Sexual Infidelity Among Married and Cohabiting Americans

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Americans disapprove of sexual infidelity. More than 90% of the general public say it is "always" or "almost always" wrong for a married person to have sex with someone besides the marriage partner (Smith, 1994). About half the states in the U.S. retain laws against adultery that, although they are rarely enforced, would deny married persons who have extramarital sex the right to vote, serve alcohol, practice law, adopt children, or raise their own children (*Constitutional barriers*, 1992; Siegel, 1992). American couples, whether married or cohabiting, agree that it is important to be monogamous (Blumstein & Schwartz, 1983: Greeley, 1991).

Couples' agreements about sexual exclusivity are a contractual condition of their unions. As with all contracts, bargains are sometimes broken. Although sexual fidelity is the dominant practice, recent surveys show that between 1.5 and 3.6% of married persons had a secondary sex partner in the past year (Smith, 1991; Choi, Catania, & Dolcini, 1994; Leigh, Temple, & Trocki, 1993). This paper asks why some people are sexually exclusive while others have sex with someone besides their mate.

PREVIOUS RESEARCH

Research on sexual infidelity has focused on three domains—the personal values of the individual, the opportunities for extramarital sex, and the couple's relationship.

Permissive sexual values are associated with extramarital sex. Among Americans who believe extramarital relations are "not at all wrong," 76% report having had extramarital sex compared to only 10% of those who think extramarital sex is "always wrong" (Smith, 1994). Being male, African-American, and well educated are all associated with permissive sexual values (Smith, 1994). So is living in a big city. Extramarital permissiveness is linked to liberal political and religious ideologies (Smith, 1994). It is also related to gender egalitarianism and premarital permissiveness (Reiss, Anderson, & Sponaugle, 1980).

Opportunities, namely potential partners and circumstances assuring secrecy, facilitate extramarital sex. Some Americans admit they would have extramarital sex if their mate would not find out (Greeley, 1991). Couples who lead separate lives, for example, have more opportunities and are more likely to have secondary sex partners (Blumstein & Schwartz, 1983). Married people who perceive alternative partners to be available are more likely to have had extramarital sex (Johnson, 1970; Maykovich, 1976). Of course, those predisposed to extramarital sex might be more likely to recognize opportunities that arise.

Dissatisfaction with the marital relationship itself is associated with extramarital sex (Brown, 1991; Vaughn, 1986). Those who engage in adultery are less likely to report happy marriages (Greeley, 1991; Bell, Turner, & Rosen, 1975). Infidelity has been linked to men's sexual dissatisfaction (Maykovich, 1976) and to women's perception of inequity in the marriage (Prins, Buunk, & VanYperen, 1983). Causal direction is unclear, however, and other studies fail to find a significant association for marital happiness (Maykovich, 1976), marital adjustment (Johnson, 1970), seeing a mate as less affectionate (Edwards & Booth, 1976), or, for Whites, quality of marital sex (Choi et al., 1994). National surveys identify demographic risk factors for multiple sex partners. Education is positively related not only to permissive sexual values, but also to sexual infidelity (Smith, 1991; Leigh et al.,

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1993). Being African-American is associated with greater likelihood of multiple sexual relationships than being White (Smith, 1991; Dolcini et al., 1993). Men engage in more extramarital sex than women (Choi et al., 1994; Smith, 1991), perhaps because of male-female differences in reproductive strategies (Lancaster, 1994), the gendered nature of learned sexual scripts (Gagnon & Simon, 1973), or a double standard that judges men's sexual permissiveness less harshly than women's. The number of sex partners declines with age (Dolcini et al., 1993; Smith, 1991), which might reflect biological effects of aging (Edwards & Booth, 1994) or recent cohorts' more permissive sexual values (Smith, 1994). Compared to married couples, cohabitors are not as sexually exclusive (Forste & Tanfer, 1996)—consistent with their less conventional values (Clarkberg, Stolzenberg, & Waite, 1995), with the lower levels of commitment in cohabiting unions (Bumpass, Sweet, & Cherlin, 1991), and with differences in the sorts of partners chosen for cohabitation as opposed to marriage (Forste & Tanfer, 1996).

Findings have accumulated in a piecemeal fashion. Since no study has integrated value preferences, sexual opportunities, relationship constraints, and demographic risk factors into a single multivariate model, we cannot discount the possibility of spurious associations between these factors and infidelity.

Conceptual Framework

Everyday accounts of extramarital sex often stress irrational causes like alcohol-impaired judgment or sexual addiction (Giddens, 1992). Although cultural scripts focus on romance and passion, people contemplating infidelity describe considered decisions. The self-conscious evaluation of extramarital options has been called "thinking" (Atwater, 1982) or "the debate" (Lawson, 1988). A wife reports making "a quick sort of negative and positive checklist" (Lawson, pp. 134–136). A husband confides, "(I)t's a question you have to ask yourself before.… 'Why am I doing this? What will I get out of it? How does this affect the status quo?'" (Lawson, p. 147).

Given social norms and strong dyadic expectations for sexual exclusivity, sexual infidelity demands calculated behavior. Theorizing about sex in terms of anticipated costs and gains yields useful insights, as Reiss and Miller (1979) suggested when hypothesizing a "reward-cost balance" for premarital permissiveness. A decision-making framework also serves to integrate piecemeal results of prior studies on extramarital sex.

Tastes and Values

A review of clinical and research studies identifies 31 reasons for extramarital relations; Most, falling under the categories of sex, emotional intimacy, love, and ego bolstering, pertain to personal gratification (Glass & Wright, 1992). Some people's tastes and values increase the likelihood that they will engage in extramarital sex. People highly interested in sex might eschew sexual exclusivity because they anticipate greater pleasure from extramarital relations. On the other hand, nonpermissive values are known to be negatively associated with sexual infidelity, perhaps because people who hold these values anticipate discomfort reconciling dissonant beliefs and behavior (Lawson, 1988).

