Shifting Planned-Sex Beliefs on Key Outcomes

Our key goal was to test how shifting beliefs about planned sex and instructing people to engage in planned sex over the next two weeks (versus keeping people's existing beliefs constant and asking people to go about their typical sex life) influences sexual frequency, frequency of planned sex, sexual and relationship satisfaction, as well as sexual desire, distress, and obligation. As predicted, and shown in Table S2, at the two-week follow-up, people in the experimental group reported engaging in more frequent planned sex in the last two weeks and

more frequent sex overall. In fact, they engaged in sex 28% more than those in the control group over the two weeks.[1] There were no differences between the experimental and control groups in reports of overall sexual satisfaction, relationship satisfaction, or satisfaction for the most recent sexual experience. However, participants in the experimental group reported greater sexual desire than those in the control group. There were no differences between conditions on sexual distress or feeling obligated to engage in sex, suggesting that people in the experimental group did not feel more obligated to engage in sex as a result of planning. In fact, when we tested the effect of condition on feelings of obligation only for participants who reported engaging in sex in the last two weeks ($n = 463$), those in the experimental group reported feeling *less* obligated than those in the control group. None of the effects of condition on our key outcomes were moderated by gender in any of our analyses ($ps = .09$).

Moderating Effects of Condition on the Association Between Planned Sex and Key Outcomes

Next, we tested whether people in the experimental condition would report greater sexual satisfaction and relationship satisfaction and lower sexual distress when they engaged in recent planned sex compared to people in the control condition. The associations between perceiving a recent sexual experience as being more planned and sexual satisfaction for that experience, as well as overall relationship satisfaction, were moderated by condition ($b = .11$, $SE = .04$, $t = 2.517$, $p < .05$; $b = .12$, $SE = .05$, $t = 2.196$, $p < .05$, respectively). When people in the control condition perceived a recent sexual experience as more planned, they reported that the experience was less sexually satisfying ($b = -.07$, $SE = .04$, $t = -2.209$, $p < .05$), but people in the experimental condition were buffered against this lower satisfaction ($b = .04$, $SE = .03$, $t = 1.355$, $p = .176$; see Figure S1 in Supplementary Materials for Paper 2). In addition, when people in the

experimental condition perceived a recent sexual experience as more planned, they reported greater relationship satisfaction ($b = .08$, $SE = .04$, $t = 2.028$, $p < .05$), whereas there was no association between planned sex and relationship satisfaction for those in the control condition ($b = -.04$, $SE = .04$, $t = -1.071$, $p = .285$; see Figure S2 in the Supplementary Materials for Paper 2). Finally, we also tested whether condition moderated the association between sexual distress and the extent to which a recent experience was perceived as planned. Here, the association was moderated by condition, $b = -0.11$, $SE = .04$, $t = -2.654$, $p < .01$, such that when people in the control condition perceived a recent sexual experience as planned, they reported greater sexual distress, $b = .10$, $SE = .03$, $t = 3.533$, $p < .001$, but people in the experimental condition were buffered against this distress, $b = -.01$, $SE = .03$, $t = -0.240$, $p = .810$ (see Figure S3 in the Supplementary Materials for Paper 2). We also ran these same models with people's perceptions of the extent to which sex was planned over the course of the two weeks, but none of these were significant.[2]

Moderating Effects of Baseline Sexual Desire and Distress on the Association Between Condition and Sexual and Relationship Satisfaction

We explored whether the effect of condition on sexual and relationship satisfaction at follow-up differed based on participants' levels of sexual desire and distress at baseline. We found that the effect of condition on sexual and relationship satisfaction was not moderated by baseline levels of sexual desire ($b = -.19$, $SE = .11$, $t = -1.762$, $p = .079$; $b = .02$, $SE = .10$, $t = .232$, $p = .816$) or sexual distress ($b = -.04$, $SE = .13$, $t = -.314$, $p = .754$; $b = .01$, $SE = .12$, $t = .049$, $p = .961$). This suggests that the effect of the manipulation was similar for those initially higher versus lower in sexual desire and sexual distress.

Content Analysis

Since we allowed for multiple coding in our content analysis, the total number of coded responses ($n = 435$) exceeds the total number of individual responses, which explains why the percentages (see Table S3 see Supplementary Materials for Paper 2) do not add up to 100%. Similarly, the percentages shown beside each sub-category represent the proportion of responses coded under that sub-category relative to the total number of coded responses within its corresponding main category. Participant responses that best illustrate the concept linked to each sub-category within a main category, or each stand-alone category, are shown in Table S3.

Main Category 1: Shifted Planned-Sex Beliefs and Behaviors

Consistent with the quantitative results of the Pilot Study and the Main Study, most participants in the experimental condition said that their involvement in the study impacted their planned-sex beliefs or engagement with planned sex ($n = 327$; 75.2% of total responses). Within this category, three sub-categories captured the ways the study shifted participants' beliefs or behaviors. Nearly three quarters of participants' responses within this category mentioned that the study *shifted intentionality and behaviors* ($n = 236$; 72.1%). Participants reported having planned sex during the two-week study period, communicating about sex and planning sex with their partner, planning a date night or stating their intentions to incorporate planning in the future. As an illustration, one individual expressed: "[…] after the information, we decided to plan sex 80% of the time." The second sub-category captured *shifted beliefs about the benefits of planned sex* ($n = 105$; 32.2%), such as changing one's perspective that planned sex could be just as good or perhaps better than spontaneous sex, strengthening existing beliefs about the benefits of planned sex, or providing a sense of reassurance that having planned sex was not a failure. For example, one participant said: "I was surprised to find I was initially embarrassed to plan to have sex, like it was a failure to do this. But actually, I found I was more engaged, had more desire

and enjoyed the whole experience more." A small number of participants shared *increased consideration or orientation towards planned sex* (*n* = 17; 5.2%) but did not necessarily follow through. In this sub-category, participants expressed feeling convinced of the benefits of planning sex but may have had trouble implementing it. For instance, one participant shared: "I did think it could possibly work; however, with childcare arrangements and sleep deprivation, it was impossible."

Main Category 2: Benefited Sex Life and Relationship

The second most prevalent category highlighted that the study *benefited [one's] sex life and romantic relationship* (*n* = 171; 39.4% of total responses). This category features seven sub-categories, six of which represent specific benefits and one that reflects general or other benefits not otherwise specified. Nearly a third of participants' responses within this category expressed *more anticipation or desire* (*n* = 50; 29.5%) as a result of the study information. For instance, one person wrote:

> My husband and I did plan sex a few times over the past few weeks. It was actually really nice to know throughout the day that we would be hooking up later that night, and we spent the day kind of teasing one another and looking forward to it. It made it a really good session and we both enjoyed it, I think! I struggle with feeling touched-out during motherhood, caring for a clingy toddler all day long, so when I get done putting him to bed and my husband unexpectedly tries to initiate sex, I often feel a bit apprehensive or like I need a few minutes to switch gears, but saying that can hurt his feelings so I typically just go with it. Planning it really helped me get over that mental hurdle!

Almost as many responses conveyed that planning sex helped participants' *coordination with other activities and family responsibilities* (*n* = 45; 26.2%). For example, one participant wrote:

"It helped [me] realize planning is beneficial, especially with children and busy schedules. It led to more sex than there would have been without planning, and it correlated to more satisfaction in our relationship and sex life." A quarter of the responses from within this category said that planning sex led to *more satisfying sex* ($n = 43$; 25.4%). For example, one participant expressed: "I was the kind of person who once believed in spontaneous sex, but after the last study, I really looked into planned sex. I was amazed with the experience, it was really better to plan ahead, the sex was so awesome." Some responses remarked on *improvements to the relationship* ($n = 20$; 11.5%) like feeling connected and intimate with one's partner. One person wrote: "Planning sex if you both have a busy schedule helps to make you feel more connected and make sure you both are having a sex life. Planned sex also helps you to know that you will be having it and so your mind is on it." Additionally, a small percentage of responses indicated *reduced stress* ($n = 11$; 6.6%) such as eliminating worry about not having sex or meeting a partner's sexual needs or being met with an unexpected initiation from a partner. For example, one person stated: "Having the discussion for planned sex has helped us set aside a time to enjoy other's company without the pressure of engaging in spontaneous sex." An equal number of responses noted the study led participants to engage in *more frequent sex* ($n = 11$; 6.6.%), either as a complement to already having sex or actually ensuring that they had sex they normally would not. For example, one participant said: "Planning sex in advance did help us with getting an extra time or 2 in over the last 2 weeks," and another remarked: "we actually had sex instead of none." Nearly a quarter of responses within this category that could not otherwise be specified mentioned that the study information afforded *general and other benefits* ($n = 41$; 23.8%). For example, one participant shared that "it influenced it a great deal […] this little experiment helped my sex life a lot," and

another said: “It not only helped my sex life with my partner, [but it also] reshaped my confidence.” Others mentioned that it helped them or their partner mentally prepare for sex.

Main Category 3: Affirmed Beliefs About the Benefits of Spontaneity

In response to the open-ended question about how the study information impacted the participants, a small percentage of responses highlighted that it *affirmed beliefs about the benefits of spontaneity* ($n = 24$; 5.5%). Some participants mentioned wanting to engage exclusively in spontaneous sex while others mentioned there was no difference in enjoyment between planned and spontaneous sex, but they still preferred spontaneity. For example, one person said: “My partner and I made the effort to make a planned occasion to have sex. Whilst it was equally as enjoyable as unplanned, I personally still do prefer the spontaneity of unplanned sex,” while another said: “I realized that planning sex is not for us at all. I prefer spontaneous sex.”

Main Category 4: Drawbacks

Few responses mentioned *drawbacks* ($n = 20$; 4.5%) to participating in the study. Of those who mentioned drawbacks, most reported that thinking about or planning for sex *evoked unpleasant emotions* ($n = 13$; 64.3%) such as feelings of pressure, or rejection if it did not happen, or dread. For example, one participant wrote: “We tried to do planned sex, but it didn’t really work for us, it put pressure on us to have sex even when really tired.” Other responses within this category mentioned *plans falling through* ($n = 10$; 50.0%) as a drawback. Participants mentioned that plans could fall through due to not being in the mood, interruptions from children, having an argument before the planned date or time, or being too tired (either unexpectedly or due to planning sex at a potentially inopportune time, such as around bedtime). For example, one participant stated:

> When the planned sex happened as discussed it was amazing and highly satisfying. The build up really helped. However, a few times we tried to plan and when it came time the kids had a need, or I was more exhausted than I thought I would be. I felt like I let him down and then I held on to that guilt until the next time we had sex. If we could reliably plan that would be my preference but I think where we are in life currently with kids and so many responsibilities, we may have a lot of disappointment. In this season of life, unplanned will have to do for now.

Two participant responses indicated *decreased desire* because of engaging with the study information ($n = 3$; 14.3% responses within this main category), such that planning sex felt like a chore or a task and increased feelings of guilt and dread. In a participant's own words: "It made it feel like just another chore and mom thing I had to do to keep the family happy. Another task on my giant to do list. If anything, planning ahead made me dread it."

Main Category 5: No influence/Already Use Planning

Less than one in six responses were coded under the main category of *no influence/already use planning* ($n = 55$; 12.6% of all coded responses). Within this category, many responses indicated *no influence* ($n = 27$; 48.7%), including reasons such as having no desire for sex, finding planning unachievable, or feeling that the information had no impact. Almost as many responses highlighted that participants *already use planning* ($n = 28$; 51.3%), with some mentioning reasons like having a busy life and children. For example, "It didn't change too much because we usually plan anyway due to having three small children."

Main Category 6: Other

Responses that could not be categorized into meaningful patterns within the data were coded as *other* ($n = 14$; 3.2% of all responses). For example: "Helps to know that everyone needs help in that area."

General Discussion

Although people tend to believe that spontaneous sex is more satisfying than planned sex, previous research indicates that stronger planned-sex beliefs may buffer people from perceiving planned sex experiences as less satisfying (Kovacevic et al., 2023). In the current research, we were able to shift people's planned-sex beliefs and behavior, and compared to a control group whose existing beliefs were affirmed, people in the experimental group reported engaging in more planned sex, more sex overall, and felt higher sexual desire over a two-week period, but there were no differences between conditions on sexual and relationship satisfaction. Also, although there were no differences between the control and experimental group on feelings of sexual distress or feelings of sexual obligation at follow-up, those in the experimental group who reported having sex over the past two weeks reported *less* feelings of sexual obligation than those in the control group. When people in the control group perceived a recent sexual experience to be more planned, they reported lower sexual satisfaction and higher sexual distress, but this was not the case for those in the experimental group (i.e., they were buffered). In addition, when people in the experimental group perceived a recent sexual experience to be more planned, they reported greater relationship satisfaction, whereas those in the control group did not. The association between having more planned sex over the course of two weeks and sexual and relationship satisfaction, as well as sexual distress, was not moderated by condition. Content analysis of participants' open-ended responses revealed that although participation in the study led a minority of participants to affirm their preference for spontaneous sex or identify

drawbacks to planned sex, most participants mentioned that their involvement in the study shifted their beliefs and intentions regarding planned sex and that doing so increased their awareness of the benefits of planned sex. Our study focused on a sample of parents with young children, who are vulnerable to sexual challenges (i.e., lower sexual desire, frequency, satisfaction and higher distress) and for whom sexual spontaneity might be challenging. The current research provides the first experimental evidence to support the theoretical idea that planned sex can be beneficial, as discussed by clinicians (McCarthy & Wald, 2015; Perel, 2007; Weiner & Avery-Clark, 2017) and anecdotally in qualitative research (Ferreira et al., 2015; Herbenick et al., 2014; Kleinplatz & Ménard, 2020).

Countering Dominant Narratives

The widespread cultural portrayal of spontaneous sex as ideal may reflect historical and medical biases that have centered men's sexual experiences as the norm. Men's sexuality–often characterized by spontaneous, visually driven desire–has long been treated as the default in both clinical and cultural narratives, while women's sometimes responsive, context-sensitive desire has been under-recognized or pathologized (Basson, 2000; Basson et al., 2003; Tolman & Diamond, 2001). This androcentric framing reinforces the idea that sex should "just happen" and that spontaneity equates to authenticity, passion, and satisfaction. However, our findings challenge this assumption: individuals who endorsed beliefs about the benefits of planned sex reported greater sexual desire, more frequent sex, and fewer feelings of sexual obligation. These results suggest that valuing intentional and communicative approaches to sex–rather than relying on spontaneous arousal–may enhance sexual well-being, countering the historically gendered narrative that spontaneity is the ideal. Further, though we were not able to test this in our predominantly monogamous sample, it is possible that for those who do not follow

heteronormative and mononormative narratives–such as individuals in polyamorous or other consensually non-monogamous relationships–sexual planning may already be commonplace, though research in this area is lacking. Coordinating intimacy across multiple relationships often requires intentional communication, scheduling, and boundary-setting, including around sex (Bibby & Davila, 2025). Rather than undermining desire, this structure may enhance it by fostering anticipation, clarity, and mutual respect. These communities may have been quietly resisting the dominant cultural script that equates spontaneity with authenticity, instead embracing coordination of sexual needs across multiple partnerships as a meaningful and effective way to sustain sexual connection and need fulfillment. Yet, because such practices fall outside mainstream relational models, their insights into the benefits of planned sex have largely remained under the radar, despite offering a valuable counter-narrative to prevailing assumptions about what makes for satisfying sex.

The Benefits of Planning Sex

For those in the experimental group, planning sex ahead of time led to engaging in more planned sex and sexual frequency overall compared to the control group. Parents with young children often spend limited time alone together (Roman et al., 2017), reducing opportunities for spontaneous sex. Given that sexual frequency is linked to greater well-being and relationship satisfaction (Muise et al., 2016), parents relying on spontaneity alone may limit sexual opportunities that would otherwise help to strengthen their own well-being and relationship satisfaction. By helping parents coordinate sex among a host of responsibilities, addressing their needs for adequate time, space and privacy for sexual connection, planning sex can help ensure they reap these benefits. Indeed, we found that the second most frequently cited benefit of

planning sex in participants' open-ended responses was the ability to coordinate with other activities and family responsibilities.

Although the underlying mechanisms were not explicitly tested, participants' open-ended responses hint at possible explanations for our finding that participants in our experimental group reported higher sexual desire than those in the control group. It is possible that in addition to being oriented to the benefits of planning sex and adhering to our instructions to plan sex, participants may have also engaged in discussions about their preferences and desires (i.e., "coming attractions") while communicating their intentions and plans to have sex, thereby adding to feelings of anticipation. For example, one participant remarked: "The discussion we had of planning sex ahead of time was very exciting. The talk made the sex even more pleasurable and the feeling of knowing when to have sex was great," while others engaged in sending flirty text messages to increase anticipation. Sex therapists emphasize that discussing sexual preferences and feelings, as well as describing ideal sexual scenarios to one's partner ahead of time can facilitate anticipation and desire (McCarthy & Wald, 2015) and previous research finds that among women seeking to reignite their sexual desire, using communication is the most common strategy (Herbenick et al., 2014). It is possible that planning for sex not only allows people to use their imagination and communicate their desires with their partner but may also facilitate sexual exploration and variety. As one person wrote: "Planning sex helped build anticipation and gave us something to look forward to. We were able to explore more fun things by setting aside a planned time," while others simply stated that just knowing sex would happen increased their desire and anticipation because it gave them something to look forward to.

In previous correlational research, higher planned-sex beliefs buffered people against lower satisfaction associated with seeing a recent sexual experience as planned (Kovacevic et al.,

2023). Although there were no overall differences between conditions on sexual and relationship satisfaction over the two-week follow-up, we replicated this previous finding in the current experimental study. People in the control condition (whose beliefs were affirmed, i.e., higher spontaneous-sex beliefs) reported lower sexual satisfaction, but people in the planned-sex condition were buffered from this lower sexual satisfaction. Shifting planned-sex beliefs can challenge the spontaneity ideal and lead people to enjoy planned sex more. Further, people in the experimental group reported greater relationship satisfaction when engaging in recent planned sex compared to those in the control group who did not get this boost in their relationship satisfaction. It is possible that setting aside time for intimacy provides a temporary increase in feelings of closeness and intimacy by redirecting vital energy back to the couple relationship, reinforcing that partners still value and want to prioritize their intimate connection despite having responsibilities to others. Additionally, it is possible that because planning sex requires that partners make the plans together, planning to have sex may also aid in helping partners become more attuned to and understanding of one another's intimate feelings and provide opportunities to address and resolve sexual issues. One participant commented on this, stating: "This approach has helped reduce any stress or misunderstandings about our sexual interactions and has allowed us to feel more connected and satisfied." In previous work, those who see work and effort as important for maintaining sexual satisfaction are more attuned to and responsive to their partner's needs (Uppot et al., 2023) and tend to report greater sexual and relationship satisfaction (Maxwell et al., 2017; Raposo et al., 2020). Therefore, it is possible that by making people more intentional about planning sex they are also more attuned to each other's sexual needs and interests.

