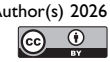
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Sexual Health in Monogamous and Non-Monogamous Relationships: Evidence From Convenience and Population-Based Samples

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Abstract

How people manage multiple, concurrent romantic and sexual partners may influence sexual health and wellbeing. We examined whether these outcomes differ between monogamous, consensually non-monogamous, and infidelity (i.e., non-consensually non-monogamous) relationships in a multinational online sample (Study 1; *N* = 888) and Finnish population-based data (Study 2; *N* = 10,503). In Study 1, women with multiple partners reported greater desire and satisfaction with their non-primary partners (vs. primary partners), and greater arousal with non-primary partners compared to monogamous women with their partners. Polyamorous individuals were more likely to have ever been tested for sexually transmitted infections but not more likely to have been diagnosed with one. In Study 2, non-monogamous men reported fewer early ejaculatory symptoms, and non-monogamous women reported higher sexual desire than monogamous participants. Both men and women in non-monogamous relationships reported greater desire for partnered sex. Across both studies, sexual functioning was largely

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similar between monogamous and non-monogamous participants. Infidelity was not associated with sexual health, apart from men who reported keeping emotional or sexual intimacies secret from their partners also reporting lower sexual satisfaction (Study 1). The results offer evidence that having multiple partners, whether consensual or not, may not necessarily compromise sexual health. Rather, men's secrecy about extradyadic partners may be reflected in sexual dissatisfaction, but this effect does not extend to physiological or desire-based measures of sexual wellbeing.

Keywords
consensual non-monogamy, multipartner mating, sexual functioning, infidelity, sexually transmitted infections

Sexual health and wellbeing are integral to personal and intimate relationship wellbeing (Vasconcelos et al., 2024), albeit most often studied in purportedly monogamous relationships (Trudel & Goldfarb, 2010) or less-committed casual relationships (Garcia et al., 2015). However, people may form multiple caring and possibly committed intimate relationships with the consent of their partner(s) rather than via clandestine affairs (Mogilski et al., 2026; Sheff & Tesene, 2015). Consensual non-monogamy (CNM; e.g., polyamorous, swinging, and open relationships) involves mutual disclosure and agreement to form multiple sexual and/or romantic relationships (Hangen et al., 2019). Nevertheless, there is considerable variability in how CNM is practiced, particularly in disclosure of extra-dyadic attractions and intimacies, and forming relationship agreements between partners (Mogilski et al., 2026; Vilkin & Davila, 2023).

When partners break these agreements and are secretive about their extra-pair relationships, this is linked to poorer outcomes, such as health symptoms and reduced relationship commitment (e.g., Lehmiller, 2009). By comparison, when partners openly communicate about these experiences, they report better outcomes like relationship functioning and sexual satisfaction (e.g., Hangen et al., 2019; Mogilski et al., 2026). This suggests that how openly and consensually partners manage multiple relationships may also affect sexual health and wellbeing. To address this, we examined self-reported sexual health and wellbeing (e.g., sexual functioning, desire, satisfaction, and prevention or management of pregnancy or sexually transmitted infections [STIs]) in an international convenience sample and a Finnish population-based sample of people in monogamous and non-monogamous relationships. Further, we checked whether sexual health and wellbeing were linked to the transparency of non-monogamous experiences, such as whether partners knew about one another or whether they kept their extradyadic intimacies secret.

Sexual Health and (Consensual) Non-Monogamy

Types of CNM vary by the agreements that partners make about emotional and/or sexual involvement with other people (Mogilski et al., 2023). When partners adhere to their agreements, each may feel more secure whilst engaging in extrapair intimacies. For

example, if partners agree to use condoms with new partners, then each partner can feel assured that they are far less likely to contract a STI or have an unplanned pregnancy. Infidelity, which can also be referred to as *non*-consensual non-monogamy (NCNM) or cheating, involves non-disclosure, lack of consent, and deception in engaging sexually or romantically with an extra-pair partner. This also occurs within CNM when partners violate existing relationship agreements (Schneider, 2025), meaning that one or both partners cannot precaution against harms imposed by other relationships (Mogilski et al., 2023). Although people with multiple sexual partners are at greater exposure and thus greater risk of complications to their sexual health and wellbeing, open communication and disclosure—practices common to CNM—may protect against these risks. However, adherence to these practices varies across individuals, creating a spectrum of integrity vs deception along which non-monogamous interactions may fall.

Infidelity has been linked to poorer mental health and relationship satisfaction (Roos et al., 2019; Shrout & Weigel, 2018), albeit inconsistently (Selterman et al., 2023). People who perceive their partner to be highly likely to cheat on them also report worse overall physical health (Arnocky et al., 2015). Whether infidelity is linked to poorer sexual wellbeing, however, is less clear. Infidelity may reflect deficits in relationship management (Vowels et al., 2021). Honest and open communication may prompt partners to negotiate agreements that reduce risks to relationship and sexual wellbeing, and thereby strengthen relationship security, reduce conflict and negative sentiment among partners, and ultimately promote sexual wellbeing. Indeed, secure attachment and high overall satisfaction are linked with healthier sexual functioning (Birnbaum, 2007; Cohen & Byers, 2015; Heiman et al., 2011; Stefanou & McCabe, 2012). Those who practice CNM tend to be more sociosexually unrestricted and report higher numbers of sexual partners (de Rivas et al., 2022; Lehmiller, 2015; Mogilski et al., 2020; Rodrigues et al., 2017), and having additional sex partners was associated with better self-reported health in a sample of CNM individuals compared to a sample of the general U.S. population (Cox et al., 2021). Having negotiated agreements about extradyadic interactions may thereby improve sexual wellbeing if it allows people who are interested in sex with multiple people to pursue it safely.

Monogamous infidelity is associated with higher sexual excitation and lower sexual inhibition in both men and women (Mark et al., 2011), and men who engage in extramarital affairs often report higher sexual functioning and lower prevalence of hypoactive sexual desire compared to their faithful counterparts (Fisher et al., 2012). Nevertheless, men's infidelity is also associated with frequent conflict and other relational problems, which may worsen sexual functioning within the couple (Fisher et al., 2009). Women who engage in infidelity tend to report lower relationship happiness and sexual compatibility with their primary partners (Mark et al., 2011). Therefore, engaging in infidelity may enhance sexual wellbeing when it fulfills an individual's sexual desires, but it may undermine wellbeing when pursued deceptively or without a partner's consent.

Some studies report that both CNM individuals (Lehmiller, 2015) and those who cheat are more likely to report STI testing than monogamous individuals (Levine et al., 2018),

but may not differ in condom use during vaginal intercourse (Levine et al., 2018; Træen & Thuen, 2021). Others report that CNM individuals report more correct condom use (Conley et al., 2013), more condom use during anal sex (Levine et al., 2018), and more barrier use during vaginal and anal intercourse and genital touching (Conley et al., 2012) compared to those who cheat. Yet, others report contrary findings (Lehmiller, 2015; Rodrigues, Lopes, & Conley, 2019). For example, Lehmiller (2015) found that cheating individuals are more likely to use barriers during oral sex compared to CNM individuals with their primary partner, and that CNM people were equally likely to use barriers during oral sex with a primary partner as those who were monogamous. Together, this evidence suggests that open communication, disclosure, and consent-seeking with a partner improves sexual health among people with multiple relationships, but how (and how well) people in CNM relationships do so may vary.

Overview of Studies and Predictions

In a two-study approach using data from three large samples (see Table 1 for demographic information), we compared the sexual health and wellbeing of people in monogamous and CNM relationships, and tested whether sexual health differs among those engaged in infidelity compared to more monogamous and CNM people. In Study 1, we used a large, international, convenience sample of people recruited via an online survey. In Study 2, we extended this investigation using two Finnish population-based samples. Hypotheses and planned analyses were pre-registered via OSF (https://osf.io/kuarz). H2 and H4 are tested only in Study 1 due to measure availability.

H1: Sexual functioning will be similar across monogamous and CNM individuals.

Based on evidence discussed above, we did not expect monogamous and CNM participants' sexual functioning to differ overall. Instead, we expected to find partner-based differences in desire.

H2: People will report more sexual desire for their non-primary partner compared to their primary partner.

Prior research (Balzarini et al., 2017, 2019b) has shown that CNM individuals have less sexual desire for and eroticism with their primary partner (i.e., the partner with whom they spend more time or cohabit; "anchor partner") compared to non-primary partner(s) (i.e., shorter-term or "satellite partner[s]"; Arter & Bunge, 2025), and that eroticism may be less central to maintaining satisfaction in primary CNM relationships (Larva et al., 2024).

H3: Infidelity will be associated with worse sexual wellbeing.

