



A Test of the Mate Deprivation Hypothesis of Sexual Coercion

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According to the mate deprivation hypothesis of sexual coercion, males are more likely to use sexually coercive tactics if they are disadvantaged in gaining access to desirable mates. This hypothesis was tested in a sample of 156 young, heterosexual, mostly single men enrolled in a Canadian university. Differential access to mates was indexed by self-perceived mating success, self-reported sexual history, and relative earning potential. Sexual coercion was assessed using the Koss's sexual experiences survey. Results did not support the hypothesis: men who identified themselves as sexually coercive tended to have higher self-perceived mating success, had significantly more extensive sexual histories, and did not report lower relative earning potential. Coercive men reported a greater preference for partner variety and casual sex. Sexual strategy theory is used to propose two alternative models of sexual coercion. © Elsevier Science Inc., 1996

KEY WORDS: Mate deprivation hypothesis; Sexual coercion; Mating strategy; Sexual history; Sexual strategy theory

Forced intercourse and other sexually coercive behaviors have been documented in a number of species (Crawford and Galdikas 1986) and a number of human cultures (Quinsey 1984). Estimates of incidence from offender and victim reports in North America and elsewhere suggest that some forms of sexual coercion are quite common (Gavey 1991; Kanin 1957; Kanin and Parcell 1977; Koss et al. 1987; So-Kum Tang et al. 1993). Contrary to popular belief, female victims of sexual coercion are disproportionately of reproductive age (Shields and Shields 1983); thus, the age distribution of victims does not correspond to the victim age distributions found for other types of crimes (Thornhill and Thornhill 1983) and is not a unique function of vulnerability (Felson and Krohn 1990). Rape victims of reproductive age, in addition to being the most common targets,

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also experience the greatest psychological trauma (Thornhill and Thornhill 1990). The age of the perpetrators is also not randomly distributed: Perpetrators are more likely to commit rape during late adolescence and early adulthood, a period of intense mate competition (Thornhill and Thornhill 1983). These findings support the view that the motives, emotions, and behaviors of rapists and their victims are not altogether divorced from reproductively functional sexual motives, emotions, and behaviors, and encourage the exploration of their evolutionary basis.

Evolutionary psychology attempts “to identify psychological mechanisms and behavioral strategies as evolved solutions to the adaptive problems our species has faced over millions of years” (Buss 1991, pp. 459–460; Tooby and Cosmides 1989, 1990). An evolutionary perspective on sexual coercion thus seeks to determine whether sexual coercion is a result of an evolved psychological mechanism that favors the use of sexually coercive behaviors under certain conditions. The alternative evolutionary explanation is that sexual coercion is a side effect or a by-product of one or more mechanisms designed for something else, such as the control of females’ sexuality or maximizing the number of short-term sexual encounters (Ellis 1991; Palmer 1991; Symons 1979; Thornhill and Thornhill 1992).

One commonly advanced evolutionary hypothesis involving a putative special-purpose mechanism is the mate deprivation hypothesis. According to this hypothesis, males who have more limited access to mates are more likely to resort to sexual coercion (Thornhill and Thornhill 1983, 1991, 1992; Thornhill et al. 1986). The tendency to sexually coerce would therefore be part of an evolved conditional mating strategy. In its most general form, the mate deprivation hypothesis implies that all males possess the potential to engage in sexually coercive behaviors, but that only a portion of them encounter developmental and environmental conditions that lower their relative access to mates, thus triggering the use of coercive tactics. Thornhill and Thornhill (1983) have discussed how the ancestral human polygynous mating system may have led to the development of conditional mating tactics, including sexual coercion.

The mate deprivation hypothesis of sexual coercion has been formulated in the context of male competition for status and wealth (Thornhill and Thornhill 1983; Thornhill et al. 1986): “rape may be engaged in by men who are relatively unsuccessful in competition for the resources and status necessary to attract and reproduce successfully with desirable mates” (Thornhill et al. 1986, p. 103). Status and wealth are positively correlated with reproductive success in pre-industrial societies (see review in Pérusse 1993) and with mating opportunities in industrial societies (Pérusse 1993). Indicators of earning potential in prospective partners are core characteristics desired by females in most cultures (Buss 1989). The relationship between relative success in status acquisition and likelihood of engaging in sexual coercion has received some support using aggregate data, in that arrested rapists generally come from lower social strata (see review in Thornhill and Thornhill 1983).

The mate deprivation hypothesis has also been formulated in the context of the sexually coercive cues the male brain was putatively designed to process. Thornhill and Thornhill (1991, 1992) reasoned that if there were a specifically designed mechanism that facilitates sexual coercion under certain circumstances, males’ sexual

arousal and performance should not be inhibited (or, at least, not totally inhibited) by females' rejection of sexual advances, and that the sexual control of females should be sexually arousing. Laboratory studies and victim and offender self-report data support this view (see review in Thornhill and Thornhill 1992).

Interestingly, the mate deprivation hypothesis is consistent with current social/psychological theories of human rape in which rapists are seen as inadequate in a number of interpersonal domains, such as having deficiencies in heterosocial skills and difficulties in forming intimate attachments, which interfere with their forming successful relationships with females (Marshall et al. 1993; Stermac et al. 1990). However, it is not clear from these theories why these inadequacies would lead to the use of coercive tactics.

The mate deprivation view of rape is not altogether consistent, however, with findings from studies of males who self-report the use of sexually coercive tactics: these males have been found to have had more sexual experience than their noncoercive peers (Byers and Eno 1991; Gold and Clegg 1990; Koss and Dinero 1988; Koss et al. 1985; Mahoney et al. 1986). In addition, Kanin (1983, 1985) reported that self-identified coercive males were sexually deprived, but only in the sense that they had greater expectations and as a result felt more sexual frustration.