Given that planning sex could evoke anti-erotic feelings of obligation, especially within those who already have many competing obligations (i.e., like caring for dependents), in the instructions in the planned-sex condition, we emphasized that planning sex should be a mutual decision and discussed with a partner ahead of time, as ongoing verbal consent, even in committed relationships, is crucial (Willis et al., 2021). Very few participants in our study reported that planning sex felt like a chore or task (i.e., only 2 out of 310 responses). On the contrary, our exploratory analysis revealed that for people who recently had sex, those instructed to discuss and plan sex with their partner ahead of time reported feeling *less obligated* to engage in sex than those in the control group. Additionally, although perceptions of sex as planned over the course of two weeks and sexual distress were not linked, we found that people in the control group reported higher distress when they last had planned sex, whereas this was not the case for those in the experimental group (i.e., they were protected from this effect). It is conceivable that discussing sex ahead of time emphasizes the importance of mutuality, choice, and consent, thereby decreasing feelings of sexual obligation and possibly, sexual distress. In addition to lowering feelings of obligation to engage in sex, which tends to be associated with lower satisfaction and desire (Shoikhedbrod et al., 2023), shifting people's beliefs about planned sex may help mentally prepare for sex, as was mentioned by several participants in open-ended responses. It may be the case that planning allows for a more deliberate shift from the role of caregiver into that of lover, echoing famed sex therapist Esther Perel's words: "Sex is not a thing that you do, it's a place that you go" (Perel, 2007, p. 3), both together and within yourself.

Theoretical Contributions and Clinical Implications

In the current research, we demonstrated that it is possible to experimentally enhance people's beliefs about the benefits of planned sex and facilitate engagement in planned sex with

a partner, extending past correlational research (Kovacevic et al., 2023) and past work on other types of sexual beliefs (Maxwell et al., 2017; Sutherland & Rehman, 2018). Furthermore, we show that shifting people's planned-sex beliefs and behaviors led to an increase in sexual desire and sexual frequency and has important implications for sexual and relationship satisfaction when parents with young children engage in planned sex.

Our sample of parents with young children provides a strong test of the intervention's effectiveness in ways that might enhance generalizability and theoretical understanding. For example, parents of young children often face significant stressors, time constraints, and physical exhaustion (Hansson & Ahlborg, 2012), all of which can impact sexual frequency, suggesting that the intervention could generalize to other high-stress populations, such as caregivers, individuals with demanding jobs, or those facing life transitions. Testing the ideas within this sample also demonstrates that the intervention can be incorporated into busy and demanding lifestyles, which may hold value for couples with similarly limited time and energy.

Given that this research extends previous work on experimentally enhancing sexual growth beliefs (Maxwell et al., 2017; Sutherland & Rehman, 2018) to planned-sex beliefs in a sexually vulnerable sample (i.e., parents of young children who tend to report decreased sexual and marital dissatisfaction, see Doss et al., 2009; Hansson & Ahlborg, 2012; Lawrence et al., 2008, lower sexual desire, and higher sexual distress, see; Lawrence et al., 2008; Rossi et al., 2022; and lower sexual frequency; Schröder & Schmiedeberg, 2015), we see value in future experimental research testing the effectiveness of this intervention in a clinical sample coping with a sexual challenge. The current research provides empirical evidence for a clinical practice that is already encouraged by clinicians and likely used in practice to promote regular sexual intimacy (McCarthy & Wald, 2015; Perel, 2007; Weiner & Avery-Clark, 2017). We recommend

that clinicians who use such interventions currently initially assess people's beliefs about planned (and perhaps spontaneous) sex given the growing evidence that people tend to believe planned sex is less favorable as compared to spontaneous sex (the current research; Kovacevic et al., 2023). Importantly, our study underscores the importance of mutual consent when planning sex ahead of time and we found that for people who recently engaged in sex, people who discussed and planned it ahead of time reported *less* obligation. Therefore, we also recommend that therapists emphasize that both partners discuss and agree (i.e., consent) to a planned sexual experience as a best practice. Further, therapists, doctors, nurses, sex educators and others may also draw upon these findings when discussing important topics such as consent and boundaries, products that may aid or enhance sexual function and pleasure (i.e., lubrication, toys, or other items/dress that increase comfort and confidence), or contraception and family planning.

Finally, our findings show that it is possible for people to reap the rewards of valuing and engaging in planned sex in a relatively short period of time (i.e., initially presenting a one-page research summary and giving people two weeks to implement the instructions to have planned sex). Thus, this approach could easily be translated into an audio-visual format (e.g., a short informative instructional video) and be widely distributed as an educational intervention to lay audiences (e.g., via social media platforms) or as a complement to clinical interventions with couples facing sexual challenges. Therefore, scaling the intervention could have a far-reaching impact, challenging a common belief about sexuality (i.e., spontaneity) and improving the lives of couples and families.

Limitations and Future Directions

Although our primary aim in the current research was to shift planned-sex beliefs (not necessarily to reduce spontaneous-sex beliefs), our manipulation did lower spontaneous-sex

beliefs in the experimental group and therefore it is difficult to discern whether the effects are due to higher planned versus lower spontaneous-sex beliefs. It is possible that spontaneous-sex beliefs may be associated with sexual destiny beliefs, wherein when people are not challenged by the demands of life that compete with spending intimate time together, couples can have and do enjoy spontaneous sex. However, it is possible that when people overemphasize the importance or value of spontaneous sex and experience sexual challenges, they may attribute these challenges to sexual incompatibility with their romantic partner and be unlikely or unwilling to see planned sex as a viable option for maintaining a satisfying sexual life. In addition to holding positive beliefs about planned or spontaneous sex contributing to sexual satisfaction, people could also hold negative beliefs about planned or spontaneous sex detracting from satisfaction. Future work could aim to distinguish between the valence of the beliefs to test whether it is important to target not only increasing positive planned-sex beliefs but challenging negative planned-sex beliefs. One direction for future research is to test the importance of valuing planned sex versus de-valuing spontaneous sex. One way to test this idea might be to have multiple conditions: 1) affirm spontaneous-sex beliefs but aim to enhance planned-sex beliefs and 2) reduce spontaneous-sex beliefs and affirm planned-sex beliefs, and 3) a control group whose beliefs have not been shifted.

Another limitation is that our study involved a self-report online survey and only one partner completed the study. Although we had several quality checks, we were not able to verify their activities over the two-week study period or the accuracy of their reported behaviors (as might be possible had we recruited both partners). Our sample was mostly comprised of white, heterosexual, monogamous couples who fall within broadly accepted and privileged identity and family structures and who are more likely to have access to both paid and unpaid childcare (e.g.,

babysitters, extended family). We acknowledge that these results may not generalize to those who face greater economical and vocational barriers due to systemic inequities, such as those who identify as LGBTQ+, people of color, and those facing mental health challenges.

It is also important to acknowledge that planning may not enhance satisfaction across all individuals or relationship contexts. The participants in our sample were people in long-term relationships with young children living at home. Although the majority of participants described planned sex as beneficial, some indicated that planning felt incompatible with their preferred sexual dynamic or that planning made sexual encounters feel more like a chore or task. These divergent experiences suggest that the benefits of planned sex are not universal but may depend on relationship dynamics, sexual factors, or individual differences. For some, especially those in newer or highly passionate relationships, sexual desire may already occur frequently and spontaneously, making planning unnecessary or even disruptive to the sense of novelty that fuels early-stage attraction. Similarly, individuals who experience higher performance anxiety or prefer spontaneity may find that scheduling creates pressure or diminishes arousal. Planning might also be less effective among couples navigating ongoing conflict, where the act of planning highlights tension rather than connection. Individual differences likely shape how planning is perceived–people with strong preferences for flexibility, high sensation-seeking tendencies, or those who eroticize spontaneity may view planned sex as incongruent with their sexual identity. In some cases, individuals with trauma histories or those balancing intensive caregiving or professional demands may find that structured sexual encounters feel like an obligation rather than a source of intimacy. Taken together, these observations underscore that while planning can promote intentionality and closeness for many couples, its benefits may be moderated by factors such as relationship stage, desire regulation patterns, and individual

differences in sexual scripts, sexual history, and personality traits. Future research could test these boundary conditions more explicitly to clarify when planning strengthens, versus when it may inadvertently constrain sexual and relational satisfaction.

We acknowledge that in the current sample, the findings did not differ based on participants' initial levels of desire or sexual distress, but that we may not have had enough participants with very low desire or high distress. While our sample represents a population more likely to experience sexual challenges (Hansson & Ahlborg, 2012) it was also a sample with high sexual and relationship satisfaction, comparable to broader community samples. It may be the case that those who already value and prioritize sex and have high sexual and relationship satisfaction are more interested in participating in research focused on sex and relationships. Therefore, future research should be focused on a sample that is currently coping with a sexual challenge or dysfunction (e.g., low sexual desire, sexual pain, erectile dysfunction), those who must plan their sexual activity due to disability or health and mobility issues to increase comfort, manage pain, or ensure medications are taken as prescribed prior to sexual activity, or those who are going through the often painful experience of infertility, for whom sexual planning becomes a central feature of the aim to conceive. Future research such as this may have implications for reduced stigma and greater awareness around planning sex for those with accessibility needs, those coping with a sexual issue and perhaps those experiencing infertility.

Conclusion

Shifting people's beliefs about the benefits of planned sex while also instructing them to engage in planned sex with their partner is possible and has benefits for the sex lives and relationships of parents with young children. The current research has implications for future research testing the effectiveness of similar interventions in clinical samples and is scalable. In

general, planning sex tends to be undervalued but might be an important strategy for couples to maintain their sexual connection, especially during times when spontaneity is more challenging, such as when couples have young children.

Footnotes

1. Couples in the planned sex group had 28% more sex than the control (approximately 2.87 over the two weeks compared to 2.24), which translates into more than one additional sexual experience a month.
2. We also tested whether condition moderated the association between sexual satisfaction, relationship satisfaction and sexual distress and the perceptions of sex as planned over the course of two weeks. The associations between perceptions of planned sex experiences over the previous two weeks and overall sexual and relationship satisfaction were not moderated by condition (b = .19, SE = .12, t = 1.567, p = .118; b = .21, SE = .11, t = 1.944, p = .053, respectively). Similarly, the association between perceptions of planned sex experiences over the previous two weeks and sexual distress was not moderated by condition, b = −.04, SE = .08, t = −0.648, p = .517.

#planningissexy: Developing and Evaluating a Knowledge Mobilization Campaign on Planned Sex

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Abstract

Although spontaneous sex is often idealized, recent experimental work demonstrates that shifting beliefs about planned sex can increase sexual desire and frequency. Building on these findings, we developed a social media-based Knowledge Mobilization (KMb) campaign to inform lay audiences and healthcare professionals about the benefits of planning sex, guided by the Knowledge-to-Action (KTA) framework. Following Advisory Board consultation and video evaluation/feedback from community participants ($N = 241$) and healthcare professionals ($N = 31$), we launched an educational campaign across social media platforms. Campaign success was assessed by reach (number of views across all campaign posts), interactions (e.g., comments, likes, shares, saves), and viewing time, generating substantial interaction. The video was rated highly by both community members and healthcare professionals on key implementation outcomes, including clarity, persuasiveness, relevance, and helpfulness. Additionally, reach metrics for video and supporting teaser posts totalled 83,799 views across 16 countries. This work illustrates how social media can effectively translate sexuality research and extend its accessibility to broad online audiences, highlighting the importance of KMb in challenging common sexual beliefs. We describe the development and implementation of the #planningissexy social media campaign and discuss the key lessons learned that may inform future knowledge translation initiatives in this area.

Keywords: planned sex, sexual desire, sexual frequency, sexual satisfaction, relationship satisfaction

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People's beliefs about what "good sex" looks like shape how they approach intimacy, interpret sexual desire differences between partners, and evaluate sexual experiences, often with consequences for both sexual and relational well-being (e.g., relationship continuance and sexual attraction, see Bohns et al., 2015; relationship and sexual satisfaction, see Bőthe et al., 2017; Maxwell et al., 2017; sexual desire, see Raposo et al., 2021). A particularly pervasive script is that spontaneous sex is inherently more satisfying than sex that is intentionally planned or scheduled ahead of time (Dune & Shuttleworth, 2009; Wiederman, 2005). When rigidly endorsed, beliefs that spontaneous sex is most satisfying may lead individuals to interpret everyday constraints on sexual connection (e.g., stress, caregiving demands, health concerns, mismatched schedules) as evidence that something is "wrong," thereby amplifying disappointment, pressure, and avoidance around intimacy. Although clinicians often encourage intentional sexual connection to reduce avoidance and strengthen intimacy between partners (McCarthy & Wald, 2015), beliefs that sex should occur spontaneously may prevent some individuals from acting on this advice.

Although spontaneous sex is widely idealized (Dune & Shuttleworth, 2009; Wiederman, 2005), empirical evidence indicates that it is not more satisfying than planned sex. In a 21-day daily experience study of 121 couples, participants reported that sex perceived as planned was just as satisfying as sex perceived as spontaneous (Kovacevic et al., 2023). Further, experimental evidence demonstrates that beliefs about planned sex are malleable and consequential. In a randomized experimental study of 514 parents of young children, a brief online psychoeducational intervention was developed to highlight the benefits of planned sex and

encourage participants to intentionally plan sex with their partner over the following two weeks. Those who received the experimental manipulation reported more frequent sex, greater engagement in planned sex, and higher sexual desire two weeks later compared to control group participants whose existing beliefs and routines were affirmed (Kovacevic et al., 2025). These findings suggest that even brief interventions can meaningfully shift sexual experiences. However, without effective translation and dissemination, dominant narratives privileging spontaneous sex are likely to persist despite contradictory evidence, leaving these insights confined to academic audiences.

The persistence of inaccurate sexual beliefs highlights the importance of knowledge mobilization (KMb) for improving sexual health. O'Kane and colleagues (2024) showed that endorsing misconceptions about sex is associated with poorer sexual outcomes (e.g., lower sexual satisfaction, Baker & De Silva, 1988, and lower sexual function; Bakay et al., 2021; Nobre & Pinto-Gouveia, 2006; Peixoto & Nobre, 2014). Yet, misconceptions can be significantly reduced through brief, targeted dissemination of evidence-based information, underscoring KMb as a key mechanism for addressing harmful sexual myths. By transforming empirical evidence into practical resources, KMb enables healthcare professionals, such as clinicians or educators, and the broader public to integrate research-informed insights into everyday understanding and practice. Prior knowledge mobilization research in sexuality has demonstrated the utility of these efforts in extending the reach and impact of empirical findings beyond academic audiences (Beischel et al, 2021; Brotto et al., 2021; Dawson et al., 2022; Lavery et al., 2024; Rosen et al., 2021). For example, Dawson et al. (2022) demonstrated that a brief (3.5-minute) psychoeducational intervention focused on sexual mindfulness led to improvements in sexual satisfaction and, in some cases, sexual desire, as well as greater

awareness and attentiveness during sexual experiences. This work highlights that even short, low-cost psychoeducational content can effectively disseminate sexuality research and support meaningful improvements in sexual well-being.

To address this research-to-public gap, guided by the Knowledge-to-Action (KTA) framework (Graham et al., 2006), we developed a short video (*knowledge product*) aimed at couples in long-term relationships and practitioners working with couples. Specifically, we developed a short, educational video in collaboration with a multidisciplinary Advisory Board to ensure clarity, relevance, accessibility, and inclusivity. The video was disseminated and evaluated in both a community and a healthcare professional sample, with outcomes assessing perceived attitude and behavior change, acceptability, clarity, persuasiveness, relevance, helpfulness, and likelihood of sharing the resource with others. Following this evaluation, the video was disseminated on social media, and we assessed its reach and engagement to examine its broader public impact. Together, this work illustrates how empirically grounded insights about sexual beliefs can be effectively translated into an accessible, low-cost public-facing resource with the potential to shift entrenched cultural narratives about sex.

Knowledge Mobilization (KMb)

The KTA framework (see Figure 1 in Graham et al., 2006) provides a structured approach for guiding knowledge mobilization efforts by emphasizing both the creation of usable knowledge products and the processes required to support their uptake in real-world contexts. Rather than assuming that evidence will diffuse naturally once published, the KTA framework highlights the importance of adapting research findings to the needs of end users, engaging end-users throughout development, and evaluating implementation outcomes alongside dissemination efforts. It consists of two interconnected components: *knowledge creation* and the *action cycle*.

Knowledge creation involves generating primary research, synthesizing findings, and developing user-friendly tools like guidelines, infographics, or videos (i.e., *knowledge products)*. Then, the action cycle consists of sharing this information with broad audiences, such as community members in long-term relationships and healthcare providers. Applying this framework to research on planned sex offers a systematic way to translate empirical findings into context-sensitive knowledge products that can meaningfully influence understanding and behavior among lay audiences and healthcare professionals.

Developing the #planningissexy Video and Social Media Campaign

Compared to static graphics, videos allow for the presentation of more complex information through the integration of narration, visual cues, and contextual examples, which can enhance comprehension, engagement, and message retention. Videos are particularly well-suited for conveying counterintuitive concepts, such as challenges to dominant sexual scripts, while maintaining accessibility for non-academic audiences, particularly when paired with closely related written or spoken text (Houts et al., 2006). Within knowledge mobilization, videos with written/spoken text have been demonstrated to effectively communicate complex health information in ways that are accessible to audiences with varying levels of health literacy (Meppelink et al., 2015) and applicable to public health professionals' practice (Chan et al., 2017). In the context of sexual science specifically, video-based dissemination has been successfully used to broaden reach and promote engagement with evidence-based sexual health information (Beischel et al., 2021; Brotto et al., 2021; Dawson et al., 2022; Lavery et al., 2024; Rosen et al., 2021). For example, Rosen et al. (2021) developed five educational videos on factors influencing couples' sexuality after the transition to parenthood that were rated favorably and perceived as highly relevant by both new parents and health care providers.

To ensure that knowledge products are accessible, relevant, and appropriate for their intended audiences, researchers have established advisory boards composed of end-users to inform the development of knowledge products (Brotto et al., 2021; Hartling et al., 2021; Lavery et al., 2024; Nelson et al., 2024; Rosen et al., 2021). Engaging end-users in this way helps enhance clarity, acceptability, and real-world applicability. In addition, Rosen et al. (2021) emphasize that the effectiveness of knowledge mobilization products is strengthened when viewers can recognize themselves in the individuals represented, a point supported by prior research demonstrating that relatable and inclusive representations enhance engagement and comprehension (Houts et al., 2006; Lohan et al., 2015; Reid et al., 2017). Building on this work, and in line with broader movements toward inclusivity in sex and relationship science (Andersen & Zou, 2015), the present project prioritized representational diversity in the development of our video. Collaborating with an Advisory Board (composed of multidisciplinary professionals and diverse community members), the video was designed to feature couples diverse in sex, gender, race/ethnicity, and disability in the video to promote inclusivity and increase the likelihood that viewers would see their own experiences reflected in the material.

Importantly, videos are compatible with social media platforms, which function as contemporary sites of informal health education and enable scalable dissemination beyond traditional academic or clinical settings. These platforms have demonstrated effectiveness for reaching both community members and healthcare providers in ways that are accessible, relatable, and capable of influencing clinical practice (Campbell-Yeo et al., 2017; Chambers, 2018; Lim, 2016; Maloney et al., 2015). Their value for sharing scientific information is well established (Hemsley & Mason, 2013; Oakley & Spallek, 2012), including advantages such as rapid dissemination, access to broad and diverse audiences, opportunities for community

building, and the ability to monitor engagement through measurable metrics (e.g., views, watch time, shares, likes, comments). For example, Rosen et al.'s (2021) #postbabyhankypanky campaign, disseminated via YouTube and a project website, has accumulated over 136,596 views across 14 countries (as of March 2026). These platforms allow flexible formats, facilitate more immediate exchanges than traditional face-to-face approaches, and can foster meaningful social support–an especially relevant feature for stigmatized topics such as sexuality. Additionally, social media has been identified as a rapidly expanding channel for communicating health information to large audiences (Hamm et al., 2013; Perrin, 2015), and a systematic review by Gabarron and Wynn (2016) found that such platforms are effective for reaching individuals seeking sexual health information and promoting comprehensive sexual health education initiatives.