> *Hypothesis 1a*: Greater interest in sex is associated with a greater likelihood of infidelity.

> *Hypothesis 1b*: Nonpermissive sexual values are associated with a lower likelihood of infidelity.

Opportunities

People with fewer opportunities for undetected sex must go to greater lengths to have extramarital sex. Individual endowments and learned skills affect how many sexual opportunities come one's way. People with more sexual relationships in the past are more likely to have a secondary sex partner (Bozon, 1996). The sexually experienced might be more attractive; or they might have a "learned advantage" if they are more efficient than novices at recognizing sexual opportunities, recruiting sex partners, and managing sexual encounters.

> *H2a*. Having had more sexual partners previously is associated with a greater likelihood of infidelity.

Social context also determines opportunities. As a place to socialize outside the company of a mate, the workplace offers access to potential part-

ners (Lawson, 1988). Some work presents greater opportunities than other work. For instance, people whose jobs require overnight travel are more likely to have multiple sex partners (Wellings, Field, Johnson, & Wadsworth, 1994). Compared to small towns, big cities offer more opportunities for undetected sex—more potential partners, greater anonymity, and more permissive sexual values (Smith, 1994). In fact, big city residents do average more sex partners (Smith, 1991).

H2b. A job requiring personal contact with potential sex partners is associated with greater likelihood of infidelity.

H2c. Big city residence is associated with greater likelihood of infidelity.

Social networks composed of people who are apt to disapprove of adultery discourage extramarital relations, if only because one must go to greater lengths to keep sexual infidelity secret. Interestingly, married couples who became nonmonogamous "swingers" were insulated from social networks monitoring behavior and imposing costs on nonconformists: Swingers knew fewer neighbors, visited relatives less often, and joined fewer religious groups (Gilmartin, 1974).

H2d. When partners enjoy one another's kinship and friendship networks, the likelihood of infidelity is lower.

H2e. Controlling for sexual values, attending religious services more frequently is associated with lower likelihood of infidelity.

Primary Relationship

Because partners expect fidelity, potential costs to the primary relationship loom large in the face of infidelity. A mate who learns of a partner's infidelity might respond with emotionally-draining recriminations, tit-for-tat infidelities, physical abuse, the withholding of couple services (e.g., sex, companionship, monetary support), and even divorce (Pittman, 1989).

Marital quality mediates costs. If a marriage is judged to be unrewarding, one has less to lose from extramarital sex. One can afford to be indifferent, both to costs to the marital relation and to sanctions a mate might offer. An extreme example is the "out-the-door" affair where one partner pursues an extramarital relationship to force a mate to end an unhappy marriage (Brown, 1991). Like subjective marital dissatisfaction, mates' social dissimilarity or heterogamy might prompt infidelity because social differences imply lower marital returns as a result of fewer stabilizing commonalities in the relationship (Lehrer & Chiswick, 1993).

H3a. Greater dissatisfaction with the union is associated with greater likelihood of infidelity.

H3b. Greater disparity in partners' social characteristics is associated with greater likelihood of infidelity.

People get locked into a union, however unfulfilling, by investments that they cannot recoup outside the relationship. Married people have more invested in their unions than do cohabitors. Besides a public commitment, the married are more likely to have children and to own a home jointly. They face higher exit costs should the relationship end. Because cohabitors risk less by an affair, it is not surprising that cohabitors are more likely to have secondary sex partners (Dolcini, et al., 1993).

H3c. Cohabiting is associated with a greater likelihood of infidelity.

The likelihood of ever having been unfaithful increases with the duration of the union due to longer exposure to the risk of infidelity. At any given time, however, the likelihood of infidelity might vary with union duration. There are two competing arguments. If couples who have been together longer have made more stabilizing investments in their relationship, what they stand to lose will discourage infidelity. Yet, declines in coital frequency (Wellings et al., 1994) suggest that some marital benefits wane with time. If benefits jeopardized by infidelity decline over time, the likelihood of infidelity will increase at longer union durations.

H3d. (investment hypothesis) Longer union duration is associated with lower likelihood of infidelity at a given time. Or:

H3e. (habituation hypothesis) Longer duration is associated with greater likelihood of infidelity at a given time.

Integrating prior findings on sexual infidelity, a decision-making framework generates hypotheses to be tested with superior survey data now available. We estimate a multivariate model of sexual infidelity incorporating personal tastes and values, the sexual opportunity structure, and features of the primary (i.e., marital or cohabiting) relationship. We control for demographic "risk factors" that might confound the associations among variables and consider whether factors informing sexual decision making can account for the effects of gender, race, age, and education.

METHOD

The 1992 National Health and Social Life Survey (NHSLS) is a national probability sample of 3,432 English-speaking Americans ages 18–59 who were interviewed by NORC about sexual attitudes and behavior (Laumann, Gagnon, Michael, & Michaels, 1994, pp. 42–73). Respondents included those who were legally married and those who were cohabiting. In a face-to-face survey, interviewers asked about social background, health, fertility, sexual activities, attitudes, and fantasies. After answering demographic questions at the start of the interview, respondents filled out a short, self-administered questionnaire inquiring, among other things, whether they had ever had extramarital sex and whether they had had sex with someone besides their regular partner in the last 12 months. Interviewers then collected detailed marital, cohabitation, and sexual histories.

This analysis focuses on 2,870 respondents for whom sexual infidelity had been possible because they had married or lived in a sexual relationship at one time or another. We included African-American and Hispanic oversamples; but because of small sample size, we excluded 45 same-sex cohabitors and 4 other cases for whom partner's gender was unknown. We also eliminated 223 respondents for whom we could not ascertain length of exposure to the risk of infidelity. This left 2,598 usable cases.

