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# Sex Differences in Sexual Fantasy: an Evolutionary Psychological Approach

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The nature and frequency of men's and women's sexual fantasies were investigated by surveying 307 students (182 females, 125 males) at a California state university or junior college via a paper-and-pencil questionnaire. The questionnaire was inspired by modern evolutionary theory and was designed to investigate sex differences in sexual fantasies. Substantial sex differences were found in the salience of visual images, touching, context, personalization, emotion, partner variety, partner response, fantasizer response, and inward versus outward focus. These data, the scientific literature on sexual fantasy, the historically-stable contrasts between male-oriented pornography and female-oriented romance novels, the ethnographic record of human sexuality, and the ineluctable implications of an evolutionary perspective on our species, taken together, imply the existence of profound sex differences in sexual psychologies.

**KEY WORDS:** sexual fantasy, sex differences, evolutionary psychology, pornography, romance fiction.

## INTRODUCTION

Sexual fantasies—surely the most common form of human sexual experience—are private and potentially unconstrained by real life exigencies. Thus they probably provide more insight than sexual activities do into the psychological mechanisms (i.e., the information processing rules or algorithms) that underpin sexual feeling, thought, and action. And if, as we argue, men and women differ in their innate sexual psychologies, sexually dimorphic psychological mechanisms should be revealed more sharply and dramatically in sexual fantasies than in sexual activities, since real-life heterosexual interactions must inevitably compromise, and hence blur, male and female desires and dis-

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positions (Symons, 1979). Our approach to the study of sexual fantasy is that of "evolutionary psychology," which Daly and Wilson (1988:7) define as "psychological theorizing informed by modern evolutionary theory." This approach is proving to be a powerful heuristic in the study of many aspects of human psychology, e.g., attachment (Bowlby, 1982), mate choice (Buss, 1989), social exchange (Cosmides, 1989), homicide (Daly & Wilson, 1988), and sexuality (Symons, 1979).

*Sex Differences in Sexual Fantasies:  
A Review of the Literature*

Empirical studies that have directly compared the frequency and content of male and female sexual fantasies have documented striking sex differences. Men are more likely than women to have sexual fantasies and to be physically aroused by their sexual thoughts (Hessellund, 1976; Kinsey et al., 1948, 1953; Knoth, Boyd, & Singer, 1988). American teenage boys are nearly twice as likely as teenage girls to fantasize about sex once a day or more (Knoth, Boyd, & Singer, 1988). Studies in Japan, the United States, and Great Britain indicate that in each country men have about twice as many sexual fantasies as women do (Iwawaki & Wilson, 1983; Jones & Barlow, 1987; Wilson & Lang, 1981; but compare Knafo & Jaffee, 1984, and Sue, 1979, who do not find overall sex differences in fantasy rates). Men are also more likely to have specifically sexual dreams while they sleep (Kinsey et al., 1948, 1953; Van de Castle, 1971; Wilson, 1975; Winget, Kramer, & Whitman, 1972).

Female sexual fantasies are more likely than male fantasies to contain familiar partners and to include descriptions of the context, setting, and feelings associated with the sexual encounter (Barclay, 1973; Gagnon & Simon, 1973; Hass, 1979; Wilson & Lang, 1981; Wilson, 1987). Women are much more likely than men to be only emotionally, rather than physically, aroused by their sexual fantasies (Knoth, Boyd, & Singer, 1988). Furthermore, women's sexual fantasies have been found to contain more affection and commitment (Kelley, 1984-1985; Pryzbyla, Byrne, & Kelley, 1983), and are more likely to emphasize themes of tenderness and emotionality (Hessellund, 1976). Female sexual fantasies also contain greater *implicit* sexual content, embedding or only implying sexual details in a general context, while male fantasies contain greater *explicit* content, stressing overt sexual details rather than general context (Brickman, 1978). Females are more likely than males to imagine themselves as recipients of sexual

activity from fantasized partners; males are more likely to imagine sexual partners as recipients of their activities (Barclay, 1973; Iwawaki & Wilson, 1983; Knafo & Jaffe, 1984; Mednick, 1977; Wilson & Lang, 1981). This sex difference implies that men are more likely to view *others* as the objects of their sexual desires, whereas women are more likely to view *themselves* as the objects of sexual desire. Thoughts of being forced or overpowered into a sexual act are fairly common among both sexes, but probably more so among females (Knafo & Jaffe, 1984; Sue, 1979).