For these reasons, we created an accessible video and selected YouTube, Facebook, Instagram, TikTok, and LinkedIn as the platforms best suited for dissemination. Prior research indicates that YouTube-based video content is a feasible, acceptable, and effective modality for sharing evidence intended to increase awareness of factors influencing sexuality (Beischel et al., 2021; Brotto et al., 2021; Dawson et al., 2022; Lavery et al., 2024; Rosen et al., 2021). Population-level data further support this choice: a Pew Research Center survey of 5,022 U.S. adults (ages 18-65+) conducted in 2025 found that 84% reported using YouTube, 71% Facebook, approximately half Instagram, and 37% TikTok (Gottfried & Park, 2025). These platforms also facilitate rapid content sharing with minimal effort, increasing the likelihood of wide dissemination. In addition, social media is increasingly used by sex educators, therapists, and other health professionals to engage and educate their audiences (Döring, 2021). LinkedIn was included specifically to extend reach to professional audiences within existing networks of

educators, researchers, and healthcare providers. Collectively, this multi-platform strategy was designed to maximize exposure among key end users, including community members in long-term relationships and the healthcare professionals who support them.

Knowledge mobilization initiatives that use social media to disseminate sexuality research have typically evaluated campaign success using both reach and implementation metrics, consistent with the KTA framework's emphasis on evaluating outcomes. Reach refers to the extent of audience exposure, commonly operationalized as the number of views across posts and supplemented by engagement indicators such as comments, likes, shares, saves, and watch time. For example, in the #ItsNotInYourHead KMb campaign, Brotto et al. (2021) defined reach as the primary outcome, assessing indicators such as unique webpage visits, infographic views, percentage of video viewed on YouTube, geographic distribution of viewers, impressions, and follower growth. In addition, implementation metrics assess the quality and impact of a knowledge product (Lewis et al., 2015), including constructs such as acceptability (e.g., how much viewers like a video), appropriateness (perceived relevance), adoption (intentions to share with partners or patients), and penetration (perceived shifts in attitudes or beliefs). Notable KMb studies that have incorporated implementation metrics to evaluate knowledge products include Rosen et al. (2021) and Beischel et al. (2021). Inspired by these approaches, the present project first assessed implementation metrics in samples of our target users, including perceived attitude and behavior change, as well as acceptability, clarity, persuasiveness, relevance, helpfulness, and likelihood of sharing. We then evaluated campaign reach using multiple engagement indicators, including total aggregate view counts across all posts, user interactions (e.g., comments, likes, shares, saves), and average viewing time across all platforms.

Overview of Current Research

The present knowledge mobilization project aimed to translate empirical findings on the benefits of planned sex into an accessible, evidence-based video to be shared with end-users (community members in long-term relationships and healthcare professionals). Using the KTA framework (Graham et al., 2006) and Barwick's (2008, 2013, 2019) knowledge translation planning tool, we developed our knowledge product and implemented a two-month knowledge mobilization campaign to disseminate our research findings across five social media platforms. Guided by the two core components of the KTA framework–knowledge creation and the action cycle, the project involved developing a user-friendly knowledge product, refining it through end-user feedback, evaluating its accessibility and effectiveness to target audiences, and disseminating it via multiple social media platforms. The specific aims of this project were to: (1) synthesize experimental findings on planned sex into a brief, engaging video suitable for lay and professional audiences; (2) refine the video based on feedback from an Advisory Board including target end-users to enhance clarity, persuasiveness, relevance, and accessibility; (3) evaluate the video by administering structured surveys to end-users assessing implementation outcomes (i.e., acceptability, clarity, persuasiveness, relevance, helpfulness, and likelihood of sharing); and (4) disseminate through social media to assess platform-specific reach and engagement metrics. We present the project in three phases. Phase 1 involves the video development, Phase 2 involves the video evaluation, and Phase 3 involves video dissemination. This study was preregistered on the Open Science Framework (OSF; see Anonymized Preregistration in the Supplementary Materials).

Phase 1: Video Development

The first step in our project design was developing a short video about our research findings on planned sex, or the main *knowledge product* for our campaign. The initial process involved brainstorming and storyboarding with the research team, and a review of the initial drafts with co-authors and members of our broader research lab in April and May 2025. Using Powtoon, an online platform for creating animated videos, we segmented the script to correspond with each slide (or "scene"). Using Powtoon's script-to-voiceover feature, we generated a calming female AI voiceover from our script and overlaid it onto each scene.

In this phase, we collaborated with the #planningissexy Advisory Board to help evaluate and suggest enhancements to the video. The Advisory Board consisted of one sex educator, a sex and relationship researcher and clinician, a medical doctor (Obstetrician/Gynecologist), and two community members in long-term relationships, all known to at least one researcher on the team previously. Consultation included seeking initial feedback on the video to enhance clarity and utility, identifying potential barriers for end-users (i.e., colours, pacing, length of video, voiceover, representation), refining our surveys, and discussing best practices for reaching our target audience on social media. To make participation as accessible as possible for our Advisory Board members, they could provide feedback via email, a one-on-one phone/video call, or during small group video format call participation. Two members responded by email, one participated in a 30-minute one-on-one video call, and two participated in a one-hour focus group. Feedback from the Advisory Board informed revisions that further clarified the core message and incorporated suggestions to enhance representativeness and inclusivity in the video's animated characters.

Following examples of successful campaigns (Brotto et al., 2021; Lavery et al., 2024; Rosen et al., 2021), and the suggestions made by the research team and #planningissexy

Advisory Board members, we created a dedicated webpage for the project on our lab's website, featuring the embedded YouTube video, and supplementary materials for visitors to receive fulsome support in integrating the message from the video (available at https://www.amymuise.com/planningissexy). Our webpage included an audio-only file (for visually impaired visitors), a transcript (for those with auditory sensitivities), a plain-language summary that also featured practical tips for discussing planned sex with a willing partner, and links to our published research papers. This landing page was also created, in part, to serve as a centralized hub that would survive the active campaign period, which could allow for indexing and be found by interested users on search engines, and where additional resources could be added over time.

Phase 2: Video Evaluation

The aim of phase two was evaluating the video's quality and perceived impact using structured surveys completed by two end-user groups: (1) people in long-term relationships (community sample); and (2) healthcare providers. Drawing on prior KMb evaluations (e.g., Beischel et al., 2021; Rosen et al., 2021), survey items captured participants' ratings of acceptability, clarity, persuasiveness, relevance, helpfulness, and likelihood of sharing, along with perceived shifts in attitudes toward planned sex (i.e., whether the video effectively challenged prevailing beliefs about planned sex, increased openness to engaging in or discussing planned sex, and supported attitude and behavior change or professional uptake in personal and clinical contexts, respectively). Open-ended responses were also collected to guide any final refinements before public dissemination.

Phase 2 Methods

We designed two surveys to administer to two samples of end-users: a community sample of people in long-term relationships and a sample of healthcare professionals (HCPs) who work with couples and in the area of sexuality. The community sample was recruited through a study advertisement on Prolific Academic, a participant recruitment website. The HCP sample was recruited via email invitation or by responding to posts on relevant online forums (e.g., the Association of Sex Therapy in Ontario, or ASTO) and listservs (e.g., the Ontario Society of Registered Psychotherapists, or OSRP). The study advertisement was also circulated by a colleague to clinicians at a local psychotherapy clinic. After confirming eligibility, participants were asked basic demographic questions, questions about their current use of planning sex/discussion of planning sex with clients and were then presented with the video. After watching the video, they were asked a series of questions designed to assess their perceptions of it (accessibility, appropriateness, adoption, and penetration).

Community Sample

We aimed to recruit 225 participants from Prolific Academic and oversampled to account for exclusions. After removing duplicate data, the sample included 266 unique participants. The survey welcomed people of all genders and sexual orientations as long as they were 18 years of age or older, in their current romantic relationship for at least a year, living with their partner, and could read and write English. Before data analysis, we removed three participants for duplicate attempts to access the survey, 11 participants for failing the eligibility questions, two for failing to confirm that they watched the video, and nine for failing the comprehension question asking about the key takeaway message of our video. The final community sample consisted of 241 participants (*M* age = 39.26, *SD* = 11.87).

The community sample ranged in age from 18 to 77 years (M = 39.26, SD = 11.87), with an average relationship duration of 13.27 years (SD = 9.25; see Table 1 for all demographic information for the community sample). Participants primarily resided in the United States (29.5%) and South Africa (29.5%), followed by Mexico (6.6%), Chile (2.5%), Canada (7.5%), the United Kingdom (5.0%), Australia (5.0%), New Zealand (0.8%), and other countries (13.7%). The largest proportion of participants identified as White (41.9%), followed by Black (33.2%), Latin American (10.4%), East Asian (6.6%), South Asian (2.5%), Bi/Multiethnic (2.9%), Middle Eastern (0.8%), and Indigenous (0.4%). A small proportion (1.2%) selected "not listed." In terms of relationship status, 68% were married, 16.2% were seriously dating, 8.3% were engaged, 6.6% were in common-law partnerships, and 0.8% indicated another status. Most participants reported being in monogamous relationships (95.9%), while 4.1% reported consensual non-monogamy. Regarding gender, 45.2% identified as men, 54.4% as women, 0.4% as non-binary, and 2.1% self-identified as trans. Most participants identified as straight or heterosexual (81.3%), followed by bisexual (12.4%), asexual (2.5%), gay (1.7%), pansexual (0.8%), queer (0.4%), and unsure or questioning (0.8%). Finally, 13.7% of participants reported living with a disability or long-term health condition, 83.4% reported no disability, and 2.9% preferred not to answer.

Healthcare Professional Sample

We used purposive sampling to target healthcare professionals likely to work with couples/relationship partners in a healthcare setting. Our goal was to recruit at least 25 healthcare professionals, given our aim to report descriptive data for this sample. Given that participants were recruited from a relatively homogeneous professional group (e.g., sex and relationship therapists, educators, and researchers), we anticipated that this sample size would be sufficient to

capture common patterns in responses in the feedback provided. To recruit these participants, we sent emails to healthcare professionals inviting them to participate in our study. Additionally, we posted the study advertisement to several organizations' forums (e.g., ASTO) and listservs (e.g., OSRP). The survey welcomed people of all genders and sexual orientations, and our only eligibility criterion was that participants were healthcare professionals. We recruited a total of 37 participants. Before data analysis, four participants were excluded for not indicating that they were healthcare professionals, and two were excluded for failing to answer questions about their perceptions of the video.

The final healthcare professional sample consisted of 31 participants between the ages of 22 to 80 years (M = 45.35, SD = 14.24; for all demographic information for the HCP sample, see Table 1). Participants primarily resided in Canada (71.0%), the United States (9.7%), and other countries, including the United Kingdom, Belgium, Germany, Spain, the Netherlands, and Portugal (3.2%). Most participants identified as White (77.4%), followed by Black (6.5%), South Asian (3.2%), and Bi/Multiethnic (3.2%). A small proportion (6.5%) selected "not listed." Regarding gender, 87.1% identified as women, 9.7% as men, 3.2% as non-binary, and 3.2% also self-identified as trans. Most participants identified as straight or heterosexual (67.7%), followed by bisexual (19.4%), asexual (3.2%), and queer (6.5%). Finally, 19.3% of participants reported living with a disability or long-term health condition, and 80.6% reported no disability.

Most healthcare professionals identified as a Psychologist (23.8%) or Psychotherapist (23.8%), followed by Social Worker (16.7%), Academic (14.3%), or Researcher (14.3%). A small proportion (4.8%) specified another type of healthcare professional. Most participants reported more than 10 years in practice (58.1%), followed by 3-6 years (19.4%), 6-9 years (12.9%), and between 1-3 years (9.7%). Most reported working in private practice (48.8%),

followed by a university setting (25.6%), hospital setting (9.3%), community health center (2.3%), non-profit organization (4.7%), or another work setting (9.3%).

Table 1

Community Sample and HCP Sample Characteristics (N = 241; N = 31)

Characteristic	*M* (range) Community Sample	*SD* or % Community Sample	*M* (range) HCP Sample	*SD* or % HCP Sample
Age (years)	39.26 (18 - 77)	11.87	45.35 (22 - 80)	14.24
Relationship duration (years)	13.27 (0.92 - 45.75)	9.25		
Country of Residence				
United States	71	29.5%	3	9.7%
Canada	18	7.5%	22	71.0%
United Kingdom	12	5.0%	1	3.2%
Australia	12	5.0%		
New Zealand	2	0.8%		
South Africa	71	29.5%		
Mexico	16	6.6%		
Chile	6	2.5%		
Belgium			1	3.2%
Germany			1	3.2%
Spain			1	3.2%
Netherlands			1	3.2%
Portugal			1	3.2%
Other (please specify)	33	13.7%		
Ethnicity				
White	101	41.9%	24	77.4%
Black	80	33.2%	2	6.5%
East Asian	16	6.6%		
South Asian	6	2.5%	1	3.2%
Latin American	25	10.4%		
Indigenous	1	0.4%		
Middle Eastern	2	0.8%	1	3.2%
Bi/Multiethnic	7	2.9%	1	3.2%
Not listed (please specify)	3	1.2%	2	6.5%
Relationship Status				
Casually Dating				
Seriously Dating	39	16.2%		
Engaged	20	8.3%		
Common-law	16	6.6%		
Married	164	68.0%		

Other	2	0.8%		
Relationship Agreement				
Monogamous	231	95.9%		
Consensually non-monogamous	10	4.1%		
Other (please specify)				
Gender				
Man	109	45.2%	3	9.7%
Woman	131	54.4%	27	87.1%
Non-binary	1	0.4%	1	3.2%
Self-identify				
Trans	5	2.1%	1	3.2%
Sexual Orientation				
Bisexual	30	12.4%	6	19.4%
Asexual	6	2.5%	1	3.2%
Gay	4	1.7%		
Lesbian				
Straight/Heterosexual	196	81.3%	21	67.7%
Pansexual	2	0.8%	1	3.2%
Queer	1	0.4%	2	6.5%
Unsure/Questioning				
Not listed (please specify)	2	0.8%		
Living with disability or a long-term health condition				
Yes	33	13.7%	6	19.3%
No	201	83.4%	25	80.6%
Prefer not to answer	7	2.9%		
Healthcare Professional Type				
Academic			6	14.4%3
Researcher			6	14.3%
Psychologist			10	23.8%
Psychiatrist			1	22.4%
Psychotherapist			10	23.8%
Social Worker			7	16.7%
Not listed (please specify)			2	4.8%
Years Practicing				
Less than a year				
1-3 years			3	9.7%
3-6 years			6	19.4%
6-9 years			14	12.9%
10+ years			18	58.1%

Note. In the community sample survey, two participants listed their sexual orientation as something else (one participant specified they were “Graysexual” and another specified they were “Heteroflexible”), and two participants listed their relationship status as other (one participant specified "I'm in a Romantic relationship" and the other specified they were in an “Open relationship”). Five participants identified their gender as “Trans” (four of these participants also selected “Man” or “Woman” and one selected “Non-binary (e.g., genderfluid,

genderqueer)" to describe their gender identity. In the HCP sample survey, one participant identified as both "Woman" and "Trans" to describe their gender identity. Because HCPs could identify as more than one "type" of healthcare professional, the total percentages shown here represent the total number of responses (n = 42), not the total number of participants (n = 31), for this variable.

Phase 2 Measures

Pre-Video Measures

Existing beliefs and practices. Before viewing the video, we assessed participants' existing beliefs (community sample) and practices (HCP sample) using items adapted from Beischel et al. (2021) and Rosen et al. (2021). We asked community participants: "How likely are you to use planning sex (i.e., plan sex ahead of time, schedule sex) as a way to stay sexually connected with your partner?" We asked HCPs: (1) "How likely are you to discuss using planned sex as a way for couples to connect sexually in the work that you do?" and (2) "How likely are you to discuss people's beliefs about planned sex when suggesting an intimacy exercise that involves planning sex in your work?" Responses were provided on a 7-point Likert scale (1 = "Not at all likely," 7 = "Very likely"), with HCPs also able to select N/A = "Not applicable".

Post-Video Variables

To measure ***perceived attitude/behavior change***, we adapted an item from Rosen et al. (2021) and asked community participants: "After watching this video, how likely are you to use planning sex as a way to stay sexually connected with your partner?" rated on a 7-point Likert scale (i.e., 1 = "Not at all likely," 7 = "Very likely"). To assess HCPs likelihood of discussing planned sex with clients or in their work after watching the video, we adapted two items from Beischel et al. (2021) and Rosen et al. (2021) and asked: (1) "After watching this video, how likely are you to discuss using planned sex as a way for couples to connect sexually in the work that you do?" and (2) "After watching this video, how likely are you to discuss people's beliefs

about planned sex when suggesting an intimacy exercise that involves planning sex in your work" rated on a 7-point Likert scale (i.e., 1 = "Not at all likely," 7 = "Very likely," N/A = "Not applicable").

Implementation Variables. To evaluate implementation outcomes, we assessed participants' perceptions of the video's ***acceptability*** (i.e., enjoyability), ***clarity, persuasiveness***, ***relevance***, ***helpfulness***, ***and likelihood of sharing*** the video. To assess ***acceptability,*** we used an item from Beischel et al. (2021) and asked participants in both samples: "How much did you enjoy watching the video?" rated on a 7-point Likert scale (i.e., 1 = "Not at all," 7 = "Very much"). To assess ***clarity***, we asked participants in both samples: "How clear was the message?" rated on a 7-point Likert scale (i.e., 1 = "Not at all clear," 7 = "Very clear"). To assess ***persuasiveness***, we asked participants: "How convincing was the message?" rated on a 7-point Likert scale (i.e., 1 = "Not at all convincing," 7 = "Very convincing"). To assess ***relevance***, we used an item from Rosen et al. (2021) and asked community participants: "Overall, how relevant to your life was this video?" rated on a 7-point Likert scale (i.e., 1 = "Not at all relevant," 7 = "Very relevant"). We asked HCP participants: "Overall, how relevant to your work was this video?" rated on a 7-point Likert scale (i.e., 1 = "Not at all," 7 = "Very much"). To assess ***helpfulness***, we used an item from Rosen et al. (2021) and asked participants in both samples: "Overall, how helpful was this video to you?" rated on a 7-point Likert scale (i.e., 1 = "Not at all helpful," 7 = "Very helpful"). To assess participants' ***likelihood of sharing*** the video (i.e., with a partner/others), we used an item from Beischel et al. (2021) and asked community participants: "How likely would you be to share this video with people you know?" rated on a 7-point Likert scale (i.e., 1 = "Not at all likely," 7 = "Very likely"). We asked HCP participants: "How likely

would you be to share this video with your clients/patients?" rated on a 7-point Likert scale (i.e., 1 = "Not at all likely," 7 = "Very likely").

Data Quality Variables. To ensure data quality and valid interpretation of results, we included a variable to verify participants' ***viewing length*** and included a ***comprehension check***, ***attention check***, and ***honesty check***. Participants could not advance until the video finished and were asked to confirm ***viewing length***: "Please confirm that you have watched the video (your response to this question will have absolutely no influence on compensation)" from which they could choose one of two options: 1 = "Yes, I did watch the entire video" and 2 = "No, I did not watch the entire video." Participants who selected "2" were excluded from our data analyses. We asked community participants the following ***comprehension check*** item: "What was the takeaway message of the video?" The correct response (from four options) was "Planning sex has benefits for couples' sex lives." Participants who answered incorrectly were excluded from analyses. In both samples, we included an ***attention check*** item: "Please answer this question by choosing number 2" on a 7-point Likert scale (1 = "Not at all likely," 7 = "Very likely"), and those who did not select "2" were excluded from our data analysis. Finally, we included an ***honesty check*** in the community sample survey to indicate dishonest responding. We asked: "In this survey, were all your responses sincere and true, to your knowledge?" with the following response options: 1 = "Yes, my responses were sincere and true to my knowledge" or 2 = "No, I gave some responses that were insincere or untrue," and informed participants that their response to this question would not influence their compensation. Participants who did not select "2" were excluded from our data analyses.

