

Who Engages in Duty Sex?—Infidelity Concerns and Mate Value Discrepancies

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F. Sid Dougan¹ , Kate B. Metcalfe¹  and Cindy M. Meston¹

Abstract

Sexual behavior is motivated by more than just pleasure or reproduction. “Duty Sex” refers to sexual activity motivated by obligation and a desire to maintain one’s romantic relationship. From an evolutionary perspective, such behavior can be understood as a mate retention tactic, functioning to preserve romantic relationships when they are threatened. We therefore tested whether perceived probability of partner infidelity, mate value discrepancy, and neuroticism predicted Duty Sex engagement in 252 participants. Duty Sex frequency did not differ by sex. In pooled analyses, higher perceived probability of partner infidelity, lower mate value relative to one’s partner, higher neuroticism, and being in a committed rather than casual relationship were associated with greater Duty Sex engagement, but relationship length was not. In sex-stratified analyses, perceived probability of partner infidelity and neuroticism were associated with greater Duty Sex in both women and men, whereas lower relative mate value was associated with greater Duty Sex in women only. However, tests comparing the strength of each association between women and men found no significant sex differences. Our findings are consistent with evolutionary models of mate retention, and provide insight into how cues of relationship threat may motivate sexual behavior.

Keywords

Duty Sex, sexual motivation, mate retention, relationship maintenance, perceived partner infidelity, mate value discrepancy, neuroticism

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Introduction

“I have found that I am generally less interested in sex than my partners are, so I sometimes make a conscious effort to initiate sex so that my partner feels wanted, loved, and secure.”—Anonymous woman, aged 23, quoted in Meston and Buss (2009)

“At times, in an attempt to avoid an argument or fulfill what I felt my role in the relationship was, I would have sex when I didn’t feel like it.”—Anonymous woman, aged 32, quoted in Meston and Buss (2009)

“I feel that I owe it to him to have sex with him. Even if I’m not particularly ‘in the mood’ at the time. He has done the same for me on numerous occasions. I feel that it’s part of a healthy, loving, monogamous relationship...I never feel anything but the satisfaction of knowing that I have given to him all that I can, as he does for me.”—Anonymous woman, aged 25, quoted in Meston and Buss (2009)

Humans are motivated to have sex for many reasons beyond reproduction and pleasure. “Duty Sex,” for example, refers to

sexual activity motivated by a sense of obligation, aimed at preserving a relationship, safeguarding a partner’s feelings, mitigating conflict, or preventing abandonment (Meston & Buss, 2007). Although Duty Sex has received relatively little empirical attention, existing research suggests that engaging in sex out of obligation is common within romantic relationships (Meston & Buss, 2007; Meston et al., 2009; Wyverkens et al., 2018). Indeed, a daily diary study found that 17% of sexual activity in committed romantic relationships was consensual but unwanted (Vannier & O’Sullivan, 2010).

Duty Sex has also been linked to sexual dissatisfaction in women (Metcalfe et al., 2024; Sanchez et al., 2011). Sexual satisfaction is consistently associated with overall relationship satisfaction (Henderson-King & Veroff, 1994; McNulty et al.,

¹Department of Psychology, University of Texas at Austin, Austin, TX, USA

Corresponding Author:

F. Sid Dougan, Department of Psychology, University of Texas at Austin, 108 E Dean Keeton Street, Austin, TX 78712, USA.

Email: fsdougan@utexas.edu



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2016; Meltzer et al., 2017; Santtila et al., 2007; Sprecher, 2002), which in turn correlates with better mental and physical health (Proulx et al., 2007; Robles et al., 2014). Identifying the factors associated with Duty Sex engagement is therefore key to reducing sexual conflict and improving sexual well-being.

Several studies have explored correlates of Duty Sex. Watson et al. (2017) found that women reporting sexual dysfunction endorsed more duty-based motivations and fewer pleasure-based physical motivations for sex than women without sexual dysfunction. Metcalfe et al. (2024) showed that women with histories of nonconsensual sexual experiences reported engaging in more Duty Sex, even after controlling for sexual function.

Much of the related research has focused on the broader concept of sexual compliance, defined as unwanted but consensual sex motivated by factors such as gaining sexual experience, feeling attractive, promoting intimacy (Impett & Peplau, 2003), or avoiding feelings of inadequacy as a partner or woman (Braksmajer, 2017). Studies on sexual compliance offer insight into Duty Sex, as compliance often includes feelings of obligation (Vannier & O'Sullivan, 2010). The two concepts, however, are not identical: sexual compliance is defined primarily by the unwantedness of otherwise consensual sex and can arise from a wide variety of motives, whereas Duty Sex is defined by the motivation for engaging in sex—specifically, a sense of duty or obligation (Metcalfe et al., 2024). In this sense, Duty Sex is narrower in motivational scope than sexual compliance and is particularly relevant to theories of mate retention.

Research using semistructured interviews has found that sexual compliance is common among women reporting diminished sexual desire (Moor et al., 2021), suggesting they might view having sex as a necessary component of maintaining their relationship despite low interest. Another study found that women's most common reasons for complying with vaginal intercourse were to please their partner, enhance intimacy, or prevent partner disinterest (Conroy et al., 2015). Both men and women report engaging in sexual compliance (Vannier & O'Sullivan, 2010), though some evidence suggests Duty Sex is more common among women (Wyverkens et al., 2018).