In this study, we tested the mate deprivation hypothesis on a sample of young, mostly single, undergraduate males using self-evaluative and self-report behavioral measures. The definition of sexual coercion included both physical and nonphysical forms of sexual coercion. The focus was on differential access to mates, as indexed by self-perceived mating success and sexual history, although relative socioeconomic status/potential was also investigated. Recent developments in the study of human mating (e.g., Buss and Schmitt 1993) prompted us to also investigate the sexual strategy of sexually coercive males.

PREDICTIONS

A measure of self-perceived mating success has been found in a previous study to correlate positively with self-reported number of sexual partners (since puberty and in the last year) and negatively with age at first intercourse among males but not females (Lalumière et al. 1995). This measure of self-perceived mating success reflects physical attractiveness, sexual opportunities, and desirability to the other sex. If sexually coercive males are disadvantaged in mate competition, their self-perceived mating success should be lower than males who do not engage in sexual coercion. A finding that sexually coercive males possess equal or higher self-perceived mating success than noncoercive males would put the mate deprivation hypothesis in jeopardy.

Similarly, if sexually coercive males are disadvantaged in mate competition, they should report a less extensive history of sexual experience (e.g., smaller number of different sexual partners).

If inability to successfully compete for status and wealth relative to peers determines the use of coercive tactics, sexually coercive males should come from lower

socioeconomic backgrounds than nonsexually coercive males and should report their potential income as relatively lower. This relationship has not, to our knowledge, been tested in a sample of individuals who all possess some economic advantage due to their education but who are known to vary in their propensity to engage in sexual coercion. A finding that sexually coercive males have equal or higher socioeconomic status/potential would not support the mate deprivation hypothesis.

ADDITIONAL RESEARCH QUESTIONS

In general, males, compared to females, show a greater preference for casual and impersonal sex, multiple partners, and extra-pair sex (Buss and Schmitt 1993; Landolt et al. 1995; Symons and Ellis 1989; Ellis and Symons 1990). Intrasex individual differences in mating strategy have rarely been studied (but see Simpson and Gangestad 1991). The sexual strategy of sexually coercive males and their noncoercive peers was investigated in this study.

If sexually coercive males have more difficulty attracting desirable partners, they may report heterosocial skill deficits. Heterosocial skills among identified and unidentified rapists have been compared but differences are not usually observed (e.g., Koralewski and Conger 1992; Muehlenhard and Falcon 1990; Overholser and Beck 1986; Stermac and Quinsey 1986; Segal and Marshall 1985; but see Lipton et al. 1987). No studies have specifically examined the use of tactics of mate attraction (Buss 1988). In the present study, sexually coercive males were compared to their noncoercive peers on the self-reported use of different tactics of mate attraction (Buss 1988).

Two variables have been found to discriminate sexually coercive college males from their noncoercive peers in a number of studies: self-reported future likelihood to engage in coercive sex and antisocial tendencies (e.g., Sarwer et al. 1993; Walker et al. 1993). These two variables were investigated in the present research to provide a basis for comparison with previous studies using similar samples.

METHOD

Participants

One hundred fifty-six heterosexual males ranging from 17 to 36 years of age ($M = 20.5$, $SD = 2.6$) were recruited from a first-year psychology course ($n = 66$) and from the general student community ($n = 90$) through advertisements in a campus newspaper ("males 18+ needed for a study on heterosexual dating and sexual behavior"). Psychology students received course credit for their participation, whereas other participants were each paid six dollars. Participants' socioeconomic status was assessed using their parents' scores on the Blisshen Index, an indicator of socioeconomic status based on the median income and education of different occupations in the 1981 Canadian Census (Blisshen et al. 1987). The means for the mothers and fathers who had an occupation were 54.8 ($SD = 13.0$) and 64.0 ($SD =$

15.7), respectively. These values correspond to occupations such as public school teacher or mid-level manager. Of the participants, 97% were single and 64% were first- or second-year university students. All participants selected for analysis reported themselves to be predominantly heterosexual on a modified Kinsey scale (Kinsey et al. 1948).

Measures

Self-reported sexual coercion. The sexual experiences survey (Koss and Oros 1982) consists of twelve yes/no questions where participants are asked “Have you ever...” combined with a description of a situation involving different levels of sexual coercion. Koss and Gidycz (1985) reported a Cronbach alpha of 0.89 and a 1-week test-retest item agreement of 93%. Participants were divided into four sexual experience groups on the basis of their answers to 11 items: no sexual intercourse (virgins), noncoercive sexual experience, nonphysical coercive sexual experience but no physical coercive experience (e.g., “had sexual intercourse with a woman even though she didn’t really want to because she felt pressured by your continual arguments”), and physical coercive sexual experience (e.g., “had sexual intercourse with a woman when she didn’t want to because you used some degree of physical force”). One item (“Have you ever had a woman misinterpret the level of sexual intimacy you desired?”) was not used to classify participants because it was deemed too ambiguous.¹

Self-perceived mating success. Mating success was measured using the self-perceived mating success scale (Landolt et al. 1995) and the relative standing scale (Lalumière et al. 1995). Scores from each subject were obtained from a factor analysis of the 12 items from both scales (see Data Reduction section). A previous factor analysis found that 10 of the 12 items loaded highly on a factor labeled “attractiveness.” Self-perceived mating success is positively related to, but distinct from, general self-esteem (Lalumière et al. 1995).

Sexual experience. A sexual experience scale (Lalumière et al. 1995) contained items such as age of first sexual intercourse, number of sexual partners since puberty, proportion of sexual relationships that were casual, frequency of intercourse in the past month, number of sexual partners in the past year, and number of “one-night stands” (defined as intercourse with someone on only one occasion). The last two items are from the sociosexuality inventory (see below). Other items about dating and marital status were also included. Sexual experience scores were obtained from a factor analysis of six items (see Data Reduction section).

