The Contexts of Sexual Involvement And Concurrent Sexual Partnerships

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CONTEXT: Concurrent sexual partnerships may facilitate the spread of STDs, but little is known about partnership concurrency and its association with the relationship contexts of sexual involvement.

METHODS: Data about demographic characteristics, sexual histories and the most recent opposite-sex partnership among 783 adults aged 18–59 were drawn from the 1995 Chicago Health and Social Life Survey. Wald chi-square tests assessed gender differences in the timing and type of sexual involvement and in concurrent partnerships; bivariate probit regression analyses examined associations between concurrent partnerships and sexual involvement and other characteristics.

RESULTS: One in 10 of both women and men reported that both they and their partners had had other partners. Men were more likely than women to have been nonmonogamous (17% vs. 5%), and women were more likely than men to report that their partner had been (17% vs. 8%). The probability of having been nonmonogamous was 44% higher among women who were sexually involved with a friend, and 30% higher among those with a casual partner, than among those in a serious relationship; the corresponding figures for their partners were 48% and 32%, respectively. For men, the probability of having been nonmonogamous was elevated by 25% among those who were sexually involved with a friend and by 43% among those with a casual partner; for their partners, the figures were 27% and 24%, respectively.

CONCLUSIONS: Increased awareness that nonromantic sexual involvement is associated with partnership concurrency may enhance individuals' understanding of the risks and rewards of their relationships.

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The prevalence of concurrent sexual partnerships, or nonmonogamy, is a critical factor in the spread of STDs, especially if such partnerships are embedded in highly connected clusters of sexual contacts.[1–6] Epidemiological studies have linked concurrent partnerships to the transmission of STDs,[7–9] as well as to increased infection risks.[10–13] Nevertheless, despite a long-standing focus on nonmonogamy among survey respondents in population-based research,[14–20] few representative studies have considered respondents' perceptions of their partners' concurrency.[12]

Focusing on partnership concurrency directs attention to relationship contexts, which likely influence decisions about concurrent partnerships not only among respondents, but also among their partners. Prior demographic research has consistently found that marital status is associated with sexual exclusivity,[16,17,19,20] but other relationship contexts, which may be important as well, have received little scholarly attention. For example, in the social construction of sexual relationships, couples vary in both the timing of sexual involvement and the formation of different relationship types,[21–23] which range from serious to nonserious contexts, such as when individuals become sexually involved with strangers, acquaintances, friends or casual dating partners. Research examining associations between these contexts, or courtship processes, and partnership concurrency is limited, however.[12,23] Thus, the present research extends this line of inquiry by investigating whether both the timing and the type of sexual involvement are associated with respondents' decisions—and their perceptions of their partners' decisions—to engage in concurrent partnerships.

BACKGROUND

A consistent finding in research on sexual networks is the presence of clustered sexual contacts—concurrent partnerships among a set of individuals—and the importance of these contacts in STD transmission. Contact-tracing studies have found that outbreaks of STDs were often associated with highly connected clusters of sexual contacts, in which both individuals in sexual dyads had concurrent partners.[7,8,24] According to epidemiological simulation models, concurrent partnerships are likely factors in the epidemic spread of STDs.[1–4] These findings point to a need for research not only on partnership concurrency, but also on partnering processes that facilitate the emergence of sexual contact clusters.

Few population-based studies have investigated partnership concurrency. One U.S. study found that adult men who reported having at least one nonmonogamous

female sex partner during a 12-month period were six times as likely as other men to have concurrent partners themselves.[17] Two studies of adult urban populations estimated that nonmonogamy occurred in three in 10 sexual partnerships, and mutual nonmonogamy in about one in 10,[12,25] while a study of urban adolescents found even higher proportions for both.[23] Furthermore, two clinic-based studies have linked STD infection risks to concurrent partnerships among either respondents or their partners.[9,13]

Partnership concurrency also highlights how sexual dyads represent important contexts for decision making. At a minimum, failing to account for the interdependence in respondents' and their partners' decision making about concurrency may yield inefficient estimates in regression models, raising questions about statistical inference. More important, relationship contexts are key because they affect decision making about concurrent partners for both members of sexual dyads. Population-based studies have found associations between concurrent partnerships and partner differences in age,[19] education[19] and race;[12] marital status;[16,17,19,20] relationship duration;[12,19,20] and the lack of social ties to friends and family.[20]

Courtship processes that have received only cursory attention in population-based research may also affect decision making about engaging in concurrent partnerships. For example, are relationships that start as "hook-ups" or in casual dating contexts, or that transition to sex quickly, associated with increased risks of nonmonogamy even after later relationship contexts, such as relationship duration and marital status, are controlled for? This study addresses this question by presenting two perspectives that suggest possible linkages between courtship processes and concurrent partnerships.

First, relationship contexts of sexual involvement may be associated with partnership concurrency because of selection processes. Individuals who are predisposed to forming concurrent partnerships may be less likely than others to delay sex and more likely to experience sexual involvement in hookups and casual dating relationships than in serious contexts. For example, some characteristics of individuals, such as prior sexual experiences, are likely to be associated with both nonmonogamy and sexual involvement in nonserious contexts.