An Evolutionary Psychological Perspective on Duty Sex

Although prior studies have provided valuable insight, an evolutionary perspective offers additional explanatory and predictive power regarding factors associated with Duty Sex engagement. Ancestrally, relationship dissolution posed a recurrent adaptive problem due to its fitness costs, selecting for the evolution of mate retention tactics designed to mitigate such risks. These tactics can be broadly classified as benefit-provisioning (increasing partner satisfaction through behaviors such as giving gifts or displays of love) and cost-inflicting (reducing a partner's alternatives through derogation

or violence; Buss, 1988; Buss & Shackelford, 1997a; Miner et al., 2009). Duty Sex, motivated by a desire to safeguard and sustain one's romantic relationship, can thus be conceptualized as a benefit-provisioning mate retention tactic that leverages sexual access to maintain partner investment. In this framework, "benefit-provisioning" refers to the function of increasing partner satisfaction or commitment, not to any moral evaluation or assumption of benefit across all contexts.

From an evolutionary psychological perspective, people are predicted to be especially motivated to employ mate retention behaviors in response to cues indicating that their romantic relationship is at risk of dissolution (Buss, 1988, 2000; Buss & Shackelford, 1997a). Empirical research confirms this: individuals increase mate retention behaviors when infidelity risk is perceived to be high (Barbaro et al., 2019; Goetz et al., 2005; Starratt et al., 2007). Duty Sex might therefore be understood as one specific mate retention behavior predicted to increase under such conditions. We therefore consider two broad classes of factors that may be associated with Duty Sex engagement: relationship-related factors and individual-difference factors.

One relationship-related factor that may be associated with Duty Sex engagement is perceived partner-infidelity risk. Infidelity poses a potential threat to romantic relationships and can occur as a result of "mate poaching," in which an individual attempts to attract someone already in a committed relationship. In a study of 53 nations, Schmitt (2004) found that, at least once in their lifetime, 56.9% of men and 34.9% of women had attempted to poach a mate for short-term mating, and 57.1% of men and 43.6% of women had attempted to poach a mate for long-term mating. Furthermore, among those who had received poaching attempts, 63.2% of men and 45% of women had themselves been successfully poached for short-term mating, and 63.2% of men and 54.4% of women had been successfully poached for long-term mating, at least once in their lifetime (Schmitt, 2004). Accordingly, infidelity is also a leading contributor to relationship dissolution (Apostolou et al., 2019; Betzig, 1989; Scott et al., 2013). Higher perceived risk of partner infidelity should therefore be associated with increased mate retention behaviors, such as Duty Sex.

Another relationship-related factor that may be associated with Duty Sex engagement is mate value discrepancy. Individuals who perceive themselves as having lower mate value (i.e., one's overall desirability as a romantic or sexual partner) than their partner might view their relationship as more vulnerable to dissolution, since higher-value partners could pursue higher mate value alternatives (Buss & Duntley, 2011; Buss et al., 2017). In response, lower mate value individuals might engage in more mate retention behaviors to reduce the risk of partner loss (Buss & Duntley, 2011). Consistent with this reasoning, Sela et al. (2017) found that those who perceive themselves as having lower mate value than their partners report greater use of benefit-bestowing mate retention tactics. Recent research further suggests that such responses can take specifically sexual forms.

Frankowska et al. (2025) found that men who perceived themselves as lower in mate value than their female partners were more motivated to satisfy their partners sexually, which in turn predicted more frequent cunnilingus. Similarly, Frankowska et al. (2026) found that women lower in mate value relative to their male partners reported greater motivation to satisfy them sexually, which indirectly predicted more frequent sex initiation, fellatio, and orgasm faking. These findings suggest that sexual behaviors may function as benefit-provisioning mate retention tactics in response to mate value discrepancies. Such discrepancies should therefore also be associated with increased Duty Sex.

Finally, an individual-difference factor that may be associated with Duty Sex engagement is neuroticism. Individuals high in neuroticism are prone to heightened fears of rejection and relationship loss (Kreuzer & Gollwitzer, 2022). Research indicates that neuroticism predicts more mate retention behavior (Kardum et al., 2020), while attachment anxiety—a related trait—predicts greater sexual compliance (Brewer & Forrest-Redfern, 2022). Neuroticism is also linked to lower sexual function and satisfaction (Allen & Walter, 2018) and to declines in both partners' sexual satisfaction over time (Fisher & McNulty, 2008). Together, these findings suggest that neurotic individuals may be more likely to experience sex as an obligation, increasing Duty Sex frequency.

We therefore predicted that: (1) individuals perceiving higher risk of partner infidelity would report greater Duty Sex engagement, (2) individuals perceiving themselves as lower in mate value than their partners would report greater Duty Sex engagement, and (3) individuals higher in neuroticism would report greater Duty Sex engagement. Because most previous research on Duty Sex has focused on women, the present study also extends this work to include men, providing a more comprehensive view across sexes.

Methods

Participants

Eligible participants resided in the United States, read English, were aged 18+, and were sexually active (vaginal, anal, or oral sex) in the past four weeks. Given the study hypothesis, only those currently dating at least one partner were included. Of 710 who completed the screener, 281 were eligible for the full study. Data integrity checks then excluded participants who failed $\geq 50\%$ of attention checks ($n = 15$), who failed a repeated-item consistency check ($n = 1$), who withdrew early or had missing study data ($n = 10$), or who withdrew consent at the end ($n = 3$), yielding a final sample of $n = 252$ (176 women; 76 men).

Age ranged from 18 to 24 ($M = 19.4$, $SD = 1.39$). Most identified as heterosexual ($n = 195$). Relationship length ranged from 0 to 84 months ($M = 14.83$, $SD = 15.17$), with 0 months reported by 21 participants, all of whom were in casual relationships of less than one month's duration.