¹It can be similarly argued that the term “sexual coercion” does not accurately describe the nature of the items denoting nonphysical methods of obtaining sexual access in the sexual experiences survey. We have used “sexual coercion” in the present context because it is consistent with its usage in the large literature on rape, because Elliot (1994) has found that these sorts of behaviors (termed by him “sexual pressure”) temporally precede rape in self-report data, and because of internal evidence obtained in this study, which is presented later.

Parental occupation and relative earning potential. Parental occupation was obtained by calculating the sum of parents' Blishen scores. Dual-career parents thus obtained the highest occupation scores. Also, participants' relative earning potential scores were obtained from a 7-point scale item "Relative to my peer group, my potential income is much lower (1)–much higher (7)."

Preference for partner novelty and casual sex (sexual strategy). Five items from the sociosexuality inventory (SOI; Simpson and Gangestad 1991) were used to measure preference for partner novelty and casual sex. The SOI measures a propensity for restricted versus unrestricted sexuality (degree of love and commitment necessary for engaging in sex). An SOI total score, using all seven questions, was also computed, using Simpson and Gangestad's (1991) weighting formula and their proposed maximum score restrictions. The SOI has good reliability and good convergent and discriminant validity.

A questionnaire on preferences and motivations with regard to short-term and long-term relationships was also administered. It contained eight items, of which seven were found to discriminate males from females in a previous study (Landolt et al. 1995). Partner novelty and casual sex scores were obtained from factor analysis of 12 items from these two questionnaires (see Data Reduction section).

Tactics of mate attraction. An adapted version of Buss's (1988) list of tactics of mate attraction was used to assess participants' use of mating tactics varying in effectiveness. This questionnaire contained 10 tactics found to be frequently used and rated by both sexes as most effective to attract a mate, and 10 tactics found to be frequently use and rated as less effective (presented alternately). Examples include: "display a good sense of humor," "show sympathy to female's trouble" (most effective), "flash a lot of money to impress a female," "talk about how good you are at sports" (less effective). The labels "most effective" and "less effective" do not refer to measured effectiveness but to subject's perceptions of effectiveness in Buss's study. Participants indicated how similar these activities were to those they would likely perform in order to attract a female on a scale of 1 ("not at all") to 7 ("very much"). Total scores (from 10 to 70) were calculated for both effective and less effective tactics.

Likelihood of engaging in sexual coercion. An adaptation of Malamuth's scale (1981) was used to determine participants' self-reported propensity to engage in sexual coercion. This scale consisted of five situations adapted from the Koss's sexual experiences survey where participants indicated how likely they would be to engage in these behaviors if there were no chance of getting caught and no negative consequences ("not likely" to "very likely" on a 7-point scale). Mean scores were created for likelihood of nonphysical coercion (three items) and likelihood of physical coercion (two items).

Indicators of antisocial tendencies. A slightly modified version of Gough's (1987) socialization scale was used as an adult indicator of antisocial tendencies. The scale

consists of 57 questions regarding various attitudes and behaviors. Two questions were eliminated before scoring because participants reported difficulties understanding them. The socialization scale correlates well with clinical and behavioral ratings of psychopathy (Hare 1985). A high score indicates a comfortable acceptance of ordinary rules and regulations, and easy conformity. A low score indicates the resistance to rules and regulations and difficulty with conformity. Total scores (from 55 to 385) were calculated for each subject.

Childhood and adolescent indicators of antisocial tendencies were also included (Harris et al. 1994). Using a nonstudent sample, this self-report measure was found to correlate 0.87 with an interview measure of these same indicators and 0.72 with an interview measure of adult personality indicators of psychopathy (Seto et al. in press). The questionnaire consists of eight questions (yes/no or 7-point scales) that assess behavior and family life before 16 years of age (see also Belmore and Quinsey 1994). Responses were subsequently coded as 0 or 2 for dichotomous variables and as 0, 1, or 2 for continuous variables. A total score (from 0 to 16) was created for each subject.

Socially desirable responding. The balanced inventory of desirable responding (Paulhus 1991, p. 37) contains two subscales assessing positive self-deception or self-deceptive enhancement (an “honest but positively biased” tendency) and impression management (“a deliberate self-presentation to an audience”). Paulhus reports a coefficient alpha of 0.83 and a correlation of 0.71 with the Marlowe-Crowne social desirability scale. Total scores were obtained for each scale.

Procedure

Participants were tested in groups of five to 25. They were assured of complete confidentiality and anonymity, and then they completed a consent form. Questionnaires were administered in counterbalanced order. Participants subsequently received a debriefing form that outlined the objectives of the study and provided sources of information about sexual coercion.

RESULTS

A total of 156 participants was used in the analyses. Seven additional participants were omitted because they did not report a heterosexual preference on the Kinsey scale. Seventeen participants (10.9%) indicated not having experienced intercourse, 88 (56.4%) indicated a noncoercive sexual history, 44 (28.2%) indicated some non-physical coercive experience but no physical coercive experience, and seven (4.5%) indicated some physical coercive experience.

Missing data were rare and were replaced with the mean values of the subject's sexual experience group. Outliers and extreme scores were identified using the fourth-spread method (Hoaglin et al. 1983). Neither particular participants nor items had a high number of outliers, and the outliers were not modified.

Data Reduction

The individual scores for the latent variable “self-perceived mating success” were obtained by factor analyzing the eight items of the self-perceived mating success scale and the four items of the relative standing scale. The principal component factor solution using varimax rotation showed two factors accounting for 43.6% and 11.0% of the variance, respectively. As shown in Table 1, all items of the self-perceived mating success scale and two items of the relative standing scale (relative physical attractiveness, relative ease of getting dates) loaded 0.50 and above on the first factor, labeled attractiveness. Two items of the relative standing scale (relative earning potential, parent’s relative earning) loaded over 0.77 on the second factor, labeled earning capacity. This factor structure closely resembled the factor structure found in Lalumière et al. (1995). Only factor scores from the attractiveness factor were used in the analyses.