Male sexual fantasies specify many more sexual acts, more sexual organs, and a greater variety of visual content than female sexual fantasies do (Follingstad & Kimbrell, 1986; also see Hass, 1979). Male fantasies are more likely to contain visual imagery (Gottlieb, 1985) and are much more likely to focus on minute details of the partners' physical appearance and to involve strangers, multiple partners, or anonymous partners (Arndt et al., 1985; Barclay, 1973; Gagnon & Simon, 1973; Hessellund, 1976; Hunt, 1974; Iwawaki & Wilson, 1983; Knafo & Jaffe, 1984; Pryzbyla, Byrne, & Kelley, 1983; Wilson & Lang, 1981; Wilson, 1987). Males and females also differ in the stimulative source of their sexual fantasies. Jones and Barlow (1987) report that, whereas men and women do not differ in the frequency of internally generated sexual imagery, men are more than twice as likely as women to experience externally provoked sexual fantasies (i.e., fantasies in response to something heard, read, or seen in the environment). In brief, male sexual fantasies tend to be more ubiquitous, frequent, visual, specifically sexual, promiscuous, and active. Female sexual fantasies tend to be more contextual, emotive, intimate, and passive.

Despite this accumulation of data on the frequency and content of male and female sexual fantasies, many of the basic psychological processes underlying sex differences in sexual fantasy remain unexplored or inadequately examined. As noted above, Barclay (1973) and Hass (1979) found that the context, setting, and feelings associated with imagined sexual encounters are very important aspects of female sexual fantasies. These authors may come closest to providing rich psychological descriptions of fantasy experiences. However, both researchers conducted qualitative studies in which experimenters analyzed the content of written sexual fantasies. Quantitative data on the psychological phenomena described by Barclay and Hass are lacking, and many questions remain unanswered: Towards whom are sexual fantasies directed? Do fantasizing people concentrate more on

themselves or on their partners? What are the important contextual and interpersonal factors associated with male and female fantasies? How important is the emotional setting, the physical setting, touching, partner variety, partner specificity, partner response, nurturance, foreplay, visual imagery, and seduction in men's and women's sexual fantasies?

The present study represents an exploratory attempt to investigate sex differences in these areas. Information about positive and negative affect associated with sexual fantasy and arousal was also collected. An adaptationist perspective on human psychology (i.e., mindfulness of the fact that our brain/mind mechanisms are ultimately the products of natural selection) provides both an integrative explanatory framework, which has been largely lacking in previous studies, and a heuristic for hypothesis formation. We do not propose that specific sexual fantasies represent adaptations (although some may), but rather that a comparison of male and female sexual fantasies may shed light on species-typical sex differences in sexual psychologies, and that these psychological differences are necessarily the consequences of different selective pressures that operated on males and females during the course of human evolutionary history.

It is important to emphasize that neither the present study nor other evolutionary psychological investigations "test" Darwin's theory of evolution by natural selection: this theory is not on trial. Rather, "selectional thinking" guides the generation of psychological hypotheses, and it is these hypotheses that are being tested. Evolution-inspired hypotheses can be considered to vary along a continuum of confidence. At one end of the continuum are firm predictions in which all Darwinians are likely to concur; for example, selectional thinking clearly and unambiguously implies that the human brain/mind will be found to be sexually dimorphic (for reasons discussed below). As one moves along the continuum, however, "prediction" grades insensibly into "expectation" and thence into "an interesting question" or "hunch," and different Darwinians can and do have different expectations and hunches. For example, one of our questions asks about the importance of the physical setting in sexual fantasies. One of us expected that the physical setting would be more important in female than in male fantasies because of the greater importance of context to females; the other author, however, expected that any such effect would be washed out by the male tendency to visualize; hence he predicted no sex difference on this question.

Since the psychological mechanisms that constitute the human brain/mind were designed by natural selection in ancient Pleistocene environments, these mechanisms must be described solely in terms of phenomena that existed in such environments. For example, the phrase "romance novel" obviously cannot be used properly in the description of any human adaptation—psychological or otherwise—since romance novels have existed for an evolutionarily insignificant amount of time. The kinds of data that can be used to *evaluate* evolutionary psychological hypotheses, however, are potentially limitless, and evolutionarily-recent phenomena (such as romance novels) can be just as informative as phenomena that existed in the Pleistocene, or more so.

This line of reasoning has implications for evaluating the data described in this article. On the one hand, since the California college students who were our subjects cannot be construed by any stretch of the imagination to constitute a random sample of humanity, much less of ancestral Pleistocene peoples, the present study can only be regarded as exploratory, and its results as tentative. On the other hand, however, non-representative samples may sometimes provide especially clear insight into human psychological adaptations. The study of modern fast food cuisine probably reveals more about the basic human machinery of appetite than do studies of hunter-gatherer cuisine or archeological data on the diets of our Pleistocene ancestors. The former highlights clearly and dramatically the fundamental human appetites for sugar, salt, and fat. By analogy, a study of sexual fantasy among modern college students, who tend to be more sexually progressive and experienced than the general population (cf. Abramson & Handschumacher, 1978), who often use modern contraceptive technology (which dramatically reduces the male-female disparity in the consequences of sexual intercourse), who are generally free to choose their own sexual partners, and who often adhere to the ideology that male and female psychologies are intrinsically identical, may be an especially interesting population to study if one's goal is to illuminate innate sex differences in sexual psychology. It is in just such a population that one might expect male and female sexualities to be most alike.