Participants reported similar numbers of past romantic ($M = 3.4$, $SD = 3.96$) and sexual partners ($M = 3.99$, $SD = 5.51$). Demographics by sex are reported in Table 1.

Demographics

Participants completed a questionnaire assessing age, gender, race/ethnicity, education, sexual orientation, current relationship status, number of lifetime romantic and sexual partners, and current sexual activity (vaginal, anal, or oral sex).

Psychological Measures

Duty Sex. The Sex Motives Scale (Cooper et al., 1998) comprises six subscales intended to be used individually (Jardin et al., 2017). We indexed Duty Sex using the Partner Approval subscale (referred to here as Duty Sex), which assesses sex to prevent a partner from becoming angry, leaving, or losing feelings. The items were: "How often do you have sex out of fear that your partner won't love you anymore if you don't?" "How often do you have sex because you don't want your partner to be angry with you?" "How often do you have sex because you worry that your partner won't want to be with you if you don't?" "How often do you have sex because you're afraid that your partner will leave you if you don't?" Responses ranged from 1 (*almost never/never*) to 5 (*almost always/always*). Items were summed, yielding total scores ranging from 4 to 20, with higher scores indicating more frequent Duty Sex engagement. A score of 4 indicates that the participant reported almost never or never engaging in Duty Sex for any of the four assessed reasons. Internal consistency was strong (Cronbach's $\alpha = .92$).

Perceived Probability of Partner Infidelity. The Susceptibility to Infidelity Scale (Buss & Shackelford, 1997b) includes six possible infidelity scenarios (flirting, romantic date, kissing, one-night stand, brief affair, and long-term affair). Participants rated their partner's likelihood (0%–100%) for each. Because perceptions of flirting as infidelity vary relative to kissing/sexual intercourse (Bozoyan & Schmiedeberg, 2023; Coon et al., 2023), we excluded flirting to create a conservative, unambiguous measure. Ratings for the remaining five behaviors were averaged; higher scores indicate greater perceived probability of partner infidelity. Internal consistency was high (Cronbach's $\alpha = .95$).

Mate Value Discrepancy. The Mate Value Scale (Edlund & Sagarin, 2014) is a four-item, 7-point Likert scale averaged so higher scores reflect greater perceived mate value. Participants rated themselves (self-mate value) and their partner (partner-mate value). We computed mate value discrepancy as self minus partner. Zero indicates no discrepancy; positive values indicate perceiving oneself as higher than one's partner; negative values indicate perceiving oneself as

Table 1. Demographics by Sex.

Continuous Variables	Females (<i>n</i> = 176)		Males (<i>n</i> = 76)	
	<i>M</i> (<i>SD</i>)	Range	<i>M</i> (<i>SD</i>)	Range
Age	19.4 (1.4)	18–24	19.6 (1.3)	18–23
Duty Sex	5.24 (2.64)	4–19	4.76 (1.83)	4–12
Perceived mate value (of self)	5.24 (1.07)	1.25–7	5.09 (1.06)	2.5–7
Perceived mate value (of partner)	5.75 (0.97)	2–7	5.9 (0.97)	3–7
Mate value discrepancy	–0.5 (1.33)	–5.25 to 4	–0.82 (1.22)	–3.75 to 1.75
Perceived probability of partner infidelity	10.9 (21.6)	0–100	9.66 (18.2)	0–83.8
Neuroticism	4.31 (1.34)	1–7	3.19 (1.31)	1–6.5
Discrete Variables	<i>n</i>	%	<i>n</i>	%
Race/ethnicity				
Caucasian/White	64	36.4	31	40.8
Hispanic/Latin American	50	28.4	19	25
African American/Black	5	2.84	5	6.58
East Asian (Chinese or Korean)	3	1.7	3	3.95
South Asian	12	6.82	5	6.58
Southeast Asian	20	11.4	9	11.8
Other or mixed ethnicities/race	20	11.4	4	5.26
Unknown	2	1.14	0	0
Sexual orientation				
Heterosexual	129	73.3	66	86.8
Homosexual/Lesbian/Gay	4	2.27	4	5.26
Bisexual	32	18.2	4	5.26
Pansexual	4	2.27	1	1.32
Queer	3	1.7	0	0
Asexual	1	0.57	0	0
Other/questioning	3	1.7	1	1.32
Relationship status				
Committed relationship (one partner)	135	76.7	55	72.4
Casually dating	40	22.70	21	27.6
Other	1	0.57	0	0

lower. Internal consistency was high for both self (Cronbach's $\alpha = .88$) and partner (Cronbach's $\alpha = .87$).

Neuroticism. The Ten-Item Personality Inventory (Gosling et al., 2003) assesses the Big Five. We analyzed the emotional stability items, reverse-scored to index neuroticism (Mader et al., 2023). The two-item domain was averaged so higher scores reflect greater neuroticism. Internal consistency was modest (Cronbach's $\alpha = .60$), as expected for a two-item measure (Gosling et al., 2003 reported Cronbach's $\alpha = .73$).

Procedure

Recruitment occurred from April 2024 to February 2026 via the university's SONA system for a 45-min study. Interested students provided consent and completed a Qualtrics screener. Eligible participants proceeded to the full survey containing the measures above and additional items not reported here. After debriefing (including the provision of mental health resources), participants received one research credit and could not participate more than once (SONA restrictions). All procedures

received full Institutional Review Board approval before data collection.