But the timing and the type of sexual involvement may also facilitate the sorting of individuals with differential risks of pursuing concurrent sex partners. Individuals who are not seeking to build long-term relationships may be less likely than others to remain sexually exclusive. They may also be more likely to seek sexual involvement in casual dating or nonromantic contexts, as well as to avoid delaying sex, to minimize the expenditure of time, energy and resources in the pursuit of sex.[26,27] By contrast, individuals who expect long-term relationships are more likely than those who do not to remain sexually exclusive, and to be willing to spend time, energy and resources while delaying sex and fostering a serious relationship,

since the benefits of a long-term relationship likely exceed these relationship-building costs. Thus, delaying sex and becoming sexually involved in serious relationships should screen out individuals who are both uninterested in building long-term relationships and likely to form concurrent partnerships.

Regarding the second perspective explored here, research has long suggested that engaging in relationship-building behaviors generates couple identities[28,29] or relationship cohesion.[30,31] Hence, courtship processes may represent initial relationship-building behaviors that can facilitate increasing interaction, mutual investment and commitment. Consequently, delaying sex and fostering a serious relationship should make sexual exclusivity more attractive to individuals.

This framework suggests that relationship-building processes occurring relatively early in sexual relationships may be associated with whether individuals have concurrent partnerships, even after later relationship contexts and individuals' characteristics are controlled for. Therefore, it is hypothesized that the likelihood of partnership concurrency will decline with prolonged courtship and sexual involvement in more serious relationships.

METHODS

This study used data from the 1995 Chicago Health and Social Life Survey (CHSLS), a household survey of adults aged 18–59 from five samples in the Chicago metropolitan region. The CHSLS included a two-stage, probability sample of 890 Cook County residents, encompassing Chicago and some inner suburbs, and four random samples of 1,224 residents of four narrowly defined geographic areas in Chicago. The present analysis utilized only the Cook County sample, which had a response rate of 71%; data for a small proportion of cases were collected in 1997. The questionnaire, administered through a computer-assisted personal interview and including both face-to-face and self-administered questions, took an average of 90 minutes to complete; it covered a broad range of topics related to respondents' sexual histories, but focused on their two most recent sex partners. This analysis focused on respondents' most recent opposite-sex partnership; a sexual partnership was defined by the occurrence of mutually voluntary genital contact with another person. The analytic sample excluded 45 respondents who reported no recent partner and 19 whose recent partner was of the same sex. Listwise deletion because of missing data reduced the sample by roughly 5%, to 783 respondents.

Measures

•*Dependent variables.* Two dependent variables were assessed: respondents' nonmonogamy and their perceptions of their partners' nonmonogamy. Because direct questions about concurrent partnerships yield lower levels of missing data and are less likely to result in misclassification than questions based on overlapping start and end dates of partnerships,[12,32] the number of respondents'

concurrent partners was determined by asking "How many people other than (partner) did you have sex with during the course of your relationship with (partner)?" Responses were recoded to indicate either sexual exclusivity or at least one concurrent partnership. Similarly, the following question assessed nonmonogamy among respondents' most recent partners: "To the best of your knowledge, how many people other than you did (partner) have sex with during the course of your relationship?" Six percent of respondents did not know whether their partners had had concurrent partnerships. Because lack of knowledge about partners' sexual exclusivity is a correlate of STD infection risks,[9] responses were recoded to distinguish respondents who believed that their partners were sexually exclusive from those who thought that their partners had had concurrent partners or who said they did not know.

Respondents were classified into four concurrent partnership categories: neither the respondent nor his or her partner had had a concurrent partner, only the respondent had had one, only the partner had had one or both had had one.

•*Independent variables.* Respondents were asked about courtship duration: "Think about the time you first became romantically involved with or began dating or seeing (partner). About how long was it between that time and the first time you had sex?" Durations were recorded in the following categories: no romantic involvement or never dated, the same day or a specific period (the actual number of days, weeks, months or years). Those reporting the first option were coded as having had sexual involvement on the same day. Because reported durations used varying units of time, an ordinal variable was constructed to indicate whether sexual involvement occurred in less than a week, after one week but within a month, after one month but within three months, after three months but within six months, or after six months.

Respondents characterized their relationship with their most recent partner at the time they first had sex by selecting one of the following categories: married, engaged, serious but not engaged, seeing or going out but not seriously, friends but had not gone out on a date, acquaintances, just met, paid sex or other. Responses were recoded to reflect four relationship types: serious (married, engaged or serious), casual dating, friendship or casual sex (acquaintance, just met, paid sex or other).

A number of previously identified correlates of concurrent partnerships were also examined. Prior sexual experiences have been associated with nonmonogamy;[12,16,17,20,32] these experiences were captured by employing a dummy variable indicating whether respondents had been touched sexually before age 13, as well as the number of lifetime sex partners since age 13 and this number logged (calculated by subtracting the number of sexual partnerships that occurred since the start of the most recent partnership from the total number of partners since age 13, then taking the natural log).