Phase 2 Results

We used descriptive statistics to summarize participants' responses to the survey items (*M*s, *SD*s, ranges). As these are descriptive values, we did not have specific predictions, however, given our efforts to include relevant end-users and knowledge creators early on in the first phase of our research, we preregistered expecting high means (above the midpoint of the scale) on our key variables (see Tables 3 and 4 for key variables across both samples).

Using paired *t*-tests, we analyzed changes in community participants' pre-post reports (i.e., before and after watching the videos) of how likely they were to plan sex with their partner. We predicted that community participants would report a higher likelihood of planning sex with their partner after watching the video as compared to before watching the video. We also analyzed changes in healthcare professionals' pre-post reports (i.e., before and after watching the video) indicating how likely they were to (1) discuss planning sex as a way to help couples they work with connect sexually, but expected this to be rated highly pre-video, and (2) discuss beliefs about planned sex with patients when suggesting intimacy exercises that involve planning sex in their work.

Community Sample

To assess perceived attitude change, we conducted a paired samples t-test to compare the means of participants' responses to the pre-video and post-video questions regarding participants' likelihood of having planned sex to stay sexually connected to their partner. As predicted, people reported a higher likelihood of using planned sex as a way to stay sexually connected to their partner after watching the video ($M = 5.26$, $SD = 1.77$) as compared to before watching the video ($M = 4.25$, $SD = 1.95$), $t(475) = 5.95$, $p < .001$, 95% CI [.675, 1.341].

To assess participants' evaluation of the video, we calculated descriptives for our measures of acceptability, clarity, persuasiveness, relevance, helpfulness, and likelihood of sharing. As expected, participants evaluated the video positively overall (i.e., scored above the midpoint on all key variables). Participants reported high *acceptability* (i.e., enjoyment) watching the video (M = 5.60, SD = 1.40) and rated the message of the video as *clear* (M = 6.72, SD = 0.58) and *persuasive* (M = 5.94, SD = 1.20). Participants rated the video as highly *relevant* (M = 5.52, SD = 1.58) and *helpful* (M = 5.46, SD = 1.63). For *likelihood of sharing,* participants were slightly above the midpoint (M = 4.39, SD = 2.18).

Healthcare Professional Sample

To assess changes in HCPs' likelihood of discussing planned sex with clients or in their work, we conducted a paired samples t-test to compare the means of participants' responses to three pre-video and post-video questions. At baseline, the HCPs rated their likelihood to discuss using planned sex as a way for couples to connect sexually in their work with clients/patients as high (M = 6.24, SD = 1.27); likelihood to discuss people's beliefs about planned sex in their work as high (M = 6.24, SD = 1.33); and likelihood to suggest an intimacy exercise that involves planning sex in their work as high (M = 6.14, SD = 1.48). After viewing the video, participants did not differ from baseline in their likelihood of discussing planned sex with clients, M = 6.30, SD = 1.29, $t(56) = .176$, $p = .861$, 95% CI [-.609, .726]; likelihood of discussing people's beliefs about planned sex in their work, M = 6.33, SD = 1.27, $t(56) = .27$, $p = .787$, 95% CI [-.585, .769]; or their likelihood to suggest an intimacy exercise that involves planning in their work, M = 6.17, SD = 1.44, $t(56) = .08$, $p = .940$, 95% CI [-.733, .790].

To assess HCPs' evaluation of the video, we calculated descriptives for our measures of acceptability, clarity, persuasiveness, relevance, helpfulness, and likelihood of sharing. As

expected, the video was evaluated positively (i.e., scores were above the midpoint on all key variables). For *acceptability*, participants rated the video as highly enjoyable ($M = 5.74$, $SD = 1.24$), and the message as very *clear* ($M = 6.87$, $SD = 0.43$) and *persuasive* ($M = 6.00$, $SD = 1.24$). Participants rated the video as *relevant* ($M = 5.90$, $SD = 1.72$) and *helpful* ($M = 5.23$, $SD = 1.65$). HCPs also rated their *likelihood of sharing* as high ($M = 5.52$, $SD = 1.84$).

Phase 3: Video Dissemination

Following successful evaluation of the video in community and healthcare professional samples, we initiated a public dissemination campaign designed to extend the reach of the knowledge product beyond research participants. This phase focused on strategic social media collaboration, adaptive platform-specific dissemination, broader media engagement, and systematic evaluation of reach and engagement outcomes.

The #planningissexy Campaign

To support broad dissemination to our intended audience, we invited 40 clinicians, sex educators, researchers, and science communicators with established social media presences to partner with us in sharing the final video. Individuals were selected based on their alignment with sex-positive, evidence-informed approaches and demonstrated engagement with public audiences. Of those invited, 16 agreed to collaborate. Invitations were sent via email or direct message, describing the project aims, the purpose of the video, and the absence of a promotional budget. Although no financial compensation was offered, we emphasized the potential value of the content for their audiences (e.g., relationship tips, conversation prompts, normalization of common experiences).

Before the campaign launch on November 5, 2025, collaborators received an email with instructions about how to share the content and encouragement to post across as many platforms

as they felt comfortable, including Instagram, TikTok, Facebook, and LinkedIn. The email included direct links to the Facebook and LinkedIn posts, which collaborators could share by reposting. Collaborators were informed that they were welcome to tailor captions to align with their voice and audience but asked to tag the first and/or second authors' social media accounts and include the campaign hashtag (#planningissexy) to support centralized tracking of engagement. To facilitate the ease of sharing on Instagram and TikTok, we sent collaborators the video via direct message on the day of launch asking them to repost as soon as possible to help the campaign gain traction. LinkedIn was intentionally included as a dissemination channel to reach clinicians, sex educators, and researchers, for whom the video could serve as a professional resource.

Mid-Campaign Adaptation

At launch, the full 126-second video was posted as feed content across platforms (see Figures 1 and 2). Feed posts were selected because they remain searchable and accessible over time, unlike stories that disappear after 24 hours. However, approximately one month after posting, review of platform analytics identified two concerns regarding Instagram and TikTok performance: (1) average viewing duration was relatively short, consistent with platforms optimized for brief, scrollable content, and (2) posts could not include direct external links within captions, limiting traffic to the campaign landing page.

In response to these constraints, the first and second authors discussed and introduced an additional social media strategy midway through the campaign. This adjustment was made after gaining a better understanding of how to leverage Instagram's algorithm more effectively. In addition to our original video, we released shorter "teaser" reels and stories on Instagram and Facebook designed to capture audience attention (see Figure 3). The reels and stories were

optimized with trending audio and longer captions (as suggested by Baumgartner, 2025), which summarized the research findings, and directed viewers to the landing page via an embedded link where possible.

During the campaign, we also learned that videos that include face on-screen retain viewers for 49% longer than those that do not (Baumgartner, 2025) and decided that adding a human component might be more captivating and lead to more engagement than the cartoon graphics. To achieve this aim, we created a second "Stitch" video (41.9 seconds in length) featuring the lead author appearing at the three-second mark of the original video to disseminate the findings in a more approachable way on TikTok. We ran this as a paid ad campaign for 13 days, totalling $217.37 CAD, with a custom target audience (i.e., between the ages of 25-54, with interest in education, baby and kids' products, and life services). We also created a Lemon8 account, which enabled us to add the campaign's webpage URL to our TikTok bio, and directed people to learn more by visiting the link in our bio. We tagged collaborators to encourage resharing and recruited additional sex educators and clinicians with strong Instagram and TikTok follower count to help expand reach.

Additional Dissemination Channels

The project also received external dissemination opportunities through podcast invitations, professional organization features, and media coverage following a university-issued press release which was featured on X (formerly Twitter) and a university news webpage. These invitations enabled the research team to share findings across multiple public-facing platforms and audiences, including a feature in *Haaretz*, a daily Israeli newspaper, and recorded episodes on *The Last Show with David Cooper* on iHeartRadio in Canada, *LoveCast,* and the *Sex & Psychology Podcast* in the United States. Additionally, a social media post and infographic

disseminating our research findings was shared by the *Society for Sex Therapy and Research's* social media initiative *SSTARlight*, the *Sexual Health and Genito-Pelvic Pain Knowledge Empowerment Hub (SHAPE)*'s knowledge mobilization hub webpage, in partnership with *Sexual Health & Education Council of Canada (SIECCAN)*, and a plain-language article written by the first author featured on *Psychology Today*.

Dissemination Evaluation Procedures

Dissemination outcomes were evaluated using platform-based analytics and engagement indicators. To access advanced tracking analytics on Instagram and TikTok, existing social media accounts were converted to creator accounts before launch. Reach metrics included views, impressions, geographic distribution, and audience exposure across platforms, while engagement metrics included likes, shares, comments, saves, and watch time, where available. These indicators were collected directly from platform analytics dashboards and recorded on January 5, 2026, two months after initial posting, in accordance with our preregistered protocol (see Anonymized Preregistration in the Supplementary Materials)[1]. Viewing duration metrics were also examined to contextualize audience engagement relative to platform norms. Post-hoc audience demographic data were collected on February 4, 2026, using the available analytics data from the social media platforms on which campaign materials were posted. Together, these indicators provided complementary information regarding campaign reach and audience engagement (see Table 2 for a summary).

Table 2

Social Media Metrics

Platform	*Views*	*Likes*	*Comments*	*Shares*	*Saves*	*Total Watch Time*	*Average Watch Time*
Instagram							

Video (Reel)	3,219	55	6	31	16	7h 50m	10s
Video (Story)	370	6	0	0			
Teaser (Reel)	5,530	36	2	20	17	7h 28m	8s
Teaser (Story)	97	0	0	0			
Video (Partner Reel)	2,534	38	3	4	0		
Infographic (Carousel)	1,136	29	0	5	7		
Facebook							
Video (Reel)	782	3	0	10	0	1h 39m	9s
Teaser (Reel)	121	0	0	1	0	5m	3s
Teaser (Stitch)	42	0					
TikTok							
Video	93	0	0	13	0		4.2s
Video (Stitch)	67,276	529	0	8	15	20h 11m	1.3s
LinkedIn							
Video	2,456	37	5	1	3	3h 41m	14s
YouTube							
Video	143	0	0	7			36s
Total	83,799	733	32	100	58	40h 54m	1.9s

Note. Metrics as collected on January 5, 2026 (current metrics for evergreen content, i.e., reels and posts, are likely higher). Value places left blank represent unavailable data. A "Reel" features video content, a "Story" is a time-limited (24-hour) post, a "Carousel" allows multiple images or videos within a single post, and a "Stitch" refers to a feature that allows users to clip and respond to an existing video. "Video" refers to the full-length knowledge product, and "Teaser" refers to a catchy, short-form version of the video released midway during the campaign period.

Phase 3 Results

Instagram

At launch, we posted the full-length video (as a Reel; see Figure S2), which was reposted by our partners and followers 17 times, generating 3,219 views, 55 likes, six comments, 31 shares, 16 saves, and was watched for seven hours and 50 minutes in total (10 seconds on average). A sex educator partner (with over 100,000 followers on Instagram) had concerns that her account could be flagged for inappropriate content for the use of the word "sex" in our video and captions. She independently posted a text-free version of the full-length video (as a Reel) to her account (e.g., replacing the word "sex" with "egg" in the captions), which alone generated over 2,534 views, 38 likes, three comments, and four shares. Mid-campaign, we released a

second “teaser” video (posted as a Reel; see Figure S3) featuring an image of one of the video’s characters, trending audio, a catchier title, and a longer caption encouraging viewers to click on the webpage link in our bio, which was reposted by our partners and followers 8 times, generating 5,530 views, 36 likes, two comments, 20 shares, and 17 saves and was watched for seven hours and 28 minutes in total (8 seconds on average). A story share of this post by one of our partners, a sex educator with a following of 168,000 on Instagram, generated ~2000 of these views alone. At launch and mid-campaign, we posted the full-length video and shorter teaser as stories (see Figure S3), which generated 370 views and six likes, and 97 views, respectively.

Facebook

Our full-length video was directly posted to Facebook (as a Reel; see Figure S1) on the campaign launch date, which generated 782 views, 3 likes, 10 shares, and was watched for a total of one hour and 39 minutes (nine seconds on average). At mid-campaign, two teasers were added: a Reel from Instagram (see Figure S3) that generated 121 views, 1 share, and was watched for a total of five minutes and seven seconds (three seconds on average), and a Stitch posted from TikTok that had 42 views (no other metrics available).

TikTok

At campaign launch, the first full-length video was posted to TikTok (see Figure S2), generating 93 views, 13 shares, and watched for 4.2 seconds on average. At mid-campaign, we released the Stitch video (42.9 seconds in length), generating 22 new followers, 67,276 views, 529 likes, eight shares, 15 saves, and watched for a total of 20 hours, 11 minutes, and three seconds (1.3 seconds on average or 3% of the video watched). Through our Lemon8 account connected to TikTok, we gained 4 new followers.

LinkedIn

At launch, we posted the full-length video directly to LinkedIn (see Figure S1), generating 2,456 views, 37 likes, five comments, one share, and three saves, and watched for three hours, 41 minutes, and 57 seconds (14s on average).

YouTube

Our full-length video, posted to YouTube (see Figure S1), had 143 views and the highest average watch time of 36 seconds. On average, viewers watched 28.6% of the full-length video, which was shared seven times.

Additional Dissemination Results

Two clips from the podcast LoveCast were featured on the podcast host's Instagram page; the first clip generating a total of 7,776 views, 92 likes, eight comments, one repost, and 11 shares, and the second clip generated 19,200 views, 206 likes, eight comments, and 34 shares. We do not have watch time or other metrics for these videos. The first author's article published on *Psychology Today* generated over 4,682 views (as of May 2026).

Engagement Rate

We calculated the engagement rate by dividing the total number of interactions (i.e., likes, comments, shares, and saves) by the total number of views across all five primary social media platforms (i.e., Instagram, Facebook, TikTok, LinkedIn, and YouTube). When examining the full-length original video posted from our social media accounts, the engagement rate was 2.79%. Across all materials, the overall engagement rate was 1.07%. According to Buffer (2025), an engagement rate exceeding 1% is generally considered strong, suggesting that audiences find the content appealing and are motivated to interact with it. Overall, the original video generated stronger engagement despite having a more limited reach, whereas the other materials achieved broader reach but lower engagement.

Audience Demographics and Geographical Reach

Supplemental post-hoc demographic information was collected on February 4th, 2026. The videos were viewed in 16 countries, including Canada, the United States, the Netherlands, the United Kingdom, Belgium, Australia, Germany, India, Iran, Brazil, Iraq, Israel, Pakistan, Palestine, Mexico, and Haiti, with more than two-thirds of viewers between the ages of 25 and 54 across all platforms.

Discussion

This project developed a KTA–informed knowledge mobilization campaign to translate empirical evidence challenging the assumption that spontaneous sex is more satisfying than planned sex into an accessible, public-facing digital resource. Using an end-user-informed process, a brief educational video was developed, refined, and disseminated across multiple social media platforms to reach community members and healthcare professionals. Overall, the campaign demonstrated that our research findings can be effectively mobilized beyond academic contexts, generating substantial reach and engagement while supporting positive evaluations of the knowledge product's clarity, relevance, and usefulness. However, the campaign also highlighted important limits to social media engagement and provided several lessons for future KMb research on sexuality.

Across evaluation phases, community participants reported high acceptability and perceived relevance of the video, alongside increased openness to engaging in planned sex following exposure. In contrast, healthcare professionals did not show pre–post change in attitudes or intended behaviors, likely reflecting high baseline knowledge and openness within this group, which consisted primarily of sex therapists due to our recruitment avenues. Together, these findings suggest that brief, theory-informed knowledge products may function differently

across audiences, supporting attitude and behavioral shifts among lay end users while serving as translational tools for clinicians and educators. At the dissemination level, the campaign achieved meaningful reach through a combination of organic sharing, strategic collaboration, and limited paid promotion, highlighting both the potential and the challenges of evaluating real-world knowledge mobilization using platform-specific analytics.

Strengths and Contributions

Overall, the campaign demonstrates that sexuality research can be effectively mobilized beyond academic contexts, generating substantial reach while supporting positive evaluations of the knowledge product by end-users. In doing so, the project aligns with a growing body of KMb scholarship, showing that evidence-based, digitally delivered knowledge mobilization campaigns can successfully translate sexual health research into formats accessible to diverse audiences (Brotto et al., 2021; Lavery et al., 2024; Rosen et al., 2021).

Several features strengthen the project's contribution to KMb research. First, the use of a KTA framework and Advisory Board is consistent with best practices that emphasize end-user engagement, iterative refinement, and contextual tailoring of knowledge products (Graham et al., 2006; Barwick, 2013; Lomas, 2007). For example, the inclusion of a multidisciplinary and diverse Advisory Board strengthened adherence to a key best practice in knowledge mobilization product development–enhancing the representativeness of characters depicted in the video, which is known to improve audience engagement, identification, and message effectiveness (Houts et al., 2006; Lohan et al., 2015; Reid et al., 2017).

Second, the findings extend prior KMb work demonstrating the feasibility of video-based dissemination in sexuality research (e.g., Brotto et al., 2021; Rosen et al., 2021) by showing that a brief, low-cost psychoeducational video can achieve widespread reach across multiple social

platforms through organic sharing, strategic collaborations, and modest paid promotion. Notably, unlike prior initiatives that relied on externally produced media to disseminate sexuality research at scale (Brotto et al., 2021; Rosen et al., 2021), the present project demonstrates that an in-house video created with accessible online software (Powtoon) can itself function as a scalable knowledge mobilization tool. These findings provide empirical support for dissemination models that achieve scale without requiring large production budgets.

Third, the results contribute conceptually to KMb evaluation research by demonstrating that knowledge products may function differently depending on audience role. Community participants reported high acceptability, perceived relevance, and increased openness to planned sex following exposure, suggesting potential for attitude and behavioral change among end users. They were also relatively lower in the endorsement of sharing the video online, perhaps reflecting less comfort sharing sexuality information online, in line with evidence indicating that shame, embarrassment, discomfort, and perceptions that such topics are too personal to discuss can inhibit disclosure, particularly in public or digital contexts (Jackowich, 2022). Though healthcare professionals did not show pre–post change, they did report a higher likelihood of sharing the information than lay audiences, likely reflecting greater comfort with sexuality content. This pattern is consistent with implementation science distinctions between knowledge uptake and knowledge use (Nilsen, 2015; Proctor et al., 2011) and suggests that brief digital interventions may primarily shift beliefs among lay audiences while serving as translational tools for clinicians and educators. Rather than functioning as a belief-change intervention for clinicians, the video may therefore be better conceptualized as an evidence-based communication aid that supports psychoeducation, reduces stigma, and facilitates discussion of planned sex in clinical contexts. These findings clarify key impact pathways for future research to evaluate.

Specifically, they highlight the importance of assessing downstream impact among intermediary users by examining whether professionals integrate knowledge products into practice and whether such use influences client-level outcomes (e.g., understanding, openness, or stigma reduction). Incorporating these measures would strengthen the capacity of future KMb studies to capture indirect pathways of impact.