Statistical Analysis

A generalized additive model (GAM) with a Tweedie distribution ($p = 1.99$) was used as the base model to investigate the association between Duty Sex engagement and four predictors: sex, perceived probability of partner infidelity, mate value discrepancy, and neuroticism. A GAM was used because the data violated linearity and homoscedasticity assumptions of standard linear models (although residuals were independent), and because a GAM allows flexible, nonlinear relationships between predictors and the response. Smooth terms were included to account for the possibility of nonlinear relationships between the predictors and Duty Sex engagement, with these associations estimated separately for women and men. Variables included in the GAM were informed by the assumed causal structure shown in the directed acyclic graph (DAG) in Figure 1 (Rohrer, 2018). The DAG was constructed a priori from theoretical reasoning

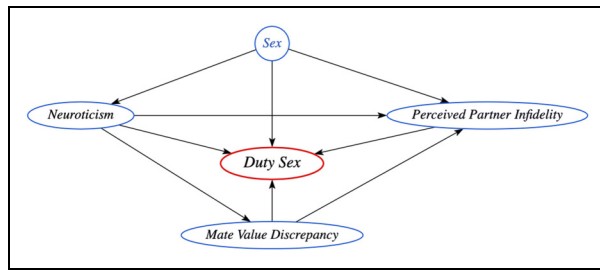


Figure 1. Directed acyclic graph (DAG) illustrating hypothesized causal structure among predictor variables and Duty Sex engagement.

and previous research to make explicit our assumptions about the relationships among the study variables and to guide model specification. In particular, it was used to identify relevant potential confounders and to avoid inappropriate adjustment for variables, such as colliders, that could introduce bias (Asendorpf et al., 2012; Rohrer, 2018). The directed paths therefore represent assumed causal relationships used to inform the analytic model, rather than separate hypotheses that each path would be empirically tested in the present study. Sex was included as a potential common cause of several study variables because previous research indicates systematic sex differences in neuroticism (Rammstedt et al., 2026) and in infidelity (Warach et al., 2024), which may contribute to differences in exposure to, and perceptions of, partner-infidelity risk.

To examine whether relationship context was associated with Duty Sex engagement, we extended the base model to include relationship type (casually dating, committed, and other), its interaction with sex, and relationship length (modeled as a sex-specific smooth). Analysis-of-deviance comparisons indicated that adding relationship type and its interaction with sex ($p = .004$), or relationship length as a sex-specific smooth ($p = .008$), significantly improved model fit relative to the base model. Model selection was based on Akaike's information criterion (AIC). The model including both relationship type and relationship length yielded the lowest AIC (934.73), compared with the base model (943.52), the model including relationship type only (936.64), and the model including relationship length only (937.29), and was therefore retained as the primary model (see Supplemental Materials for further detail).

As an additional analysis, we fitted a pooled model in which relationship type and the smooth associations of relationship length, perceived probability of partner infidelity, mate value discrepancy, and neuroticism were estimated across the full sample rather than separately by sex, with sex retained as a covariate. This model was used to assess whether the hypothesized associations were evident at the overall sample level. We also fitted an additional GAM to directly test whether the smooth associations of relationship length, perceived probability of partner infidelity, mate value discrepancy, and neuroticism

with Duty Sex differed between women and men. Women were treated as the reference group, with difference smooths estimating whether each corresponding association among men differed significantly from that among women. Finally, average model-predicted contrasts were used to estimate the overall difference in Duty Sex between women and men, committed-versus-casual differences within each sex, and whether the committed-versus-casual association differed between women and men.

All analyses were conducted in R (version 4.5.1) using the *mgcv* package (Wood, 2017) for GAMs, the *marginalEffects* package (Arel-Bundock et al., 2024) for model-predicted contrasts, and the *ggplot2* package (Wickham, 2016) for visualization.

Sensitivity Analysis

Because recruitment was constrained by the available participant pool, no formal a priori power analysis or predetermined sample-size target was used; instead, we sought to recruit as many eligible participants as possible during the study period. To characterize the sensitivity of the obtained sample, we conducted a conventional multiple-regression sensitivity analysis as an approximation to the final GAM. At $\alpha = .05$ and 80% power, the full sample ($n = 252$) was sensitive to a one-degree-of-freedom effect of approximately Cohen's $f^2 = .033$ or larger. Corresponding thresholds were $f^2 = .046$ for women ($n = 176$) and $f^2 = .112$ for men ($n = 76$). Thus, the full sample and female subsample provided sensitivity to relatively small effects, whereas sensitivity to smaller effects was lower within the male subsample. Because the primary analyses used GAMs containing nonlinear smooths, these values should be interpreted as approximate rather than exact model-specific sensitivity estimates.

Results

Overall levels of Duty Sex engagement were low. Mean scores were 5.24 ($SD = 2.64$) for women and 4.76 ($SD = 1.83$) for men on a scale ranging from 4 to 20, indicating that most participants reported engaging in Duty Sex infrequently. Estimating the average model-predicted difference between women and men separately from the predictor-specific associations, we found no significant sex difference in Duty Sex engagement overall (estimate = 0.175, $SE = 0.283$, $z = 0.617$, $p = .538$).