In addition, the following background characteristics were examined: race or ethnicity (black, Hispanic, or white or other), birth cohort, educational attainment in years, religious affiliation (Protestant, Catholic or Orthodox Christian, or other or none) and age at sexual involvement with their partner (a continuous measure). Because differences in background characteristics have been associated with nonmonogamy,[12,13,19] measures assessing differences between respondents and their partners on selected characteristics were considered. A dummy variable captured whether respondents and their partners were of different races or ethnicities, and two continuous measures indicated differences in age and educational attainment in years.

Finally, several partnership characteristics were examined to account for other relationship contexts. Being unmarried, relationship duration and couples' having few social ties with network partners have been associated with nonmonogamy.[12,16,17,19,20,32] A three-category variable captured respondents' and their partners' marital status with each other: ever married, ever cohabited but never married, or never cohabited. Relationship duration was measured from the onset of sexual involvement to the interview date if the partnership was current, or to the date of most recent sexual activity if it was not; both linear and quadratic terms were included. Two measures assessed the couples' social embeddedness preceding sexual involvement and during the relationship. The first was based on the question "About how many people you knew at the time you and (partner) met, knew (partner) before you did?" Responses were categorized as none, 1–4, and at least five or grew up together. The second measure asked whether the respondent had met and gotten along with the partner's parents, as well as whether the partner had met and gotten along with the respondent's parents. From these four possibilities, affirmative responses were summed and recoded to yield three categories: 0–1, 2–3 and four.

Analysis

Adjusted Wald chi-square tests were used to examine gender differences in the timing and the type of sexual involvement and in partnership concurrency. Bivariate probit regression models rendered maximum-likelihood, two-equation estimates for the associations between the independent variables and the likelihood of respondents' or their partners' having had concurrent partnerships. These analyses simultaneously modeled respondents' concurrency and perceived concurrency by their partners, while accounting for the possibility of correlated disturbances, assessed by the rho statistic, on the two dichotomous outcomes. Models were run separately using women's and men's reports of concurrency. If respondents' and partners' behaviors are interdependent, assuming that concurrent partnerships are independent of one another will lead to inefficient estimation and possibly incorrect inferences.

For each gender, three nested, bivariate probit regressions were estimated. The first model included only control variables, the second added the timing of sexual involvement and the third added both the timing and the type of involvement. To compare the fit of models with different covariates, the Akaike information criterion (AIC), a goodness-of-fit measure, was employed for comparing nested models; this measure reflected the fit of both simultaneously estimated equations. To facilitate the interpretation of probit coefficients from model 3, marginal effects on the probability of nonmonogamy by respondents and their partners were calculated, while all other variables were controlled for. These effects represent the change in probability associated with a one-unit change for each variable. Finally, although marital status and relationship duration were controlled for, information was lacking on later relationship contexts and when concurrent partnerships occurred. To address this issue, analyses were conducted using only relationships that had started within five years of respondents' interviews. Because of the much smaller sample size, however, men's and women's responses were combined. All regression analyses were weighted to account for unequal probabilities of selection, nonresponse and clustering associated with the two-stage sampling design; only characteristics with significant coefficients are included in the tables.

RESULTS

Descriptive Analyses

A third of females and a fourth of males were black, and one in five of each were Hispanic; the rest were white or of another race or ethnicity (Table 1). Almost half of respondents were born between 1950 and 1964, and the mean number of years of schooling was 13–14. Most women and men were Protestant, Catholic or Orthodox Christian. About nine in 10 of respondents' partners were of the same race or ethnicity as respondents; on average, women's partners were two years older than them, while men's partners were two years younger, and education differences between partners were minimal. Half of respondents of each gender had married their partners, and close to one in five had cohabited with them but never married. The mean age at sexual involvement with their partner was 26 for women and 28 for men, and reported relationship durations averaged 127 months and 110 months, respectively. For both genders, about a third of respondents said that they and their partners had lacked mutual contacts when they first met their partners, and a fourth reported that they and their partners had minimal social ties with each other's parents. About one in 10 women and men had been touched sexually before the age of 13, and the mean number of sex partners since that age was five for women and 16 for men.

Sexual involvement occurred within the first six months for approximately six out of 10 women and men (Table 2). Twenty-two percent of women and 25% of men reported sexual involvement within the first month, while another

TABLE 1. Selected characteristics of respondents aged 18–59, by gender, Chicago Health and Social Life Survey, 1995