We predicted that monogamous and CNM individuals who reported infidelity would report worse sexual wellbeing compared to those who did not. Infidelity is characterized by concealment, emotional burden, and often a less intimate primary relationship (Blow

Table 1. Sample Demographic Characteristics Across Studies

	Study 1	Study 2		
Variable	MRMS 2021–23	GSA 2019	GSA 2022	SC 2023
Location	60.5% Finland 21.7% Italy 17.6% United States 0.2% Portugal	Finland	Finland	Finland
Race/Ethnicity	95.7% White 1.5% Hispanic/Latin/Spanish 0.3% Black/African 0.1% Middle Eastern 0.8% Asian 0.3% Indigenous native 1.3% Other	>95% White[a]	>95% White[a]	>95% White[a]
Gender identity	55.9% Cisgender women 29.7% Cisgender men 1.7% Transgender 4.9% Non-binary 2.7% Genderqueer 2.7% Genderfluid 1.5% Agender 0.1% Polygender 0.8% Other	67% Cisgender women 33% Cisgender men 0% Transgender women 0.1% Transgender men 0.4% Other	61.7% Cisgender women 38.3% Cisgender men 0.02% Transgender women 0% Transgender men 0.4% Other	49.1% Cisgender women 49.5% Cisgender men 0.1% Transgender women 0.7% Transgender men 0.6% Other
Sexual orientation	42.6% Heterosexual 21.0% Bisexual 14.9% Pansexual 6.2% Lesbian/Gay	91.5% Heterosexual 5.6% Bisexual 2% Lesbian/Gay 0.1% Other	94.8% Heterosexual 3.1% Bisexual 1% Lesbian/Gay 0.8% Other	85.7% Heterosexual 9.% Bisexual 4.3% Other 1.5% Lesbian/Gay

(continued)

Table 1. (continued)

	Study 1	Study 2		
Variable	MRMS 2021–23	GSA 2019	GSA 2022	SC 2023
	6.1% Queer			
	4.1% Fluid			
	3.3% Other			
	1.1% I don't know			
	0.8% Asexual			
Age	Mean = 34.05	Mean = 31.67	Mean = 50	Mean = 34.06
	Median = 31	Median = 30.45	Median = 54.77	Median = 34
	SD = 11.43	SD = 7.81	SD = 16.25	SD = 8.95
	Range = 18–79	Range = 18–60	Range = 18–85	Range = 18–51
Socioeconomic status	20.9% Upper[b]	—	34.2% Upper	—
	46.5% Middle		63.2% Middle	
	32.6% Lower		2.6% Lower	
Relationship identity/Type	38.8% Monogamous	97% Monogamous	98% Monogamous	89.3% Single-partnered
	61.2% CNM	3% CNM	2% CNM	10.7% Multi-partnered

Note. MRMS = Multiple Relationship Maintenance Scale; GSA = Genetics of Sexuality and Aggression; SC = Sexual Compliance; CNM = Consensually Non-Monogamous.
[a]GSA and SC datasets connected participants' responses with demographic data from the Finnish Central Population Registry (CPR), and Race/Ethnicity is not recorded in the CPR. Finland is rather ethnically homogenous, and our data indicates that nearly all participants' mother tongue was either Finnish or Swedish; we therefore presume that an overwhelming majority of the participants are White/Caucasian Finns.
[b]Proxy measure: The item asked, "How often do you worry about money?" (Almost) Never = Upper; Sometimes = Middle; (Almost) Always = Lower.

& Hartnett, 2005; Omarzu et al., 2012; Træen & Thuen, 2021)—conditions that are likely to impair sexual functioning, satisfaction, and motivation to protect a partner's sexual health. While extrapair sex may temporarily fulfill desire, we predict that the relational context of infidelity will be associated with worse sexual wellbeing.

H4: CNM individuals will exhibit a more proactive approach regarding their sexual health compared to monogamous people and those who report infidelity.

We expected multi-partnered CNM individuals to report higher STI testing, lower STI prevalence, and greater willingness to take sexual risks compared to those monogamous individuals and those who reported infidelity. Monogamous individuals may forego sexual health precautions by assuming mutual exclusivity. Comparatively, CNM necessitates agency in sexual health precautions and extending trust to partners who demonstrate similar precautions. This system depends on open communication and accurate, mutual knowledge of one's full sexual network. Infidelity violates these conditions because the concealment inherent to infidelity means that the unknowing partner is unable to make informed decisions about their sexual health, elevating overall risk within the relationship compared to CNM contexts. Alternatively, the threat of discovery may motivate cheating individuals to take more sexual health precautions to avoid detection.

Study 1 Method

Procedure and Measures

Study 1 used data from the Multiple Relationships Maintenance Scale (MRMS) project (Mogilski et al., 2026), collected between May 2021 and August 2023. Ethics approval was obtained from host universities of principal investigators in four countries—the United States, Portugal, Italy, and Finland—where participants were recruited via snowball and convenience sampling (e.g., CNM-focused social media groups, advertisements, researchers' networks). Surveys assessed sexual wellbeing, sexual health prevention, and relationship behaviors in four languages; the original English version of the survey was translated into Portuguese, Italian, and Finnish with input from native-speaking translators, researchers, and non-researchers. Participants were at least 18 years old and in a sexual and/or romantic relationship with at least one person. Participants completed measures about themselves and up to two intimate partners. The survey required ~30-45 minutes to complete. For participants recruited from Finland, incomplete survey responses were treated as withdrawal of study participation per the ethical protocol and were excluded from the dataset. In all other sites, incomplete responses were retained in the dataset, but participants with missing data on variables required for the analysis underwent listwise deletion.

Participants. Participants were included in the analytical sample if they: reported their sex assigned at birth (SAB) as male or female and had complete data about STI testing and

prevalence, relationship identity, and a measure of sexual functioning corresponding to their SAB (see online supplementary material[1]). The analytical sample included 888 participants, and sex-specific analyses were conducted within SAB-stratified subsamples (n_{female} = 613; n_{male} = 275). Sensitivity power analyses were conducted using G*Power 3.1 (Faul et al., 2007) post hoc with Bonferroni-corrected alpha levels and power set at .80, and we only report on main findings which were adequately powered. Detailed participant characteristics and full sensitivity analysis are available in the supplementary materials.

Relationship and Individual Measures. Given the number of measures and constructs across two studies, acronyms are used throughout; a complete list of abbreviations is provided in Table 2.

We assessed self-reported Relationship Identity (i.e., *RI*) with the item, "Which relationship orientation do you identify with the most?" (response options, with descriptions provided for each type[2]: monogamous, polyamorous, open relationship, or

Table 2. Acronyms

CEEA	Clandestine extrapair emotional attachments
CES	Clandestine extrapair sex
CHEES	Checklist for Early Ejaculation Symptoms
CNM	Consensual non-monogamy: Polyamory, open relationship, swinging
FI	Feelings of infidelity
FSFI	Female Sexual Function Index
GSA	Genetics of sexuality & aggression project (Johansson et al., 2013); data set used in Study 2
H1	Hypothesis 1: Sexual functioning will be similar across monogamous and CNM individuals.
H2	Hypothesis 2: People will report more sexual desire for their non-primary partner compared to their primary partner.
H3	Hypothesis 3: Infidelity will be associated with worse sexual wellbeing.
H4	Hypothesis 4: CNM individuals will exhibit a more proactive approach regarding their sexual health compared to monogamous people and those who report infidelity.
HIV	Human immunodeficiency virus
HPV	Human papilloma virus
MRMS	Multiple Relationships Maintenance Scale project (Mogilski et al., 2026); data set used in Study 1
MSHQ	Male Sexual Health Questionnaire
NCNM	Non-consensual non-monogamy (i.e. infidelity)
P1	Partner 1: The only partner of single-partnered people; (pseudo-)primary partner of multi-partnered people[4]
P2	Partner 2: The non-primary partner of multi-partnered people[4]
RI	Relationship identity: Monogamous vs consensually non-monogamous
SAB	Sex assigned at birth
SC	Sexual Compliance project (Nickull et al., 2025); data set used in Study 2
SDI	Sexual Desire Inventory
STI	Sexually transmitted infection

swinging; i.e., *RI subgroups*). For analysis, participants were dichotomized into two main *RI* categories: monogamous for the first response ($n = 344$; 38.8%) and CNM for the latter three or similarly written responses (e.g., "relationship anarchist," "solo poly"; $n = 544$; 61.2%).

Participants also indicated the *number of partners* with whom they currently had a romantic and/or physical relationship, dummy-coded into only one partner (single-partnered) or more than one partner (multi-partnered)[3]. Of our Study 1 sample, 502 (56.5%) participants were single-partnered, and 386 (43.5%) were multi-partnered.

Participants reported their age in years and completed the revised 9-item Sociosexual Orientation Inventory (SOI-R; Penke & Asendorpf, 2008) ($\alpha = .83$).