The sex-stratified GAM revealed several significant associations between the predictor variables and Duty Sex engagement. Higher perceived probability of partner infidelity was significantly associated with greater Duty Sex engagement in both women (edf = 3.552, $F = 13.767$, $p < .001$) and men (edf = 3.049, $F = 2.359$, $p = .048$). Mate value discrepancy was significantly associated with Duty Sex engagement in women (edf = 4.326, $F = 3.843$, $p = .002$), with those perceiving themselves as lower in mate value relative to their partners engaging in more Duty Sex. Conversely, mate value

discrepancy showed no significant association with Duty Sex engagement in men ($\text{edf}=1.681$, $F=1.234$, $p=.291$). Neuroticism was significantly associated with Duty Sex engagement in both women ($\text{edf}=1.000$, $F=4.085$, $p=.044$) and men ($\text{edf}=1.000$, $F=8.360$, $p=.004$), with those scoring higher in neuroticism engaging in more Duty Sex. Relationship length was not significantly associated with Duty Sex engagement in either women ($\text{edf}=2.255$, $F=2.553$, $p=.064$) or men ($\text{edf}=1.207$, $F=0.691$, $p=.576$). Among women, model-predicted Duty Sex engagement did not differ significantly between those in committed and casual relationships (estimate = 0.663, $SE=0.368$, $z=1.803$, $p=.072$), whereas men in committed relationships had significantly greater model-predicted Duty Sex engagement than those casually dating (estimate = 1.228, $SE=0.533$, $z=2.304$, $p=.021$). The model explained 40.9% of the deviance and 29.3% of the observed variance (adj. $R^2=.293$) in Duty Sex engagement.

When these associations were estimated across the full sample rather than separately by sex, all three focal predictors were significantly associated with Duty Sex engagement. Perceived probability of partner infidelity ($\text{edf}=4.047$, $F=12.712$, $p<.001$), mate value discrepancy ($\text{edf}=4.247$, $F=3.961$, $p=.002$), and neuroticism ($\text{edf}=1.000$, $F=9.170$, $p=.003$) were each significantly associated with Duty Sex engagement. Committed relationship status was significantly associated with greater Duty Sex engagement (estimate = 0.161, $SE=0.064$, $t=2.492$, $p=.013$). Relationship length, however, was not significantly associated with Duty Sex ($\text{edf}=2.457$, $F=1.898$, $p=.125$).

Direct tests of sex differences indicated that no significant differences between women and men were detected in the associations of Duty Sex with perceived probability of partner infidelity ($\text{edf}=2.352$, $F=1.237$, $p=.251$), mate value discrepancy ($\text{edf}=1.083$, $F=0.218$, $p=.756$), neuroticism ($\text{edf}=1.000$, $F=1.688$, $p=.195$), or relationship length ($\text{edf}=1.000$, $F=3.186$, $p=.076$). The committed-versus-casual association likewise did not differ significantly between women and men (estimate = 0.565, $SE=0.648$, $z=0.872$, $p=.383$).

Discussion

Conceptualizing Duty Sex as a mate retention tactic, we examined several factors predicted by evolutionary psychological hypotheses to influence engagement in Duty Sex. Overall, our findings supported our predictions.

An important consideration when interpreting these findings is that overall levels of Duty Sex engagement were low in the present sample. Mean scores for both women and men were only slightly above the minimum possible value on the scale, indicating that most participants reported rarely engaging in Duty Sex for the reasons assessed. Accordingly, the present findings should not be interpreted as suggesting that Duty Sex is a frequent feature of most romantic relationships. Rather, they indicate that among

individuals who do engage in Duty Sex, greater perceived partner-infidelity risk, lower perceived relative mate value, and higher neuroticism are associated with higher levels of engagement.

Perceived Probability of Partner Infidelity

Because infidelity is a leading cause of relationship dissolution, we predicted that perceived probability of partner infidelity would be positively associated with Duty Sex engagement. This prediction was supported at the overall sample level, with perceived probability of partner infidelity significantly associated with greater Duty Sex engagement in the pooled analysis. The association was also statistically significant among both women and men in the sex-stratified analyses (Figure 2), and a direct comparison did not detect a significant difference between the sex-specific associations. This pattern is consistent with prior findings that individuals engage in more mate retention behaviors when they perceive greater infidelity risk (Caton & Horan, 2019) or when such risk increases (e.g., during prolonged separations; Starratt et al., 2007). Engaging in Duty Sex in response to perceived infidelity risk may reflect an adaptive behavioral strategy aimed at preventing mate loss, consistent with the hypothesis that humans have evolved psychological mechanisms to preserve relationships by addressing threats such as infidelity.

Items assessing Duty Sex—such as having sex to prevent a partner from becoming angry, leaving, ceasing to love, or losing interest—offer insight into why this behavior is more common among those concerned about infidelity. Both men and women might perceive that upsetting their partner increases infidelity risk, and therefore view refusing sex as potentially amplifying that risk. Additionally, actively engaging in Duty Sex may serve to strengthen pair bonds, thereby reducing the likelihood of infidelity. Duty Sex may therefore involve either passive compliance with a partner's sexual advances to avoid conflict, or active initiation as a strategic attempt to maintain relationship stability. Future research should distinguish between these two forms of Duty Sex and explore their differing psychological motivations.

This pattern supports our evolutionary hypothesis that Duty Sex functions, at least in part, as a mate retention strategy.

Mate Value Discrepancy

Because mate value discrepancy is associated with relationship dissatisfaction (Conroy-Beam et al., 2016), and thus with relationship dissolution, we predicted that individuals perceiving themselves as lower in mate value than their partners would report greater Duty Sex engagement. This prediction was supported at the overall sample level. Mate value discrepancy was significantly associated with Duty Sex in the pooled analysis, with greater Duty Sex engagement among those perceiving themselves as lower in mate value relative to their partners. In the sex-stratified analyses, this