Limitations and Lessons Learned

Our campaign demonstrated several strengths while also revealing practical and methodological considerations that can inform future knowledge mobilization initiatives.

Platform-Specific Norms and Constraints

Patterns across platforms highlighted the importance of tailoring dissemination strategies to platform-specific norms. Although the video was rated as highly acceptable and engaging by both community members and healthcare providers in the evaluation survey, across all platforms, average viewing duration was relatively brief, a pattern consistent with feed-based social media environments (e.g., TikTok, Instagram, Facebook and LinkedIn), that are designed for rapid scrolling and continuous content sampling rather than sustained viewing (Wang, 2024; Baumgartner, 2025). For example, TikTok videos under 20 seconds receive substantially higher engagement than longer clips, and LinkedIn videos between 30-60 seconds achieve almost twice the engagement rate compared with longer content (Baumgartner, 2025). By contrast, longer videos on platforms designed for deeper viewing, such as YouTube, may accumulate more total watch time per video, illustrating that optimal length is platform-dependent rather than uniform. For example, long-form content on YouTube (eight minutes or more) receives 54% more watch time per video than content under three minutes. However, this pattern may be shifting with the increasing popularity of short-form content on YouTube, which are reshaping viewing behaviors and platform engagement norms (Baumgartner, 2025). Accordingly, viewing length should be

interpreted alongside reach and interactions to more accurately capture meaningful engagement rather than being treated as a standalone indicator of impact.

In our campaign, shorter and more visually streamlined content outperformed longer videos in views and saves on Instagram, suggesting that concise framing and explicit calls to action may be more effective for prompting engagement than longer narrative-driven content. Facebook performance was modest, particularly when posts were cross-shared rather than uploaded natively, suggesting that repurposed content may be deprioritized by the platform algorithms. In contrast, YouTube showed lower reach but higher watch time and completion rates, indicating its utility for deeper engagement rather than broad exposure. The video was viewed for an average of 36 seconds on YouTube, which compares to engagement levels reported in other sexual health knowledge mobilization campaigns on the platform, such as Rosen (2021), where viewers watched approximately 40 seconds of campaign videos on average. LinkedIn also yielded strong engagement relative to posting frequency, indicating that professional audiences may be especially receptive to research-based relationship content. TikTok demonstrated the clearest impact of strategic investment: organic posts generated limited reach, whereas a modest paid campaign paired with an optimized video format produced substantial reach, though viewing time was limited. This suggests that even small advertising budgets can meaningfully extend dissemination when combined with targeted audience selection and platform-appropriate design. Further, platform moderation dynamics also emerged as a structural consideration. One collaborator independently reposted a censored version of the video after expressing concern that the word “sex” might trigger content flagging; this version still achieved substantial engagement. This finding highlights a tension inherent in sexual health dissemination of maintaining scientific accuracy while navigating algorithmic moderation

systems. Future campaigns may benefit from proactively designing layered messaging strategies that preserve accuracy while minimizing the risk of suppression.

Another limitation relates to the context in which the video was evaluated. Community members and healthcare professionals were asked to assess the acceptability and quality of the video; however, they were not informed about the specific social media platforms in which the video would ultimately be disseminated. Consequently, evaluations did not consider whether the videos' length, structure, or format aligned with platform-specific norms or user expectations and behaviors. Because social media engagement is strongly shaped by platform design and viewing behaviours, assessing the video outside of its intended dissemination context limited the ecological validity of these evaluations as applied to most of the social media platforms we used.

A related limitation is that although community members indicated a likelihood of sharing above the mid-point of the scale in the survey, we observed modest sharing in social media environments (most shares came from our partners and existing network of professionals). This discrepancy highlights a potential gap between reported intentions and actual sharing behavior, suggesting that future evaluations may benefit from asking more context-specific questions about how and where participants would realistically share such content or piloting actual sharing behavior ahead of a full launch.

Taken together, these findings highlight a broader challenge in digital knowledge translation: even when educational content is perceived positively, platform design, algorithmic feeds, and rapid scrolling behaviors may limit sustained engagement with longer educational videos, depending on the platform. Future knowledge mobilization campaigns may benefit from tailoring and evaluating content length and format to the norms of specific platforms and perform an analysis of user behaviour before campaign launch.

Design Constraints

The video development phase underscored how platform selection can shape accessibility and representational quality. Although Powtoon provided a flexible, user-friendly interface and allowed for some diverse representation in characters, it also imposed constraints relevant to inclusive and accessible design. For example, the platform did not allow direct embedding of closed captions or alternative text for images, requiring workarounds to support accessibility. In addition, its library of characters, voices, and design elements limited the extent to which the video could fully represent the diversity of the intended audience. While customization options existed, representations of varied racial/ethnic identities, body types, gender expressions, clothing styles, and abilities were restricted by preset templates. As a result, despite deliberate efforts toward inclusivity, the final product may not have captured the full range of lived experiences relevant to all viewers. These constraints suggest that future KMb campaigns should consider accessibility and representation capabilities when selecting production platforms, or supplement template-based tools with externally produced assets. Planning for inclusive representation early in development–and allocating resources for custom visuals or accessibility features–may enhance both equity and engagement.

Measuring and Enhancing Impact

A broader limitation of social media–based KMb is uncertainty about audience composition. While reach metrics indicate exposure, they do not reveal whether content reached individuals who would otherwise lack access to the project's message. This represents both a strength and a methodological challenge: social media removes access barriers yet limits insight into who is reached and how information is used. Future campaigns may benefit from

incorporating interactive elements (e.g., brief polls, surveys, or reflection prompts) to better capture audience demographics and assess downstream impact (such as in Lavery et al., 2024).

An additional lesson concerns the expertise required for effective digital dissemination. Although the campaign achieved widespread reach, the process highlighted the value of specialized knowledge mobilization and social media strategy expertise needed for maximizing engagement on specific platforms. Future initiatives may benefit from involving dissemination specialists or consultants to guide decisions regarding platform norms, messaging, posting schedules, and optimization strategies.

Finally, the knowledge products created and released midway through the campaign did not undergo the same level of feedback and evaluation as the full-length video. However, overall viewership increased with each additional knowledge product introduced. Additionally, podcasts, media interviews, and institutional dissemination extended reach beyond social media, reinforcing the value of multi-channel dissemination strategies. This suggests that offering multiple versions of the content–across accessible formats and social media platforms and utilizing multiple distribution channels may be an effective strategy for future knowledge mobilization efforts.

Strategic Planning and Funding for KMb

Knowledge mobilization should be treated as a core component of research rather than an ancillary activity conducted after study completion. Effective digital dissemination requires dedicated planning, expertise, and financial resources. Allocating funds for professional consultation, targeted promotion, analytics infrastructure, and strategic collaborations can substantially increase reach and impact. In the present campaign, reposts from collaborators with large followings generated a disproportionate share of total views, underscoring how high-reach

collaborations can meaningfully amplify dissemination. Accordingly, future projects should consider building KMb activities explicitly into grant proposals and study budgets, including dedicated personnel time, promotional funds, and planned collaborations. Integrating dissemination strategy into study design from the outset may be essential for achieving population-level reach and maximizing public impact.

Taken together, these lessons suggest that effective digital knowledge mobilization requires alignment among content design, platform norms, dissemination strategy, and evaluation methods. By documenting both successes and constraints, the present project contributes practical guidance for future KMb efforts seeking to translate sexuality research into accessible, scalable public resources.

Conclusion

This project demonstrates the utility of a Knowledge-to-Action-informed approach for mobilizing sexuality research through social media. By integrating end-user consultation, end-user evaluation, and strategic dissemination, the campaign translated empirical findings on planned sexual intimacy into accessible digital content that was theoretically grounded yet contextually adapted for social media audiences. At the same time, the project generated practical lessons for future initiatives, including the importance of platform-specific design, early planning for analytics infrastructure, intentional budgeting for dissemination resources, and the value of high-reach collaborations in amplifying impact. Collectively, these findings highlight both the promise and the complexity of social media–based knowledge mobilization and underscore the importance of treating knowledge mobilization as a core methodological component of sexual health research rather than an ancillary activity.

Footnotes

1. In lieu of Google Tag Manager for the preregistered purpose of collecting page analytics (as detailed in the Anonymized Preregistration in the Supplementary Materials for Paper 3), we created a unique Bitly URL to track engagement and direct users to our webpage; however, Bitly did not yield additional or more robust data beyond what was available through platform-specific social media analytics, and we therefore discontinued our paid Bitly subscription.

Dissertation Discussion

Lay sexual beliefs can powerfully shape our sexual experiences, influencing sexual activity, responses to sexual challenges and changes, and overall sexual satisfaction (Bohns et al., 2015; Bőthe et al., 2017; Maxwell et al., 2017; Raposo et al., 2021), which is a key component of satisfying romantic relationships and well-being (Józefacka et al., 2023; Park et al., 2023; Regan, 2000; Qin et al., 2025). Yet, an important type of sexual beliefs has been largely unexplored: how people perceive the role of spontaneity versus planning in creating satisfying sexual experiences. This gap is striking given that cultural narratives often idealize spontaneity (Dune & Shuttleworth, 2009; Ward, 2003; Wiederman, 2005), potentially overlooking the ways intentionality and planning may also contribute to fulfilling sex. In my dissertation, I advance our understanding of how lay beliefs about sexual spontaneity and planning shape sexual and relationship outcomes in romantic relationships, while also demonstrating how these beliefs can be shifted and disseminated to broader audiences. Grounded in the implicit beliefs and sexual script theory frameworks (e.g., Knee, 1998; Knee et al., 2003; Knee & Canevello, 2006; Maxwell et al., 2017; Simon & Gagnon, 1984) that highlights lay beliefs as expectations about how satisfying sex "should" unfold, I focus on domain-specific assumptions about whether satisfying sexual experiences are achieved through spontaneity or intentional planning. Across three papers, I introduced and validated the constructs of spontaneous and planned sex beliefs, experimentally tested whether shifting planned sex beliefs can improve sexual and relational outcomes, and mobilized those findings into a publicly available knowledge product designed to target both lay audiences and healthcare providers.

In the first paper, I laid the theoretical and empirical foundation for this work by establishing and validating a measure of spontaneous and planned sex beliefs and examining

associations with sexual satisfaction. Consistent with cultural sexual scripts (Dune & Shuttleworth, 2009; Ward, 2003; Wiederman, 2005), participants endorsed spontaneous sex beliefs more strongly than planned sex beliefs. Importantly, while endorsing spontaneous sex beliefs were linked to satisfaction in some contexts, the daily diary findings indicated that perceiving sex as spontaneous versus planned was not associated with greater sexual satisfaction. Crucially, however, the studies revealed that planned sex beliefs could serve as a buffer against lower satisfaction when sex was perceived as planned. These findings highlighted a disconnect between widespread cultural portrayals of spontaneity and individuals' lived experiences and identified planned sex beliefs as a meaningful target for intervention.

Building on this foundation, in the second paper, I experimentally tested whether a brief intervention could shift beliefs about planned sex and related behaviours, and in turn improve sexual and relational experiences among parents with young children. Results demonstrated that the intervention increased participants' endorsement of planned sex beliefs and led to more frequent sex and higher sexual desire. In addition, whereas participants in the control condition reported lower satisfaction and greater sexual distress when they engaged in planned sex, participants in the intervention condition maintained sexual satisfaction, reported greater relationship satisfaction, and they were buffered against greater sexual distress when they planned sex. Qualitative results complemented these findings, illustrating that couples experienced increased intimacy, anticipation, and connection when they intentionally planned sexual activity. Taken together, these findings demonstrated that beliefs about planned sex beliefs are not only malleable, but that changing them can yield tangible, positive outcomes for couples' sex lives and relationships.

In the third paper, I translated this evidence into a knowledge mobilization initiative aimed at increasing public awareness and clinical relevance of planned sex through an educational video. Guided by the Knowledge-to-Action (KTA) framework, this phase of the research emphasized co-creation, evaluation, and dissemination. The video was developed in collaboration with an Advisory Board consisting of healthcare practitioners, researchers and community members. Before broader dissemination, I confirmed that the video was positively evaluated by both community members and healthcare professionals on key implementation outcomes, including clarity, persuasiveness, relevance, and helpfulness. Dissemination of the video and related knowledge products across five social media platforms resulted in 83,799 views across 16 countries, demonstrating that even a small-budget initiative can meaningfully extend the reach of sexuality research. In doing so, this dissemination effort addressed a persistent gap between research and public understanding and highlights the potential for scalable dissemination of evidence-based sexual health information.

Together, these studies made three key contributions. First, they extended the literature on implicit (lay) sexual beliefs by introducing spontaneous and planned sex beliefs as novel, domain-specific sexual beliefs that are relevant to romantic relationship maintenance. Second, they provided causal evidence that brief interventions can shift planned sex beliefs to improve sexual outcomes among parents with young children, who often experience lower sexual frequency and desire (Hansson & Ahlborg, 2012; Schröder & Schmiedeberg, 2015), and whose time constraints and more limited time together (Hansson & Ahlborg, 2012; Roman et al., 2017) may limit spontaneity. Third, they demonstrated that sexuality research can be effectively mobilized to reach broader audiences through low-cost, digital dissemination strategies.

Collectively, this dissertation integrated theory, intervention, and knowledge mobilization to advance both scientific understanding and real-world impact of sexual and relational well-being.

Theoretical Contributions

This dissertation makes several theoretical contributions to the literature on implicit sexual beliefs. First, it identifies, examines, and validates a novel set of domain-specific sexual beliefs–spontaneous and planned sex beliefs–and demonstrates that these beliefs are associated with sexual satisfaction in relationships. In doing so, it advances the broader literature by introducing a dimension that is conceptually distinct from the sexual growth and destiny beliefs, which has been the key focus in past research. That is, correlations between spontaneous and planned sex beliefs and sexual growth and destiny beliefs were largely non-significant and small in magnitude (*r*s = -.12–.19; for further details, see Correlations with Sexual Growth and Destiny Beliefs in the Dissertation Supplement). Sexual growth and destiny beliefs capture overarching assumptions about whether sexual satisfaction is cultivated through effort or determined by inherent compatibility (Maxwell et al., 2017) and less attention has been paid to more proximal, process-oriented beliefs about how satisfying sex is expected to unfold in everyday life. Because spontaneous and planned sex beliefs are tied to a concrete, modifiable behavior–planning sex–they offer a more direct pathway to intervention than broader growth and destiny beliefs. Importantly, this work is also the first to demonstrate that despite the widely endorsed beliefs about the benefits of sexual spontaneity, these beliefs do not align with people's lived experience. Although spontaneous sex is idealized, engaging in spontaneous sex in couples' daily lives was not more satisfying than engaging in sex that was planned ahead of time. Critically, valuing planned sex buffered individuals from lower sexual satisfaction when their recent sexual encounters were perceived as planned. In line with sexual script theory, these

findings provide evidence that people's sexual scripts–or beliefs about how sex "should" occur–meaningfully shape how sexual experiences are interpreted and evaluated, highlighting a disconnect between dominant cultural narratives and actual sexual experience.

Second, this dissertation provides evidence that planned sex beliefs are malleable and can be strengthened through a brief intervention, with meaningful consequences for sexual and relationship well-being, at least in the short-term. Specifically, increasing planned sex beliefs and encouraging sexual planning led to more frequent sex and desire for sex, and helped maintain sexual satisfaction, boost relationship satisfaction, and reduce sexual distress when engaged in planned sex. Notably, these effects were observed among parents with young children–a time when sex is less frequent (Schröder & Schmiedeberg, 2015) and some couples are at risk for lower sexual satisfaction (Hansson & Ahlborg, 2012; Schmiedeberg & Schröder, 2016), but also one in which spontaneity is likely to be challenged. These findings advance theory by identifying planned sex beliefs as a distinct and meaningful sexual belief that may function as an adaptive cognitive framework, particularly when the cultural ideal of spontaneous sex is disrupted or unattainable. Unlike broader sexual growth beliefs, which focus on whether sexual satisfaction can be maintained through effort, planned sex beliefs concern whether intentional sexual planning itself is viewed as compatible with satisfying sex. Importantly, these findings also demonstrate that planned sex beliefs are modifiable and can be strengthened through brief intervention, highlighting them as a promising target for scalable psychoeducational and clinical intervention. In contexts where spontaneity is constrained by life circumstances, stronger planned sex beliefs may help individuals interpret intentional sexual effort as relationship maintenance rather than as evidence that desire or compatibility has declined.

Though the present research was not designed to test mechanisms directly, several theoretically plausible pathways warrant consideration. One possibility is that planning sex involves explicit communication between partners, which may function as a form of consent communication (Willis & Jozkowski, 2019). Although planned sex is often associated with duty or obligation, participants who engaged in planned sex following the intervention reported *less* sexual obligation. This suggests that discussing and coordinating sex in advance may reframe planning from an externally imposed expectation into a mutually endorsed decision. This process may be particularly important in long-term relationships, where partners increasingly rely on implicit cues rather than direct communication to infer willingness, and where feelings of consent can diminish over time (Muehlenhard et al., 2016; Willis et al., 2021). Planning sex may reintroduce opportunities for deliberate, explicit consent communication, allowing partners to actively affirm, rather than passively assume, each other's desire and engagement.

Beyond communication, planning may foster a sense of mastery over one's sexual connection, activating an incremental orientation in which satisfaction is something to be actively cultivated rather than passively awaited, potentially reducing helplessness and moving towards creative solutions in the face of challenges with spontaneity. Planning also creates a window of anticipation that may itself generate desire, consistent with models of responsive desire in which willingness often follows rather than precedes the decision to engage sexually (Basson, 2000). It is possible that in addition to following our instructions to plan sex in Paper 2, couples may have engaged in discussions about their preferences and desires, leading them to experience desire when imagining or fantasizing a planned sex event. Similarly, planning may have also involved efforts to create conditions that are conducive to sex (e.g., lighting candles to "set the mood"). Finally, knowing sex is mutually anticipated may resolve ambiguity or anxiety

around sexual initiation (as suggested by Mintz et al., 2017), creating a psychologically safer context for engagement. Disentangling the relative contributions of these proposed pathways, or possible others, represents an important direction for future research.

Prior research on lay sexual beliefs has largely demonstrated their malleability in short-term or hypothetical contexts, often using cross-sectional designs in which participants receive brief primes or false feedback and then respond to imagined scenarios (Bohns et al., 2015; Maxwell et al., 2017; Sutherland & Rehman, 2018). While this work has been instrumental in establishing that sexual beliefs can be shifted, less is known about whether such changes translate into meaningful differences in individuals' real-world sexual experiences. This dissertation extends this literature by demonstrating that shifting sexual beliefs can have tangible implications for couples' sex lives. Specifically, participants in the intervention condition received psychoeducational content grounded in empirical findings designed to strengthen planned sex beliefs and were encouraged to plan sex with their partner. They were then followed over two weeks and reported on their actual sexual experiences. Compared to the control group, participants in the intervention reported increases in sexual desire and frequency, as well as more adaptive experiences of planned sex. By targeting both beliefs and behavior and assessing outcomes over time, this work provides one of the first ecologically valid experimental tests of whether shifting a lay sexual belief can produce sustained changes in real-world sexual behavior and experience. In doing so, it advances prior work by demonstrating not only that sexual beliefs are malleable, but that modifying them can meaningfully shape how couples engage in and experience their sexual relationships in the near-term.