Sexual Functioning. Participants with multiple partners completed sexual functioning measures for up to two partners (Partner 1 and Partner 2; i.e., *P1* and *P2,* or primary and non-primary partners[4]), while participants in single-partner relationships completed them once. We measured female sexual functioning using the 19-item Female Sexual Function Index (FSFI; Rosen et al., 2000), which assesses sexual functioning with a partner over the past four weeks. The index consists of six 5-point Likert-type scales: *Desire* (e.g., "How often did you feel sexual desire or interest?"; two items; $\alpha^{P1} = .90$; $\alpha^{P2} = .97$), *Arousal* (e.g., "How often did you feel sexually aroused ['turned on'] during sexual activity or intercourse?"; four items; $\alpha^{P1} = .90$, $\alpha^{P2} = .73$), *Lubrication* (e.g., "How difficult was it to become lubricated ['wet'] during sexual activity or intercourse?"; four items; $\alpha^{P1} = .90$, $\alpha^{P2} = .81$), *Orgasm* (e.g., "How often did you reach orgasm [climax]?"; three items; $\alpha^{P1} = .87$, $\alpha^{P2} = .71$), *Satisfaction* (e.g., "How satisfied have you been with the amount of emotional closeness during sexual activity between you and your partner?"; three items; $\alpha^{P1} = .68$, $\alpha^{P2} = .75$), and *Pain* (e.g., "how would you rate your level [degree] of discomfort or pain during or following vaginal penetration?"; three items; $\alpha^{P1} = .88$, $\alpha^{P2} = .32$). Analysis of *P2* Pain scores were excluded due to poor reliability. Scores for the *Desire* subscale were calculated regardless of whether or not the respondent and their partner had had sexual activity in the past four weeks[5]. If sexual activity was reported, the remaining subscales and a composite FSFI *Total* score ($\alpha^{P1} = .89$, $\alpha^{P2} = .82$) were calculated with factor scoring (for details, see: Reed et al., 2012), but we also calculated an average total score for ease of interpretation alongside the other domains. Higher scores indicated better functioning apart from a reverse-scored *Pain* subscale (higher scores = more pain).

For men, we measured two domains of sexual functioning, ejaculation and erections, and satisfaction during the past month[6] with up to two partners using the 25-item Male Sexual Health Questionnaire (MSHQ; Rosen et al., 2004). The three subscales of the MSHQ are rated along a 5-point Likert-type scale: erection (e.g., "Without using drugs like Viagra, how often have you been able to get an erection when you wanted to with *[P1/P2]*? "; four items; $\alpha^{P1} = .77$, $\alpha^{P2} = .72$), ejaculation (e.g., "How often have you been able to ejaculate during sexual activity with *[P1/P2]*?"; eight items; $\alpha^{P1} = .61$, $\alpha^{P2} = .57$), and satisfaction (e.g., "Generally, how satisfied are you with the quality of the sex life you have with *[P1]*?"; six items; $\alpha^{P1} = .90$, $\alpha^{P2} = .90$). Scores from all 18 items were used to

calculate a composite MSHQ total score (α^{P1} = .82, α^{P2} = .80). Higher scores indicated better functioning.

STI Measures. Participants responded to four items assessing STI-related behavior and experiences. *Sexual risk willingness* was measured with a single item asking, "How willing would you be to have sex with someone you find very attractive if there were a chance of contracting a mild or curable sexually transmitted infection from them (e.g., herpes, a bacterial infection)?" (1 = very unwilling; 7 = very willing). Participants also reported whether they had ever been tested for an STI (yes/no; *Lifetime STI testing)*. Finally, participants were asked whether they had ever received an STI diagnosis (yes/no) and which diagnosis they received (chlamydia, gonorrhea, syphilis, herpes, hepatitis, trichomoniasis, human papillomavirus [HPV], and/or human immunodeficiency virus [HIV]). If participants reported "yes" to having been diagnosed with an STI and/or selected at least one of the STIs listed, their *STI prevalence* was coded as 1 (i.e., the individual has had an STI) and otherwise as 0.

Infidelity and Secrecy. Participants reported how often (1 = never, 5 = always): their own interactions with other people feel like infidelity (i.e. *feelings of infidelity*), they keep their sexual interactions with other people a secret from their partner (i.e., *clandestine extradyadic sex*), and they keep their emotional attachments with other people a secret from their partner (i.e., *clandestine extradyadic emotional attachments*).

Statistical Analysis

All analyses were conducted using Stata, Version 18. We compared participants by *RI* grouping and then allowed *feelings of infidelity* and *RI* to interact to test whether infidelity moderated the association between *RI* and sexual health outcomes. Following Bernerth and Aguinis (2016), Wright et al. (2024), and Wysocki et al. (2022), we only included control variables with strong theoretical and empirical rationales. We controlled for age and same-sex partnerships because sexual functioning (DeLamater & Karraker, 2009) and interest in CNM (Haupert et al., 2017) are each associated with age. Likewise, people who are same-sex attracted and bisexual are more likely to be in CNM relationships than exclusively other-sex attracted people (Haupert et al., 2017).

To examine group differences and associations between variables, we conducted ANCOVA using Stata's *regress* command. To control for Type I error due to multiple comparisons, we applied a Bonferroni correction separately within five families of analyses. Any missing data across each of these models underwent listwise deletion.

First, we assessed sexual functioning outcome variables predicted by:

(1) *Relationship identity* (monogamy, CNM)
(2) *Relationship identity subgroups* (monogamous, polyamorous, open relationship, swinging)

To account for differences emerging not by one's *RI* but by one's actual number of current partners (see Larva et al., 2024), we also performed a family of ANCOVAs to

compare: the sexual functioning of single- and multi-partnered participants with their only/primary partner; and sexual functioning of single-partnered participants to that of multi-partnered participants with their non-primary partners. We also ran paired t-tests of multi-partnered participants' sexual functioning with their primary and non-primary partner.

Then, three families of tests assessed STI measures by *RI* and by *RI subtype*, controlling for *sociosexual orientation* (because unrestricted sociosexuality is associated with *RI* [de Rivas et al., 2022; Lehmiller, 2015; Mogilski et al., 2020; Rodrigues et al., 2017] and greater STI risk [Hall & Witherspoon, 2011; Pipitone et al., 2021]) and *age*.

(1) *Lifetime STI testing* and *STI prevalence* tests (logistic regression)
(2) Prevalence tests (logistic regressions) of specific STIs: Chlamydia, Gonorrhea, Syphilis, Herpes, Hepatitis, Trichomoniasis, HPV, HIV
(3) Tests on *sexual risk willingness* (ANCOVA, OLS regression)

Finally, we built on the first set of ANCOVAs and assessed sexual functioning outcome variables predicted by *RI*, testing the following moderators:

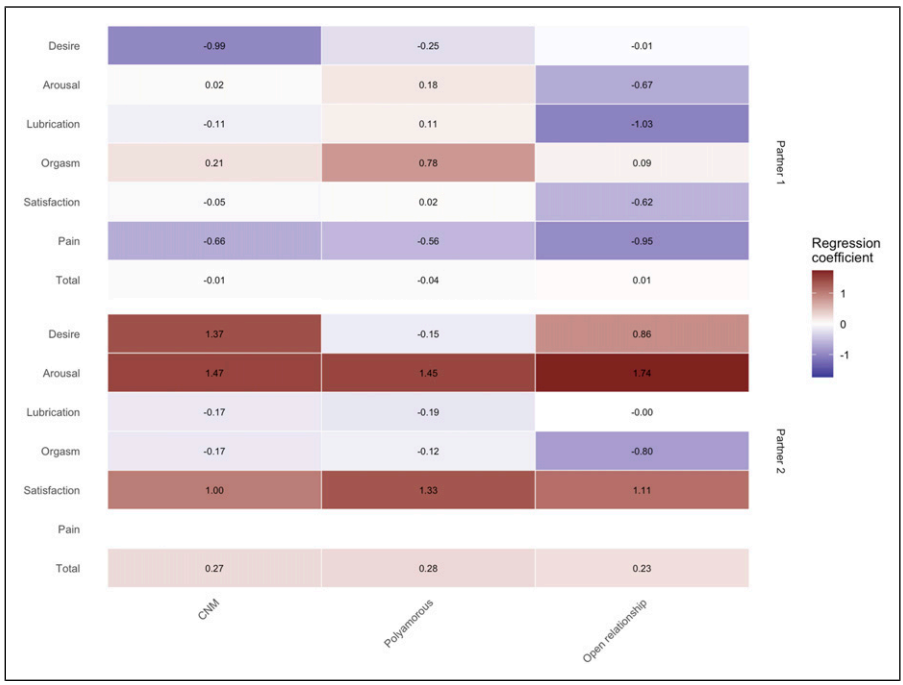


Figure 1. Heatmap of Study 1 ANCOVA results: Partner 1 and Partner 2 FSFI measures predicted by RI (subgroups). Tiles show regression coefficients. *: $p < 0.00385$. Predictors are in columns, and the reference group for RI and RI subgroups is Monogamous). Outcomes (FSFI domains) are in rows. Omitted: swinging category due to low observations; Partner 2 FSFI Pain scores due to low reliability

(1) *RI* × *feelings of infidelity*
(2) *RI* × *clandestine extradyadic sex*
(3) *RI* × *clandestine extradyadic emotional attachments*

Study 1 Results

Descriptive statistics and correlation matrixes are available in Tables A2-A6 (see supplementary materials). Only statistically significant results are reported in tables here, but the comprehensive set of regression tables are available via OSF.