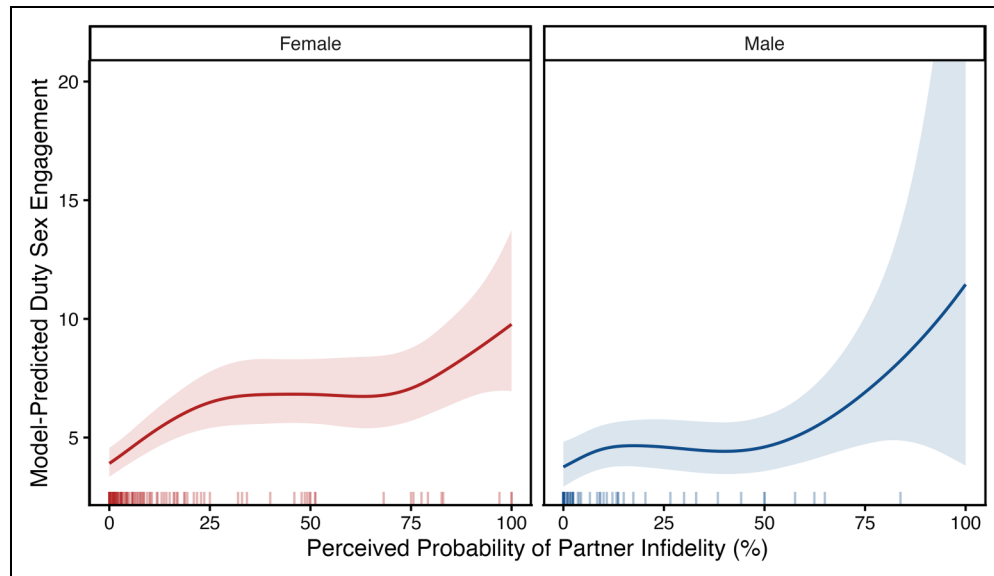


Figure 2. Relationship between perceived probability of partner infidelity and model-predicted Duty Sex engagement, shown separately for women (red) and men (blue). Lines represent predictions from a generalized additive model (GAM), and shaded regions indicate 95% confidence intervals. Other covariates in the model were held constant at their median values, and relationship type was set to the reference category (“casually dating”). Rug marks along the x-axis indicate the distribution of observed perceived probability of partner infidelity values in the sample.

association was statistically significant among women but not among men. However, a direct comparison did not detect a significant difference between the sex-specific associations, and the smaller male subsample provided less sensitivity to smaller effects. The present findings therefore provide evidence for an overall association between mate value discrepancy and Duty Sex, but do not establish that this association differs between women and men.

Within the sex-stratified analysis, the significant smooth for women was nonlinear (Figure 3). Predicted Duty Sex engagement remained relatively low across much of the mate value discrepancy range and increased most clearly at more extreme negative discrepancies, where women perceived themselves as substantially lower in mate value than their partners. Given the nonsignificant direct comparison between the female and male smooths, this pattern is best treated as a description of the female subsample rather than evidence of a sex-specific association.

The present findings converge with recent evidence that mate value discrepancies are associated with sexual forms of mate retention in both men and women (Frankowska et al., 2025, 2026). Importantly, the present study extends this work to a qualitatively different sexual behavior. Frankowska and colleagues found that relative mate value was indirectly associated with sexual behaviors through greater motivation to satisfy a higher-value partner. Duty Sex, by contrast, specifically captures sexual activity motivated by obligation and concerns about a partner becoming angry, losing affection, or leaving. The association observed here therefore suggests that relative mate value may be

relevant not only to greater efforts to sexually satisfy a partner, but also to willingness to engage in sex due to obligation or relationship-preserving motives.

The lack of significant sex moderation is also informative in light of this recent work. Although the association with Duty Sex was statistically detectable among women but not men in the sex-stratified analyses, Frankowska et al. (2025) found evidence of sexual benefit-provisioning associated with lower relative mate value among men, and Frankowska et al. (2026) found corresponding evidence among women. Together with the present nonsignificant direct sex comparison, this provides little basis for concluding that the relationship between mate value discrepancy and sexual mate retention is specific to women. Larger and more sex-balanced samples will be needed to clarify whether any sex differences in this association exist.

Neuroticism

Because concerns about relationship dissolution are often heightened in individuals high in neuroticism, we predicted that neuroticism would be associated with Duty Sex engagement. This prediction was supported at the overall sample level, with neuroticism significantly associated with greater Duty Sex engagement in the pooled analysis. The association was also statistically significant among both women and men in the sex-stratified analyses (Figure 4), and a direct comparison did not detect a significant difference between the sex-specific associations. Despite the significant positive association found between neuroticism and Duty Sex