#### *Hypothesized Sex Differences*

All psychological theories, environmentalist and nativist alike, imply a human nature; that is, they imply that the brain/mind com-

prises mechanisms typical of *Homo sapiens* as a species, in the sense that arms and lips rather than wings and beaks are typical of our species. Theories differ, however, in the extent to which these species-typical brain/mind mechanisms are conceived of as generalized and few, on the one hand, or specialized and many, on the other. Because Darwinians focus on function, they typically favor the latter. Specifically, Darwinians are mindful of the fact that organisms have been designed by natural selection to solve many different kinds of problems. There is no more reason to imagine that one or a few generalized brain/mind mechanisms could solve all behavioral problems than there is to imagine that one or a few generalized organs could solve all physiological problems (Symons, 1987b; Cosmides & Tooby, 1987). A corollary of the basic Darwinian prediction that the human brain/mind comprises many specialized mechanisms is the prediction that the human brain/mind is sexually dimorphic: the nature of mammalian reproduction ensures that throughout the course of evolutionary history, ancestral males and females encountered very different reproductive opportunities and constraints; hence selection can be expected to have designed males and females to solve somewhat different problems (Daly & Wilson, 1983, 1988; Singer, 1985a, 1985b; Symons, 1979; Symons & Ellis, 1989).

Selectional thinking can be a useful guide to forming specific hypotheses about the nature of sexually dimorphic psychological mechanisms. What follows are (1) a series of selectionist arguments for expected contrasts between male and female sexual psychologies and (2) specific hypotheses, derived from these contrasts, about sexual fantasies.

*The Desire for Sexual Variety.* Whatever the *typical* parental investments<sup>1</sup> might have been during the course of our evolutionary history, ancestral males and females necessarily differed enormously in the *minimum possible* investment. Ancestral males could potentially have benefitted reproductively from copulating with any fertile female (close kin excepted) as long as the risks were low enough; hence it is reasonable to hypothesize that selection favored males who had low thresholds for sexual arousal and who found new females—in Byron's

<sup>1</sup>Trivers (1972) defines parental investment as "any investment by the parent in an individual offspring that increases the offspring's chance of surviving (and hence reproductive success) at the cost of the parent's ability to invest in other offspring" (p. 139). Investments can take the form of time, energy, and risk.

words, "fresh features"—especially sexually attractive. Ancestral females, on the other hand, would have had little to gain reproductively and a great deal to lose from random copulations with new males; hence selection is unlikely to have favored females who were sexually attracted to males on the basis of variety *per se* or simply because the males were there (Symons, 1979, 1987a). This does not imply that ancestral females never benefitted from engaging in sexual relations with more than one male (see Smith, 1984), but rather that males had much more to gain by desiring and enjoying sexual variety for its own sake. The following hypothesis set derives from these male-female contrasts.

**HYPOTHESIS SET 1.** Partner variety will be a more central aspect of male than of female sexual fantasies. Men will have imagined sexual encounters with a greater variety of partners in the course of a given day and will be more likely than women to have had fantasized encounters with over 1,000 different partners in the course of their lives. Men will be more likely to substitute or switch one imagined partner for another during the course of a single sexual fantasy. Men will have sexual fantasies more frequently than women do. And men will be more likely than women to fantasize about someone they simply want to have sex with (but do not necessarily want to become involved with in any other way).

*Visual versus Tactile Arousal: the Importance of Context and Personal Characteristics.* In ancestral populations, a female's reproductive success probably depended in large part on her mate's quality. Quality included good genes but, more importantly, in a species like ours, in which males typically invest substantially in their offspring, quality also included male ability and willingness to make such investments (Ellis, in press; Trivers, 1972). The "best" males almost certainly were men of high-status and exceptional competitive abilities who were willing to invest their resources in a given female and her offspring. A male's "mate value" thus was determined by physical and psychological characteristics indicative of good genes, by signs of current or future political and economic success, and by signs of sincere interest in the particular female who was doing the choosing (perhaps evidenced by the male's willingness to woo, to pay real and symbolic costs—including the cost implicit in the phrase "*to pay attention*"). Selection thus favored females who were discriminating and slow to arouse sexually, since reflex-like sexual arousal on the basis of visual stimuli would have tended to undermine female choice. Female sexual



arousal usually results from tactile stimulation by a favored male (Faust, 1981; Symons, 1979). Female experiences of sexual attraction and desire should incorporate a wide range of information about male quality and the quality of the specific male-female relationship in question.

Nonhuman primate females generally advertise ovulation, but human females do not; hence, selection favored human males who were sexually aroused by other indices of female "mate value." Since human beings, like all higher primates, are fundamentally visual creatures, and since female mate value was closely associated with health and youth (Symons, 1979), ancestral males were selected to become sexually aroused by visually detected characteristics that were reliable indicators of health and youth (e.g., clear eyes, un-wrinkled skin). Cues to male mate value, on the other hand, are more complex and more dependent on psychosocial characteristics, which are not normally detected by stereotyped visual cues.