Data were examined to check the assumptions of our statistical analyses. While the assumption of multivariate normality was violated, linear regression models are generally robust against this violation with our sample size (Knief & Forstmeier, 2021; Schmidt & Finan, 2018). To remedy the homogeneity of variances assumption violation between RI groups for some of the sexual functioning and infidelity measures, we used adjusted standard

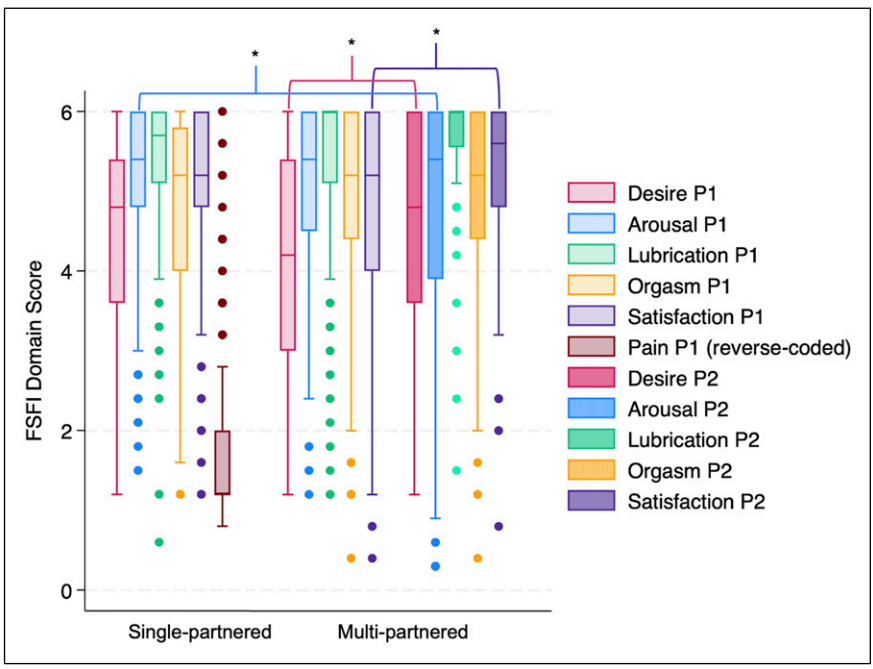


Figure 2. Study 1: Box plots of women's Partner 1 and Partner 2 FSFI domain scores by number of partners. Boxes show the interquartile range (IQR); center lines are medians; whiskers represent 1.5 × IQR; points indicate values beyond the whiskers. Scores use the FSFI scale (higher = better sexual function). Pain is reverse-coded so lower values indicate less pain. *Ns* vary by domain due to missingness (approximately 418–571). From left to right: the first * represents a significant ($p < 0.00385$) result in the ANCOVA comparing P1 of single-partnered women with P2 scores of multi-partnered women; the next two * represent significant ($p < 0.00385$) results of the paired t-test of multi-partnered women's FSFI scores with P1 versus P2

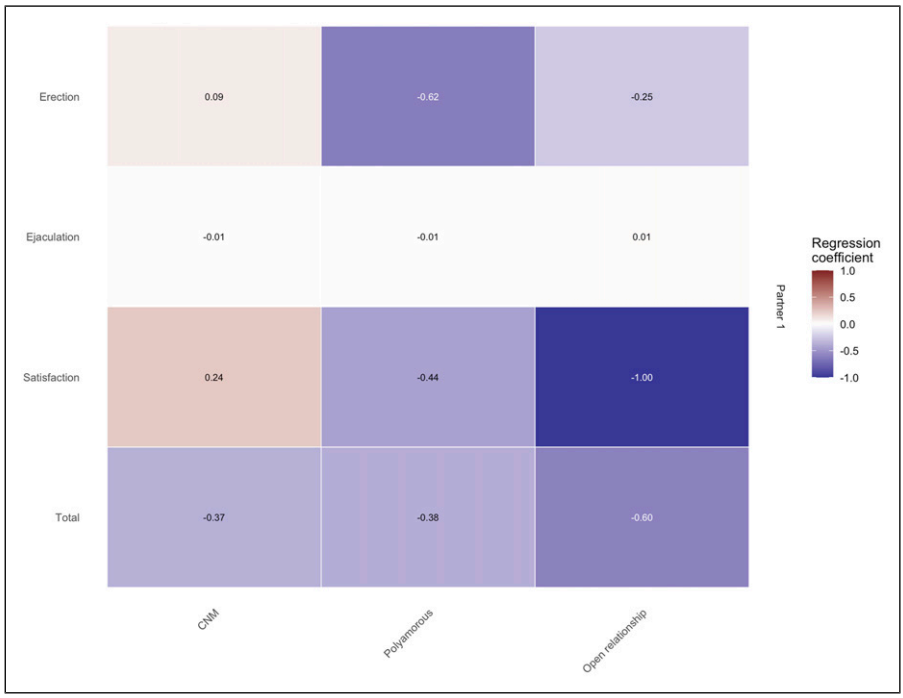


Figure 3. Heatmap of Study 1 ANCOVA results: Partner 1 MSHQ measures predicted by RI (subgroups). Tiles show regression coefficients. Outcomes (MSHQ domains) are in rows. *: $p < 0.00625$. RIx=Interaction with Relationship Identity (monogamous vs CNM). Omitted: Swinging category due to low observations

errors across models. In models where the assumption of homogeneity of regression slopes for the covariate *age* was violated, we applied an *RI* × *Age* interaction term.

Group Differences in Sexual Wellbeing

Female Sexual Functioning. We did not observe differences in FSFI scores by RI with P1 nor P2, nor within types of RI subgroups. Swinger results were omitted due to low observations in this category ($n < 30$). ANCOVA regression coefficients for P1 and P2 measures are summarized in a heatmap in Figure 1 (tables available on OSF).

Table A7–A9 reports the results of P1 and P2 FSFI score comparisons for single-vs multi-partnered women, summarized in Figure 2. Single- and multi-partnered women did not differ on any FSFI subscale scores with P1; however, multi-partnered women's P2 scores were higher for arousal ($\beta = -.245$) and total ($\beta = .213$) compared to single-partnered women's P1 scores. The paired *t* tests among those with multiple partners showed that P2 scores were higher than P1 scores for desire (Cohen's $d = -.22$) and satisfaction (Cohen's $d = -.3$) subscales—as well as total FSFI (Cohen's $d = -.33$) scores.

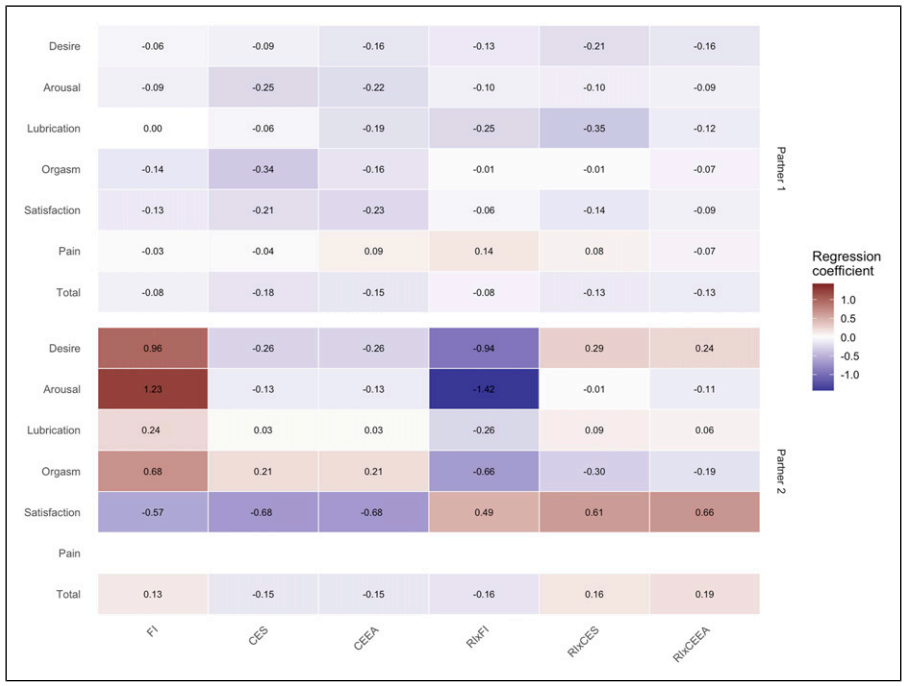


Figure 4. Heatmap of Study 1 ANCOVA results: Infidelity main and interaction effects, predicting Partner 1 & Partner 2 FSFI measures. Tiles show regression coefficients. Predictors are in columns, and the reference group for RI and RI subgroups is Monogamous). Outcomes (FSFI domains) are in rows. *: $p < 0.00385$. Omitted: swinging category due to low observations; Partner 2 FSFI Pain scores due to low reliability. Stars are suppressed for statistically underpowered findings

Male Sexual Functioning. A heatmap in Figure 3 summarizes regression coefficients from the ANCOVA addressing *H1* for men with P1. Again, swinger results were omitted due to low observations in this category, and P2 results were omitted due to low observations in models ($n < 100$). Scores on sexual functioning did not differ between monogamous and CNM men, nor among types of CNM. Likewise, we found no differences in MSHQ scores between single- and multi-partnered men, nor partner-specific differences (tables on OSF).