Data quality is a concern with sensitive matters like extramarital sex. NHSLS self-reports of extramarital sex are consistent with those from the General Social Survey (Laumann et al., 1994), but we examined how results were affected by different operational definitions of sexual infidelity. Confidence in our findings increased when we could reconcile results regardless of: (a) the method of eliciting the report of infidelity; (b) a focus on whether infidelity had ever occurred over the course of a union (cumulative incidence) or during a given time period (prevalence); and (c) the respondents considered (in marriages or in all heterosexual unions). We constructed three measures of infidelity. Given a dichotomous dependent variable, we used logistic regression to estimate the multivariate models.

Dependent Variables

Self-recorded cumulative incidence. On a self-administered questionnaire to be sealed in a "privacy" envelope, respondents marked whether they had ever had sex with someone other than their husband or wife while they were married. This self-recorded item was less vulnerable to social desirability bias than a person-to-person interview. To link sexual behavior and mate's characteristics, we limited our analysis of this item to respondents who had been married only once, because those with multiple relationships did not indicate which one involved adultery. Extramarital sex was reported by 266 (15.5%) of the 1,717 respondents in this category.

Interview cumulative incidence. Two interview parts determined whether ever-married and ever-cohabited respondents had ever been unfaithful. First, sexual histories showed the timing of sexual relationships in the 12 months before the interview. Sex was defined as "mutually voluntary activity with another person that involves genital contact and sexual excitement or arousal, that is, feeling really turned on, even if intercourse or orgasm did not occur." Second, for earlier periods, interviewers asked whether, while living in a given marriage or cohabitation, the respondent continued a former sexual relation or began one with a new partner. The data excluded sexual relationships that occurred after a separation but before a divorce. Because recall is better and respondents' current characteristics more proximate in time, we focused on the current or most recent marriage or cohabitation. We treated as one union any cohabitation that became formalized in a marriage. Sexual infidelity was reported by 291 (11.2%) of 2,598 ever-married or ever-cohabited respondents.

Interview 12-month prevalence. Interviewer-collected data on the timing of sexual relationships showed 94 (4.7%) of the 2,010 respondents cohabiting and/or married in the past year had been unfaithful to their primary partner during this time. A narrower window on sexual activity results in fewer instances of infidelity but a closer temporal match between sexual events and the respondents' characteristics.

Independent Variables

As noted, sexual infidelity was associated with three sets of variables that might affect decision making: (a) sexual tastes and values that determined personal costs and gains to infidelity; (b) opportunities for undetected sex; and (c) the primary relationship jeopardized by infidelity. Independent variables and their operationalizations and weighted descriptive statistics appear in Table 1.

Tastes and values. Sexual interest was measured by an item on how often the respondent thought about sex. Nonpermissive values were measured by an ordinal item on the wrongness of extramarital sex.

Opportunities. Although it was not confounded with infidelity, early sexual experience—that is, number of partners between age 18 and the first union—measured endowments and interpersonal skills that attract partners. Work-place opportunities were measured by a summated scale of 3 items on whether the respondent's job required touching, talking, or being alone with others. A dummy variable measured residence in a large- or medium-sized central city. Fidelity-supporting social networks were gauged by annual frequency of religious attendance and by shared networks, a summated scale based on 4 items regarding how much partners enjoyed spending time with one another's family and friends.

Primary relationship. Three dummy variables measured partners' social dissimilarity: (a) Religious difference indicated that partners did not share the same major religion; (b) education difference referred to a major gap in educational attainment; and (c) age difference reflected an age gap of at least 5 years. Available only for unions established in the previous 12 months, (d) dissatisfaction was the sum of values for two items on the union's emotional satisfaction and physical pleasure. With cumulative incidence, we considered whether the respondent had ever cohabited in the union. With prevalence, we asked whether the respondent had been cohabiting during the past 12 months. With cumulative incidence, union duration controlled for exposure time for the risk of infidelity. For 12-month prevalence, union duration tested the investment versus habituation hypotheses.

Demographic risk factors. Dummy variables indicated whether the respondent was male or female, White or African-American. A categorical variable measured respondents' education. Age (in years) at infidelity was determined only for the 12-month prevalence measure. Because duration and age are highly correlated, they were not included in the same model. The trained interviewer's rating of respondents' frankness on a 4-point ordinal scale proved a consistently significant control for underreporting of infidelities. Given the possible limitations of subjective impressions, we estimated all models with and without this variable; in both cases, the models' χ^2 values were highly significant ($p <$ .0000), and the coefficients were very similar.

We posit no interactions between demographic and decision-making variables. Although one might expect, say, gender differences in the effects of independent variables, preliminary analyses found that men were less likely to be sexually exclusive, not because they weight factors differently than do women, but largely because men and women differ in their values (e.g., means) on these factors.

Results

Expectations for Sexually Exclusive Unions

NHSLS respondents, whether married or cohabiting, held similarly high expectations for sexual exclusivity. This was an important fact to establish, because we compared married persons with married and cohabiting heterosexuals to gauge the robustness of results to different operationalizations of sexual infidelity

Respondents who had had sex with a primary partner at least 10 times over the past year were asked about expectations for sexual fidelity. As Table 2 reports, nearly 99% of married persons

TABLE 1. INDEPENDENT VARIABLES, MEANS, AND STANDARD DEVIATIONS: EVER-MARRIED AND EVER-COHABITED AMERICANS, AGES 18–59, 1992