In short, female mate value is more reliably correlated with (and thus more readily detected by) specific visible characteristics than male mate value is; hence, selection favored in males, more than in females, a tendency to become sexually aroused by specific visual cues (Symons, 1979, 1987a). And since males can inseminate females at almost no cost to themselves, males should also have been selected to become easily aroused by the sight or thought of females (especially novel females). It follows, therefore, that males have been designed by selection to experience sexual arousal largely on the basis of visually detected cosmetic qualities and to focus outward on their sexual partners as objects of desire. Because ancestral females were normally the objects of male sexual desire, females were selected to imagine themselves in this role, so as to manage and manipulate male sexual desire and assess the quality and significance of male sexual attention (Symons, 1979). Females were selected to evaluate male sexual attractiveness (and thus become sexually interested) largely on the basis of non-cosmetic cues to male quality and to experience sexual arousal primarily on the basis of tactile stimulation by favored males.<sup>2</sup> The following hypothesis set derives from these male-female contrasts.

**HYPOTHESIS SET 2.** Visual images will be the primary focus of men's sexual fantasies, whereas women's fantasies will emphasize

<sup>2</sup>The important distinction here is between *sexual interest*, an evaluative process that is based largely on vision in both sexes, and *sexual arousal*, which occurs on the basis of sight as well as touch in men, but primarily on the basis of touch in women.

touching, feelings, and partner response. Women will tend to focus inward on the self as the object of the imagined partner's desire; men will tend to focus outward on the partner as a sexual object. Women will focus more on their own physical and emotional responses, men on visual images of their fantasized partners. Caressing and non-genital touching will be a more important aspect of women's than of men's sexual fantasies. Women's sexual fantasies will be more likely to focus on a specific, special sexual partner. Women will be more likely than men to fantasize about someone they are or would like to become romantically involved with. The buildup, enticement, and interplay that may precede a sexual encounter will be a more important aspect of women's than of men's sexual fantasies. The sexual scene will unfold more slowly and unhurriedly in women's sexual fantasies; men's sexual fantasies will move more quickly to explicitly sexual activity. Women's sexual fantasies will include more details about the non-physical characteristics (such as the profession or specific character traits) of imagined partners. Women will have a clearer image of the facial features of their imagined partners; men will have a clearer image of the genital features of their imagined partners. The emotional setting (such as mood and ambience) will be a more important aspect of women's than of men's sexual fantasies. Finally, as discussed above, the authors had divergent expectations about the importance of the physical setting in men's and women's sexual fantasies.

## METHODS

The subjects were 307 students (182 females, 125 males) enrolled in introductory-level general education courses (General Psychology or Cultural Anthropology) at a California state university or at a California junior college. Approximately half of the subjects came from each school. Introductory-level general education courses were chosen for study because the students enrolled in such courses represent a broad cross-section of academic majors at both schools. The subjects were 111 females and 56 males in the 17-21-year age range, 59 females and 60 males in the 22-29-year age range, and 9 females and 12 males in the 30-year and above age range; 74.2% of the subjects were Caucasian, 13.1% were Asian, 5.9% were Hispanic, 3.9% were black, and 2.9% were "other." The overwhelming majority (88.6%) had never been married.

The questionnaire was an anonymous paper-and-pencil survey consisting of multiple-choice questions about sexual fantasy and arousal,

along with demographic questions. The following description appeared at the head of the survey:

We are doing an independent study in the field of human sexuality. All questions refer to *you* and *your* sexual thoughts and fantasies. Please be as honest as possible. Remember this is not a test, and there are no trick questions.

*Description:* Sexual fantasies may be externally provoked or internally generated. That is, sexual fantasies may be stimulated by something you see, read, or hear in the environment, or they may occur spontaneously.

The survey was given to entire class sections without prior warning in order to obtain as large a response rate as possible. To engage the subjects' interest in the study, they were told, before the questionnaires were distributed, that the experimenter would return to their class at a later date to explain the purpose of the survey and to discuss the results (which he did). Responses were recorded on a scantron-like sheet designed to minimize the visibility of answers and ensure confidentiality.

Of the 421 students who took the survey, 307 returned usable questionnaires. The other 114 surveys (27%) were discarded because of incompleteness, internal inconsistencies, or admitted dishonesty. As a control for internal consistency, Question 17 appeared twice in the questionnaire. Subjects who recorded two different answers to this question were eliminated. The final question in the survey asked students directly whether or not they had answered the questionnaire honestly.

## RESULTS

A *t* test for sex differences, using pooled variance estimates, was performed on the twelve questions that employed rating scales. A one-tailed test was used because the theory generated directional predictions.