Factor scores were similarly obtained for the latent variables “sexual experience” and “preference for partner novelty and casual sex.” All items were coded in the same direction before analysis (more experience, preference for more partners). The items used for these factor analyses and their factor loadings are presented in Tables 2 and 3. One meaningful factor was extracted for both the sexual experience variable (50.5% of variance accounted for), and the partner novelty variable (40.9%). It is interesting to note that the item “frequency of intercourse in the past month” did not load highly on the sexual experience factor, and that the item “engage in long-term relationship for sex” did not load highly on the partner novelty factor. All other items loaded at least 0.35 on their respective factors.

Table 1. Factor Loadings of the Two Mating Success Factors

	Factor 1 Attractiveness	Factor 2 Earning Capacity
Self-perceived mating success scale items:		
Members of the opposite sex that I like tend to like me back.	0.56	0.001
Members of the opposite sex notice me.	0.82	-0.01
I receive many compliments from members of the opposite sex.	0.76	-0.02
Members of the opposite sex are not very attracted to me. ^a	0.80	-0.02
I receive sexual invitations from members of the opposite sex.	0.70	0.009
Members of the opposite sex are attracted to me.	0.86	-0.05
I can have as many sexual partners as I choose.	0.50	-0.24
I do not receive many compliments from members of the opposite sex. ^a	0.72	0.04
Relative standing scale items:		
Relative to my peer group, I can get dates: with great difficulty–with great ease.	0.73	-0.06
Relative to my peer group, I consider myself: much less attractive–much more attractive	0.69	0.13
Relative to my peer group, my potential income is: much lower–much higher.	0.04	0.80
Relative to parents of my peer group, my parents’ combined income is: much lower–much higher.	-0.04	0.78

^aReverse coded.

Table 2. Factor Loadings of the Sexual Experience Factor

	Sexual Experience Factor 1
Age at first intercourse ^a	0.35
Number of partners since puberty	0.92
Number of partners in the past year	0.80
Frequency of intercourse in past month	0.06
Percentage of sexual relationships that were casual	0.90
Number of one-night stands	0.78

^aReverse coded.

Self-perceived mating success and partner novelty scores were normally distributed, whereas sexual experience scores were slightly positively skewed. Participants who answered “not applicable” for some items (e.g., age at first intercourse) did not obtain a factor score for the factors containing these items.

Correlations with the Balanced Inventory of Desirable Responding Subscales

The self-deception subscale of the balanced inventory of desirable responding was positively correlated with the use of effective mating tactics, $r(153) = 0.31, p < .001$; and negatively correlated with likelihood of nonphysical coercion, $r(153) = -0.17, p < .05$, and Gough's adult indicator of antisocial tendencies, $r(153) = -0.35, p < .0001$. The impression management subscale was negatively correlated with sexual experience, $r(134) = -0.21, p < .05$, preference for partner novelty and casual sex, $r(130) = -0.30, p < .001$, use of less effective mating tactics, $r(153) = -0.24, p < .01$, likelihood of nonphysical coercion, $r(153) = -0.20, p < .05$, Gough's adult indicator of antisocial tendencies, $r(153) = -0.22, p < .01$, the childhood and adolescent indicators of antisocial tendencies, $r(153) = -0.22, p < .01$, and the sociosexuality orientation inventory, $r(153) = -0.29, p < .001$.

Table 3. Factor Loadings of the Partner Novelty and Casual Sex Factor

	Partner Novelty and Casual Sex Factor 1
Number of partners foreseen in the next 5 years	0.61
Sex without love is okay	0.63
Comfortable with casual sex with different partners	0.75
Need to be attached before sex ^a	0.71
Prefer short-term relationships	0.77
Prefer many sex partners	0.80
Prefer one steady partner ^a	0.75
Prefer a long-term relationship with one partner ^a	0.81
Would like extra-pair sex while keeping current partner	0.57
Frequency of extra-pair sex fantasy	0.39
Engage in long-term relationships for commitment ^a	0.35
Engage in long-term relationships for sex	0.09

^aReverse coded.