Sexual interest	"On average, how often do you think about sex?" (*never* = 0; *several times a day* = 5) Mean = 3.02, *SD* = 1.12
Nonpermissive	"What is your opinion about a married person having sexual relations with someone other than the marriage partner?" (*always wrong* = 4; *not wrong at all* = 1) Mean = 3.66, *SD* = .68
Sexual experience	Number of sexual partners between age 18 and start of first marriage or cohabitation Mean = 4.07, *SD* = 14.46
Workplace opportunity	Four-point summated scale based on three items: 1) frequently alone with clients, customers, or co-workers; 2) job requires touching clients, customers, or coworkers; 3) requires discussing the personal concerns of clients, customers, or coworkers. *No job or no opportunities* = 0. Mean = .97, *SD* = .96, alpha = .55
Central city	Resident of a central city of 50,000 or more (*resident* = 1, *else* = 0) Mean = .28, *SD* = .45
Shared networks	Five-point count based on highly positive responses to four items on how much respondent enjoys partner's family, respondent enjoys partner's friends, partner enjoys respondent's family, partner enjoys respondent's friends. Mean = 1.62, *SD* = 1.46, alpha = .74
Religious attendance	How often respondent attends religious services: nine categories recoded to number of times annually (*never* = 0; *several times a week* = 104) Mean = 23.88; *SD* = 31.90
Religious difference	Dummy variable for respondent whose partner does not share the same major religion (*different* = 1; *same* = 0) Mean = .32, *SD* = .47
Education difference	Dummy variable (*different* = 1; *same* = 0) if partner has two or more category difference based on five category education variable (*less than high school* = 1; *more than college graduate* = 5) Mean = .16, *SD* = .36
Age difference	Dummy variable (*different* = 1; *same* = 0) if respondent's and partner's ages differ by 5 or more years Mean = .16, *SD* = .37
Couple cohabited	Couple ever lived together without being married (*yes* = 1; *no* = 0) Mean = .49, *SD* = .50
Couple cohabiting	Couple cohabiting during last 12 months (*yes* = 1; *no* = 0) Mean = .18, *SD* = .38
Duration	Years married or cohabiting in relationship Mean = 11.29, *SD* = 10.69
Dissatisfaction	Nine-point summated scale from two items on emotional satisfaction and physical pleasure with primary relationship (*extremely satisfied or pleasurable* = 1; *not at all* = 5) Mean = 3.35, *SD* = 1.51, alpha = .84
Sex	*Male* = 1; *female* = 0 Mean = .42, *SD* = .49
African American	*African American* = 1; *else* = 0 Mean = .15, *SD* = .36
Education	Respondent's educational attainment (*grade 8 or less* = 1; *postsecondary trade school* = 4; *advanced college degree* = 8) Mean = 4.16, *SD* = 1.64
Age	Respondent's age in years recoded into four categories (18–30, 31–40, 41–50, 51+) Mean = 2.24, *SD* = 1.03
Frankness	Interviewer's assessment of respondent's frankness (*probably not frank* = 1; *entirely frank* = 4) Mean = 3.66, *SD* = .58

Note: n = 2.586; n = 2,010 for couple cohabiting, dissatisfaction and age (12-month variables).

Table 2. Sexual exclusivity expectations and behavior by marital status: Married and cohabiting Americans, ages 18–59, 1992

Variable	Married		Cohabiting Heterosexual
	Without Cohabiting	Cohabited First	
Respondent expects exclusivity	99%	98%	94%
Partner expects exclusivity	99%	99%	95%
Respondent exclusive	92%	89%	88%
n	939	532	331

Note: From National Health and Social Life Survey, 1992.

expected their spouse to have sex only in marriage, and 99% assumed their partner expected sexual exclusivity of them. Many important aspects of life together (e.g., whether to have children, how to meet expenses, who should wash the dishes) might be rethought as circumstances change, but expectations for sexual exclusivity are not negotiable. In other tabulations not shown, we found less than 1% of heterosexuals, married or cohabiting, reported that a partner had changed expectations for fidelity during the relationship.

Although cohabitors held less conventional gender and family values (Clarkberg et at, 1995), cohabiting heterosexuals were only slightly less likely (94% versus 99%) to expect sexual exclusivity than married persons who had never lived together (t = .333, p < .001). Once married, those who had once lived together (98%) held expectations that were not significantly different from the expectations of other married people (99%) (t = .104, *ns*; p = .30).

Were respondents sexually exclusive? People who married without first cohabiting were no more faithful (92%) than either married persons who cohabited together (89%) (t = 1.56, *ns*; p =.12) or current cohabitors (88%) (t = 1.52, *ns*; p = .13). Nor were current cohabitors and previously cohabiting marrieds statistically different from one another (t = .20, *ns*; p = .84). Of course, cumulative incidence was affected by union duration, and cohabiting persons were apt to have had less time "at risk."

Multivariate Models of Infidelity

Cumulative incidence of extramarital sex. If concerns about social acceptability deter people from admitting sexual infidelity, the self-administered questionnaire offered better data than the person-to-person interview. The first two columns of Table 3 show logistic regression results for the self-recorded cumulative incidence of extramarital sex. Tastes and values demonstrated the hypothesized relationships: Greater interest in sex was positively associated with the likelihood of infidelity, while nonpermissive sexual values were negatively associated. The exponentiated betas show the magnitude of effects. Controlling for other variables, thinking about sex daily instead of just a few times a week meant a 22% increase in the odds of ever having had extramarital sex.

The hypothesized link between infidelity and opportunities for undetected sex received mixed support. For once-married persons in central cities, compared to other communities the odds of extramarital sex were 39% higher. Partners' shared networks showed the predicted negative association: All things being equal, enjoying time spent with a mate's family lowered the odds of extramarital sex by 24%. Prior sexual experience, attendance at religious services, and work-place opportunities for extramarital sex were statistically insignificant

As for the couple's relationship, no statistically significant positive association was found for any measures of social dissimilarity. However, living together before marriage raised the net odds of marital infidelity by 39%, even controlling for sexual values and frequency of attendance at religious services—variables that distinguish married couples who first cohabited from the more conventional married couples who did not.