Sexual Wellbeing and Infidelity

Infidelity results are summarized in Figures 4 and 5. Feelings of infidelity and secrecy about extradyadic engagements were not linked to sexual functioning with a primary partner differently for monogamous compared to CNM individuals. Testing *H3*—clandestine extradyadic sex and emotional attachment were each associated with worse sexual satisfaction within men's primary relationships (CES: $B = -0.33$, $\beta = -0.40$, RSE = 0.10, 95% CI [-0.47, −0.15], $p = .001$, n = 248; CEEA: $B = -0.31$, $\beta = -0.36$, RSE = 0.08, 95% CI [-0.52, −0.14], $p < .001$, $n = 249$). This medium-size effect was

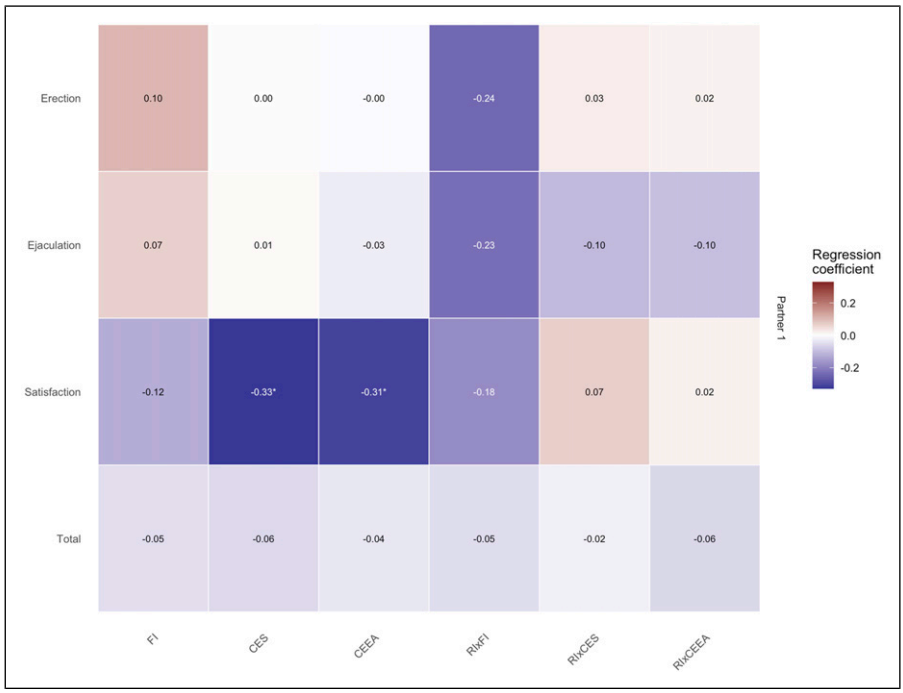


Figure 5. Heatmap of Study 1 ANCOVA results: Infidelity main and interaction effects, predicting partner 1 MSHQ measures. Tiles show regression coefficients. Outcomes (MSHQ domains) are in rows. *: p < 0.00625. RIx=Interaction with Relationship Identity (monogamous vs CNM). Omitted: swinging category due to low observations; Partner 2 FSFI Pain scores due to low reliability

consistent across monogamous and CNM men; MSHQ results are presented in Tables 3 and 4. The remaining models were insufficiently powered and/or did not yield significant results, so these results are presented on OSF.

STI Risk. Correlations between the STI Risk measures are displayed in Table A6 (see supplementary materials). The following results pertain to *H4*.

Lifetime STI Testing. The results of the logistic regression (see Table 5 and Figure 6) showed that CNM participants were three times as likely (odds ratio: 3.03, 95% CI [2.07, 4.42], $p < .001$) to have been tested for an STI compared to monogamous participants. The logistic regression by *RI* subgroups revealed that the true difference was between the polyamorous and the monogamous; polyamorous individuals were 3.62 times more likely (95% CI [2.38, 5.51], $p < .001$) to have ever been tested compared to monogamous individuals. Differences between other *RI* subgroups were not significant.

Lifetime STI Prevalence. The logistic regression indicated that there were no differences in likelihood of having ever been diagnosed with an STI between monogamous and CNM

Table 3. Study 1: ANCOVA of Male Sexual Health Questionnaire Scores With a Primary Partner, Predicted by Relationship Identity, Moderated by Participants' Clandestine Extradyadic Sex

	Total	Erection	Ejaculation	Satisfaction
	b (RSE)	b (RSE)	b (RSE)	b (RSE)
RI (ref. Monogamous)				
CNM	−0.29 (0.15)	0.07 (0.22)	0.17 (0.14)	0.16 (0.22)
CES	−0.06 (0.04)	0.00 (0.09)	0.01 (0.05)	−0.33* (0.10)
CES × RI (ref. Monogamous)				
CES × RI (CNM)	−0.02 (0.05)	0.03 (0.12)	−0.10 (0.06)	0.07 (0.13)
Age	−0.01* (0.00)	−0.03* (0.01)	−0.01 (0.00)	−0.01 (0.00)
Partner 1 sex (ref. different sex)				
Same sex	0.01 (0.06)	−0.02 (0.13)	0.12 (0.09)	−0.06 (0.16)
RI (ref. Monogamous) × Age				
RI (CNM) × Age	0.01 (0.00)			
Intercept	4.27* (0.13)	5.28* (0.22)	4.52* (0.14)	4.70* (0.22)
N	246	244	243	249
R^2	0.12	0.14	0.06	0.14
Adj. R^2	0.10	0.13	0.04	0.12
Log likelihood	−111.12	−315.04	−178.21	−312.03

Note. Regression coefficients, robust standard error (RSE) in parentheses.
*$p < .006$.

Table 4. Study 1: ANCOVA of Male Sexual Health Questionnaire Scores With a Primary Partner, Predicted by Relationship Identity, Moderated by Participants' Clandestine Extradyadic Emotional Attachments

	Total	Erection	Ejaculation	Satisfaction
	b (RSE)	b (RSE)	b (RSE)	b (RSE)
RI (ref. Monogamous)				
CNM	−0.29 (0.15)	0.08 (0.23)	0.15 (0.15)	0.17 (0.22)
CEEA	−0.04 (0.04)	0.00 (0.09)	−0.03 (0.05)	−0.31* (0.08)
CEEA × RI (ref. Monogamous)				
CEEA × RI (CNM)	−0.06 (0.05)	0.02 (0.13)	−0.10 (0.07)	0.02 (0.12)
Age	−0.01* (0.00)	−0.03* (0.01)	−0.01 (0.00)	−0.01 (0.00)
Partner 1 sex (ref. different sex)				
Same sex	0.00 (0.06)	−0.02 (0.13)	0.10 (0.09)	−0.05 (0.15)
RI (ref. Monogamous) × Age				
RI (CNM) × Age	0.01 (0.00)			
Intercept	4.27* (0.13)	5.30* (0.23)	4.56* (0.14)	4.70* (0.22)
N	247	245	244	250
R^2	0.13	0.14	0.07	0.14
Adj. R^2	0.11	0.13	0.05	0.12
Log likelihood	−110.29	−315.95	−177.17	−312.84

Note. Regression coefficients, robust standard error (RSE) in parentheses. *$p < .00625$.

Table 5. Study 1: Logistic Regression Predicting Lifetime STI Testing, Predicted by RI and RI Subgroup, Adjusted for Sociosexuality and Age

	Model 1 OR (RSE)	Model 2 OR (RSE)
RI:CNM (ref. Monogamous)	3.03* (0.58)	
RI subgroup (ref. Monogamous)		
Polyamorous		3.62* (0.78)
Open relationship		1.91 (0.55)
Swinger		1.99 (0.98)
Sociosexual orientation	1.50* (0.19)	1.55* (0.20)
Age	1.03* (0.01)	1.03* (0.01)
Intercept	0.19* (0.08)	0.17* (0.08)
df	3	5
N	820	820
AIC	835.98	834.56
BIC	854.81	862.81
Log likelihood	−413.99	−411.28

Note. OR = Odds ratio. RSE = Robust standard error.
*$p < .008$.

individuals, nor among *RI subgroups*. Constraining the logistic regression to only the multi-partnered individuals in our sample also did not reveal significant differences across *RI subgroups*, suggesting that monogamously identified people with multiple partners ($n = 71$) had no higher *STI prevalence* risk than multi-partnered individuals who identified as CNM ($n = 384$). Further, logistic regressions examining specific STI

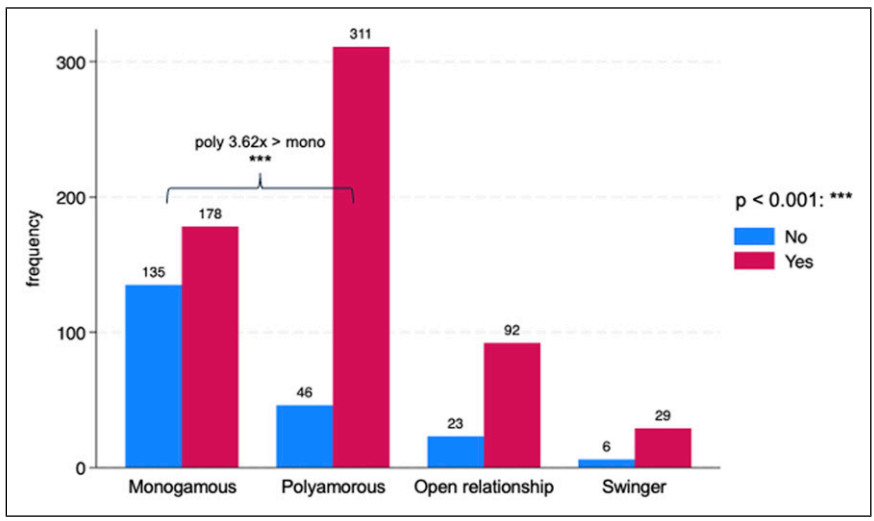


Figure 6. Study 1: Bar graph of lifetime STI testing by RI subgroups. N=820. Lifetime STI testing was measured with a yes/no response item asking, "Have you ever been tested for sexually transmitted infections (e.g., herpes, gonorrhea, etc.)?" Bonferroni-adjusted alpha level=0.0083

prevalence showed that none were more prevalent among either the CNM or monogamous group, nor among any of the *RI subgroups* (tables on OSF).