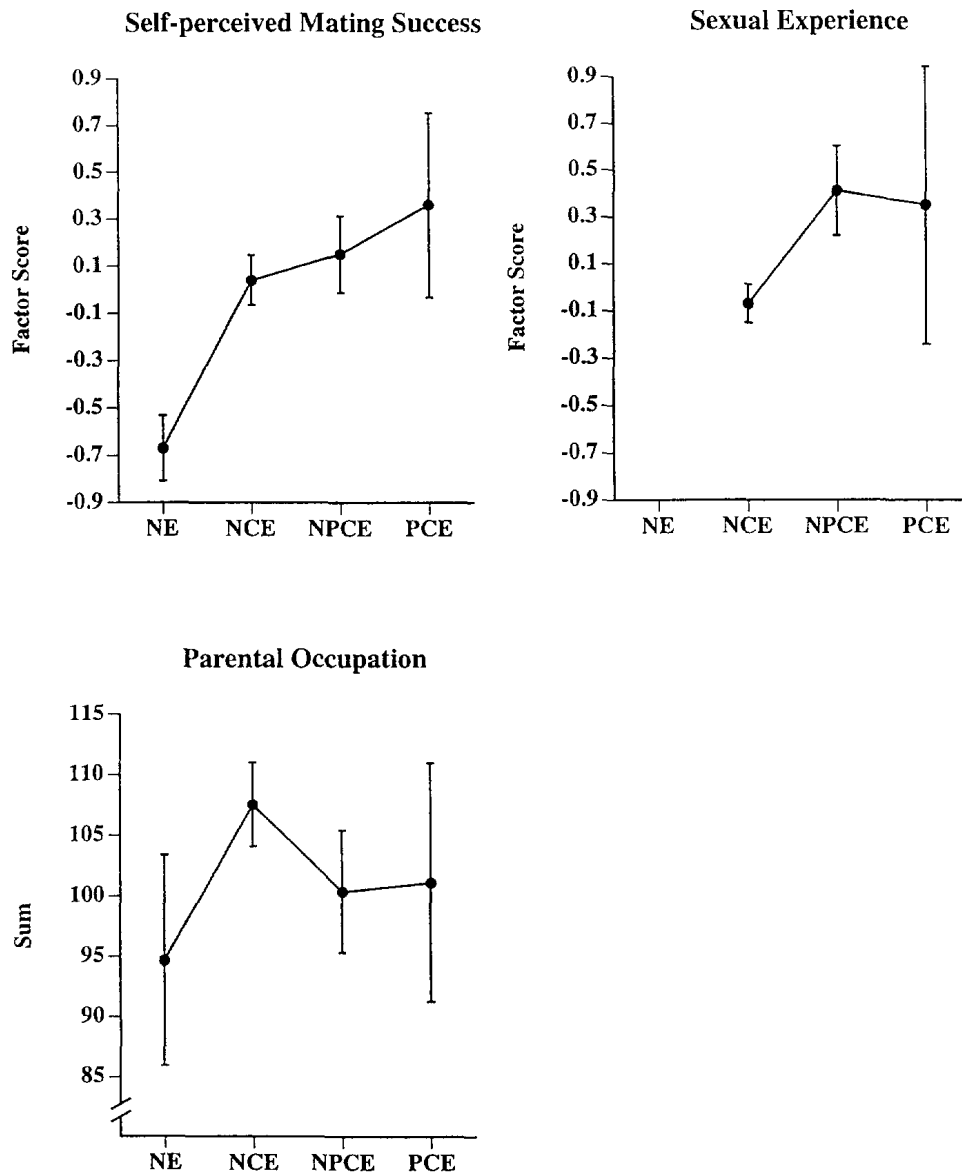


FIGURE 1. Group means and standard error bars for all study variables. NE = no sexual experience; NCE = noncoercive sexual experience; NPCE = nonphysical coercive experience; PCE = physical coercive experience.

Impression management is more a threat to validity than self-deception (Paulhus 1984), and only the former was controlled for in this study.

Group Distribution

Figure 1 presents the means and standard error bars for the major variables across the four sexual experience groups. The group variances were significantly unequal and, because of unequal sample size and a very small sample size in the physically coercive group, no statistical tests were conducted. Figure 1 shows that males who

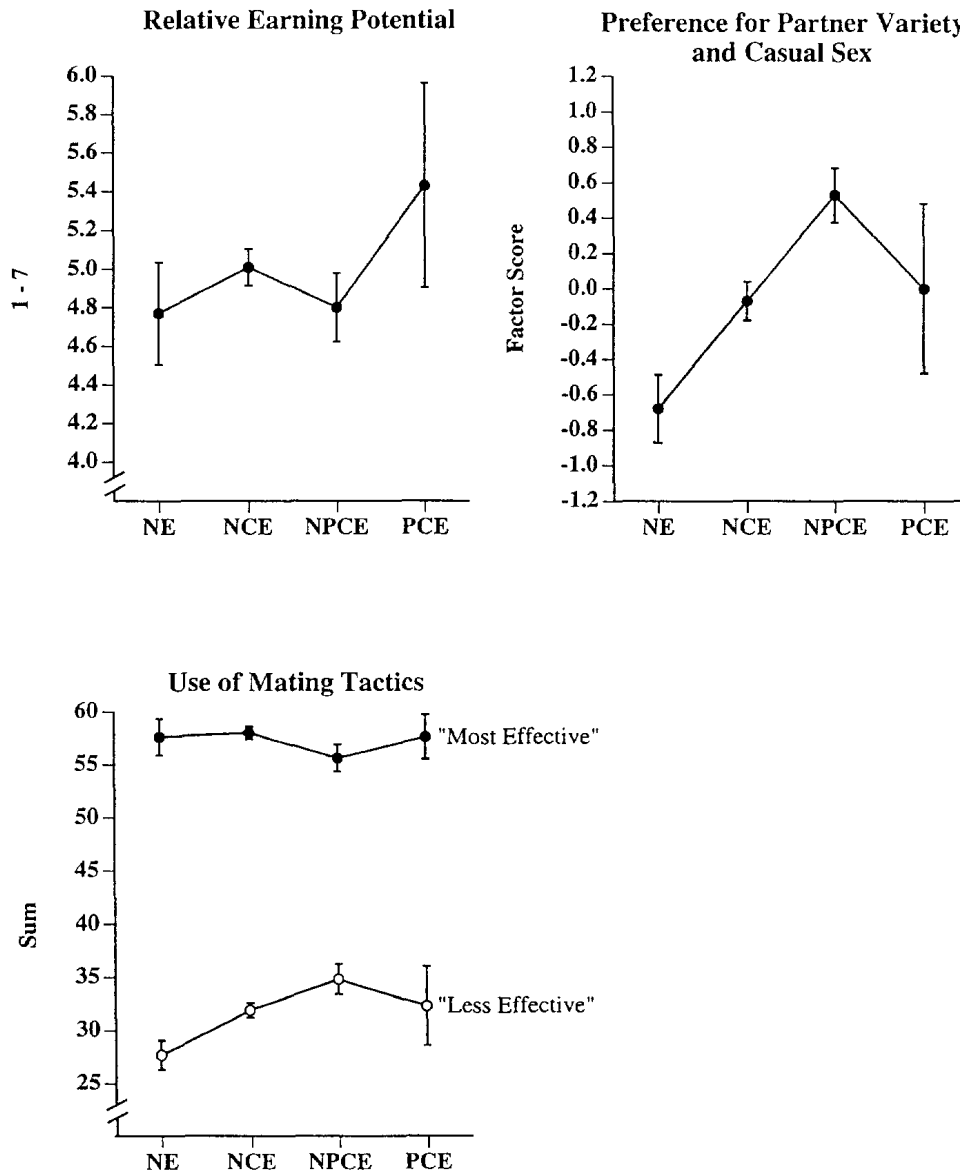


FIGURE 1. (Continued)