Gender and race were statistically significant. All things considered, being male increased the odds of having engaged in extramarital sex by 79%. Being African-American raised them by 106%, even though education controlled for racial differ-

TABLE 3. LOGISTIC REGRESSION RESULTS FOR EXTRAMARITAL SEX: AMERICANS AGES 18–59, MARRIED ONLY ONCE, 1992

	Self-Recorded				Interview	
	Married Once		Married Once Without Cohabiting			
Variable	*b*	e^b	*b*	e^b	*b*	e^b
Sexual tastes and values						
Sexual interest	.197**	1.22	.212*	1.24	.324**	1.38
Nonpermissive	–.881***	.42	–.921***	.40	–1.084***	.34
Opportunities						
Sexual experience	.006	1.01	.013	1.01	.010	1.01
Workplace opportunity	.085	1.09	.128	1.14	–.069	.93
Central city	.331*	1.39	.234	1.26	.420	1.52
Shared networks	–.268***	.76	–.300***	.74	–.466***	.63
Religious attendance	–.002	1.00	–.003	.99	–.004	1.00
Relationship						
Religious difference	.250	1.28	.076	1.08	–.044	.96
Education difference	.295	1.34	.249	1.28	.315	1.37
Age difference	–.178	.84	–.279	.76	–.579	.56
Couple cohabited	.328*	1.39				
Demographic and control						
Male	.582***	1.79	.951***	2.59	.660**	1.94
African American	.721***	2.06	1.053***	2.87	.976**	2.65
Education	–.095*	.91	–.082	.92	–.104	.90
Frankness	.436**	1.55	.418*	1.52	.557**	1.75
Marital duration	.021**	1.02	.032***	1.03	.021*	1.02
Constant	–1.050		–1.333		–1.046	
Chi-square	230.16		151.70		164.69	
Degrees of freedom	16		15		15	
n	1717		1102		1102	
% Ever unfaithful	15.5		13.5		10.5	

Note: e^b = expoentiated beta.
*p < .05. **p < .01. ***p < .001. One-tailed significance tests.

ences in socioeconomic status. Education showed a weak negative association. Both frankness and marital duration (i.e., exposure time) showed the expected positive relationships.

Before analyzing person-to-person interview reports of infidelity for both married and cohabiting persons, we compared interview and self-recorded measures of the cumulative incidence of extramarital sex. Because the interview item did not distinguish extramarital sex from cohabiting infidelities, Table 3 focuses on those who married only once and who did not live with the mate before marriage. The self-recorded item yielded a higher estimate of extramarital sex (13.1%) than the person-to-person interview item (10.5%), which did not count infidelities between separation and divorce. The patterns were quite consistent: Sexual interest, nonpermissive values, shared networks, gender, race, marital duration, and frankness were statistically significant and in the anticipated direction for both interview and self-recorded items. Neither central city residence nor education was significant. Closer inspection showed somewhat greater likelihood of infidelity only at the extremes of the education distribution (eighth grade or less and master's degree or higher), categories that together encompassed only 5% of the sample.

Regardless of how extramarital sex was measured, sexual interest showed the predicted positive relationship, and nonpermissive values showed the

hypothesized negative relationship. Shared networks were negatively related to extramarital sex in both interview and self-recorded data. The fact that demographic factors were also consistent suggests little bias results from mode of data collection. Given the general comparability of the self-recorded and interview data, we turn to the analysis of infidelity reported to interviewers.

Cumulative incidence for married and cohabiting persons. Both cohabitors and married people expect sexual exclusivity. Interview data measured whether respondents ever had a secondary sex partner while married or cohabiting. Table 4 shows four sets of independent variables. These are considered step-wise, beginning with the demographic and control variables and proceeding from individual tastes to the microsocial couple relationship and then to macrosocial sexual opportunity influences. Each set of factors added significantly to the explanation of sexual infidelity, as indicated by increments to the χ^2 statistic, but relationship measures added the least.

Note that gender's effect was markedly reduced when we added other variables hypothesized to affect sexual decision-making: Being male raised the odds of infidelity by 120% in Model A, which contains only demographic and control variables, but by only 56% when sexual interest and nonpermissive values were considered. Other analyses (not shown) demonstrated that controlling for permissiveness eliminated most gender differences in infidelity: Because men's sexual values are more permissive, men faced fewer impediments to infidelity. By contrast, variables influencing deci-

TABLE 4. LOGISTIC REGRESSION RESULTS FOR SEXUAL INFIDELITY: EVER-MARRIED AND EVER-COHABITED AMERICANS, AGES 18–59, 1992

	Model A		Model B		Model C		Model D	
Variable	*b*	e^b	*b*	e^b	*b*	e^b	*b*	e^b
Sexual tastes and values								
Sexual interest			.287***	1.33	.283***	1.33	.259***	1.30
Nonpermissive			.688***	.50	–.671***	.51	–.627***	.53
Opportunities								
Sexual experience							.006*	1.01
Workplace opportunity							.059	1.06
Central city							.386*	1.47
Shared networks							–.300***	.74
Religious attendance							–.004	1.00
Relationship								
Religious difference					.002	1.00	–.108	.90
Education difference					.059	1.06	.084	1.09
Age difference					–.596	.55	–.595	.55
Couple cohabited					.338*	1.40	.258	1.29
Demographic and control								
Male	.786***	2.20	.442**	1.56	.409**	1.51	.395**	1.47
African American	.600***	1.82	.600***	1.82	.588***	1.80	.504**	1.65
Education	.015	1.01	.021	.98	–.027	.97	–.029	.97
Frankness	.298**	1.35	.290**	1.34	.281*	1.32	.305**	1.36
Duration	.012*	1.01	.022***	1.02	.031***	1.03	.034***	1.03
Constant	–3.855		–2.137		–2.310		–2.131	
Chi-square	52.84		156.50		169.94		222.84	
Degrees of freedom	5		7		11		16	
n	2,598		2,598		2,598		2,598	

Note: e^b = expoentiated beta.
*p < .05. **p < .01. ***p < .001. One-tailed significance tests.

sion-making did not much diminish the effect of being African-American.