Characteristic	Women (N=460)	Men (N=323)
PERCENTAGE DISTRIBUTIONS		
Race/ethnicity		
Black	32	23
Hispanic	17	20
White/other	51	57
Birth cohort		
1935–1949	23	22
1950–1964	49	46
1965–1979	28	32
Religious affiliation		
Protestant	45	37
Catholic/Orthodox Christian	45	47
Other/none	10	17
Partner of different race/ethnicity		
No	90	86
Yes	10	14
Marital status with partner		
Ever married	52	51
Ever cohabited, but never married	17	14
Never cohabited	30	35
No. of mutual contacts respondent and partner had at first meeting		
0	35	28
1–4	26	37
≥5/grew up together	40	35
No. of social ties with parents†		
0–1	26	28
2–3	42	34
4	32	38
Touched sexually before age 13		
No	87	89
Yes	13	11
Total	100	100
MEANS		
Yrs. of education	13.4 (2.5)	13.7 (2.7)
Partner's age difference (yrs.)‡	2.0 (5.3)	−2.3 (5.3)
Partner's education difference (yrs.)§	0.1 (2.3)	−0.2 (2.5)
Age at sexual involvement with partner	26.5 (8.9)	27.8 (8.6)
Relationship duration (mos.)	126.6 (118.7)	110.1 (117.5)
No. of partners since age 13	4.8 (17.0)	16.1 (63.8)
No. of partners since age 13 (logged)	1.0 (1.0)	1.6 (1.4)

†The sum of the number of partner's parents whom the respondent had met and gotten along with, and the number of respondent's parents whom the partner had met and gotten along with. ‡A positive value indicates that partners are older, and a negative value indicates that partners are younger. §A positive value indicates that partners have more years of education, and a negative value indicates that partners have fewer years of education. *Notes:* All data are unweighted. Percentages may not total 100 because of rounding. Numbers in parentheses are standard deviations.

17% of both genders became involved during the following two months. About half of all respondents reported sexual involvement in serious relationships, and another quarter were involved in casual dating relationships. Notably, nonromantic sexual involvement was reported

by one in five respondents of each gender. A quarter of both women and men said that either they or their partner had had a concurrent partner, while one in 10 of each gender reported mutual nonmonogamy. Men were more likely than women to have had a concurrent partner (17% vs. 5%), and women were more likely than men to report that a partner had had a concurrent partner (17% vs. 8%).

Probit Regression Analyses

•*Women.* In the bivariate probit regression analyses of partnership concurrency as reported by women, model 3 had the best fit (AIC, 684.3; Table 3, page 38). The rho statistics were significant in all three models; therefore, treating nonmonogamy as an independent behavior may produce inaccurate inferences.

The successively lower AIC values in models 2 and 3 highlight the importance of courtship processes for partnership concurrency. According to model 2, in comparison with respondents and their partners who had delayed having sex for at least six months, those who had had sex within the first week were more likely to have had concurrent partners. Concurrency was also more likely among male partners who had delayed having sex for at least a week but less than a month. Model 3 showed that those who had sex with friends or casual partners had increased likelihoods of reporting concurrent partners, while sexual involvement with casual dating partners was associated only with respondents' concurrency. When all other variables were controlled for, the probability of having had a concurrent partner was 44% and 48% more likely for respondents and partners, respectively, who had sexual involvement with a friend than with a serious partner; the corresponding probabilities for those who had involvement with a casual sex partner were 30% and 32%, respectively. These findings are consistent with the hypothesis that short courtship duration and nonromantic sexual involvement are associated with increased risk of having concurrent partners. Finally, including the type of sexual involvement partially mediated the association with courtship duration: The coefficient for courting less than a week was reduced by 57% for respondents and 35% for their partners in model 3. Nevertheless, short courtship durations were still associated with increased probabilities of nonmonogamy among male partners.

Several demographic and relationship characteristics were associated with partnership concurrency in model 3. Being black was correlated with an increased risk for respondents and their partners, while having been born after 1949 was associated with an increased risk among respondents. Partners with higher educational attainment had a reduced risk of having had concurrent partners. Respondents who had never lived with their partners were more likely to report concurrent partners than were those who had ever cohabited but never married. Relationship duration was positively associated with the likelihood of concurrent partnerships among both respondents and

TABLE 2. Percentage distribution of respondents, by selected characteristics of most recent opposite-sex relationship, according to gender

Characteristic	Women	Men
Time to sexual involvement		
≥6 mos.	42	38
≥3 mos. to <6 mos.	18	19
≥1 mo. to <3 mos.	17	17
≥1 week to <1 mo.	17	18
<1 week	5	7
Type of sexual involvement		
Serious	51	52
Casual dating	28	26
Friendship	12	8
Casual sex	8	14
Concurrent partnership		
Neither respondent nor partner	66	64
Respondent only	5	17*
Partner only	17	8*
Both	12	10
Total	100	100

*p<.05. *Notes:* All data are weighted. Percentages may not total 100 because of rounding.

their partners. In addition, respondents and their partners who got along with each other's parents had decreased risks of nonmonogamy. The number of sex partners since age 13 (logged) and having been touched sexually before that age, which were associated with an increased probability of concurrency among respondents and their partners, respectively, in models 1 and 2, lost significance in model 3. Thus, these two measures mediated any association between sexual experience and partnership concurrency.