Sexual Risk Willingness. Finally, an ANCOVA examining *sexual risk willingness* revealed no differences in willingness to take mild sexual risk between different RIs (table on OSF).

Study 2 Method

Procedure and Measures

This study combined cross-sectional data sets: one consisting of data from the Sexual Compliance (SC) project (Nickull et al., 2025); and the other consisting of two waves (2019 and 2022) of data from the Genetics of Sexuality & Aggression (GSA) project, which includes multiple waves of data collection from twins and siblings (Johansson et al., 2013). See detailed data collection and study procedures in Nickull et al. (2025) and Johansson et al. (2013) respectively.

Participants. Participants were asked to report their relationship type along with other relationship and sexual health measures. Recruitment waves were cross-sectionally combined to maximize the number of respondents who reported being in a CNM relationship, resulting in a pooled dataset of 17,617 individuals. Participants were included in the analytical sample if they were in a relationship and had no missing data. This yielded a sample of N = 10,503 participants. Detailed participant characteristics are reported in Table A11 (see supplementary materials).

Gender and age for participants from the GSA data were gathered through the national registry; GSA participants could also report whether their national registry gender matched their identity, and if not, they were coded as "other". In the SC data, participants self-reported their gender and age. Their *sociosexual orientation* was measured via a 6-item version of the SOI (Penke & Asendorpf, 2008) (α = .73).

Sexual Functioning. As in Study 1, female sexual functioning was measured with the FSFI (Desire α = .83; Arousal α = .90; Lubrication α = .92; Orgasm α = .92; Satisfaction α = 0.80; Pain α = .83; Total α = .91), and among women who had not been sexually active with a partner in the previous four weeks, only the desire domain was measured. Here, however, the FSFI items were not specific to any partner; thus, here we do not know which partners (i.e., primary vs. non-primary) the non-monogamous women responded about.

In Study 2, we evaluated premature ejaculatory symptoms as a function of male sexual functioning, measured by the 6-item Checklist for Early Ejaculation Symptoms (CHEES; Jern et al., 2013; α = .78). Higher scores on CHEES correspond fewer premature ejaculatory symptoms, thus better sexual functioning (e.g.: "Over the past six months, was your control over ejaculation during sexual intercourse…" 1 = "very poor," 5 = "very good;" "Do you feel frustrated because of ejaculating before you want to?" 1 = "not at all," 5 = "extremely")[11]. These items were also not partner-specific.

Dyadic Desire. Dyadic desire (i.e., desire for "a partner" or "an attractive person") was measured with three items[13] from the Sexual Desire Inventory 2 (SDI-2; Spector et al., 1996; $\alpha = .70$), rated on a scale from 1 = no sexual desire to 9 = strong sexual desire. For example: "When you spend time with an attractive person (for example, at work or school), how strong is your sexual desire?"

Relationship Characteristics. In the GSA data set, if participants reported currently being in a relationship, they were asked, "How would you describe the relationship?" to which they could respond: monogamy, polyamory, open relationship, swinger/occasionally open—with definitions for each[12]—or none of the above ($n = 356$; excluded from our analysis). See Table A11 in supplementary materials for frequencies and percentages of relationship types. These relationship types were categorized into a two-group variable, *relationship structure,* as either *monogamous* (coded as 0) for individuals who responded monogamy, or as *non-monogamous* (coded as 1) for individuals who responded polyamory, open relationship, or swinger/occasionally open.

In the SC data, participants were asked to report about their intimate partner(s) based on a single item, "Please select the option that best describes your current situation." Response options with only one partner were categorized as monogamous; the remaining responses were categorized as non-monogamous[14]. Overall, 3.5% of individuals in relationships reported engaging in some form of non-monogamy.

We captured measures of infidelity from the following items: in the GSA survey, participants were asked, "Have either of you cheated during your relationship?"; and in the SC survey, people who reported having multiple partners were asked, "Are all partners aware of and consent to you having several partners?". We created a dummy variable *infidelity* to indicate across all data sets whether the participant reported cheating (themselves, their partner, or both) or that all partners were *not* aware of/consenting (*infidelity* = 1); otherwise, participants were coded as *infidelity* = 0.

Participants were asked to report whether they *cohabited* with the person they were in a relationship with, coded as a dummy variable (1 = yes, 0 = no). *Partner's gender* (man, woman, transman, transwoman, or other) was provided by the participant, and a dummy variable was created based on whether the respondent and their partner were a same-gender (=1) or mixed-gender (=0)[15] pair.

Statistical Analysis

We used Stata, Version 18, to conduct our analyses. We analyzed the data using nearest-neighbor matching with Mahalanobis distance[16]. Unlike traditional regression adjustment[17], nearest-neighbor matching is a causal inference method for observational data which: constructs comparisons by pairing each treated observation with the most similar control observation(s) based on covariates; improves covariate balance between groups; reduces potential bias from confounding variables; and allows us to estimate average treatment effects on the treated (ATETs)—that is, the mean effect of non-monogamy for those who reported being non-monogamous (see: Abadie & Imbens, 2002;

StataCorp, 2023; Stuart, 2010). Using demographic, relational, and sociosexual covariates to construct matched pairs, this approach allowed us to address imbalance between the small proportion of non-monogamous participants and the large monogamous comparison group.

In our models, we matched on the following covariables: genetic effect group (i.e. monozygotic twin pair, dizygotic twins/siblings, and non-relatives), gender, age, partner gender, sociosexuality, and cohabitation status. Two covariables had missing data due to study design (namely, partner gender was missing from the 2019 wave of GSA data, and SOI was not a measure included in the SC dataset), thus—following guidance set forth by Stuart & Rubin (2008)—we created a missingness indicator for these two variables and included them in the nearest neighbor matching model to prevent bias from listwise deletion. To assess the appropriateness of our matching variables, we estimated a logistic regression predicting *relationship structure* from these covariates, and additionally relationship length, to evaluate which predictors were appropriate for matching. Relationship length was not predictive and was excluded from subsequent models. Covariate balance diagnostics indicated that matching successfully reduced standardized differences on all covariates to near zero and equalized variance ratios. We then implemented 1:1 nearest-neighbor matching using Mahalanobis distance, applying bias adjustment on *age* and *sociosexuality*, and exact matching on categorical covariates *gender* and *partner gender*. Finally, we set $p < .05$ as our significance threshold to prevent type II error and to accommodate comparisons with the small number of CNM individuals in the Study 2 sample (<5%).

To test the effect of infidelity, we estimated ATETs separately and compared effects across those who reported infidelity versus those who did not using Wald-type tests of equality. Any missing data for infidelity underwent listwise deletion. Using G*Power 3.1, we conducted a sensitivity power analysis and approximated statistical power at both 80% and 90% using a two-sample independent-groups *t*-test framework with $\alpha = .05$ (two-tailed) and $n = 365$ per group (i.e., the number of matched CNM participants in the sample).[18] See supplementary materials for complete sensitivity analysis results. Apart from Desire, effects for FSFI subscales fell below both thresholds, so null findings for these outcomes should be interpreted with caution.

Study 2 Results

Descriptive statistics for continuous variables are reported in Table A12 (see supplementary materials). A correlation matrix is available in Table A13 (see supplementary materials). As above, only statistically significant results are reported here, and all nonsignificant results are available on OSF.

Group Differences in Sexual Wellbeing

Table 6 displays the results from nearest-neighbor matching for estimates of the effects of *relationship structure* (i.e., belonging to the non-monogamous [treatment] group) on each of the tested sexual health measures. These results test *H1*.

Table 6. Study 2: Nearest-Neighbor Matching Estimates (ATET) of Non-Monogamy (vs. Monogamy) on Sexual Wellbeing

	n	ATET (B [95% CI])	*p*
CHEES	3,823	0.30 [0.14, 0.46]	<.001
FSFI desire	6,576	0.43 [0.23, 0.63]	<.001
FSFI arousal	6,078	0.01 [−0.21, 0.22]	0.95
FSFI lubrication	6,078	−0.05 [−0.23, 0.12]	0.56
FSFI orgasm	6,078	−0.16 [−0.46, 0.14]	0.302
FSFI satisfaction	5,288	0.09 [−0.10, 0.27]	0.359
FSFI pain (reverse-scored)	5,687	0.07 [−0.17, 0.30]	0.572
FSFI total	5,267	0.15 [−0.89, 1.18]	0.781
SDI (dyadic)	10,503	0.53 [0.31, 0.75]	<.001

Note. ATET = average treatment effect on the treated. Estimates from nearest-neighbor matching with Mahalanobis distance (in Stata, nneighbor = 1), bias adjustment on age and sociosexuality, and exact matching on gender and partner gender. Two-tailed *p*-values. Higher FSFI Pain (reverse-scored) values indicate less pain. SDI = Sexual Desire Inventory (dyadic desire, 3-items).