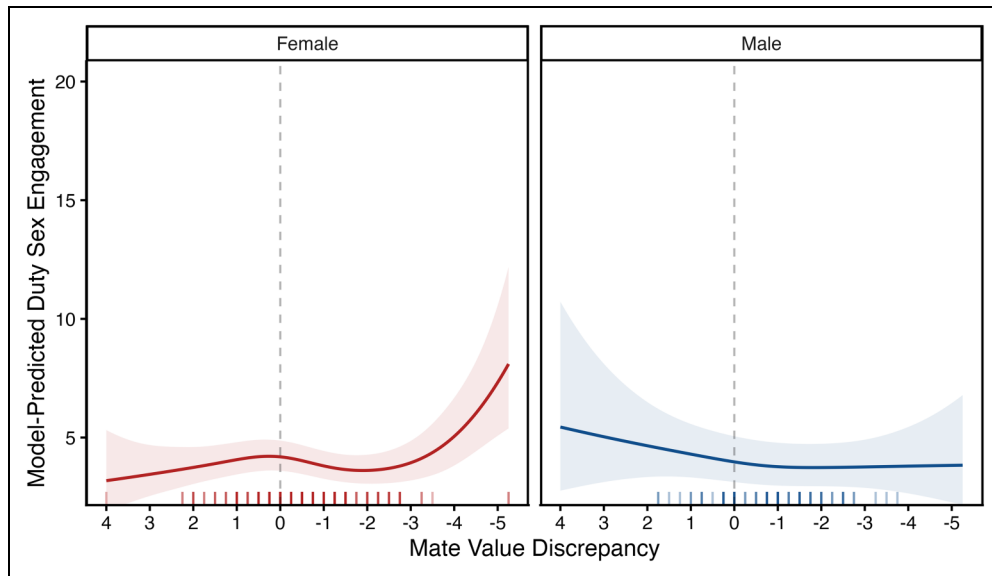


Figure 3. Relationship between mate value discrepancy and Duty Sex engagement, shown separately for women (red) and men (blue). *Note.* x-axis is reversed; negative x-axis values indicate the participant perceives themselves as having *lower* mate value than their romantic partner; the vertical dashed line at $x=0$ indicates perceived mate value parity between the participant and their romantic partner; positive x-axis values indicate the participant perceives themselves as having *higher* mate value than their romantic partner. Lines represent predictions from a generalized additive model (GAM), and shaded regions indicate 95% confidence intervals. Other covariates were held at their median values, and relationship type was set to the reference category (“casually dating”). Rug marks along the x-axis indicate the distribution of observed mate value discrepancy values in the sample.

engagement, it must be noted that the magnitude of this effect was modest: model-predicted Duty Sex increased only slightly across the range of neuroticism when other predictors were held constant (Figure 4). This suggests that neuroticism is unlikely to account for substantial variation in Duty Sex engagement relative to the other predictors considered here, but is one contributing factor among several.

Our finding contrasts somewhat with Meston and Buss (2007), who found a weak but significant association between neuroticism and Duty Sex in women, but not men. However, the present study did not detect a significant sex difference in the association between neuroticism and Duty Sex. The discrepancy in the sex-stratified findings may reflect differences in construct scope: Meston and Buss (2007) examined Duty Sex within a composite also measuring verbal and physical coercion, whereas our measure captured a narrower, relationship-preserving form of compliance.

One interpretation of our results is that individuals high in neuroticism are more sensitive to cues of rejection and relationship instability, which may increase engagement in behaviors aimed at maintaining partner investment. Consistent with this, neuroticism has been linked to heightened fears of rejection and relationship loss (Kreuzer & Gollwitzer, 2022), as well as more negative affective experiences surrounding sex, including lower sexual satisfaction (Allen & Walter, 2018). Relatedly, attachment anxiety—a construct closely associated with neuroticism—has been shown to predict greater sexual compliance (Brewer & Forrest-Redfern, 2022), suggesting a plausible

pathway through which neuroticism may increase Duty Sex engagement. Perceived relationship threats such as infidelity concerns could form part of this process, although the cross-sectional design of the present study does not permit the temporal pathways among these variables to be established. Longitudinal research will be needed to determine whether heightened neuroticism precedes increases in perceived relationship threat and, in turn, Duty Sex engagement.

The association between neuroticism and Duty Sex engagement is consistent with our evolutionary hypothesis that Duty Sex functions, at least in part, as a mate retention strategy. Importantly, this association remained evident when other relationship-related predictors were included in the model, suggesting that neuroticism captures additional variation in Duty Sex engagement beyond perceived infidelity risk and mate value discrepancy.

Relationship Length and Committed Versus Casual Relationships

Relationship length was not significantly associated with Duty Sex engagement in the pooled analysis. It was also not significantly associated with Duty Sex within either sex in the sex-stratified analyses, and the direct comparison did not detect a significant difference between women and men. Thus, within the relatively restricted range of relationship lengths represented in this sample, Duty Sex engagement did not appear to be concentrated only in later-stage relationships,

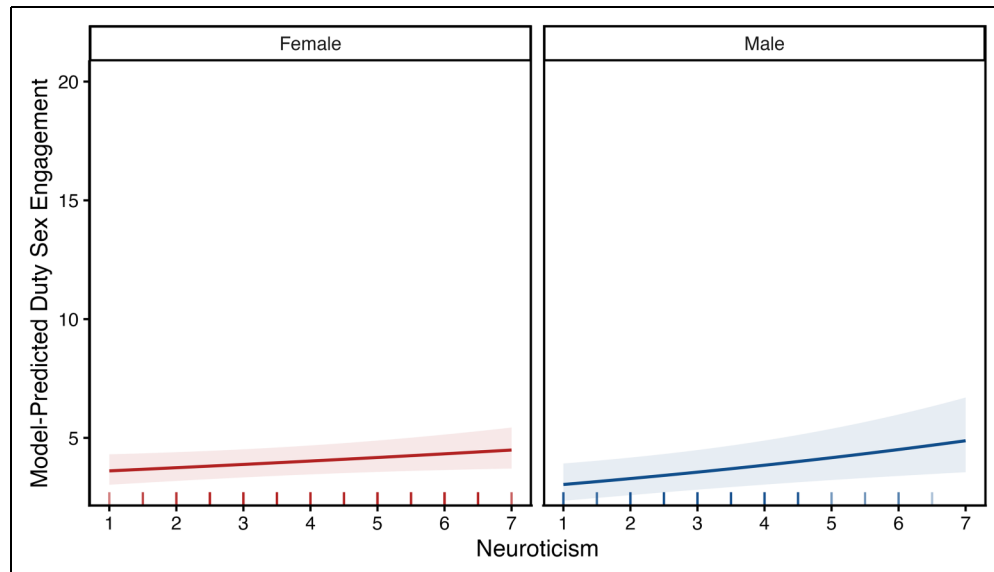


Figure 4. Relationship between neuroticism and model-predicted duty sex engagement, shown separately for women (red) and men (blue). Lines represent predictions from a generalized additive model (GAM), and shaded regions indicate 95% confidence intervals. Other covariates in the model were held constant at their median values, and relationship type was set to the reference category (“casually dating”). Rug marks along the x-axis indicate the distribution of observed Neuroticism values in the sample.

where conflicts or dissatisfaction may have had more time to accumulate.