•*Men.* In the probit regression analyses of concurrency as reported by men, model 3 again had the best fit (AIC, 646.7), and the rho statistics were significant in all three models (Table 4, page 39). Model 2 showed that compared with male respondents reporting courtship lasting at least six months, those who had begun having sex with their partners within one month were more likely to have had concurrent partners. However, contrary to expectations, concurrency was negatively associated with time to sexual involvement among partners. According to model 3, sexual involvement with friends or casual partners was associated with an increased risk of concurrent partnerships among both respondents and their partners. When all other variables were controlled for, the probability of concurrent partnerships was 25% higher for male respondents reporting sexual involvement with friends, and 27% higher for their partners, than for those in serious relationships; the corresponding figures for those reporting casual sex were 43% and 24%, respectively. Moreover, controlling for the type of sexual involvement yielded a 77% decrease in the coefficient for courtship durations of less than one week for respondents.

Other regression findings for men were similar to those for women. However, some gender differences were seen, particularly regarding the timing of sexual involvement. Short courtships were associated with elevated

TABLE 3. Coefficients from bivariate probit regression analyses assessing associations between selected characteristics and likelihood of respondents' or their partners' having had concurrent partnerships, as reported by female respondents

Characteristic	Respondent				Partner			
	Model 1	Model 2	Model 3	Marginal effect†	Model 1	Model 2	Model 3	Marginal effect†
Time to sexual involvement								
≥6 mos. (ref)	na	na	na	na	na	na	na	na
≥3 mos. to <6 mos.	na	–0.16	–0.18	–0.02	na	0.12	0.18	0.05
≥1 mo. to <3 mos.	na	–0.10	–0.09	–0.01	na	–0.19	–0.11	–0.03
≥1 week to <1 mo.	na	0.23	0.03	0.01	na	0.57*	0.54*	0.18
<1 week	na	1.03*	0.44	0.08	na	1.51***	0.98**	0.36
Type of sexual involvement								
Serious (ref)	na	na	na	na	na	na	na	na
Casual dating	na	na	0.78**	0.14	na	na	0.17	0.05
Friendship	na	na	1.60***	0.44	na	na	1.32***	0.48
Casual sex	na	na	1.16***	0.30	na	na	0.89***	0.32
Touched sexually before age 13								
No (ref)	na	na	na	na	na	na	na	na
Yes	0.42	0.42	0.39	0.07	0.37*	0.35*	0.33	0.11
No. of partners since age 13 (logged)	0.25**	0.22*	0.15	0.02	0.07	0.00	–0.07	–0.02
Race/ethnicity								
Black	0.57**	0.59**	0.56*	0.10	0.72***	0.73***	0.70***	0.23
Hispanic	–0.67*	–0.65*	–0.55	–0.06	–0.07	–0.06	0.03	0.01
White/other (ref)	na	na	na	na	na	na	na	na
Birth cohort								
1935–1949 (ref)	na	na	na	na	na	na	na	na
1950–1964	1.16**	1.23**	1.35**	0.23	0.00	0.03	0.06	0.02
1965–1979	1.78**	1.81**	1.93**	0.44	0.31	0.25	0.29	0.09
Partner's education difference	0.04	0.03	0.01	0.00	–0.09*	–0.11*	–0.13**	–0.04
Age at sexual involvement with partner	0.05*	0.05*	0.04	0.01	0.01	0.01	0.00	0.00
Marital status with partner								
Ever married	–0.30	–0.31	–0.08	–0.01	–0.34	–0.39	–0.32	–0.10
Ever cohabited, but never married (ref)	na	na	na	na	na	na	na	na
Never cohabited	0.53*	0.70**	0.54*	0.09	0.41	0.60*	0.47	0.15
Relationship duration	0.01*	0.01**	0.01**	0.00	0.01***	0.01***	0.01***	0.00
Relationship duration squared	0.00	0.00	0.00	0.00	0.00**	0.00***	0.00***	0.00
No. of social ties with parents‡								
0–1 (ref)	na	na	na	na	na	na	na	na
2–3	–0.19	–0.16	–0.15	–0.02	–0.29	–0.24	–0.25	–0.07
4	–0.68**	–0.66*	–0.66*	–0.08	–0.71**	–0.72**	–0.72**	–0.19
Constant	*–5.04****	*–5.38****	*–5.73****		*–1.70**	*–2.06**	*–2.02**	
Rho	*0.71****	*0.65****	*0.57****					
Log-likelihood (df)	*–320.7 (45)*	*–305.2 (53)*	*–283.2 (59)*					
AIC	*731.5*	*716.5*	*684.3*					

*p≤.05. **p≤.01. ***p≤.001. †Marginal effects represent the change in probability of concurrent partnerships associated with a one-unit change for each independent variable; they are calculated from model 3 and take into account all variables in the model. ‡The sum of the number of partner's parents whom the respondent had met and gotten along with, and the number of respondent's parents whom the partner had met and gotten along with. *Notes:* Only characteristics with significant coefficients are shown, and all significance tests were one-tailed. ref=reference category. na=not applicable. AIC=Akaike information criterion.

probabilities of concurrent partnerships among women's partners, but with reduced probabilities among men's.