Questions 1 and 2 used a 0 to 7 rating scale with the alternative answers: Never, Once a week, Once a day or less, About once a day, 2 or 3 times a day, 4 to 6 times a day, 7 to 10 times a day, or More than 10 times a day. Question 1 asked, "Approximately how often do you have sexual fantasies?" and resulted in means of 1.97 (*SD* = 1.16) for females and 3.22 (*SD* = 1.46) for males ( $t = -8.33$ ,  $df = 304$ ,  $p < .001$ ). Question 2 asked, "Approximately how often do you get sexually aroused?" and resulted in means of 2.17 (*SD* = 1.12) for females and

3.27 ( $SD = 1.35$ ) for males ( $t = -7.74$ ,  $df = 302$ ,  $p < .001$ ). Question 3 used a 0 to 6 scale with the alternative answers: None, One, Two, Three to four, Five to six, Seven to eight, and More than eight. Question 3 asked, "On the average, how many *different* imagined partners do you have sexual fantasies about in a single day?" and resulted in means of 1.08 ( $SD = .87$ ) for females and 1.96 ( $SD = 1.20$ ) for males ( $t = -7.46$ ,  $df = 305$ ,  $p < .001$ ).

Questions 4-6 used a 0 to 3 rating scale with the alternative answers: Very important, Somewhat important, Not very important, or Not at all important. Question 4 asked, "How important is the physical setting (such as the look, textures, sounds, and smells of a place) in your sexual fantasies?" and resulted in means of .91 ( $SD = .75$ ) for females and 1.08 ( $SD = .78$ ) for males ( $t = -1.917$ ,  $df = 304$ ,  $p < .03$ ). Question 5 asked, "How important is caressing and non-genital touching in your sexual fantasies?" and resulted in means of .49 ( $SD = .81$ ) for females and 1.04 ( $SD = .83$ ) for males ( $t = -5.29$ ,  $df = 305$ ,  $p < .001$ ). Question 6 asked, "How important is the emotional setting (such as the mood and ambience) in your sexual fantasies?" and resulted in means of .61 ( $SD = .68$ ) for females and .96 ( $SD = .81$ ) for males ( $t = -4.09$ ,  $df = 302$ ,  $p < .001$ ).

Questions 7-10 used a 0 to 4 scale with the alternative answers: Always, Usually, Sometimes, Rarely, or Never. Question 7 asked, "In your sexual fantasies do you have a clear image of the genital features of your imagined partner?" and resulted in means of 2.29 ( $SD = 1.11$ ) for females and 1.29 ( $SD = .89$ ) for males ( $t = 8.37$ ,  $df = 303$ ,  $p < .001$ ). Question 8 asked, "In your sexual fantasies do you have a clear image of the facial features of your imagined partner?" and resulted in means of 1.09 ( $SD = 1.19$ ) for females and .95 ( $SD = .99$ ) for males ( $t = 1.08$ ,  $df = 304$ ,  $p = n.s.$ ). Question 9 asked, "Do your fantasies include many details about the nonphysical characteristics (such as the profession or specific character traits) of your fantasized partner?" and resulted in means of 2.14 ( $SD = 1.12$ ) for females and 2.51 ( $SD = 1.08$ ) for males ( $t = -2.89$ ,  $df = 304$ ,  $p < .002$ ). Question 10 asked, "Is the buildup, enticement, and interplay that sometimes precedes a sexual encounter an important part of your sexual fantasies?" and resulted in means of .85 ( $SD = .93$ ) for females and 1.15 ( $SD = .98$ ) for males ( $t = -2.70$ ,  $df = 305$ ,  $p < .004$ ).

Questions 11 and 12 used a 0 to 4 scale with the alternative answers: Regularly, Often, Sometimes, Rarely, or Never. Question 11 asked, "How often do you substitute or switch one imagined partner for

another during the course of a single sexual fantasy?" and resulted in means of 3.08 ( $SD = .97$ ) for females and 2.30 ( $SD = 1.10$ ) for males ( $t = 6.54, df = 303, p < .001$ ). Question 12 stated, "Some people regularly experience sexual desire for people with whom it would be taboo to have sex. For example, they may experience desire for a relative or in-law, or for their best friend's lover, or they may experience strong extra-marital urges. These desires are real, often lead to sexual fantasies, and may occur whether one wants them to or not. How often do you experience these kinds of desires?" This question resulted in means of 2.75 ( $SD = 1.11$ ) for females and 2.60 ( $SD = 1.21$ ) for males ( $t = 1.11, df = 298, p = n.s.$ ).

The remainder of the questions and responses are cross-tabulated by sex. These results, and the chi-square values for sex differences, are presented in Table 1.

Within the two basic hypothesis sets, the 26 survey questions can be grouped into seven categories, with some overlap (i.e., some questions are relevant to more than one category).