reported never having had sexual intercourse appeared to differ from the other three groups. Sexually coercive males, compared to sexually noncoercive males, had higher self-perceived mating success, reported more sexual experience, reported a greater preference for partner variety and casual sex, used less effective mating tactics more frequently, and reported a higher likelihood of future nonphysical coercion.

Three-Groups Univariate Analyses

Because of the small number of participants who admitted use of physical sexual coercion, these participants were merged with the nonphysically sexually coercive

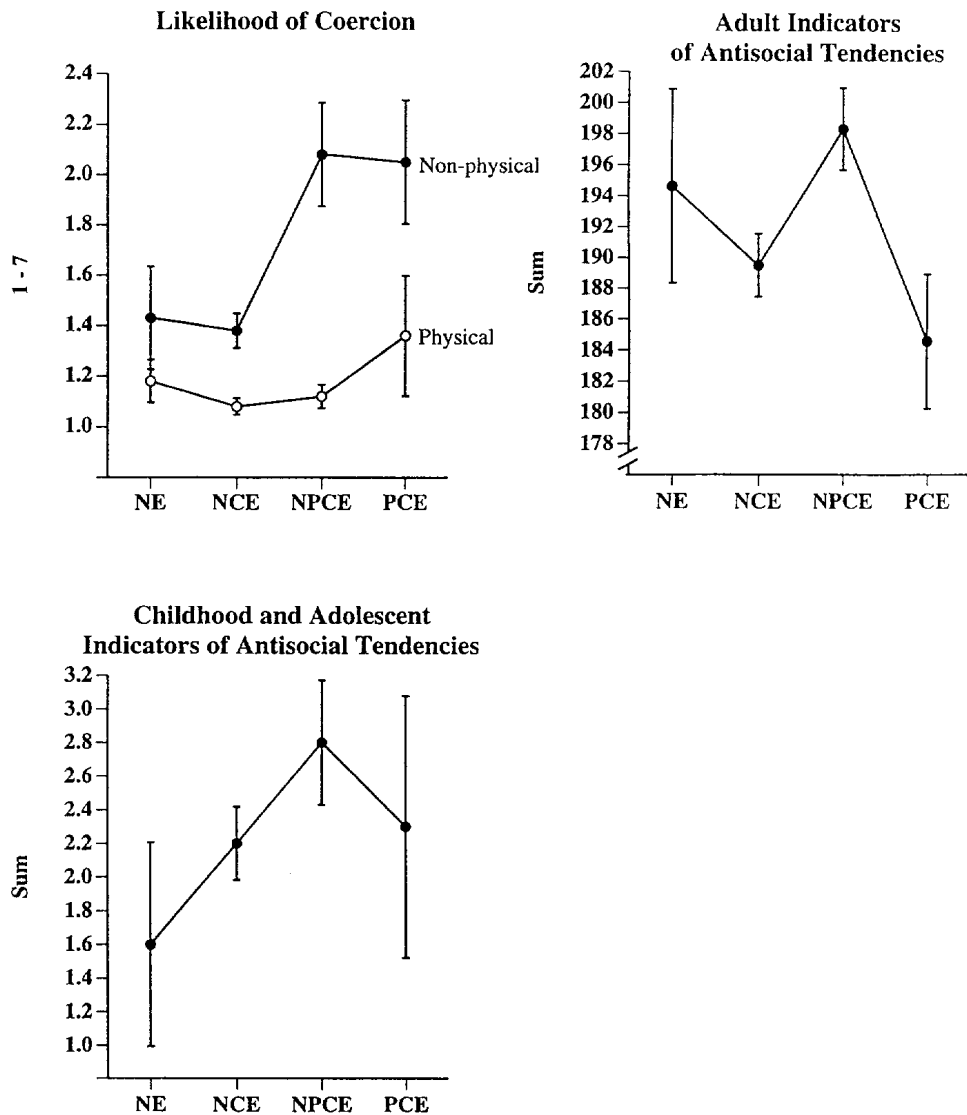


FIGURE 1. (Continued)

males (total $n = 51$). These two groups did not significantly differ on any of the study variables.² Virgins ($n = 17$) and nonsexually coercive participants ($n = 88$) were not merged because they showed quite different response patterns (see Figure 1). This procedure increased the difficulty of finding statistically significant differences between sexually coercive males and nonsexually coercive males. The three groups (virgins, noncoercive, coercive) were compared using univariate F -tests. Results are presented in Table 4.

The groups were significantly different on self-perceived mating success, sexual experience, preference for partner variety and casual sex, use of less effective mating tactics, likelihood of nonphysical coercion, and sociosexual orientation. The

²The t values were very small, and the group variances were similar.

F-tests were recalculated using impression management as a covariate. All significant group differences remained.