Model 3 also generated some significant findings in the control variables. Men's likelihood of reporting concurrent partnerships increased with their number of prior sex partners. Black and Hispanic respondents were more likely than others to report having had concurrent partners. Meanwhile, men in the youngest birth cohort had a reduced likelihood of having partners who had engaged in concurrent relationships, and age at sexual involvement with partners was negatively associated with the risk

of concurrency among both male respondents and their partners. Men who were Catholic or Orthodox Christian were less likely than others to have nonmonogamous partners, and the likelihood of this response declined as men's education and the education gap between their partners and them increased. Relationship duration was associated with a slightly increased risk of concurrency among men, but correlations with social embeddedness were mixed. Finally, male respondents who had ever been married to their partner had a decreased likelihood of having had concurrent partners.

TABLE 4. Coefficients from bivariate probit regression analyses assessing associations between selected characteristics and likelihood of respondents' or their partners' having had concurrent partnerships, as reported by male respondents

Characteristic	Respondent				Partner			
	Model 1	Model 2	Model 3	Marginal effect†	Model 1	Model 2	Model 3	Marginal effect†
Time to sexual involvement								
≥6 mos. (ref)	na	na	na	na	na	na	na	na
≥3 mos. to <6 mos.	na	0.30	0.23	0.07	na	−0.52	−0.64*	−0.07
≥1 mo. to <3 mos.	na	0.46	0.42	0.13	na	−0.57*	−0.65*	−0.06
≥1 week to <1 mo.	na	0.50*	0.45	0.14	na	−0.49*	−0.58*	−0.06
<1 week	na	0.64*	0.15	0.04	na	0.00	−0.50	−0.05
Type of sexual involvement								
Serious (ref)	na	na	na	na	na	na	na	na
Casual dating	na	na	0.35	0.11	na	na	0.27	0.04
Friendship	na	na	0.73*	0.25	na	na	1.13**	0.27
Casual sex	na	na	1.22***	0.43	na	na	1.07**	0.24
No. of partners since age 13 (logged)	0.43***	0.42***	0.41***	0.12	0.12	0.13*	0.12	0.02
Race/ethnicity								
Black	0.79**	0.81**	0.85**	0.28	−0.17	−0.10	−0.28	−0.03
Hispanic	1.06**	1.16***	1.19***	0.42	−0.21	−0.28	−0.36	−0.04
White/other (ref)	na	na	na	na	na	na	na	na
Birth cohort								
1935–1949 (ref)	na	na	na	na	na	na	na	na
1950–1964	−0.11	−0.07	−0.35	−0.09	−0.27	−0.30	−0.54	−0.07
1965–1979	−0.41	−0.35	−0.74	−0.19	−1.43*	−1.45*	−1.89**	−0.21
Yrs. of education	−0.03	−0.01	0.02	0.01	−0.21***	−0.24***	−0.25***	−0.03
Religious affiliation								
Protestant (ref)	na	na	na	na	na	na	na	na
Catholic/Orthodox Christian	0.30	0.37	0.44	0.13	−0.58*	−0.58*	−0.64*	−0.08
Other/none	−0.13	−0.19	−0.12	−0.03	−0.39	−0.36	−0.35	−0.04
Partner of different race/ethnicity								
No (ref)	na	na	na	na	na	na	na	na
Yes	−0.25	−0.21	−0.34	−0.09	0.53*	0.47	0.46	0.08
Partner's education difference	−0.02	0.00	−0.01	0.00	−0.13*	−0.16**	−0.19***	−0.03
Age at sexual involvement with partner	−0.04	−0.04	−0.05*	−0.02	−0.05*	−0.05*	−0.07**	−0.01
Marital status with partner								
Ever married	−0.79*	−0.78*	−0.73*	−0.21	−0.63*	−0.59	−0.53	−0.08
Ever cohabited, but never married (ref)	na	na	na	na	na	na	na	na
Never cohabited	−0.09	0.00	0.04	0.01	0.00	0.01	0.03	0.00
Relationship duration	0.01*	0.01**	0.01**	0.00	0.00	0.00	0.00	0.00
Relationship duration squared	0.00**	0.00**	0.00***	0.00	0.00	0.00*	0.00*	0.00
No. of mutual contacts respondent and partner had at first meeting								
0 (ref)	na	na	na	na	na	na	na	na
1–4	−0.13	−0.12	−0.20	−0.06	−0.69*	−0.74**	−0.93**	−0.11
≥5/grew up together	−0.27	−0.25	−0.35	−0.09	−0.31	−0.39	−0.57*	−0.07
No. of social ties with parents‡								
0–1 (ref)	na	na	na	na	na	na	na	na
2–3	0.35	0.37	0.60*	0.18	0.06	0.16	0.22	0.03
4	0.08	0.11	0.32	0.09	−0.52*	−0.41	−0.40	−0.05
Constant	−0.14	−1.01	−1.26		5.14***	5.79***	6.60***	
Rho	0.64***	0.71***	0.64***					
Log-likelihood (df)	−287.5 (45)	−279.8 (53)	−264.4 (59)					
AIC	665.0	665.5	646.7					

*p≤.05. **p≤.01. ***p≤.001. †Marginal effects represent the change in probability of concurrent partnerships associated with a one-unit change for each independent variable; they are calculated from model 3 and take into account all variables in the model. ‡The sum of the number of partner's parents whom the respondent had met and gotten along with, and the number of respondent's parents whom the partner had met and gotten along with. *Notes:* Only characteristics with significant coefficients are shown, and all significance tests were one-tailed. ref=reference category. na=not applicable. AIC=Akaike information criterion.