Finally, this dissertation extends theoretical and empirical work on sexual beliefs by examining how belief change can be translated beyond the individual level and into broader

dissemination contexts. Building on prior efforts to communicate sexual health research through video-based formats (e.g., Brotto et al., 2021; Dawson et al., 2022; Lavery et al., 2024; Rosen et al., 2021), this work applies the Knowledge-to-Action framework (Graham et al., 2006) to position sexual beliefs as targets not only for individual intervention, but also for scalable, public-facing knowledge translation. The findings suggest that belief-based interventions may function differently across audiences. Among community participants, exposure to the video was associated with greater openness to planned sex as compared to before watching the video, indicating that brief, accessible content may facilitate shifts in attitudes that precede behavioral change, although this pathway should be directly tested in future research. In contrast, healthcare professionals did not show changes in their expected reported practices, likely reflecting high baseline endorsement of these approaches. Instead, they reported a higher willingness than the community sample participants to share the resource, suggesting that for this group, knowledge products may serve less as belief-change interventions and more as tools for dissemination and validation of existing practices. Together, these findings highlight that the impact of belief-based interventions depends on audience role and extend existing theory by suggesting that sexual beliefs are not only internal frameworks guiding experience, but also communicable and scalable constructs that can be translated and engaged across broader social contexts. As such, they have the potential to shape sexual attitudes and, ultimately, behavior. However, this pathway remains to be directly tested in real-world dissemination contexts.

Practical Implications

The findings of this dissertation have important practical implications for clinicians, educators, and the broader dissemination of sexuality research. Given the widespread idealization of sexual spontaneity in Western cultural narratives of sex (Dune & Shuttleworth,

2009; Ward, 2003; Wiederman, 2005), clinicians may encounter resistance from clients who view planned sex as unromantic or inauthentic, particularly when therapeutic interventions involve scheduling intimacy or require couples to set aside dedicated time for intimacy exercises (for examples, see McCarthy & Wald, 2015; Weiner & Avery-Clark, 2017). This dissertation provides empirically grounded evidence and accessible language, as evidenced by implementation outcomes, that clinicians can draw on to reframe sexual planning as an adaptive strategy rather than a sign of relational failure. These findings are supported by publicly available, easily shareable, and evergreen content (i.e., video, landing page and research summaries, in several accessible formats). The brief and accessible nature of this resource suggests it could function as a standalone psychoeducational tool or as a complement to existing sex therapy, an interpretation supported by clinicians' higher willingness to share the video relative to the community sample, possibly reflecting its perceived utility within clinical practice. This dissertation also suggests that assessing clients' spontaneous and planned sex beliefs early in treatment may help clinicians identify a previously overlooked barrier to sexual satisfaction.

One of the most encouraging aspects of this work was that clinicians, sex educators, and researchers readily shared the video with their audiences without compensation. Of the 40 healthcare professionals invited to share the research findings via social media, 16 accepted, which revealed the unique role for clinicians not merely as passive consumers of research but as active vehicles for public digital dissemination. This finding suggests that clinicians may represent an underutilized channel for bridging the gap between sexuality research and the broader public, one that carries the added credibility of professional endorsement. Rather than positioning clinicians solely as end-users who apply findings within their practice, this work demonstrated the potential for KMb efforts to engage clinicians as collaborators in the

dissemination process itself, amplifying the reach and perceived trustworthiness of research-based resources. While some of these partners had larger public followings than others, it is important to note that social media platforms afford the possibility of disproportionate visibility: a single share by the right person–one whose authentic belief in the message resonates with their audience–or at the right moment can expose content to audiences far exceeding what paid strategies might achieve.

In addition, this dissertation demonstrates that wide-scale dissemination of sexuality-based research is achievable without a large budget, suggesting that brief digitally delivered psychoeducation grounded in experimental evidence can reach broad audiences through low-cost channels. Together, these contributions highlight the feasibility of bridging the gap between sexuality science and public impact in a way that is both methodologically grounded and practically scalable. The lessons learned throughout this process also offer practical insights to those using KMb strategies to improve the accessibility of sexuality research findings for lay audiences, including the importance of tailoring content format, language, and delivery to the norms and constraints of specific platforms.

More broadly, these findings add to a growing body of research (Bohns et al., 2015; Bőthe et al., 2017; Maxwell et al., 2017; Sutherland & Rehman, 2018; Raposo et al., 2021; Uppot et al., 2023) showing that promoting more flexible beliefs about how sexual connection is maintained may support individuals and couples navigating the demands of modern life. As the pace of modern life continues to intensify (Wajcman, 2015), perceived constraints on time, energy, and opportunity for spontaneous intimacy may become increasingly common. Fostering adaptive beliefs about sexual connection then may represent a practical and scalable approach to supporting sexual and relational well-being across a range of populations.

Broad Limitations and Future Directions

Despite its contributions, this dissertation should be interpreted in light of several limitations that span across studies and point to important directions for future research. A primary limitation concerns the generalizability of the findings across populations and relational contexts. Across studies, participants were predominantly white, heterosexual, in monogamous relationships, and living in a Western context, limiting generalizability and failing to capture the full range of cultural, relational, and structural factors that shape sexual beliefs. The idealization of sexual spontaneity is rooted in Western cultural narratives of romantic love and passion (Weiderman, 2005), individuals from more collectivist or more sexually conservative cultural contexts may hold different baseline assumptions about how sex should unfold. Similarly, same-sex couples may navigate sexual initiation and planning through distinct relational scripts that do not map neatly onto the spontaneity ideal and instead may approach sex with greater intentionality. For example, among gay men, practices such as PrEP use or discussions around sexual positioning often require advance planning and communication (Johns et al., 2012; Malone et al., 2018; Stephenson et al., 2022), suggesting that planning may already be integrated into their sexual norms. Additionally, individuals in consensually non-monogamous relationship may hold fundamentally different assumptions about sexual planning, as coordinating sexual encounters across multiple partners often necessitates a degree of intentionality and communication (Bibby & Davila, 2025), potentially making planned sex beliefs less likely to function as a barrier, or more central to how sexual connection is negotiated. As the demands of modern life, including competing work, family and social obligations, constrain the time and attention partners can devote to one another (Mark et al., 2020; Sims & Meana, 2010; Tan, 2021), challenges to sexual spontaneity may be viewed as a persistent feature of many long-term

relationships. Although I focused on shifting planned sex beliefs among parents of young children, this population serves as a proxy for a broader range of people who may regularly face constraints on sexual spontaneity, including professional couples managing demanding schedules or individuals with health or mobility challenges who may require advanced coordination to engage in sexual activity (Dune & Shuttleworth, 2009; Tan et al., 2021). Future research should examine how spontaneous and planned sex beliefs operate across more diverse populations, including cross-cultural samples and a wider range of relationship structures and life stages, to better understand the contextual factors and boundary conditions of these findings.

It is also worth noting that the present studies examined associations between planned and spontaneous sex in samples of people in relatively happy relationships. As such, there may be certain relationship dynamics and personal histories that were not captured in our samples and for which the benefits of planned sex may not generalize, or could even carry costs. For example, in relationships characterized by power imbalances or coercive control, planned sex could potentially be used as a form of coercive control, with one partner leveraging scheduled sexual activity to pressure or obligate the other. In such contexts, implementing planned sex may undermine rather than support well-being. Conversely, it is possible that certain populations–such as individuals with a history of sexual trauma–may experience planned sex differently, where the greater predictability or a sense of control that planning might provide could reduce anxiety and enhance feelings of safety and choice. However, because our studies did not assess factors such as power dynamics, coercive control, or trauma histories, we cannot conclude how these variables might shape outcomes across different samples. Future research should examine the boundary conditions of these findings by considering individual and relational factors that

may moderate the benefits of planned sex, for example, directly testing whether planned sex operates differently for trauma survivors or couples in lower-quality or distressed relationships.

An additional limitation related to generalizability concerns the reach and uptake of the knowledge mobilization component. Although the knowledge mobilization video was intentionally designed to reflect diversity in gender, sexual orientation, racial and ethnic background, and ability (as recommended by Rosen, 2021, and supported by Houts et al., 2006; Lohan et al., 2015; Reid et al., 2017), we were unable to confirm the demographic composition of end-users who engaged with the social media campaign. As such, while broad accessibility was prioritized in the creation of the video, it is unclear whether the campaign effectively reached underrepresented populations, or whether the content resonated across diverse audiences.

In addition, participants in the current studies self-selected into research about sexuality, which may limit the generalizability to individuals who are less comfortable discussing or reflecting on their sex lives. People willing to participate in sexuality research may differ systematically from those who decline; past research finds they have greater sexual knowledge and experience, more positive sexual attitudes and interest in sexual variety, and a greater willingness to disclose sexual information (for a review, see Bouchard et al., 2019; Dawson et al., 2019). The experimental study required participants to initiate conversations about planning sex with their partner, possibly excluding those who have less comfort with sexual communication and who may be the most reliant on spontaneity as the default. If the intervention improves outcomes among those already open to sexual communication, then its potential may be even greater for those with less comfort in sexual communication, but future research targeting relationship partners with greater barriers to discussing sex with their partner is needed.

In addition to limits to generalizability, the current research is also limited by how planned and spontaneous sex were conceptualized and measured. Across studies, these constructs were assessed based on participants' subjective perceptions of whether a sexual encounter was "planned" or "spontaneous." While this approach captures individuals' lived experiences, it may also introduce variability in how these categories are understood and applied. For example, what one participant considers "planned" may reflect explicit scheduling, whereas another may interpret it as a more general sense of anticipation or intention. Planning and spontaneity exist along a continuum rather than as discrete categories. Sexual encounters may involve varying degrees of intentionality, coordination, and anticipation that are not fully captured in the current research. Future research would benefit from developing more nuanced assessments that differentiate between types and degrees of planning (e.g., explicit scheduling vs. implicit coordination) and examine how these distinctions relate to sexual and relational outcomes.

The current findings also leave remaining questions about the experimental design and the duration of observed effects. Although the findings provide evidence that planned sex beliefs can be experimentally shifted and are associated with improvements in sexual desire and frequency, these effects were assessed over a relatively short time frame (two weeks). It remains unclear whether such changes in beliefs and behaviours are sustained over longer periods or require reinforcement to maintain their impact. In addition, although the experimental findings informed the development of the psychoeducational video, the video itself has not yet been evaluated using the same experimental framework. Future research should examine the durability of these effects over longer follow-up periods using longitudinal designs, as well as establish the efficacy of the video as a standalone intervention.

Additional untested questions are related to the mechanisms through which changes in planned sex beliefs lead to improved outcomes. While the findings suggest that strengthening planned sex beliefs is associated with greater sexual desire and frequency, the processes driving these effects remain unclear. It is possible that belief change operates through multiple pathways, such as increased communication or consent between partners, greater intentionality, enhanced anticipation, or reduced avoidance of sexual activity. Understanding these mechanisms is critical for refining interventions and identifying which components are most effective. Future research should incorporate mediational and longitudinal designs to better understand how shifts in beliefs translate into changes in behavior and sexual well-being.

Finally, the knowledge mobilization component of this dissertation highlights both the potential and limitations of disseminating sexual health research to broader audiences. While the campaign demonstrated that research on planned sex can be translated into accessible and engaging content with substantial reach, metrics of engagement only provide indirect evidence of impact. For example, while view counts and interactions indicate exposure, they do not reveal whether individuals meaningfully engaged with the content, experienced changes in beliefs, or applied these insights in their relationships–a concern further underscored by the low average watch time recorded for the video content–a limitation noted in other knowledge mobilization campaigns (Brotto et al., 2021; Lavery et al., 2024; Rosen et al., 2021). In addition, engagement varied across platforms, reflecting the influence of platform-specific norms and user behavior on how content is consumed. These findings underscore the need for more rigorous approaches to evaluating the real-world impact of knowledge mobilization efforts. Future research should examine how exposure to disseminated content influences belief change and behavior over time

and explore strategies for optimizing reach and engagement with sexual health information across different platforms.

Concluding Remarks

Sexual satisfaction is a central component of fulfilling romantic relationships, yet the beliefs individuals hold about how satisfying sex should unfold can shape their sexual experiences in ways that carry meaningful consequences for both sexual and relational outcomes. Across three papers, this dissertation advances our understanding of a novel set of implicit sexual beliefs–spontaneous and planned sex beliefs–demonstrating that although spontaneous sex is widely idealized, it is not more satisfying than planned sex, and that planned sex beliefs are both consequential and malleable through brief, scalable efforts. In doing so, this dissertation identifies a promising and accessible avenue for enhancing sexual and relationship well-being by reframing planned sex as an adaptive and valuable component of intimacy. Information about enhancing planned sex beliefs may be particularly beneficial for individuals whose life circumstances constrain sexual spontaneity, as well as for practitioners and couples seeking evidence-based tools to address sexual concerns.

References

Aiken, L. S., West, S. G., & Reno, R. R. (1991). *Multiple regression: Testing and interpreting interactions*. Sage.

Andersen, J. P., & Zou, C. (2015). Exclusion of sexual minority couples from research. *Health Science Journal*, *9*(6), 1.

Baker, C. D., & De Silva, P. D. (1988). The relationship between male sexual dysfunction and belief in Zilbergeld's myths: An empirical investigation. *Journal of Sexual Marital Therapy*, *3*, 229–238. https://doi.org/10.1080/02674658808407714

Bakay, E. B., Orhon, A. E., Bakay, K., Ölçenoglu, F., Güven, D., Yalçin, I., & Uyar, M. (2021). The effect of myths about sexuality and the level of knowledge about sexuality on the marital satisfaction in married couples. *Journal of Experimental and Clinical Medicine*, *38*, 334–340. https://doi.org/10.52142/omujecm.38.3.26

Barwick, M. A. (2008, 2013, 2019). *Knowledge translation planning template*. Retrieved February 4, 2026, from https://www.sickkids.ca/learning/abouttheinstitute/programs/knowledge-translation/resources/li-ktplanning-template-form.html

Basson, R. (2000). The female sexual response: A different model. *Journal of Sex & Marital Therapy*, *26*(1), 51–65. https://doi.org/10.1080/009262300278641

Basson, R., Leiblum, S., Brotto, L., Derogatis, L., Fourcroy, J., Fugl-Meyer, K., Graziottin, A., Heiman, J. R., Laan, E., Meston, C., Schover, L., van Lankveld, J., & Schultz, W. W. (2003). Definitions of women's sexual dysfunction reconsidered: Advocating expansion and revision. *Journal of Psychosomatic Obstetrics & Gynecology*, *24*(4), 221–229. https://doi.org/10.3109/01674820309074686

Baumgartner, M. (2025). *200+ Must-Know Social Media Video Statistics for Smart Marketers*. https://www.zebracat.ai/post/social-media-video-statistics. Accessed 18 Feb 2026.

Beavers, A. S., Lounsbury, J. W., Richards, J. K., Huck, S. W., Skolits, G. J., & Esquivel, S. L. (2013). Practical considerations for using exploratory factor analysis in educational research. *Practical Assessment, Research, & Evaluation*, *18*(18), 1–13. https://doi.org/10.7275/qv2q-rk76

Beck, J. G., & Barlow, D. H. (1986). The effects of anxiety and attentional focus on sexual responding–II: Cognitive and affective patterns in erectile dysfunction. *Behaviour Research and Therapy*, *24*(1), 19–26. https://doi.org/10.1016/0005-7967(86)90145-2

Beischel, W. J., Schudson, Z. C., & van Anders, S. M. (2021). Visualizing gender/sex diversity via sexual configurations theory. *Psychology of Sexual Orientation and Gender Diversity*, *8*(1), 1. https://doi.org/10.1037/sgd0000449

Bibby, E. S., & Davila, J. (2025). Sexual communication and satisfaction in young adults' monogamous and consensually nonmonogamous relationships. *Journal of Family Psychology*, *39*(5), 603–613. https://doi.org/10.1037/fam0001356

Bohns, V. K., Scholer, A. A., & Rehman, U. (2015). Implicit theories of attraction. *Social Cognition*, *33*(4), 284–307. https://doi.org/10.1521/soco.2015.33.4.284

Bőthe, B., Toth-Kiraly, I., Demetrovics, Z., & Orosz, G. (2017). The pervasive role of sex mindset: Beliefs about the malleability of sexual life is linked to higher levels of relationship satisfaction and sexual satisfaction and lower levels of problematic pornography use. *Personality and Individual Differences*, *117*, 15–22. https://doi.org/10.1016/j.paid.2017.05.030

Bouchard, K. N., Stewart, J. G., Boyer, S. C., Holden, R. R., & Pukall, C. F. (2019). Sexuality and personality correlates of willingness to participate in sex research. *The Canadian Journal of Human Sexuality*, *28*(1), 26–37. https://doi.org/10.3138/cjhs.2018-0028

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Brotto, L. A., Nelson, M., Barry, L., & Maher, C. (2021). #It'sNotInYourHead: A social media campaign to disseminate information on provoked vestibulodynia. *Archives of Sexual Behavior*, *50*, 57–68. https://doi.org/10.1007/s10508-020-01731-w

Brown, J. D. (2002). Mass media influences on sexuality. *The Journal of Sex Research*, *39*(1), 42–45. https://doi.org/10.1080/00224490209552118

Brown, J. D., Steele, J. R., & Walsh-Childers, K. (2001). *Sexual teens, sexual media: Investigating media's influence on adolescent sexuality*. Routledge. https://doi.org/10.4324/9781410604170

Browne, M.W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K.A. Bollen & J.S. Long (Eds.), *Testing structural equation models* (pp. 136-162). Sage.

Buffer. (2026). *Engagement rate*. https://buffer.com/social-media-terms/engagement-rate. Accessed 16 Feb 2026.