The complete Model D again shows that those with strong interest in sex—those apt to gain most from sexual encounters—were significantly more likely to have been unfaithful. Those facing stiffer personal costs—for example, those with nonpermissive values—were significantly less likely to engage in infidelity.

Early sexual experience and central city residence were positively associated with the likelihood of having ever been unfaithful. Each additional sex partner between age 18 and the first union increased the net odds of infidelity by 1%, compared to a 47% increase associated with living in a central city. Sharing a mate's social network was negatively associated with infidelity. All things considered, befriending a partner's family was associated with a 26% decrease in the odds of sexual infidelity. Workplace sexual opportunities and religious service attendance were not statistically significant. Relationship measures of heterogamy were statistically insignificant, too. Cohabitation fell short of statistical significance at the .05 level.

Prevalence of infidelity for married and cohabiting persons. Sexual interest might prompt infidelity, but infidelity might stimulate interest in sex, leading to frequent erotic thoughts. Although permissive values no doubt encourage adultery, adulterers might rationalize their behavior by adopting permissive views. Data did not permit us to sort out all causal relationships, if only because the timing of infidelity was not known for cumulative incidence measures. Independent variables measured at the interview date did not necessarily correspond to prior circumstances that gave rise to infidelity. Focusing on the year before the interview clarified causation by narrowing the time frame for infidelities.

Table 5 displays the results of infidelity in the prior 12 months. Comparing the first model in Table 5 to Model D in Table 4 shows the effect of the time referent: Results for short-term infidelity largely paralleled those from earlier analyses. Personal tastes and values were significantly associated with the likelihood of infidelity. With the exception of central city residence, so were measures of sexual opportunities. Even workplace opportunity, which was not statistically significant in earlier analyses, showed the hypothesized positive relationship for the previous 12 months. This suggests that characteristics of the job mattered, but the current job's social interactions did not adequately capture previous work conditions influencing past sexual behavior. Although previous cohabitation increased the odds of infidelity, other features of the relationship did not prove statistically significant. Union duration, introduced here to test habituation versus investment hypotheses, was not significant either, implying that the passage of time had no effect on the marital gains that would be jeopardized by sexual infidelity. Gender's effect—reduced when other factors were controlled—was not statistically significant at even the .05 level for the previous 12 months. Race continued to be strongly significant, however.

To address issues of causation, the second model in Table 5 includes only variables reasonably assumed to precede any infidelity in the preceding 12 months. These include sexual experience between age 18 and the first union, stable demographic characteristics (e.g., gender, race, education, age), and relatively fixed partner dissimilarities (e.g., education differences). "Causal" variables also included city residence and workplace opportunities. Although one might posit that adultery prompts people to move to a big city, it is more plausible to assume that urban residence encourages adultery, particularly because current residence is a much weaker predictor of permissive sexual values than is the size of the community in which one was raised (Stephan & McMullin, 1982). Nor is it likely that sexual tastes dominate the job search process.

Sexual opportunity measures—early sexual experience, workplace opportunity, central city residence—were all statistically significant. Heterogamy in education and age showed no hypothesized effects, but dissimilar religions raised the likelihood of sexual infidelity, suggesting that excluded variables like sexual values and religious service attendance accounted for the religious heterogamy effect. Gender and race were statistically significant. Youngest ages were associated with greater infidelity; all things being equal, the odds of infidelity were twice as high for those ages 18—30 as for those over 50.

The third model in Table 5 adds attitudes and relationships possibly affected by the experience of sexual infidelity itself: sexual values, interest in sex, attendance at religious services, social networks, and whether a couple is cohabiting or married. Also included is dissatisfaction with the primary relation-

TABLE 5. LOGISTIC REGRESSION RESULTS FOR SEXUAL INFIDELITY DURING LAST 12 MONTHS: MARRIED AND COHABITING AMERICANS, AGES 18–59M `992

	Comparable Model		Causal Variables Only		Full Model	
Variable	*b*	e^b	*b*	e^b	*b*	e^b
Sexual tastes and values						
Sexual interest	.267*	1.31			.304*	1.36
Nonpermissive	–.718***	.49			.675***	.51
Opportunities						
Sexual experience	.010*	1.01	.014***	1.01	.011*	1.01
Workplace opportunity	.233*	1.26	.206*	1.23	.235*	1.26
Central city	.389	1.48	.602**	1.83	.358	1.43
Shared networks	–.273***	.76			–.203*	.82
Religious attendance	–.013*	.99			–.013*	.99
Relationship						
Religious difference	.089	1.09	.436*	1.55	.058	1.06
Education difference	–.026	.97	–.003	1.00	–.116	.89
Age difference	–1.086	.34	–.915	.40	–1.142	.32
Couple cohabited	.505*	1.66				
Couple cohabiting					.759**	2.14
Duration	–.008	.99				
Dissatisfied					.247***	1.28
Demographic and control						
Male	.210	1.23	.673***	1.96	.300	1.35
African American	.904**	2.47	.767**	2.15	.893**	2.44
Education	–.046	.96	–.044	.96	.004	1.00
Age 18–30			.698*	2.01	.202	1.22
Age 31–40			.075	1.08	–.269	.76
Age 41–50			–.098	.91	–.360	.70
Frankness	.557**	1.75	.513*	1.67	.579**	1.78
Constant	–3.535		–6.007		–5.093	
Chi-square	136.11		66.50		157.81	
Degrees of freedom	16		13		19	
n	2,010		2,010		2,010	

Note: e^b = expoentiated beta.
*p < .05. **p < .01. ***p < .001. One-tailed significance tests.

ship's emotional and physical rewards, a subjective measure available only with the prevalence measure of infidelity.