TABLE 5. Coefficients from bivariate probit regression analyses assessing associations between selected characteristics and likelihood of respondents' or their partners' having had concurrent partnerships that started within five years of interviews

Characteristic	Respondent		Partner	
	Coefficient	Marginal effect†	Coefficient	Marginal effect†
Time to sexual involvement				
≥6 mos. (ref)	na	na	na	na
≥3 mos. to <6 mos.	0.33	0.09	–0.38	–0.09
≥1 mo. to <3 mos.	0.27	0.07	–0.63*	–0.14
≥1 week to <1 mo.	0.31	0.09	–0.18	–0.05
<1 week	0.28	0.08	–0.10	–0.03
Type of sexual involvement				
Serious (ref)	na	na	na	na
Casual dating	0.63*	0.18	–0.01	0.00
Friendship	1.91***	0.64	1.33***	0.45
Casual sex	1.17***	0.38	0.74*	0.23
No. of partners since age 13 (logged)	0.43***	0.11	0.08	0.02
Race/ethnicity				
Black	0.71**	0.20	0.82**	0.24
Hispanic	0.47	0.14	0.21	0.06
White/other (ref)	na	na	na	na
Yrs. of education	–0.05	–0.01	–0.16**	–0.04
Religious affiliation				
Protestant (ref)	na	na	na	na
Catholic/Orthodox Christian	0.37	0.10	0.08	0.02
Other/none	–0.64*	–0.14	–0.06	–0.02
Partner of different race/ethnicity				
No (ref)	na	na	na	na
Yes	0.23	0.06	0.67*	0.20
Partner's education difference	–0.08	–0.02	–0.23***	–0.06
Marital status with partner				
Ever married	–0.58	–0.12	–1.08**	–0.20
Ever cohabited, but never married (ref)	na	na	na	na
Never cohabited	0.28	0.07	–0.04	–0.01
Relationship duration	0.05*	0.01	0.04	0.01
Relationship duration squared	0.00	0.00	0.00*	0.00
No. of mutual contacts respondent and partner had at first meeting				
0 (ref)	na	na	na	na
1–4	–0.23	–0.06	–1.00***	–0.22
≥5/grew up together	0.23	0.06	–0.71**	–0.17
Constant	*–3.94**		*2.77*	
Rho	*0.55***			
Log-likelihood (df)	*–230.4 (60)*			

*p≤.05. **p≤.01. ***p≤.001. †Marginal effects represent the change in probability of concurrent partnerships associated with a one-unit change for each independent variable and take into account all variables in the model. Notes: Only characteristics with significant coefficients are shown, and all significance tests were one-tailed. Because of the smaller sample size, these analyses combined responses from 303 men and women. ref=reference category. na=not applicable.

•*Recently begun partnerships.* The findings of the regression analyses limited to partnerships that began within five years of the interviews were consistent with the main findings of the earlier analyses (Table 5). The timing of sexual involvement was largely nonsignificant. Compared with sexual involvement in serious relationships, involvement in casual dating relationships was associated with an 18% higher probability of concurrency among respondents; involvement with friends and with

casual sex partners was correlated with elevated probabilities of concurrent partnerships both among respondents (64% and 38%, respectively) and among their partners (45% and 23%). These results further confirm that the type of sexual involvement is associated with partnership concurrency.

DISCUSSION

This study produced several key findings of how relationship contexts were associated with partnership concurrency. First, given the statistically significant rho coefficients for all of the bivariate probit regressions, the presence of concurrent partnerships among respondents was dependent on the perceived nonmonogamy of their partners, and vice versa. This research appears to represent the first modeling effort to account for interdependent decision making between respondents and their partners about sexual exclusivity. Future research should examine whether such decision making is important in other data, and whether the present findings hold for partners' actual behaviors, which could be examined using couples' data, as opposed to respondents' perceptions of their partners' behavior.

Second, the timing and the type of sexual involvement were critical. Sexual involvement within the first week of a relationship was associated with increased risks of nonmonogamy, but it was also strongly associated with involvement in nonserious, as opposed to serious, relationships. When the type of sexual involvement was controlled for, the association between courtship duration and partnership concurrency was largely mediated. These findings, coupled with those regarding courtship duration, shed light on the significance of hookups. Specifically, sexual involvement in nonromantic contexts, such as sex with friends, acquaintances or strangers, was associated with increased risk of concurrency for both members of sexual dyads. Future research could focus on whether partnership concurrency linked to nonserious contexts of sexual involvement is embedded in highly connected clusters of sexual contacts.