Table 1

*Responses of Males and Females to Questionnaire Items*

13. If you answered "Regularly," "Often," or "Sometimes" to Question 12:  
How do you generally feel about these kinds of desires? ( $\chi^2 = .276, df = 3, p = n.s.$ )

	I wish that I didn't experience them	I find myself unable to control them	Both A and B	None of the above
Females	21%	23%	20%	36%
Males	19%	25%	23%	33%

14. If you answered "Regularly," "Often," or "Sometimes" to Question 12:  
When you experience these kinds of desires, do you: ( $\chi^2 = .845, df = 4, p = n.s.$ )

	Find them bothersome	Feel bad about them	Both A and B	Enjoy them with- out feeling bad or guilty	None of the above
Females	10%	19%	13%	41%	17%
Males	14%	18%	16%	37%	16%

15. Considering your sexual fantasies throughout the course of your life, do you think that in your imagination you have had sexual encounters with over 1,000 different people? ( $\chi^2 = 27.96, df = 1, p < .001$ ).

	Yes	No
Females	8%	92%
Males	32%	68%

16. Are your sexual fantasies typically about: (
- $\chi^2 = 34.33$
- ,
- $df = 3$
- ,
- $p < .001$
- )

	Someone who you are, or have been, romantically/sexually involved with	Someone (even if he or she is made up) who you would like to become romantically involved with	Someone (even if he or she is made up) who you would simply like to have sex with	None of the above
Females	59%	25%	9%	7%
Males	28%	38%	29%	5%

17. Which is a more important part of your sexual fantasies? (
- $\chi^2 = 23.34$
- ,
- $df = 2$
- ,
- $p < .001$
- )

	Visual images	Touching	Neither one is an important part of my sexual fantasies
Females	39%	55%	6%
Males	66%	28%	6%

18. During sexual fantasy, do you focus more on: (
- $\chi^2 = 43.47$
- ,
- $df = 1$
- ,
- $p < .001$
- )

	Visual images	Feelings
Females	43%	57%
Males	81%	19%

19. Which is more important in your sexual fantasies? (
- $\chi^2 = 9.56$
- ,
- $df = 1$
- ,
- $p < .003$
- )

	Visual images of your fantasized partner	How your fantasized partner responds to you
Females	36%	64%
Males	54%	46%

20. During sexual fantasy, do you focus more on: (
- $\chi^2 = 66.64$
- ,
- $df = 3$
- ,
- $p < .001$
- ).

	The sexual act itself	The physical characteristics of your fantasized partner	The personal or emotional characteristics of your fantasized partner	Your own physical or emotional responses within the fantasy
Females	12%	13%	41%	34%
Males	20%	50%	16%	13%

21. Which statement most accurately describes your sexual fantasies? (
- $\chi^2 = 43.35$
- ,
- $df = 1$
- ,
- $p < .001$
- )

	My imagined partner has the power to stir my emotions and excite me physically as no one else can	Other imagined partners would be just as exciting as long as they were equally attractive
Females	75%	25%
Males	38%	62%

22. Which of the following best describes your typical sexual fantasies? (
- $\chi^2 = 37.85$
- ,
- $df = 2$
- ,
- $p < .001$
- )

	The situation unfolds slowly and unhurriedly, so that a good deal of time passes before explicitly sexual activity occurs	The situation quickly includes explicitly sexual activity	The situation doesn't include explicitly sexual activity at all
Females	72%	17%	11%
Males	50%	48%	2%

23. For you, what kind of feelings generally accompany your sexual thoughts and fantasies? (Choose only your strongest feeling) ( $\chi^2 = 5.88$ ,  $df = 6$ ,  $p = n.s.$ )

	Good/ Happy	Frustra- tion	Guilt/ Shame	Elation	Fear/ Anxiety	Excitement/ Involvement	Dis- gust
Females	46%	3%	4%	2%	3%	43%	0%
Males	41%	4%	2%	5%	1%	47%	0%

24. For you, what kind of feelings generally accompany your physical sexual arousal? (Choose only your strongest feeling) ( $\chi^2 = 5.14$ ,  $df = 6$ ,  $p = n.s.$ )

	Good/ Happy	Frustra- tion	Guilt/ Shame	Elation	Fear/ Anxiety	Excitement/ Involvement	Dis- gust
Females	42%	3%	3%	4%	3%	44%	0%
Males	42%	6%	2%	7%	2%	40%	1%

25. When you get sexually aroused, do you usually: ( $\chi^2 = .27$ ,  $df = 1$ ,  $p = n.s.$ )

	Enjoy the feeling	Try to repress the feeling
Females	85%	15%
Males	82%	18%

26. When you have sexual fantasies, do you usually: ( $\chi^2 = .78$ ,  $df = 1$ ,  $p = n.s.$ )

	Enjoy the feeling	Try to repress the feeling
Females	89%	11%
Males	92%	8%

*Hypothesis Set 1: The Desire for Sexual Variety.* First, we expected a preference for partner variety to be evidenced in men's fantasies, a preference which entails discriminating—presumably visually—one imagined partner from another. The large number of fantasized partners that men reported may be one manifestation of a distinctly male preference for sexual variety. Men were more than twice as likely as women to report having sexual fantasies at least once a day (Question 1), and men were twice as likely as women to report becoming sexually aroused at least once a day (Question 2). Thus it is not surprising that men reported fantasizing about a greater number of different partners during the course of an average day than women did (Question 3) or that men were much more likely than women to report having had sexual fantasies about more than 1,000 different people in the course of their lives (Question 15). There was no sex difference, however, in the frequency of reported sexual desires for tabooed partners (Question 12), although neither sex admitted to having such desires very often. Men were, however, much more likely than women to report that their sexual fantasies are typically about someone they simply would like to have sex with, as opposed to someone they are or have been sexually or romantically involved with (Question 16). Perhaps most directly relevant to the issue of sexual variety is the fact that only 12%

of the men, but 43% of the women, reported that they *never* substitute or switch partners during the course of a single sexual fantasy (Question 11).