This model, too, shows that tastes and values were statistically significant. When "cosmopolitan" values were incorporated, the effect of central city residence ceased to be statistically significant. Other measures of sexual opportunity—whether clearly prior or less remote in time—showed the predicted associations. Controlling for other variables, the odds of a recent infidelity were more than twice as high for cohabitors than for married persons. Although cohabitation increased the likelihood significantly, we did not find the predicted association between partners' social dissimilarity and sexual infidelity. Subjective dissatisfaction, however; *was* positively and significantly associated with the likelihood of infidelity in the preceding 12 months. Most people reported high satisfaction with both the emotional and physical aspects of their union, but the exponentiated beta implied that

the net odds of infidelity increased 28% when one was, say, merely "very" pleased as opposed to "extremely" so.

Subjective perception of the relationship was more closely associated with infidelity than objective heterogamy measures, which—although stable and causally prior to infidelity—did not demonstrate uniform effects on sexual behavior (Forste & Tanfer, 1996). Whether subjective dissatisfaction prompted infidelity or vice versa, any effect might be relatively short-term, especially if unhappy partners either reconciled or separated after an infidelity. If subjective evaluations of the match were not very stable, this might explain why prior studies did not always find current marital evaluations to be significantly associated with cumulative incidence of infidelity over the course of a union.

Discussion

Although previous research has reported personal values, sexual opportunities, and the marital relationship as determinants of extramarital sex, these studies have been largely piecemeal and based on small samples of limited generalizability. To the best of our knowledge, our research is the first to include measures of all three sets of determinants in multivariate analyses based on a large, representative sample of the U.S. population. The analyses show that values, opportunities, and the marital relationship are associated with sexual infidelity, even when other factors and demographic risk variables are controlled.

As we predicted, people who were more interested in sex were more likely to have multiple partners. As we hypothesized, people with non-permissive values were less likely to engage in sexual infidelity. Considering sexual opportunities, we found evidence that prior sexual experiences were positively associated with infidelity. The behavioral constraints posed by overlap of mates' social networks reduced the likelihood of infidelity. In the short run, so did involvement in a religious community: Those who often attended religious services were less likely to have had multiple sex partners in the previous year, even when sexual values associated with religiosity were controlled. Sexual opportunities of the workplace also increased the likelihood of infidelity during the last 12 months. At least in the short run, however, any effect of city residence was substantially reduced when "cosmopolitan" sexual values and tastes were controlled.

The nature of the primary relationship proved important. We found cohabitors more likely than married people to engage in infidelity, even when we controlled for permissiveness of personalities regarding extramarital sex. This finding suggests that cohabitors' lower investments in their unions, not their less conventional values, accounted for their greater risk of infidelity. Cohabitors who went on to marry were no less likely to demand sexual exclusivity than people who married without having lived together. Neither the habituation nor the investment hypothesis about the effects of union duration was empirically supported.

As for measures of marital quality, partners' social dissimilarity was statistically insignificant, but subjective dissatisfaction with a union was associated with greater likelihood of *recent* infidelity. Prior studies yielded inconsistent results on whether poor relationships led to extramarital sex. Our finding underscores the need to attend to operationalizing relationship "quality" and to sorting out causal order. Current relationship quality might not demonstrate an association with cumulative incidence—that is, having ever been unfaithful: Relationship problems were apt to be short-term if couples either reconciled or divorced soon after an infidelity.

Although epidemiological research consistently reports men to be at higher risk of infidelity than women, studies have not usually included indicators of sexual values and tastes. When we controlled for interest in sex and permissiveness of sexual values, we found that the main effects of gender were markedly reduced or even eliminated. Consistent with prior research, we found that being African-American was positively associated with multiple sex partners, even when educational attainment (an indicator of socioeconomic status) and other variables were controlled. The persistence of this effect points to the need for further research to clarify the role of race. Because we found the sexual opportunity structure to be important in understanding sexual behavior, racial differences in the sex ratio might influence the likelihood of having multiple partners.

We argue for thinking about sexual infidelity as the product of rational decision-making. Assuming sexual behavior is subject to rational cal-

culation, we derived a series of testable hypotheses. NHSLS measures did not permit us to examine intrapsychic, cognitive processes or to compare directly preferences for alternative courses of behavior. To the extent that preferences are revealed in behavior, however, we can evaluate our approach by asking whether empirical results are consistent with predictions. Indeed, they are largely consistent even given different operationalizations of the dependent variable, sexual infidelity.

Previous research reported that sexual infidelity is associated with values, opportunities for secret sex, the quality of the primary relationship, and sociodemographic risk factors. Integrating these piecemeal findings into a unified model revealed some well-documented relationships to be spurious. Our multivariate model also clarified the mechanisms by which variables might influence infidelity. For example, differences in tastes and values largely accounted for the effects of city residence and male gender. Controlling for sexual values, however, did not eliminate the significant association between infidelity and cohabitation, a result that pointed to commitment mechanisms as likely influences on sexual behavior. Nor could sexual values account for the negative association of churchgoing and recent infidelity. The multivariate analysis suggested that religiosity constrained sexual behavior not only through internalized moral beliefs, but also via supportive social networks. The integrated model pointed to one clear result: Being subject to preferences, constraints, and opportunities, sexual behavior is social behavior.

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References

Atwater, L. (1982). *The extramarital connection: Sex, intimacy, and identity*. New York: Irvington.

Bell, R. R., Turner, S., & Rosen, I. (1975. A multivariate analysis of female sexual coitus. *Journal of Marriage and the Family*, *37*, 375–384.