A third key finding is that the results are consistent with the conceptual framework presented here. The timing and the type of sexual involvement reflect relationship-building processes that make concurrent partnerships less likely. Alternatively, these characteristics may be associated with nonmonogamy because of selection processes—that is, courtship processes may play a key role in screening out individuals who are prone to having concurrent partners. To the extent that delaying sex and fostering serious sexual involvements are costly, individuals who are interested primarily in short-term sexual gratification should be less likely to engage in these behaviors, whereas those interested in long-term benefits can afford this extra effort and commitment.

It is important to acknowledge, however, several alternative interpretations of these associations. The association between courtship duration and sexual exclusivity may be spurious, reflecting social factors that cause

individuals to both delay sex and remain sexually exclusive. For example, individuals who are in jail or busy with work or family obligations may have relatively long courtships and have difficulties forming concurrent partnerships. While these data do not allow these possibilities to be investigated directly, the fact that types of sexual involvement largely mediated the association with courtship duration is consistent with this interpretation.

The finding that courtship processes were important has an additional implication. These processes, which have received attention primarily in the demographic literature on adolescent sexual relationships,[23,33,34] may be critical social processes and deserve increased attention. While several studies have documented changing patterns in courtship processes in the last century,[35–37] there is a need for increased understanding about the implications of nonromantic contexts of sexual involvement. The significance of courtship factors in these data raises questions about whether these patterns will hold in other populations and in relation to other demographic processes, such as union formation and dissolution.

Limitations

This study has several limitations. First, the analyses draw on relatively old data, which may not accurately depict contemporary sexual relationships. However, the CHSLS appears to be the only source of population-based data that include partnership-specific information about the timing and the type of sexual involvement, as well as partnership concurrency among adults. The National Survey of Family Growth collects information on relationship contexts of sexual involvement, but it lacks data on the timing of sexual involvement and on whether specific partners were sexually exclusive. Wave III of the National Longitudinal Study of Adolescent Health, a survey of young adults, includes data on the timing of sexual involvement and partnership-specific information on both respondents' and partners' nonmonogamy, but lacks information on relationship context at sexual involvement. The only other data set with this set of measures is the Toledo Adolescent Relationships Study, which focuses on adolescents. Indeed, the present study may motivate researchers to gather information about courtship processes in future data collection efforts.

Second, this study relies on respondents' perceptions of their partners' sexual exclusivity, as opposed to partners' actual behaviors. Individuals who lacked knowledge about their partners' sexual exclusivity were coded in the nonexclusive category, but this coding did not affect the main results (analysis available upon request). Also, individuals' perceptions about their partners' exclusivity are frequently erroneous.[9] Regardless, this research demonstrated that these perceptions matter, as concurrency among respondents was associated with their perceptions of their partners' sexual exclusivity. Indeed, to the extent that decision making about concurrency among respondents is of interest, individuals' perceptions of their partners' behavior may be more relevant than actual behavior, which is often unknown. Nevertheless, future research should examine whether these associations are also observed in couples' data.

A third limitation is that these data cannot answer the question of whether relationship contexts of sexual involvement led to increased likelihoods of contracting an STD. Rather, they allow only assessment of associations with concurrent partnerships. Whether these associations translate into increased risk of STD infection depends on other factors, such as condom use, which is likely to be most consistent, though not completely so, in nonromantic sexual involvements.

Another limitation is that the CHSLS data lack information about when partnership concurrency occurred during these relationships. This issue was partly addressed in the analysis restricted to relationships that started within five years. This research, however, addresses neither the timing nor the specific relationship contexts at partnership concurrency. Consequently, a key unresolved issue is whether the type of sexual involvement is directly associated with partnership concurrency or the association is mediated through later relationship processes, which are not included in the model.

In addition, the possibility of recall bias cannot be ruled out, although it is less of an issue for the analysis that focused on partnerships from the last five years. For example, it is possible that individuals who have concurrent partnerships may be inclined to report sexual involvement in nonserious relationships. Social desirability bias is another concern, as rapid transitions to sex, nonserious contexts of sexual involvement and partnership concurrency are all likely to be underreported. It is unclear whether such underreporting is likely to bias associations among these variables. Finally, this research does not explicitly test whether associations between types of sexual involvement and nonmonogamy reflect selection processes or state effects. Nor can it assess whether courtship processes play a more significant role today than they did in other places and other historical periods.

Conclusions

The main finding that nonromantic sexual involvement is associated with partnership concurrency may lead some to conclude that these results support the call for a return to tradition and the revival of formal dating. Yet no such claim is made here. Despite efforts—such as through virginity pledges—to resurrect prolonged courtships and the institution of dating, delaying sexual involvement is a declining practice among many segments of the population, while nonromantic sexual involvement is commonplace. Many may believe that traditional dating is antiquated and a "waste of time," but this retreat from tradition may lead to increased uncertainty for some. However, the revival of traditional courtship and dating would be a waste of time for others and could lead to decreased diversity in relationship-building behaviors. The key implication

of this research is that courtship processes can provide information to individuals about the likelihood that their partner has been nonmonogamous. Increased knowledge about the informational aspects of relationship-building processes may enhance individuals' ability to understand the risks and the rewards of their relationships.

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