Sexually coercive males were compared to noncoercive males and the latter group to virgins, using the omnibus error variance (and associated degrees of freedom) as the error term. Compared to noncoercive males, sexually coercive males were found to be more sexually experienced, $F(1,135) = 7.56, p < .001$, to show a greater preference for partner novelty and casual sex, $F(1,130) = 8.03, p < .001$, to be more likely to use less effective tactics, $F(1,153) = 3.90, p < .05$, to report a greater likelihood of nonphysical coercion, $F(1,153) = 18.33, p < .001$, and to show higher scores on the sociosexuality inventory, $F(1,153) = 10.60, p < .001$. The two groups did not differ on self-perceived mating success, $F(1,152) = 0.67, NS$.

Compared to virgins, noncoercive males reported higher self-perceived mating success, $F(1,152) = 7.54, p < .001$, greater preference for partner variety and casual sex, $F(1,130) = 4.65, p < .05$, greater use of less effective mating tactics, $F(1,153) = 4.50, p < .05$, and had higher scores on the sociosexuality inventory, $F(1,153) = 11.71, p < .001$. The two groups did not differ on likelihood of nonphysical coercion, $F(1,153) = 0.05, NS$.

Sexual Strategy

Among all participants, preference for partner variety and casual sex was significantly and positively correlated with self-perceived mating success, $r(130) = 0.41, p < .001$, sexual experience, $r(117) = 0.47, p < .001$, and use of less effective mating tactics, $r(131) = 0.26, p < .01$, and negatively correlated with use of more effective mating tactics, $r(131) = -0.23, p < .01$.

The preference for partner variety and casual sex variable was entered first in a regression equation to predict sexual coercion, whereas the other 10 study variables (excluding SOI) were entered next as a block to determine whether any of them would significantly contribute to group discrimination.

Only sexually experienced participants were included in this analysis. A *p* value of .15 was used as the selection criterion. Only likelihood of nonphysical coercion was selected, resulting in an *R* of 0.44, $p < .001$, for these two variables. Using impression management as a covariate, likelihood of nonphysical coercion and use of effective mating tactics were selected ($R = 0.47, p < .001$). The use of effective mating tactics was negatively related to sexual coercion when residualized on the three other variables.

DISCUSSION

The results did not support the mate deprivation hypothesis of sexual coercion. Sexually coercive males, compared to nonsexually coercive males, had (nonsignificantly) higher self-perceived mating success scores and had significantly more sexual experience. The two groups did not differ on parental occupation or on earning potential relative to peers. The latter finding could be due to range restriction,

Table 4. Three-Group Univariate Analyses

Variable	<i>df</i> Error	Mean Square	<i>F</i> Value
Self-perceived mating success	152	4.72	4.96**
Sexual experience (<i>df</i> _h = 1) ^a	135	7.12	7.55***
Parental occupation	144	1478.06	1.48
Relative earning potential	153	0.57	0.55
Preference for partner variety	130	7.34	8.15***
Use of "most effective" mating tactics	153	75.45	1.71
Use of "less effective" mating tactics	153	307.02	5.56**
Likelihood of physical coercion	153	0.46	1.04
Likelihood of nonphysical coercion	153	72.57	9.54***
Adult indicator of antisocial tendencies	153	821.86	2.16
Childhood indicator of antisocial tendencies	153	9.60	1.96
Sociosexuality inventory ^b	153	12341.21	14.75****

^aParticipants who did not report intercourse were not included, leading to the exclusion of all participants from the virgin group.

^bThis variable contained items from the sexual experience and from the partner variety variables. **p* < .05; ***p* < .01; ****p* < .001; *****p* < .0001.

although an examination of the distributions revealed that they were not leptokurtic and captured a wide range of occupations and earning potential.

Sexually coercive males had a greater preference for partner variety and casual sex, were (nonsignificantly) more antisocial, reported a higher likelihood of future nonphysical coercion, a greater use of less effective tactics of mate attraction (in univariate tests), and a lesser use of effective tactics of mate attraction (in multivariate tests). These findings suggest that sexually coercive males have adopted a short-term, uncommitted approach to romantic relationships and are at risk to use coercive tactics again.

Overall these findings agree with recent studies that investigated the sexual behaviors of self-identified sexually coercive males. Coercive males have been found to report more mating opportunities, more extensive sexual histories, greater involvement in delinquency, and higher likelihoods of using coercive tactics in the future (Byers and Eno 1991; Gold and Clegg 1990; Kanin 1983, 1985; Koss et al. 1985; Mahoney et al. 1986; Malamuth et al. 1993; Walker et al. 1993). Kanin (1983, 1985) found that undetected rapists had more sexual experience and higher sexual aspirations and were more likely to be dissatisfied with the amount of their sexual activities. Sarwer et al. (1993) reported that sexually coercive males were more likely to have adopted "a manipulative, game-playing approach to intimate relationships" (p. 272), which they link to a noncommitting approach to intimate relationships.

The general picture of sexually coercive males obtained in this and other studies thus suggests that these males have adopted a short-term, casual approach to mating and have been relatively successful in this endeavor.³ The short-term approach adopted by sexually coercive males does not imply that these males are not sometimes involved in long-term relationships, only that they are more likely to en-

³It is possible and testable, as R. Thornhill (personal communication, February 1996) has suggested, that sexually coercive males' relative mating success and attractiveness are linked to their higher phenotypic quality.

gage in short-term relationships in addition to or instead of long-term relationships. The relationship between mating success and the use of short-term tactics has been observed before (Landolt et al. 1995). If there is an adaptive psychological predisposition designed for the use of sexually coercive tactics, it is not triggered by absolute mate deprivation, unless it is argued that sexually coercive males have limited access to *desirable* (i.e., high mate value) female partners. One untested possibility is that coercive males are successful with lower mate value females, who are themselves more willing to engage in sex (Lalumière et al. 1995), but have to resort to coercive tactics with higher mate value females.