Burnette, J. L., & Franiuk, R. (2010). Individual differences in implicit theories of relationships and partner fit: Predicting forgiveness in developing relationships. *Personality and Individual Differences*, *48*(2), 144–148. https://doi.org/10.1016/j.paid.2009.09.011

Byers, E. S. (2005). Relationship satisfaction and sexual satisfaction: A longitudinal study of individuals in long-term relationships. *The Journal of Sex Research*, *42*(2), 113–118. https://doi.org/10.1080/00224490509552264

Campbell-Yeo, M., Dol, J., Disher, T., Benoit, B., Chambers, C. T., Sheffield, K., Boates, T., Harrison, D., Hewitt, B., Jangaard, K., Stinson, J., Taddio, A., Parker, J. A., & Caddell, K. (2017). The power of a parent's touch: Evaluation of reach and impact of a targeted evidence-based YouTube video. *Journal of Perinatal and Neonatal Nursing*, *31*, 341–349. https://doi.org/10.1097/jpn.0000000000000263

Carpenter, J. S., Reed, S. D., Guthrie, K. A., Larson, J. C., Newton, K. M., Lau, R. J., Learman, L. A., & Shifren, J. L. (2015). Using an Fsds-R item to screen for sexually related distress: A MsFLASH analysis. *Sexual Medicine*, *3*(1), 7–13. https://doi.org/10.1002/sm2.53

Carswell, K. L., & Finkel, E. J. (2018). Can you get the magic back? The moderating effect of passion decay beliefs on relationship commitment. *Journal of Personality and Social Psychology*, *115*(6), 1002–1033. https://doi.org/10.1037/pspi0000147

Cattell, R. B. (1966). The scree test for the number of factors. *Multivariate Behavioral Research*, *1*(2), 245–276. https://doi.org/10.1207/s15327906mbr0102_10

Chambers, C. T. (2018). From evidence to influence: Dissemination and implementation of scientific knowledge for improved pain research and management. *Pain*, *159*, S56–S64. https://doi.org/10.1097/j.pain.0000000000001327

Chan, L., Mackintosh, J., & Dobbins, M. (2017). How the "Understanding Research Evidence" web-based video series from the National Collaborating Centre for Methods and Tools contributes to public health capacity to practice evidence-informed decision making: Mixed-methods evaluation. *Journal of Medical Internet Research*, *19*(9), e286. https://doi.org/10.2196/jmir.6958

Dawson, S. J., Huberman, J. S., Bouchard, K. N., McInnis, M. K., Pukall, C. F., & Chivers, M. L. (2019). Effects of individual difference variables, gender, and exclusivity of sexual

attraction on volunteer bias in sexuality research. *Archives of Sexual Behavior*, *48*(8), 2403–2417. https://doi.org/10.1007/s10508-019-1451-4

Dawson, S. J., Jang, G. E., & Goldberg, S. Y. (2022). A brief psychoeducational sexual mindfulness intervention to bolster sexual well-being. *Mindfulness*, *13*(11), 2827–2844. https://doi.org/10.1007/s12671-022-01999-0

Debrot, A., Meuwly, N., Muise, A., Impett, E. A., & Schoebi, D. (2017). More than just sex: Affection mediates the association between sexual activity and well-being. *Personality & Social Psychology Bulletin*, *43*(3), 287–299. https://doi.org/10.1177/0146167216684124

DeRogatis, L., Clayton, A., Lewis-D'Agostino, D., Wunderlich, G., & Fu, Y. (2008). Validation of the Female Sexual Distress Scale-Revised for assessing distress in women with hypoactive sexual desire disorder. *The Journal of Sexual Medicine*, *5*(2), 357–364. https://doi.org/10.1111/j.1743-6109.2007.00672.x

Dessie, A., & Lewiss, R. E. (2021). Standardizing terminology in academic medical journals: Understanding sex and gender. *European Journal of Emergency Medicine*, *28*(5), 331–332. https://doi.org/10.1097/mej.0000000000000869

Diamond, L. M., & Huebner, D. M. (2012). Is good sex good for you? Rethinking sexuality and health. *Social and Personality Psychology Compass*, *6*(1), 54–69. https://doi.org/10.1111/j.1751-9004.2011.00408.x

Diekman, A. B., Gardner, W. L., & McDonald, M. (2000). Love means never having to be careful: The relationship between reading romance novels and safe sex behavior. *Psychology of Women Quarterly*, *24*(2), 179–188. https://doi.org/10.1111/j.1471-6402.2000.tb00199.x

Dion, L., & Boislard, M. A. (2020). “Of course we had sex!”: A qualitative exploration of first sex among women who have sex with women. *The Canadian Journal of Human Sexuality*, *29*(2), 249-261. https://doi.org/10.3138/cjhs.2020-0019

Dogan, I., & Dogan, N. (2015). Usage of the intraclass correlation coefficient as a measure of dependence in dyadic data: Review. *Turkiye Klinikleri Journal of Biostatistics*, *7*(2), 119–125. https://doi.org/10.5336/biostatic.2015-46361

Döring, N. (2024). Social media and sex education. In M. L. Rasmussen & L. Allen (Eds.), *The Palgrave Encyclopedia of Sexuality Education* (pp. 826–834). Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-56681-3_131

Doss, B. D., Rhoades, G. K., Stanley, S. M., & Markman, H. J. (2009). The effect of the transition to parenthood on relationship quality: An 8-year prospective study. *Journal of Personality and Social Psychology*, *96*(3), 601–619. https://doi.org/10.1037/a0013969

Downe-Wamboldt, B. (1992). Content analysis: Method, applications, and issues. *Health Care for Women International*, *13*(3), 313–321. https://doi.org/10.1080/07399339209516006

Dune, T. M., & Shuttleworth, R. P. (2009). "It's just supposed to happen": The myth of sexual spontaneity and the sexually marginalized. *Sexuality and Disability*, *27*(2), 97–108. https://doi.org/10.1007/s11195-009-9119-y

Dweck, C. S. (1996). Implicit theories as organizers of goals and behavior. In P. M. Gollwitzer & J. A. Bargh (Eds.), *The psychology of action: Linking cognition and motivation to behavior* (pp. 69–90). The Guilford Press.

Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, *41*(4), 1149–1160. https://doi.org/10.3758/BRM.41.4.1149

Ferreira, L. C., Fraenkel, P., Narciso, I., & Novo, R. (2015). Is committed desire intentional? A qualitative exploration of sexual desire and differentiation of self in couples. *Family Process*, *54*(2), 308–326. https://doi.org/10.1111/famp.12108

Finch, W. H. (2020). Using fit statistic differences to determine the optimal number of factors to retain in an exploratory factor analysis. *Educational and Psychological Measurement*, *80*(2), 217–241. https://doi.org/10.1177/0013164419865769

Finkel, E. J., Hui, C. M., Carswell, K. L., & Larson, G. M. (2014). The suffocation of marriage: Climbing Mount Maslow without enough oxygen. *Psychological Inquiry*, *25*(1), 1–41. https://doi.org/10.1080/1047840X.2014.863723

Fisher, W. A., Donahue, K. L., Long, J. S., Heiman, J. R., Rosen, R. C., & Sand, M. S. (2015). Individual and partner correlates of sexual satisfaction and relationship happiness in midlife couples: Dyadic analysis of the international survey of relationships. *Archives of Sexual Behavior*, *44*(6), 1609–1620. https://doi.org/10.1007/s10508-014-0426-8

Fletcher, G. J. O., Simpson, J. A., & Thomas, G. (2000). The measurement of perceived relationship quality components: A confirmatory factor analytic approach. *Personality & Social Psychology Bulletin*, *26*(3), 340–354. https://doi.org/10.1177/0146167200265007

Fraenkel, P. (2011). *Sync your relationship, save your marriage: Four steps to getting back on track*. Palgrave-Macmillan.

Franiuk, R., Cohen, D., & Pomerantz, E. M. (2002). Implicit theories of relationships: Implications for relationship satisfaction and longevity. *Personal Relationships*, *9*(4), 345–367. https://doi.org/10.1111/1475-6811.09401

Frederick, D. A., Lever, J., Gillespie, B. J., & Garcia, J. R. (2016). What keeps passion alive? Sexual satisfaction is associated with sexual communication, mood setting, sexual variety,

oral sex, orgasm, and sex frequency in a national U.S. study. *The Journal of Sex Research*, *54*(2), 186–201. https://doi.org/10.1080/00224499.2015.1137854

Gabarron, E., & Wynn, R. (2016). Use of social media for sexual health promotion: A scoping review. *Global Health Action*, *9*(1), 32193. https://doi.org/10.3402/gha.v9.32193

Gottfried, J., & Park, E. (2025). *Americans' Social Media Use 2025*. Pew Research Center. https://www.pewresearch.org/internet/2025/11/20/americans-social-media-use-2025/. Accessed 4 Feb 2026.

Graham, I. D., Logan, J., Harrison, M. B., Straus, S. E., Tetroe, J., Caswell, W., & Robinson, N. (2006). Lost in knowledge translation: Time for a map? *Journal of Continuing Education in the Health Professions*, *26*(1), 13–24. https://doi.org/10.1002/chp.47

Grbich, C. (2013). *Qualitative data analysis*. SAGE Publications Ltd. https://doi.org/10.4135/9781529799606

Hamm, M. P., Chisholm, A., Shulhan, J., Milne, A., Scott, S. D., Given, L. M., & Hartling, L. (2013). Social media use among patients and caregivers: A scoping review. *British Medical Journal Open*, *3*, 1–10. https://doi.org/10.1136/bmjopen-2013-002819

Hansson, M., & Ahlborg, T. (2012). Quality of the intimate and sexual relationship in first-time parents: A longitudinal study. *Sexual & Reproductive Healthcare*, *3*(1), 21–29. https://doi.org/10.1016/j.srhc.2011.10.002

Hartling, L., Elliott, S. A., Buckreus, K., Leung, J., & Scott, S. D. (2021). Development and evaluation of a parent advisory group to inform a research program for knowledge translation in child health. *Research Involvement and Engagement*, *7*(1), 38. https://doi.org/10.1186/s40900-021-00280-3

Haugen, E. N., Erin N. Haugen, Schmutzer, P. A., Peter A. Schmutzer, Wenzel, A., & Amy Wenzel. (2004). Sexuality and the partner relationship during pregnancy and the postpartum period. In J. H. Harvey, A. Wenzel, & S. Sprecher (Eds.), *The Handbook of Sexuality in Close Relationships* (1st ed., pp. 411–435). Psychology Press. https://doi.org/10.4324/9781410610249-22

Hayes, R. D., Dennerstein, L., Bennett, C. M., & Fairley, C. K. (2008). What is the "true" prevalence of female sexual dysfunctions and does the way we assess these conditions have an impact? *The Journal of Sexual Medicine*, *5*(4), 777–787. https://doi.org/10.1111/j.1743-6109.2007.00768.x

Hemsley, J., & Mason, R. M. (2013). Knowledge and knowledge management in the social media age. *Journal of Organizational Computing and Electronic Commerce*, *23*, 138–167. https://doi.org/10.1080/10919392.2013.748614

Herbenick, D., Mullinax, M., & Mark, K. (2014). Sexual desire discrepancy as a feature, not a bug, of long-term relationships: Women's self-reported strategies for modulating sexual desire. *The Journal of Sexual Medicine*, *11*(9), 2196–2206. https://doi.org/10.1111/jsm.12625

Holt-Lunstad, J., Smith, T. B., & Layton, J. B. (2010). Social relationships and mortality risk: A meta-analytic review. *PLoS Medicine*, *7*(7), e1000316. https://doi.org/10.1371/journal.pmed.1000316

Houts, P. S., Doak, C. C., Doak, L. G., & Loscalzo, M. J. (2006). The role of pictures in improving health communication: A review of research on attention, comprehension, recall, and adherence. *Patient Education and Counseling*, *61*(2), 173–190. https://doi.org/10.1016/j.pec.2005.05.004

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, *6*(1), 1–55. https://doi.org/10.1080/10705519909540118

Humble, N., & Mozelius, P. (2022). Content analysis or thematic analysis: Similarities, differences and applications in qualitative research. *Proceedings of the 21st European Conference on Research Methodology for Business and Management Studies* (Vol. 21, pp. 6–81). Academic Conferences International Limited. https://doi.org/10.34190/ejbrm.20.3.2920

Impett, E. A., Muise, A., & Peragine, D. (2014). Sexuality in the context of relationships. In J. G. Pfaus, D. L. Tolman, W. H. George, J. A. Bauermeister, L. M. Ward, & L. M. Diamond (Eds.), *APA handbook of sexuality and psychology, Vol. 1: Person-based approaches* (pp. 269–315). American Psychological Association. https://doi.org/10.1037/14193-010

Jackowich, R. A., Young, M., Poirier, É., & Pukall, C. F. (2022). #PGADFacts: Results from a 12-month knowledge translation campaign on persistent genital arousal disorder/genito-pelvic dysesthesia (PGAD/GPD). *The Canadian Journal of Human Sexuality*, *31*(2), 242–252. https://doi.org/10.3138/cjhs.2022-0011

Johns, M. M., Pingel, E., Eisenberg, A., Santana, M. L., & Bauermeister, J. (2012). Butch tops and femme bottoms? Sexual positioning, sexual decision making, and gender roles among young gay men. *American Journal of Men's Health*, *6*(6), 505–518. https://doi.org/10.1177/1557988312455214

Józefacka, N. M., Szpakiewicz, E., Lech, D., Guzowski, K., & Kania, G. (2023). What matters in a relationship–Age, sexual satisfaction, relationship length, and interpersonal closeness as predictors of relationship satisfaction in young adults. *International Journal of*

Environmental Research and Public Health, *20*(5), 4103. https://doi.org/10.3390/ijerph20054103

Jull, J., Giles, A., & Graham, I. D. (2017). Community-based participatory research and integrated knowledge translation: Advancing the co-creation of knowledge. *Implementation Science*, *12*(1), Article 150. https://doi.org/10.1186/s13012-017-0696-3

Kahneman, D., Krueger, A. B., Schkade, D., Schwarz, N., & Stone, A. (2004). Toward national well-being accounts. *American Economic Review*, *94*(2), 429–434. https://doi.org/10.1257/0002828041301713

Kashdan, T. B., Goodman, F. R., Stiksma, M., Milius, C. R., & McKnight, P. E. (2018). Sexuality leads to boosts in mood and meaning in life with no evidence for the reverse direction: A daily diary investigation. *Emotion*, *18*(4), 563. https://doi.org/10.1037/emo0000324

Kelley, K. (2019). *MBESS: The MBESS R package* (R package version 4.6.0).

Khan, M. (2019). *How to choose a KT Theory, Model, or Framework: An Overview of Existing Recommendations*. https://medium.com/knowledgenudge/how-to-choose-a-kt-theory-model-or-framework-3e79aa534694. Accessed 25 Oct 2025.

Kinsler, J. J., Glik, D., de Castro Buffington, S., Malan, H., Nadjat-Haiem, C., Wainwright, N., & Papp-Green, M. (2019). A content analysis of how sexual behavior and reproductive health are being portrayed on primetime television shows being watched by teens and young adults. *Health Communication*, *34*(6), 644–651. https://doi.org/10.1080/10410236.2018.1431020

Kleinplatz, P. J. (2010). Lessons from great lovers. In S. Levine, S. Althof, & C. Risen (Eds.), *Handbook of adult sexuality for mental health professionals* (2nd ed., pp. 57–72). Brunner-Routledge.

Kleinplatz, P. J., & Ménard, A. D. (2020). *Magnificent sex: Lessons from extraordinary lovers*. Routledge. https://doi.org/10.4324/9780429059681

Knee, C. R. (1998). Implicit theories of relationships: Assessment and prediction of romantic relationship initiation, coping, and longevity. *Journal of Personality and Social Psychology*, *74*(2), 360. https://doi.org/10.1037/0022-3514.74.2.360

Knee, C. R., & Canevello, A. (2006). Implicit theories of relationships and coping in romantic relationships. In K. D. Vohs & E. J. Finkel (Eds.), *Self and relationships: Connecting intrapersonal and interpersonal processes* (pp. 160–176). Guilford Press.

Knee, C. R., Patrick, H., & Lonsbary, C. (2003). Implicit theories of relationships: Orientations toward evaluation and cultivation. *Personality & Social Psychology Review*, *7*(1), 41–55. https://doi.org/10.1207/s15327957pspr0701_3

Koo, T. K., & Li, M. Y. (2016). A guideline of selecting and reporting intraclass correlation coefficients for reliability research. *Journal of Chiropractic Medicine*, *15*(2), 155–163. https://doi.org/10.1016/j.jcm.2016.02.012

Kovacevic, K., Smith, O., Fitzpatrick, D., Rosen, N. O., Huber, J., & Muise, A. (2025). Can shifting beliefs about planned sex lead to engaging in more frequent sex and higher desire and satisfaction? An experimental study of parents with young children. *The Journal of Sex Research*, 1–14. https://doi.org/10.1080/00224499.2025.2585377

Kovacevic, K., Tu, E., Rosen, N. O., Raposo, S., & Muise, A. (2023). Is spontaneous sex ideal? Beliefs and perceptions of spontaneous and planned sex and sexual satisfaction in romantic

relationships. *The Journal of Sex Research*, *61*(2), 246–260. https://doi.org/10.1080/00224499.2022.2163611

Kurdek, L. A. (1999). The nature and predictors of the trajectory of change in marital quality for husbands and wives over the first 10 years of marriage. *Developmental Psychology*, *35*(5), 1283. https://doi.org/10.1037/0012-1649.35.5.1283

Lachance-Grzela, M., & Bouchard, G. (2010). Why do women do the lion's share of housework? A decade of research. *Sex Roles*, *63*(11), 767–780. https://doi.org/10.1007/s11199-010-9797-z

Lauri, S., & Kyngäs, H. (2005). *Developing nursing theories*. Werner Söderström, Dark Oy.

Lavery, B. M., Nelson, M., Firican, D., Prestley, N., Kumru, R., Jabs, F., O'Loughlin, J., & Brotto, L. A. (2024). #DebunkingDesire: Sexual Science, Social Media, and Strategy in the Pursuit of Knowledge Dissemination. *Journal of Sex and Marital Therapy*, *50*(1), 1–17. https://doi.org/10.1080/0092623X.2023.2243923

Lawrance, K. A., & Byers, E. S. (1998). Interpersonal exchange model of sexual satisfaction questionnaire. In C. M. Davis, W. L. Yarber, R. Bauserman, G. Schreer, & S. L. Davis (Eds.), *Handbook of sexuality related measures: A compendium* (2nd ed., pp. 514–519). Sage.

Lawrence, E., Rothman, A. D., Cobb, R. J., Rothman, M. T., & Bradbury, T. N. (2008). Marital satisfaction across the transition to parenthood. *Journal of Family Psychology*, *22*(1), 41–50. https://doi.org/10.1037/0893-3200.22.1.41

Lehmiller, J. J., Garcia, J. R., Gesselman, A. N., & Mark, K. P. (2021). Less sex, but more sexual diversity: Changes in sexual behavior during the COVID-19 coronavirus pandemic. *Leisure Sciences*, *43*(1–2), 295–304. https://doi.org/10.1080/01490400.2020.1774016

L'Engle, K. L., Brown, J. D., & Kenneavy, K. (2006). The mass media are an important context for adolescents' sexual behavior. *Journal of Adolescent Health*, *38*(3), 186–192. https://doi.org/10.1016/j.jadohealth.2005.03.020

Lewis, C. C., Fischer, S., Weiner, B. J., Stanick, C., Kim, M., & Martinez, R. G. (2015). Outcomes for implementation science: An enhanced systematic review of instruments using evidence based rating criteria. *Implementation Science*, *15*, 15. https://doi.org/10.1186/s13012-015-0342-x

Lim, W. M. (2016). Social media in medical and health care: Opportunities and challenges. *Marketing Intelligence and Planning*, *34*(7), 964–976. https://doi.org/10.1108/MIP-06-2015-0120

Lohan, M., Aventin, A., Oliffe, J. L., Han, C. S., & Bottorff, J. L. (2015). Knowledge translation in men's health research: Development and delivery of content for use online. *Journal of Medical and Internet Research*, *17*, e31. https://doi.org/10.2196/jmir.3881

MacCallum, R. C., Browne, M. W., & Sugawara, H. M. (1996). Power analysis and determination of sample size for covariance structure modeling. *Psychological Methods*, *1*(2), 130–149. https://doi.org/10.1037/1082-989x.1.2.130

Malone, J., Syvertsen, J. L., Johnson, B. E., Mimiaga, M. J., Mayer, K. H., & Bazzi, A. R. (2018). Negotiating sexual safety in the era of biomedical HIV prevention: Relationship dynamics among male couples using pre-exposure prophylaxis. *Culture, Health & Sexuality*, *20*(6), 658–672. https://doi.org/10.1080/13691058.2017.1368711

Maloney, S., Tunnecliff, J., Morgan, P., Gaida, J. E., Clearihan, L., Sadasivan, S., Davies, D., Ganesh, S., Mohanty, P., Weiner, J., Reynolds, J., & Ilic, D. (2015). Translating evidence

into practice via social media: A mixed-methods study. *Journal of Medical Internet Research*, *17*, e242. https://doi.org/10.2196/jmir.4763

Mark, K. P., Vowels, L. M., & Leistner, C. E. (2020). "Not tonight, honey:" Reasons couples do not engage in sex and their impact on satisfaction and desire. *Journal of Sexual Medicine*, *17*(3), 431–441. https://doi.org/10.1016/j.jsxm.2019.12.011

Masters, N. T., Casey, E., Wells, E. A., & Morrison, D. M. (2013). Sexual Scripts among Young Heterosexually Active Men and Women: Continuity and Change. *The Journal of Sex Research*, *50*(5), 409–420. https://doi.org/10.1080/00224499.2012.661102

Maxwell, J. A., & Meltzer, A. L. (2020). Kiss and makeup? Examining the co-occurrence of conflict and sex. *Archives of Sexual Behavior*, 1-10. https://doi.org/10.1007/s10508-020-01779-8

Maxwell, J. A., Muise, A., MacDonald, G., Day, L. C., Rosen, N. O., & Impett, E. A. (2017). How implicit theories of sexuality shape sexual and relationship well-being. *Journal of Personality and Social Psychology*, *112*(2), 238–279. https://doi.org/10.1037/pspi0000078

McCarthy, B., & McCarthy, E. (2013). *Rekindling desire*. Routledge.