*Hypothesis Set 2: Visual versus Tactile Arousal; the Importance of Context and Personal Characteristics.* Second, we expected visual images to dominate men's fantasies more than women's, and this expectation was confirmed by responses to several survey questions. Men reported that during sexual fantasy, visual images are more important than touching (Question 17) feelings (Question 18), or the responses of their fantasized partners (Question 19), while in each case the reverse was true for women. Sex differences along all three of these dimensions were very significant. Men were also much more likely than women to report having a clear image of the genital features of their fantasized partners (Question 7) and to report focusing on the physical rather than on the personal or emotional characteristics of their fantasized partners (Question 20).

Third, the male tendency to emphasize visual images in sexual fantasy implies an outward focus on the fantasized partner as an object of desire; we expected to find a complementary female tendency to focus inward on the self as the object of the imagined partner's desire. This hypothesis received some support. Women were two and a half times as likely as men to report focusing on their own physical or emotional responses during sexual fantasy (Question 20); women were much more likely than men to report that how their fantasized partner responds to them is more important than visual images of that partner (Question 19); and women were far more likely than men to report that touching is a very important part of their sexual fantasies (Questions 5 & 17).

Fourth, we expected women's sexual fantasies to be more personal than men's fantasies, and this expectation was confirmed in a number of different ways. Women were far more likely than men to report that their imagined partners are uniquely able to arouse them physically and emotionally, whereas men were far more likely than women to report that they can substitute different imagined partners without compromising sexual excitement (Question 21). Women were two and a half times as likely as men to report focusing on the personal or emotional characteristics of their fantasized partners (Question 20); women were far less likely than men to switch partners in mid-fantasy (Question 11); and women were twice as likely as men to report that their fantasies are typically about someone they are, or have been,



romantically or sexually involved with (Question 16). Women were also significantly more likely than men to report that their sexual fantasies include details about the nonphysical characteristics of their fantasized partners (Question 9), though this sex difference was not as dramatic as we had anticipated. There was no sex difference in the tendency to have a clear image of the facial features of the imagined partner: a majority of both sexes reported that they always or often have such images during their sexual fantasies (Question 8).

Fifth, we expected that the emotional context would be more important in women's than in men's sexual fantasies. This expectation was confirmed. The mood and ambience (Question 6) and caressing and nongenital touching (Question 17) are more important in women's than in men's fantasies. Women's fantasies are much more likely than men's to slowly build to explicitly sexual activity; conversely, men's fantasies are much more likely than women's to move quickly to explicitly sexual acts (Question 22). Finally, women were two and a half times as likely as men to report focusing on the personal or emotional characteristics of their imagined partners (Question 20).

Sixth, we disagreed in our expectations about the importance of the physical setting: One of us anticipated that the physical setting would be more prominent in women's than in men's fantasies because of the greater salience of context to women; the other author anticipated that any such difference would be washed out by the male tendency to visualize. In fact, a small but significant sex difference was found (Question 4), suggesting that the physical setting is more important in women's than in men's sexual fantasies.

*Affect.* Seventh, several questions were designed to determine whether men and women differ in the feelings or attitudes that accompany sexual arousal and fantasy. On none of these questions did a sex difference emerge: On the contrary, men's and women's responses to these questions were astonishingly similar, particularly in light of the large sex differences in responses to the questions that probed the nature of sexual fantasies themselves. Overwhelmingly, both sexes reported that positive feelings accompany sexual arousal and fantasy (Questions 23, 24, 25, 26), and although some of the subjects who experienced sexual desires for tabooed partners (Question 12) found these desires bothersome, there were no sex differences in feelings about, or attitudes toward, these desires (Questions 13 & 14).

## DISCUSSION

This study provides evidence of substantial sex differences in sexual fantasy. Women's fantasies were less frequent and less dominated by visual images than men's fantasies were; women, more than men, emphasized touching, feelings, partner response, their own physical and emotional responses, and emotional states, such as mood and ambience. Women's fantasies were more personal than men's fantasies: women were more likely to fantasize about someone they were, or had been, involved with, to focus on personal or emotional characteristics of their imagined partner, to include nonphysical details about their imagined partner, and to report that their imagined partner was uniquely able to arouse them emotionally and physically. Women's fantasies unfolded more slowly than men's fantasies and included more caressing and nongenital touching, and this buildup and interplay was more important to women than to men. Women's tendencies to focus on their own responses and on how their imagined partners respond to them implies that women are more likely than men to see themselves as the objects of their partner's sexual desire. By contrast, men's fantasies were more frequent, featured more imagined partners, were more impersonal, were more dominated by visual images, particularly genital images, moved more quickly to explicitly sexual acts, tended to focus outward on the imagined partner as a sexual object, were more likely to be about someone the fantasizer merely wanted to have sex with, and were more likely to emphasize partner variety.