Duty Sex engagement was significantly greater among participants in committed than in casual relationships. This suggests that relationship context may be relevant to Duty Sex engagement, with obligation-based sexual behavior occurring more frequently in committed relationships. One possible explanation is that greater commitment typically reflects greater investment in the relationship, increasing the potential costs of partner loss and thereby strengthening motivations to preserve the relationship. However, relationship length itself was not significantly associated with Duty Sex, suggesting that this pattern is not simply attributable to longer relationship duration.

These findings should nevertheless be interpreted cautiously. Substantially more participants were in committed than casual relationships, limiting the precision of the relationship-type comparison, and the sample consisted primarily of young university students in relatively short-term dating relationships. The present findings therefore should not be taken to conclusively demonstrate that Duty Sex operates differently across committed and casual relationships, and it remains unclear whether the same pattern would extend to older adults or to longer-term relationships such as marriage.

Future Directions

Our findings highlight important dynamics of Duty Sex as a mate retention tactic and lay the groundwork for further investigation. Future work should investigate the long-term

outcomes of Duty Sex and whether it remains an effective mate retention tactic over time. For some, Duty Sex may foster closeness that promotes relationship longevity; for others, it may generate resentment and erode satisfaction. Research should examine partners’ postencounter feelings and whether Duty Sex frequency or appraisal predicts relationship dissolution.

A critical next step is to distinguish between passive and active forms of Duty Sex. Passive Duty Sex may involve compliance to avoid conflict or a partner’s anger, whereas active Duty Sex may be initiated strategically to maintain or strengthen a valued relationship. These variants likely differ in motivation, effectiveness as mate retention tactics, and emotional aftermath, potentially accounting for previously reported associations between Duty Sex and sexual dissatisfaction (Metcalf et al., 2024).

Future research should also consider how relationship dynamics, such as emotional or physical abuse, affect Duty Sex frequency. Cost-inflicting mate retention behaviors may include tactics that undermine a partner’s self-perceived mate value and thereby discourage partner defection (Buss, 2000; Buss & Dedden, 1990; Buss & Shackelford, 1997a). Duty Sex engagement may be more common among those exposed to such behaviors. Because we did not assess current relationship abuse, it remains unclear whether perceived mate value discrepancy was influenced by these dynamics. Individuals perceiving themselves as lower in mate value may do so partly because of emotional manipulation, which could, in turn, heighten their Duty Sex frequency.

Future research should also examine whether the predictors considered here interact in shaping Duty Sex engagement. For example, perceived partner-infidelity risk may strengthen the association between mate value discrepancy and Duty Sex, and neuroticism may amplify responses to perceived relationship threats. These interactions were not specified a priori or tested in the present study. Although our additional analyses did not detect significant moderation by sex, this does not address possible interactions among mate value discrepancy, perceived infidelity risk, and neuroticism. Larger, preregistered studies would be better suited to testing these possibilities. Longitudinal designs could also examine whether perceived relationship threats form part of the pathway linking neuroticism to subsequent Duty Sex engagement.

Conclusions

Throughout human evolutionary history, retaining a mate has likely been as crucial to reproductive success as attracting one, favouring strategies that reduce relationship dissolution risk. Our findings are consistent with Duty Sex functioning as one such strategy. However, whether Duty Sex promotes short-term stability remains uncertain, and its long-term consequences are yet to be elucidated. Clarifying when Duty Sex strengthens versus undermines relationships will deepen understanding of how obligation-based sexual behavior contributes to mate retention and relationship maintenance.

Despite these insights, several limitations should be noted. The study relied on self-report data, and its cross-sectional design precludes causal inference and the establishment of temporal ordering among the variables. The sample was also relatively small and predominantly composed of young university students in early stage relationships, limiting generalizability to older adults and longer-term partnerships. In addition, the sample contained fewer men than women and fewer participants in casual than committed relationships. Our sensitivity analysis indicated lower statistical power within the male subsample, so nonsignificant male associations and sex-moderation tests should be interpreted cautiously. Finally, because participants were required to be currently dating and sexually active, some selection bias is possible. Future research using larger, more balanced, and more diverse samples and longitudinal designs will be important for assessing the robustness and generalizability of these findings.

Despite these limitations, the present findings provide a theory-driven account of Duty Sex as a potential mate retention behavior, linking individual differences and relational dynamics to variation in sexual behavior. By situating Duty Sex within an evolutionary framework, this work highlights how behaviors that appear obligation-based may reflect strategic responses to perceived partner loss risk, offering a foundation for future research on the role of sexual behavior in relationship maintenance.

ORCID iDs

F. Sid Dougan  <https://orcid.org/0009-0004-3508-6577>

Kate B. Metcalfe  <https://orcid.org/0000-0002-9787-3638>

Ethical Approval and Informed Consent Statements

This study was approved by the Institutional Review Board at The University of Texas at Austin. Informed consent was obtained from all participants prior to participation.

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Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Data Availability

Data and supplemental materials can be accessed at: <https://osf.io/58sb3/overview>.

Supplemental Material

Supplemental material for this article is available online.

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