Blumstein, P., & Schwartz, P. (1983). *American couples*. New York: Morrow.

Bozon, M. (1996). Reaching adult sexuality: First intercourse and its implications. In M. Bozon & H. Leridon (Eds.), *Sexuality and the social sciences* (pp. 143–175). Aldershot, England: Dartmouth.

Brown, E. M. (1991). *Patterns of infidelity and their treatment*. New York: Brunner-Mazel.

Bumpass, L. L., Sweet, J. A., & Cherlin, A. (1991). The role of cohabitation in declining rates of marriage. *Journal of Marriage and the Family*, *53*, 913–927.

Choi, K.-H., Catania, J. A., & Dolcini, M. M. (1994). Extramarital sex and HIV risk behavior among American adults: Results from the National AIDS Behavioral Survey. *American Journal of Public Health*, *84*, 2003 2007.

Clarkberg, M., Stolzenberg, R. M., & Waite, L. J. (1995) Attitudes, values, and entrance into cohabitational versus marital unions. *Social Forces*, *51*, 609–633.

Constitutional barriers to civil and criminal restrictions on pre- and extramarital sex. (1993). *Harvard Law Review*, *104*, 1660–1680.

Dolcini, M. M., Catania, J. A., Coates, T. J., Stall, R., Hudes, E. S., Gagnon, J. H., & Pollack, L. M. (l993). Demographic characteristics of heterosexuals with multiple partners: The National AIDS Behavior Surveys. *Family Planning Perspectives*, *25*, 208–214.

Edwards, J. N., & Booth, A. (1976). Sexual behavior in and out of marriage: An assessment of correlates. *Journal of Marriage and the Family*, *38*, 73–83.

Edwards, J. N., & Booth, A. (1994). Sexuality, marriage, and well-being: The middle years. In A. S. Rossi (Ed.), *Sexuality across the life course* (pp. 233–299). Chicago: University of Chicago Press.

Forste, R., & Tanfer, K. (1996). Sexual exclusivity among dating, cohabiting, and married women. *Journal of Marriage and the Family*, *58*, 33–47.

Gagnon, J., & Simon, W. (1973). *Sexual conduct: The social sources of human sexuality*. Chicago: Aldine.

Giddens, A. (1992). *The transformation of intimacy: Sexuality, love and eroticism in modern societies*. Cambridge, England: Polity Press.

Gilmartin, B. G. (1974). Sexual deviance and social networks: A study of social, family, and marital interaction patterns among co-marital sex participants, in J. R. Smith & L. G. Smith (Eds.), *Beyond monogamy* (pp. 291–323). Baltimore. MD: Johns Hopkins University Press.

Glass, S. P. & Wright, T. L. (1992). Justifications for extramarital relationships: The association between attitudes, behaviors, and gender. *The Journal of Sex Research*, *29*, 361–387.

Greeley, A. M. (1991). *Faithful attraction*. New York: A Tom Doherty Associates Book.

Johnson, R. E. (1970). Some correlates of extramarital coitus. *Journal of Marriage and the Family*, *32*, 449–456.

Lancaster, J. (1994). Human sexuality, life histories, and evolutionary ecology. In A. S. Rossi (Ed.), *Sexuality across the life course* (pp. 39–62). Chicago: University of Chicago Press.

Laumann, E. O, Gagnon, J. H., Michael, R. T., & Michaels, S. (1994). *The social organization of sexuality*. Chicago: University of Chicago Press.

Lawson, A. (1988). *Adultery: An analysis of love and betrayal*. New York: Basic Books.

Lehrer, E. L., & Chiswick, C. U. (1993). Religion as a determinant of marital instability. *Demography*, *30*, 385–404.

Leigh, B. C., Temple. M. T., & Trocki, K. F. (1993). The sexual behavior of US adults: Results from a national survey. *American Journal of Public Health*, *83*, 1400–1408.

Maykovich, M. K. (1976). Attitudes versus behavior in extramarital sexual relations. *Journal of Marriage and the Family*, *.38*, 693–699.

Pittman, F. (1989). *Private lives: Infidelity and the betrayal of intimacy*. New York: W. W. Norton.

Prins, K. S., Buunk, B. P., & VanYperen, N. W. (1983). Equity, normative disapproval, and extramarital relations. *Journal of Social and Personal Relationships*, *10*, 39–53.

Reiss, I. L., Anderson, R. E., & Sponaugle, G. C. (1980). A multivariate model of the determinants of extramarital sexual permissiveness. *Journal of Marriage and the Family*. *42*, 395–411.

Reiss, I. L., & Miller, B. C. (1979). Heterosexual permissiveness: A theoretical analysis. In W. R. Burr, R. Hill, F. I. Nye, & I. L. Reiss (Eds.), *Contemporary theories about the family* (Vol. 1, pp. 57–100). New York: Free Press.

Siegel, M. J. (1992). For better or worse: Adultery, crime and the Constitution. *Journal of Family Law*, *30*, 45–95.

Smith, T. W. (1991). Adult sexual behavior in 1989: Numbers of partners, frequency of intercourse and risk of AIDS. *Family Planning Perspectives*, *23*, 102–107.

Smith, T. W. (1994). Attitudes toward sexual permissiveness: Trends, correlates, and behavioral connections. In A. S. Rossi (Ed.), *Sexuality across the life course* (pp. 63–97). Chicago: University of Chicago Press.

Stephan, E. G., & McMullin, D. R. (1982). Tolerance of sexual nonconformity: City size as a situational and early learning determinant. *American Sociological Review*, *47*, 411–415.

Vaughn, D. (1986). *Uncoupling.* Oxford, England: Oxford University Press.

Wellings, K., Field, J., Johnson. A., & Wadsworth, J. (1994). *Sexual behavior in Britain*. London: Penguin Books.