Buss and Schmitt (1993) proposed that there could be different evolved mechanisms associated with different mating approaches. Ancestral males pursuing short-term encounters faced the problem of securing a large number of partners to compensate for the relatively low probability of fertilization with any one of them and for the limited amount of parental help they provided if fertilization occurred. Buss and Schmitt (1993) indicated that these psychological mechanisms should be sensitive to context, and Lalumière et al. (1995) have argued that individuals may possess an evolved capacity to adjust their mating tactics as a function of the success of these tactics. Thus, males who have adopted a short-term mating approach and who have periodic difficulties securing a large number of partners, including high mate value partners, may adopt alternative mating tactics such as sexual coercion.

The present study does not allow a test of this "micro mate deprivation" hypothesis. However, the notion that sexually coercive males are more likely to have adopted a short-term mating approach is consistent with findings from other studies on the psychology of sexually coercive males. First, Kanin (1983, 1985) reported that undetected rapists, compared to nonrapists, are often sexually frustrated despite their greater involvement in sexual activities. Second, incarcerated rapists have been found to have difficulties reading females' affective cues in simulated "first-date" interactions (Lipton et al. 1987), potentially leading them to misconstrue their dates' intentions. Individuals rated high in rape proclivity have been found to have difficulties reading females' negative, but not positive cues (McDonel and McFall 1991). Coercive males have been found more likely to interpret hostile rejection as containing elements of seduction (Malamuth and Brown 1994). Laboratory interactions between opposite-sex strangers showed that males in general, and males with a history of sexually coercive behaviors in particular, rate females as more sexually expressive and more sexually interested than females rate themselves (Craig Shea 1993). Third, there are data suggesting that incarcerated and nonincarcerated rapists are less empathic (Lisak and Ivan 1995; Rice et al. 1994; Seto and Barbaree 1993) and less socialized than nonrapists (e.g., Sarwer et al. 1993). Finally, sexually coercive males' attitudes, values, and beliefs encourage a tendency to disregard females' choices and desires (e.g., Malamuth et al. 1993; Walker et al. 1993). This psychological configuration may facilitate an insensitive striving for sexual encounters.

It should be noted at this point that the use of sexually coercive tactics was not merely a function of greater involvement in sexual (high-risk) situations: The group difference on preference for partner variety and casual sex remained near significant when sexual experience was partialled out ($p = .061$).

An alternative to the micro mate deprivation hypothesis that is also consistent with sexual strategy theory is that males who have adopted a short-term mating approach to intimate relationships and who suffer some failure may not adopt coercive tactics but rather adopt a long-term, committed approach. A long-term approach to intimate relationships involves offering long-term commitment, and this is accomplished in part by accepting delay of sexual access during courtship. If this alternative is valid, then the use of sexually coercive tactics by short-term males may simply reflect a tendency to use multiple and diverse tactics to gain sexual access.

Findings from this study showed that sexually coercive males are more likely to use "macho" tactics (e.g., "show your ability to drink a lot"), and less likely to use "pleasant" tactics (e.g., "show good manners"). Macho tactics were rated by an undergraduate sample (Buss 1988) as less effective in attracting a mate. It is possible that Buss's participants had a long-term mate in mind when they were rating the effectiveness of these tactics. Interestingly, self-deception (positive self-enhancement) was positively correlated with the use of "effective" tactics, and impression management (deliberate self-presentation) was negatively correlated with "less effective" tactics. Items from the sexual experiences survey indexing "nonphysical sexual coercion" may merely be part of the range of mating tactics that are used by males employing a short-term strategy.

Two alternative models of sexual coercion can thus be proposed. The first is a micro mate deprivation model for males who have adopted as a primary mode short-term mating tactics and involves a special-purpose psychological mechanism: short-term males who suffer periodic difficulty in securing sexual access to desirable mates *resort* to coercive tactics. The second model is a side-effect model similar to the models discussed by Ellis (1991), Palmer (1991), Symons (1979), and Thornhill and Thornhill (1992). According to this model, nonviolent coercive tactics are part of the large number of short-term mating tactics adopted by some males, and violent coercive tactics are an exaggeration of a tendency not to compromise with females' own preferred mating tactics. This side-effect model but not the micro mate deprivation model implies an evolved psychological mechanism that favors the use of long-term tactics by unsuccessful short-term males. These two models are testable.

One limitation of this study is that the majority of sexually coercive acts reported were nonphysical. It is unclear whether similar results would be obtained in a sample containing a larger proportion of physically coercive individuals. Two findings support the view that the same psychology may underlie both types of coercion. One is that nonphysically coercive and physically coercive individuals did not differ significantly on any study variables. The second is that six of the seven physically coercive participants also reported nonphysical coercion, suggesting the presence of a continuum of coercion where higher cost/risk behaviors are used in lower frequency. Future research should investigate the possibility of a continuum of sexual coercion. Nevertheless, it should be noted that at the present time our conclusions only apply to sexual coercion *as defined* by the dependent measure used in this study. Our research group is currently investigating the sexual strategy of individuals who have been convicted of very serious forms of sexual coercion.

Future investigations might benefit from supplementing the measures of paren-

tal occupation and relative earning potential with items assessing career achievement striving and potential. In addition, a measure using two aspects of male mate value, attractiveness and earning potential, would provide a more satisfactory index of differential access to desirable mates. In this study the second mating success factor (earning capacity) could not be used because of the small number of items included. A mating success factor related to earning capacity could provide a better test of Thornhill and Thornhill's (1983) original mate deprivation hypothesis.

The results of this study will ultimately have to be interpreted in the context of the ongoing investigation of a rapist typology (Barbaree et al. 1994; Knight and Prentky 1987). Similarly, the finding that identified rapists have, as a group, deviant sexual preferences (Lalumière and Quinsey 1993, 1994) leads to the question of whether short-term males are more likely to be erotically interested in a wider array of targets and activities, including coercive sex.

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