McCarthy, B., & Wald, L. M. (2015). Strategies and techniques to directly address sexual desire problems. *Journal of Family Psychotherapy*, *26*(4), 286–298. https://doi.org/10.1080/08975353.2015.1097282

McCarthy, B. W., & Metz, M. E. (2008). The "Good-Enough Sex" model: A case illustration. *Sexual and Relationship Therapy*, *23*(3), 227–234. https://doi.org/10.1080/14681990802165919

McCarthy, B. W., & Wald, L. M. (2015). Enhancing sexual satisfaction in couple therapy: The stop–start–continue model. *Journal of Sex & Marital Therapy*, *41*(1), 1–9. https://doi.org/10.1080/08975353.2015.1097282

McCormack, M. (2014). Innovative sampling and participant recruitment in sexuality research. *Journal of Social and Personal Relationships*, *31*(4), 475–481. https://doi.org/10.1177/0265407514522889

McGorray, E. L., Emery, L. F., Garr-Schultz, A., & Finkel, E. J. (2023). "Mostly White, heterosexual couples": Examining demographic diversity and reporting practices in relationship science research samples. *Journal of Personality and Social Psychology*, *125*(2), 316–344. https://doi.org/10.1037/pspi0000417

McHugh, M. L. (2012). Interrater reliability: The Kappa statistic. *Biochemia Medica*, *22*(3), 276–282. https://doi.org/10.11613/bm.2012.031

McNeish, D., An, J., & Hancock, G. R. (2018). The thorny relation between measurement quality and fit index cutoffs in latent variable models. *Journal of Personality Assessment*, *100*(1), 43–52. https://doi.org/10.1080/00223891.2017.1281286

McNulty, J. K., Wenner, C. A., & Fisher, T. D. (2016). Longitudinal associations among relationship satisfaction, sexual satisfaction, and frequency of sex in early marriage. *Archives of Sexual Behavior*, *45*(1), 85–97. https://doi.org/10.1007/s10508-014-0444-6

McPhillips, K., Braun, V., & Gavey, N. (2001). Defining (hetero)sex: How imperative is the "coital imperative"? *Women's Studies International Forum*, *24*(2), 229–240. https://doi.org/10.1016/S0277-5395(01)00160-1

Meltzer, A. L., Makhanova, A., Hicks, L. L., French, J. E., McNulty, J. K., & Bradbury, T. N. (2017). Quantifying the sexual afterglow: The lingering benefits of sex and their implications

for pair-bonded relationships. *Psychological Science*, *28*(5), 587-598. https://doi.org/10.1177/0956797617691361

Meppelink, C. S., Van Weert, J. C. M., Haven, C. J., & Smit, E. G. (2015). The effectiveness of health animations in audiences with different health literacy levels: An experimental study. *Journal of Medical Internet Research*, *17*(1), e3979. https://doi.org/10.2196/jmir.3979

Merwin, K. E., O'Sullivan, L. F., & Rosen, N. O. (2017). We need to talk: Disclosure of sexual problems is associated with depression, sexual functioning, and relationship satisfaction in women. *Journal of Sex & Marital Therapy*, *43*(8), 786–800. https://doi.org/10.1080/0092623x.2017.1283378

Mintz, L. B., Sanchez, J., & Heatherly, R. P. (2017). Treating Lack of Sexual Passion in Relationships. In Z. D. Peterson (Ed.), *The Wiley Handbook of Sex Therapy* (pp. 143–161). John Wiley & Sons, Ltd. https://doi.org/10.1002/9781118510384.ch10

Muehlenhard, C. L., Humphreys, T. P., Jozkowski, K. N., & Peterson, Z. D. (2016). The complexities of sexual consent among college students: A conceptual and empirical review. *The Journal of Sex Research*, *53*(4–5), 457–487. https://doi.org/10.1080/00224499.2016.1146651

Muise, A., Harasymchuk, C., Day, L. C., Bacev-Giles, C., Gere, J., & Impett, E. A. (2019). Broadening your horizons: Self-expanding activities promote desire and satisfaction in established romantic relationships. *Journal of Personality and Social Psychology*, *116*(2), 237. https://doi.org/10.1037/pspi0000148

Muise, A., Schimmack, U., & Impett, E. A. (2016). Sexual frequency predicts greater well-being, but more is not always better. *Social Psychological and Personality Science*, *7*(4), 295–302. https://doi.org/10.1177/1948550615616462

Murray, S. H., Milhausen, R. R., Graham, C. A., & Kuczynski, L. (2017). A qualitative exploration of factors that affect sexual desire among men aged 30 to 65 in long-term relationships. *The Journal of Sex Research*, *54*(3), 319–330. https://doi.org/10.1080/00224499.2016.1168352

Nelson, G., Kettaneh, H., Knox, B., Purkey, E., Chan-Nguyen, S., Jenkins, M., & Bayoumi, I. (2024). Engaging people with lived experiences on community advisory boards in community-based participatory research: A scoping review protocol. *BMJ Open*, *14*(3), e078479. https://doi.org/10.1136/bmjopen-2023-078479

Nilsen, P. (2020). Making sense of implementation theories, models, and frameworks. In *Implementation Science 3.0* (pp. 53–79). Springer International Publishing. https://doi.org/10.1007/978-3-030-03874-8_3

Nobre, P. J., & Pinto-Gouveia, J. (2006). Dysfunctional sexual beliefs as vulnerability factors for sexual dysfunction. *The Journal of Sex Research*, *43*, 68–75. https://doi.org/10.1080/00224490609552300

Oakley, M., & Spallek, H. (2012). Social media in dental education: A call for research and action. *Journal of Dental Education*, *76*, 279–287. https://doi.org/10.1002/j.0022-0337.2012.76.3.tb05256.x

O'Connor, C., & Joffe, H. (2020). Intercoder reliability in qualitative research: Debates and practical guidelines. *International Journal of Qualitative Methods*, *19*, 1609406919899220. https://doi.org/10.1177/1609406919899220

O'Kane, K. M., Goldberg, S. Y., Bouchard, K. N., & Dawson, S. J. (2024). Busting MisconSEXions: Evaluation of a social media knowledge translation initiative addressing

myths about sex. *Frontiers in Psychology*, *15*, 1347493. https://doi.org/10.3389/fpsyg.2024.1347493

Park, H. G., Leonhardt, N. D., Johnson, M. D., Muise, A., Busby, D. M., Hanna-Walker, V. R., Yorgason, J. B., Holmes, E. K., & Impett, E. A. (2023). Sexual satisfaction predicts future changes in relationship satisfaction and sexual frequency: New insights from within-person associations over time. *Personality Science*, *4*(1), e11869. https://doi.org/10.5964/ps.11869

Pazmany, E., Bergeron, S., Verhaeghe, J., Van Oudenhove, L., & Enzlin, P. (2015). Dyadic sexual communication in pre-menopausal women with self-reported dyspareunia and their partners: Associations with sexual function, sexual distress and dyadic adjustment. *The Journal of Sexual Medicine*, *12*(2), 516–528. https://doi.org/10.1111/jsm.12787

Peixoto, M. M., & Nobre, P. (2014). Dysfunctional sexual beliefs: A comparative study of heterosexual men and women, gay men, and lesbian women with and without sexual problems. *Journal of Sexual Medicine*, *11*, 2690–2700. https://doi.org/10.1111/jsm.12666

Perel, E. (2007). *Mating in captivity: Unlocking erotic intelligence*. Harper.

Perrin, A. (2015). *Social networking usage: 2005–2015*. Pew Research Center. http://www.pewinternet.org/2015/10/08/social-networking-usage-2005-2015/. Accessed 4 Feb 2026.

Plaks, J. E., Levy, S. R., & Dweck, C. S. (2009). Lay theories of personality: Cornerstones of meaning in social cognition. *Social and Personality Psychology Compass*, *3*(6), 1069–1081. https://doi.org/10.1111/j.1751-9004.2009.00222.x

Preacher, K. J., Zhang, G., Kim, C., & Mels, G. (2013). Choosing the optimal number of factors in exploratory factor analysis: A model selection perspective. *Multivariate Behavioral Research*, *48*(1), 28–56. https://doi.org/10.1080/00273171.2012.710386

Proctor, E., Silmere, H., Raghavan, R., Hovmand, P., Aarons, G., Bunger, A., Griffey, R., & Hensley, M. (2011). Outcomes for implementation research: Conceptual distinctions, measurement challenges, and research agenda. *Administration and Policy in Mental Health and Mental Health Services Research*, *38*(2), 65–76. https://doi.org/10.1007/s10488-010-0319-7

Qin, H. Y., Hoan, E., Joel, S., & MacDonald, G. (2025). In what domains does entering a romantic relationship boost well-being? A longitudinal investigation. *Social Psychological and Personality Science*, 19485506251371351. https://doi.org/10.1177/19485506251371351

QSR International. (2024). *NVivo* (Version 12.7.0) [Computer software]. QSR International Pty Ltd. https://www.qsrinternational.com

R Core Team. (2020). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing. https://www.R-project.org/

R Core Team. (2022). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing. https://www.R-project.org/

Raposo, S., Rosen, N. O., Corsini-Munt, S., Maxwell, J. A., & Muise, A. (2021). Navigating women's low desire: Sexual growth and destiny beliefs and couples' well-being. *The Journal of Sex Research*, *58*(9), 1118–1129. https://doi.org/10.1080/00224499.2021.1884179

Regan, P. C. (2000). The role of sexual desire and sexual activity in dating relationships. *Social Behavior and Personality: An International Journal*, *28*(1), 51–59. https://doi.org/10.2224/sbp.2000.28.1.51

Reid, K., Hartling, L., Ali, S., Le, A., Norris, A., & Scott, S. D. (2017). Development and usability evaluation of an art and narrative-based knowledge translation tool for parents with

a child with pediatric chronic pain: Multi-method study. *Journal of Medical and Internet Research*, *19*, e412. https://doi.org/10.2196/jmir.8877

Revelle, W. (2022). *Procedures for psychological, psychometric, and personality research*. Northwestern University. https://CRAN.R-project.org/package=psych

Roels, R., & Janssen, E. (2020). Sexual and relationship satisfaction in young, heterosexual couples: The role of sexual frequency and sexual communication. *The Journal of Sexual Medicine*, *17*(9), 1643–1652. https://doi.org/10.1016/j.jsxm.2020.06.013

Roman, J. G., Flood, S. M., & Genadek, K. R. (2017). Parents' time with a partner in a cross-national context: A comparison of the United States, Spain, and France. *Demographic Research*, *36*, 111. https://doi.org/10.4054/demres.2017.36.4

Rosen, C., Brown, J., Heiman, S., Leiblum, C., Meston, R., Shabsigh, D., Ferguson, R., & D'Agostino, R. (2000). The Female Sexual Function Index (FSFI): A multidimensional self-report instrument for the assessment of female sexual function. *Journal of Sex & Marital Therapy*, *26*(2), 191–208. https://doi.org/10.1080/009262300278597

Rosen, N. O., Dawson, S. J., Leonhardt, N. D., Vannier, S. A., & Impett, E. A. (2021). Trajectories of sexual well-being among couples in the transition to parenthood. *Journal of Family Psychology*, *35*(4), 523. https://doi.org/10.1037/fam0000689

Rosen, N. O., Muise, M. D., Vannier, S. A., Chambers, C. T., Scott, H., & the #postbabyhankypanky Advisory Team. (2021). #Postbabyhankypanky: An empirically based knowledge sharing initiative about sex and the transition to parenthood. *Archives of Sexual Behavior*, *50*, 45–55. https://doi.org/10.1007/s10508-020-01734-7

Rosen, R. C., Riley, A., Wagner, G., Osterloh, I. H., Kirkpatrick, J., & Mishra, A. (1997). The International Index of Erectile Function (IIEF): A multidimensional scale for assessment of

erectile dysfunction. *Urology*, *49*(6), 822–830. https://doi.org/10.1016/s0090-4295(97)00238-0

Rossi, M. A., Impett, E. A., Dawson, S. J., Vannier, S., Kim, J., & Rosen, N. O. (2022). A longitudinal investigation of couples' sexual growth and destiny beliefs in the transition to parenthood. *Archives of Sexual Behavior*, *51*(3), 1559–1575. https://doi.org/10.1007/s10508-021-02267-3

Schmiedeberg, C., & Schröder, J. (2016). Does sexual satisfaction change with relationship duration? *Archives of Sexual Behavior*, *45*(1), 99–107. https://doi.org/10.1007/s10508-015-0587-0

Schröder, J., & Schmiedeberg, C. (2015). Effects of relationship duration, cohabitation, and marriage on the frequency of intercourse in couples: Findings from German panel data. *Social Science Research*, *52*, 72–82. https://doi.org/10.1016/j.ssresearch.2015.01.009

Schwenck, G., Dawson, S. J., Muise, A., & Rosen, N. O. (2020). A comparison of the sexual well-being of new parents to community couples. *The Journal of Sexual Medicine, 17*, 2156–2167. https://doi.org/10.1016/j.jsxm.2020.08.011

Séguin, L. J., & Blais, M. (2021). The development and validation of the orgasm beliefs inventory. *Archives of Sexual Behavior*, *50*(6), 2543-2561. https://doi.org/10.1007/s10508-021-01911-2

Séguin, L. J., Rodrigue, C., & Lavigne, J. (2018). Consuming ecstasy: Representations of male and female orgasm in mainstream pornography. *The Journal of Sex Research*, *55*(3), 348–356. https://doi.org/10.1080/00224499.2017.1332152

Shoikhedbrod, A., Rosen, N. O., Corsini-Munt, S., Harasymchuk, C., Impett, E. A., & Muise, A. (2023). Being responsive and self-determined when it comes to sex: How and why sexual

motivation is associated with satisfaction and desire in romantic relationships. *The Journal of Sex Research*, *60*(8), 1113–1125. https://doi.org/10.1080/00224499.2022.2130132

Simon, W., & Gagnon, J. H. (1984). Sexual scripts. *Society*, *22*, 53–60. https://doi.org/10.1007/BF02701260

Sims, K. E., & Meana, M. (2010). Why did passion wane? A qualitative study of married women's attributions for declines in sexual desire. *Journal of Sex & Marital Therapy*, *36*(4), 360–380. https://doi.org/10.1080/0092623X.2010.498727

Stephenson, R., Chavanduka, T. M. D., Sullivan, S., & Mitchell, J. W. (2022). Partner support and communication for pre-exposure prophylaxis (PrEP) use among male couples. *Archives of Sexual Behavior*, *51*(5), 2549–2562. https://doi.org/10.1007/s10508-021-02118-1

Strasburger, V. C. (2005). Adolescents, sex, and the media: Ooooo, baby, baby–A Q & A. *Adolescent Medicine Clinics*, *16*(2), 269–288. https://doi.org/10.1016/j.admecli.2005.02.009

Sutherland, S., & Rehman, U. S. (2018). Viewing sexual desire as stable versus fluid: The impact of implicit beliefs on women's coping with sexual desire problems. *Journal of Sex & Marital Therapy*, *44*(4), 410–420. https://doi.org/10.1080/0092623X.2017.1405306

Tan, P. L. (2021). Stress, fatigue, and sexual spontaneity among married couples in a high-stress society: Evidence from sex diary data from Singapore. *Archives of Sexual Behavior*. https://doi.org/10.1007/s10508-020-01848-y

Tolman, D. L., & Diamond, L. M. (2001). Desegregating sexuality research: Cultural and biological perspectives on gender and desire. *Annual Review of Sex Research*, *12*(1), 33–74. https://doi.org/10.1080/10532528.2001.10559793

Tunnecliff, J., Ilic, D., Morgan, P., Keating, J., Gaida, J. E., Clearihan, L., Sadasivan, S., Davies, D., Ganesh, S., Mohanty, P., Weiner, J., Reynolds, J., & Maloney, S. (2015). The

acceptability among health researchers and clinicians of social media to translate research evidence to clinical practice: Mixed-methods survey and interview study. *Journal of Medical Internet Research*, *17*(5), e119–e119. https://doi.org/10.2196/jmir.4347

Twenge, J. M., Campbell, W. K., & Foster, C. A. (2004). Parenthood and marital satisfaction: A meta-analytic review. *Journal of Marriage and Family*, *66*(3), 574–583. https://doi.org/10.1111/j.1741-3737.2003.00574.x

Uppot, A., Raposo, S., Rosen, N. O., Corsini-Munt, S., Balzarini, R., & Muise, A. (2023). Responsiveness in the face of sexual challenges: The role of sexual growth and destiny beliefs. *The Journal of Sex Research*, *61*(2), 228–245. https://doi.org/10.1080/00224499.2023.2175194

van Anders, S. M., Herbenick, D., Brotto, L. A., Harris, E. A., & Chadwick, S. B. (2022). The heteronormativity theory of low sexual desire in women partnered with men. *Archives of Sexual Behavior*, *51*(1), 391–415. https://doi.org/10.1007/s10508-021-02100-x

Vance, C. S. (Ed.). (1984). Pleasure and danger: Toward a politics of sexuality. In *Pleasure and danger: Exploring female sexuality* (pp. 1–27). Routledge & Kegan Paul.

Vannier, S. A., & O'Sullivan, L. F. (2010). Sex without desire: Characteristics of occasions of sexual compliance in young adults' committed relationships. *The Journal of Sex Research*, *47*(5), 429–439. https://doi.org/10.1080/00224490903132051

Wajcman, J. (2015). *Pressed for time: The acceleration of life in digital capitalism*. The University of Chicago Press.

Wang, J. Q. (2024). Investigating the effectiveness of short form media advertisements compared to long form media advertisements. *Advances in Economics, Management and Political Sciences*, *89*(1), 187–192. https://doi.org/10.54254/2754-1169/89/20231451

Ward, L. M. (2003). Understanding the role of entertainment media in the sexual socialization of American youth: A review of empirical research. *Developmental Review*, *23*(3), 347–388. https://doi.org/10.1016/s0273-2297(03)00013-3

Weiner, L., & Avery-Clark, C. (2017). *Sensate focus in sex therapy: The illustrated manual*. Routledge. https://doi.org/10.4324/9781315630038

Wiederman, M. W. (2005). The gendered nature of sexual scripts. *The Family Journal*, *13*(4), 496–502. https://doi.org/10.1177/1066480705278729

Willis, M., & Jozkowski, K. N. (2019). Sexual precedent's effect on sexual consent communication. *Archives of Sexual Behavior*, *48*(6), 1723–1734. https://doi.org/10.1007/s10508-018-1348-7

Willis, M., Murray, K. N., & Jozkowski, K. N. (2021). Sexual consent in committed relationships: A dyadic study. *Journal of Sex & Marital Therapy*, *47*(7), 669–686. https://doi.org/10.1080/0092623X.2021.1937417