Men's Early Ejaculatory Symptoms. Results indicated a positive effect of relationship structure, meaning that non-monogamous men reported fewer ([B =] 0.30 points on the 1–5 scale) early ejaculatory symptoms on average than monogamous men.

Female Sexual Functioning. For female sexual functioning, the Desire subscale showed a significant effect of relationship structure; non-monogamous women reported greater desire on average than monogamous women ([B =] 0.43 points on the 1.2–6 scale). No effect of relationship structure was found for any other FSFI domain.

Dyadic Desire. Relationship structure was associated with dyadic desire, such that non-monogamous individuals reported slightly greater ([B =] 0.53 points on the 1–9 scale) dyadic desire than monogamous individuals.

Sexual Wellbeing and Infidelity

Figure 7 summarizes the ATET and Wald test results for the effect of infidelity among the non-monogamous participants on sexual wellbeing, which tested *H3*. Full estimates for men's early ejaculatory symptoms and women's sexual functioning domains are available on OSF, and Table A14 (see supplementary materials) displays the results for dyadic desire. Each Wald test indicated that infidelity did not have a significant effect on any of the outcomes tested. Only one significant effect emerged: among those reporting no infidelity, being non-monogamous had a small, positive effect (ATET[*b*] = 0.41, $p < 0.05$, Glass's $\Delta = 0.24$) on *dyadic desire*. However, the difference between the infidelity groups was not statistically reliable (Wald test: $p = 0.123$), indicating that the effect should be interpreted with caution.

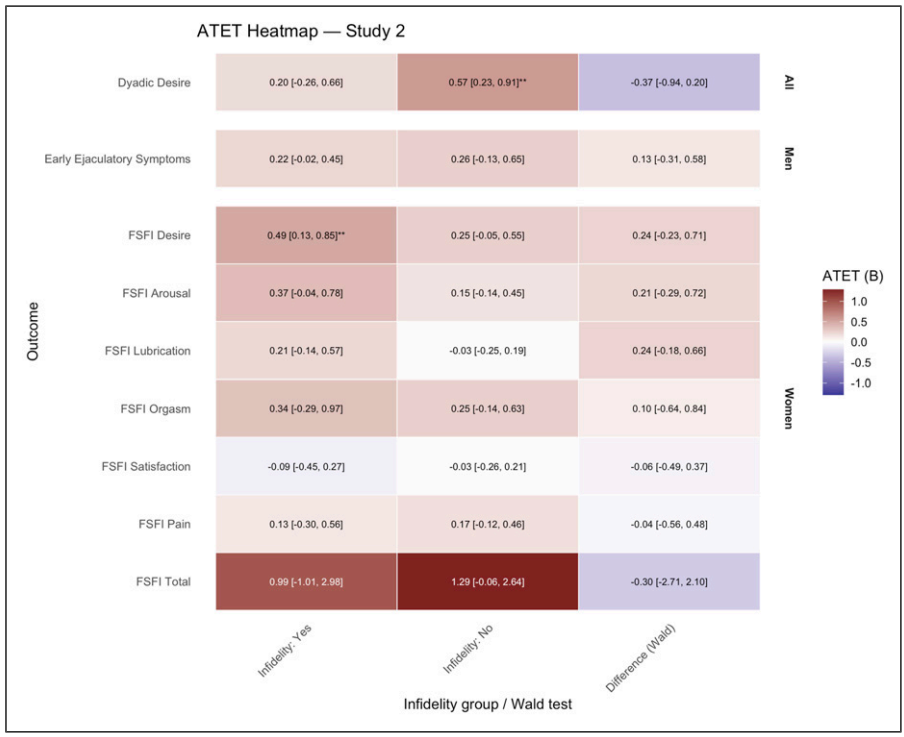


Figure 7. Heatmap of Study 2 ATET and Wald Test results: The effect of infidelity on measures of global sexual wellbeing. Tiles show average treatment effects on the treated (ATET; i.e., average effect of non-monogamy). Predictors (infidelity vs no infidelity) are in columns, along with a Wald test of differences between infidelity and no infidelity. Outcomes are in rows. Stars use one-tailed *p*-values (**: $p < 0.01$)

Discussion

We assessed whether sexual health and wellbeing—encompassing sexual functioning, desire, and the prevention efforts and prevalence of STIs—differed between people in monogamous and non-monogamous relationships, and whether the consensual nature of such relationships is protective against poorer sexual health and wellbeing. To our knowledge, our data are the first to examine multiple domains of sexual wellbeing across monogamous and CNM relationship identities, as well as the first to explicitly test whether these outcomes differ by how individuals manage multiple sexual partnerships. This is also the first comparison of non-monogamous and monogamous groups with nearest-neighbor matching, which reduces confounding and self-selection biases that characterize most prior CNM research based on cross-sectional convenience samples. Across the two methodologically complementary studies, we did not find evidence that non-monogamy—consensual or not—compromises sexual health in either study. Where differences emerged, they reflected partner-specific dynamics, relational secrecy, and proactive health-seeking behavior, rather than non-monogamy itself.

Our data mostly supported H1. In Study 1, across monogamous and CNM relationship identities, participants had similar sexual functioning overall. In Study 2, however, monogamous men reported early ejaculatory symptoms more than non-monogamous men—with small to medium effect. Several interpretations may account for this finding. First, premature ejaculation is often associated with lower sexual confidence and self-efficacy (e.g., Liu et al., 2024; Rowland, 2011). Men who experience such difficulties may therefore be less likely to pursue or maintain CNM relationships, which can require comfort and competence in navigating multiple sexual partnerships. In this view, men who are better able to prolong ejaculation, and thus sustain sexual activity and satisfy their partners, may be more sexually confident, more motivated by sexual satisfaction and pleasure in their sex lives (Rowland et al., 2004, 2007; Patrick et al., 2005), and consequently, more open to CNM (Kelberga & Martinsone, 2021, 2022). Second, because CNM individuals tend to be more sociosexually unrestricted (e.g., de Rivas et al., 2022; Rodrigues et al., 2017, 2019b) and more kinky (i.e. engage in BDSM; see Vilkin & Sprott, 2021), they may approach sexuality with more self-awareness, partner communication, and willingness to express sexual preferences. Thus, our finding could reflect broader differences in sexual experience (Hartmann et al., 2005) and communication (Rehman et al., 2011) rather than relationship structure alone. Third, it is possible that the difference reflects variation in sexual frequency. If non-monogamous people report higher frequency of engagement in sex for various motivational reasons (Kelberga & Martinsone, 2021), they may have partnered sex more often and thus experience fewer early ejaculatory symptoms, as premature ejaculation is associated with sexual infrequency (Jern et al., 2009; Niu et al., 2023).

We found support for H2 in women, whereby multi-partnered women reported higher sexual desire, satisfaction, and overall functioning with their non-primary compared to primary partner with a small effect. Desire was not directly measured among multi-partnered men in Study 1, but erectile and ejaculatory functioning were similar with both partners, suggesting men hold comparable levels of desire for primary and non-primary partners. This partner-specific difference goes hand-in-hand with another difference among one- vs multi-partnered women that we observed in Study 1: while women with one partner reported similar functioning as multi-partnered women with their primary partner, multi-partnered women reported better arousal and overall functioning with their non-primary partners, though effect sizes were small. No similar differences emerged among men.

One interpretation is that some CNM relationships are motivated by desire discrepancies, particularly women who report lower desire and arousal with their primary male partners (Arenella et al., 2024). Women may experience higher arousal and satisfaction with additional partners if their non-primary partners fulfill sexual desires that are otherwise unmet in a primary pairbond (Arter & Bunge, 2023; Muise et al., 2018). Sexual experiences with non-primary partners may be perceived as more thrilling (Kelberga & Martinsone, 2022), adventurous (Wood et al., 2021), erotic (Balzarini, Dharma, Muise, & Kohut, 2019), or sexually novel (Banaszkiewicz, 2024). People may also be in an earlier courting phase with a second partner where the novelty of the relationship fosters some areas of sexual functioning (Morton & Gorzalka, 2015). These results are relevant to current disagreement about whether sexual desire is partner-specific

(Peters et al., 2024), as our findings suggest that it is. Furthermore, our results are consistent with the evolutionary psychological prediction that partner-specific sexual desires may be functionally adaptive. For instance, dual mating strategy theories (Buss & Schmitt, 1993; Gangestad & Simpson, 2000) propose that women may have sex with additional partners to secure additional reproductive assets (e.g., protection, access to resources, offspring genetic diversity, etc.), which could underlie heightened desire for non-primary partners.

Our measures in Study 2 did not distinguish between primary vs non-primary relationships, so it is possible that multi-partnered participants responded to these measures with either their primary partner in mind or on a global level across their multiple partners.[19] When asked to rate their non-partner-specific desire using the FSFI, non-monogamous women reported greater desire on average than monogamous women. This finding may reflect a matter of measurement scope. Even if partner-specific desire were lower in CNM primary relationships, overall desire could still be higher if non-monogamous women have access to multiple outlets for eroticism. In other words, they may have more opportunity for ongoing novelty, variety, or exploration (e.g., Balzarini, Dharma, Muise, & Kohut, 2019; Banaszkiewicz, 2024; Kelberga & Martinsone, 2022), which could sustain a higher level of sexual desire. Similarly, Study 2 measured dyadic desire globally rather than toward a particular partner. Dyadic desire, even when controlling for sociosexual orientation and demographic variables, was modestly higher among non-monogamous compared to monogamous individuals. These findings may be interpreted in two ways; multipartner contexts may foster greater sexual desire, and/or individuals who already experience higher levels of dyadic desire are more inclined to pursue multiple relationships. Due to this difference in measurement scope, irrespective of the direction of the causal relationship, this pattern does not directly contradict earlier findings that reported lower eroticism among CNM individuals for their primary partners (Balzarini, Dharma, Muise, & Kohut, 2019).

H3 was mostly unsupported across both studies. In Study 1, participants' infidelity was unrelated to sexual functioning with primary and non-primary partners, with one exception: the more men felt that they kept their extradyadic sex and emotional attachments a secret from their only or primary partner, the lower they rated their satisfaction with that partner—a medium-sized effect—regardless of their relationship identity. This is consistent with studies showing that secrecy is related to lower relationship quality in monogamous relationships (Foster & Campbell, 2005); although, prior evidence also suggests that secrecy may be a symptom—as opposed to a consequence—of poor relationship satisfaction and quality (Davis & Tabri, 2023). For example, Allen and Rhoades (2007) found that greater emotional involvement with extradyadic partners was associated with preexisting intimacy dissatisfaction and even dissolution of the primary relationship. Further, Peoples et al. (2019) observed that infidelity and secrecy occurs in CNM and monogamous relationships, and were closely tied to unmet emotional needs, deception, and relational conflict. These findings suggest that secrecy about extradyadic intimacy may reflect broader relational difficulties in the form of poor relationship management and quality (Vowels et al., 2021).

In Study 2, when we distinguished consensual and non-consensual forms of non-monogamy, sexual health outcomes did not differ between these groups. This

suggests that the observed differences in early ejaculatory symptoms and sexual desire cannot be attributed to whether non-monogamy was consensual. Fisher et al. (2009) found that men reporting extramarital affairs had a lower risk of premature ejaculation, and although we did not find differences based on infidelity per se, non-monogamous men reported fewer early ejaculatory symptoms. This pattern may indicate that the ability to delay ejaculation is more characteristic of men who pursue or maintain multiple partners, rather than an outcome of infidelity. Similarly, Vowels et al. (2021) found that sexual and dyadic desire predicted a greater likelihood of engaging in infidelity, supporting the idea that stronger or more frequent sexual desire may motivate multipartnering behavior. Taken together, our findings raise the possibility that previous studies reporting associations between infidelity and sexual health outcomes—when defining infidelity under monogamous assumptions—may have inadvertently captured effects of multipartnering more broadly, rather than differences in faithfulness versus unfaithfulness per se.

H4 was partially supported. Polyamorous individuals were approximately 3.6 times more likely to have ever been tested for STIs but no more likely to have had a STI compared monogamous individuals. This aligns with prior findings (Lehmiller, 2015; Levine et al., 2018) that CNM people's greater efforts to prevent STI spread are successful despite having more partners. However, CNM people were equally willing to take a mild sexual health risk as monogamous people, adding to the mixed evidence on whether CNM individuals engage in more or less barrier use across some sexual activities (Conley et al., 2012, 2013; Rodrigues, Lopes, & Conley, 2019; Træen & Thuen, 2021). Further, feelings of infidelity had no association with sexual risk willingness, nor lifetime STI testing or prevalence. This does not support our prediction or prior research showing that individuals who cheat engage in greater sexual health risks than those in faithfully monogamous or CNM relationships (Conley et al., 2012; Lehmiller, 2015; Rodrigues, Lopes, & Conley, 2019).

Limitations and Future Directions

Several limitations ought to be considered. Our initial plan detailed analyses where we compared CNM, infidelity, and monogamous groups, but this approach was hindered by low prevalence of self-reported infidelity or secrecy, constraining feasibility to test these effects categorically and directly. Although Study 1 included four relationship identity subgroups (monogamy, polyamory, open relationships, and swinging), very few participants in Study 1 identified as swingers, limiting group comparisons. Additionally, while our samples were cross-cultural and diverse in gender, sexual, and relationship orientations, they were racially homogenous, and we lacked information on participants' disability status.

Methodologically, our Study 1 analyses applied conservative Bonferroni corrections that assume complete independence among variables—an assumption not entirely met given intercorrelations across sexual health domains—potentially inflating Type II error. Moreover, Study 1's measures and interpretations were framed around primary and non-primary partners without accounting for cohabitation or relationship length, which may limit generalizability to polyfidelitous or non-

hierarchical CNM structures (see Balzarini, Dharma, Kohut, et al., 2019). In Study 2, combining multiple datasets with different measures was necessary to maximize CNM representation, but it introduced some variability in operationalization—particularly in how infidelity was defined and measured (i.e., lifetime infidelity in GSA vs. current infidelity in SC data). This discrepancy may partly explain the lack of observed effect, as the GSA's all-time measure may capture infidelity that occurred some time ago, including cases where couples have since reconciled or rebuilt satisfaction (Olson et al., 2002).

Measurement constraints are also noteworthy. First, both studies relied on self-reported sexual functioning measures (e.g., FSFI, MSHQ), which—though validated—may not align with objective physiological indicators. Second, some FSFI domains exclude participants who had not recently engaged in partnered sexual activity, which may disproportionately exclude, for example, women in same-sex relationships (e.g., Boehmer et al., 2012; Frederick et al., 2021), or those with an acute or chronic health condition impeding sexual activity, and therefore bias results toward recently sexually active respondents. Third, current *RI* may not fully reflect the sexual health behaviors captured by lifetime STI measures; although we controlled for age and sociosexual orientation, we cannot rule out that lifetime STI experiences predate or extend beyond participants' current relationship contexts. Fourth, STI prevalence was measured via self-report rather than medical records, introducing potential reporting bias and gaps in participants' diagnostic knowledge; further, our data did not distinguish between sexually and non-sexually transmitted infections (e.g., HSV-1 and -2, HPV), nor between oral and genital presentations, meaning STI prevalence findings should be interpreted with appropriate caution. Fifth, the only male sexual functioning measure available across all three datasets in Study 2 was premature ejaculation; replication with erectile dysfunction measures in a sufficiently powered sample is warranted. Additionally, apart from sexual performance enhancing drugs like Viagra, neither study controlled for the use of other types of medications or substances that affect sexual desire or performance (e.g., psychotropics, alcohol).

Finally, the *absence of evidence* linking infidelity to sexual health outcomes does not imply a true null effect. Sensitivity power analyses further indicated that null findings for five of seven FSFI subscales in Study 2 fell below the minimum detectable effect and should be interpreted with caution. Future research should employ longitudinal designs and context-sensitive definitions of infidelity that consider relationship agreements beyond sexually and emotionally exclusive monogamy, allowing a more precise evaluation of whether deception, consent, and disclosure shape sexual health outcomes. Understanding these dynamics is critical for advancing sexual health research in relationship-diverse populations. By integrating evolutionary, relational, and sexual health perspectives, future studies can clarify how consensual and non-consensual forms of multi-partnering intersect with both relational satisfaction and physiological sexual wellbeing—moving toward a more nuanced understanding of diverse intimate relationships.

To summarize, non-monogamy does not appear to compromise sexual health. Indeed, men in non-monogamous relationships showed fewer premature ejaculatory difficulties, and non-monogamous women reported higher desire, suggesting

that multi-partnering may pair with sexual wellbeing rather than undermine it. The consensual or non-consensual nature of non-monogamy matters less for sexual health outcomes than commonly assumed. What does matter is secrecy; men who conceal extradyadic involvement report lower sexual satisfaction, pointing to relational honesty rather than negotiated (non-)exclusivity as the key protective factor.

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Ethical Considerations

Study 1: Ethical approval was obtained from the host universities of principal investigators, including the ethical committees of the University of Turku and the institutional review board of the University of South Carolina Salkehatchie. Study 2: Ethical approval was obtained from Åbo Akademi ethical committee.

Consent to Participate

Participants provided written informed consent prior to participation in surveys.

Author Contributions

Initial planning, hypotheses, and research design: Michelle Larva, Justin K. Mogilski, Patrik Jern, Annika Gunst, David L. Rodrigues, Markus Rantala
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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.

Open Research Statement

The research was pre-registered. The aspects of the research that were pre-registered were hypotheses and data analysis plans. The registration was submitted to OSF. To protect participant privacy, anonymized versions of the data used in the research is publicly posted and available at https://osf.io/kuarz.

Supplemental Material

Supplemental material for this article is available online.

Note

1. See item 1 in the Data Management section of the Statistical Appendix, provided in the supplementary materials. All footnotes correspond with numbers in this section of the supplementary materials.

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