The one predictive failure in our study concerned the clarity of facial images in sexual fantasy (Question 8). In accordance with the greater female emphasis on partner specificity, we expected women, more than men, to focus clearly on the facial characteristics of their imagined partners. No such difference was found. Perhaps men were as likely as women to have a clear image of their imagined partner's face because men use facial features to discriminate between different females (a preference for sexual variety implies an ability to recognize individual differences, a partiality towards novelty, and a prejudice against familiarity [Symons, 1979]).

### *Male and Female Literatures of Erotic Fantasy*

The sex differences highlighted in this study are consistent with previous research on sexual fantasy (reviewed above); moreover, these

sex differences are clearly mirrored in the contrasts between male and female literatures of erotic fantasy: male-oriented pornography and female-oriented romance novels. There is little overlap in the readership (or viewership) of these two genres, presumably because male-oriented pornography combines all the elements that appeal particularly to men, while erotic romances combine all the elements that appeal particularly to women. "Pornotopia"—the fantasy realm portrayed in male-oriented pornography (Marcus, 1966)—varies little through time and space (Smith, 1976). Whether written or pictorial, pornotopia overwhelmingly depicts or evokes visual images of female bodies (or male bodies, in the case of male homosexual pornography), particularly the genitals. The most striking feature of male-oriented pornography is that sex is sheer lust and physical gratification, devoid of encumbering relationships, emotional elaboration, complicated plot lines, flirtation, courtship, and extended foreplay; in pornotopia, women, like men, are easily aroused and willing.

Erotic romance novels, which are almost exclusively written by and for women, and which are so popular that a single title often sells millions of copies, differ profoundly from male-oriented pornography. Many modern romances portray sexual activity far more graphically than their historical predecessors did, and a modern romance heroine may have a career as interesting as that of the hero; but the basic fictional world of the romance—like the vastly different realm of pornotopia—has remained remarkably stable over the centuries (Mussell, 1984). In her study of Japanese romance novels Mulhern (1989) remarks: "It may be that the romance form best suits the female psyche, because its formula reflects women's universal reality better than any other formulaic type" (p. 55). The following brief summary of the romance novel's nature is distilled from Faust (1980), Mussell (1984), and Radway (1984) (also see Hazen, 1983).

Romances are fundamentally about mate selection, and they vary widely in the degree to which sexual activity is graphically depicted (if it is depicted at all). "In all romances, the love story is the central action and the most significant motivating force. . . . [Romances] assert and reinforce a woman's desire to identify and marry the one right man who will remain hers for the rest of her life" (Mussell, 1984:11). Sex in the romance novel serves the plot without dominating it; the emotional focus of the romance is on love, commitment, domesticity, and nurturing. "Where masculinity porn emphasizes physical encounters," writes Faust (1980:152), [romance novels] elaborate on

the relationships in which the encounters take place. Male writers exploit every orifice, every position, every combination of organs, gender, number and kinship. . . . When women write sexually explicit novels, they explore all the emotional nuances that transform the simple conjunction of bodies." Satisfying sexual encounters in erotic romances identify partners who share a commitment to fidelity: "Unlike pornography, erotic romances do not portray variety as a sexual goal for women. Although erotic heroines do not preserve their virginity, they nevertheless demonstrate emotional—or serial—monogamy" (Mussell, 1984:43). The romance readers Radway (1984) studied were angry about the human male's taste for sexual variety, and they didn't want to adopt male standards; they wanted men to adopt their standards.

In a romance novel, the hero discovers in the heroine a fulfilling focus for his passion, which ensures his future sexual fidelity; he becomes dependent on the heroine: ". . . sex scenes offer a model not for [female] sexual submission but for [female] sexual control" (Mussell, 1984:21). As Mulhern (1989) remarks, "One of the basic assumptions of romance is the primacy of love, but it by no means implies an abject emotional dependency on the woman's part" (p. 66). Sexual activity in romances is described primarily through the heroine's emotions rather than through descriptions of her physical responses or through visual imagery. The heroine is aroused through touch rather than sight (Faust, 1980). The hero is not sexually objectified (although he may be viewed as a success object—Farrell, 1986); rather, the reader subjectively identifies with the heroine as the object of male passion and solicitude.

Although the *raison d'être* of erotic romances, unlike male-oriented pornography, presumably is not masturbation-enhancement, romance readers may derive significant sexual satisfaction from their reading. Coles and Shamp (1984) found no personality or demographic differences between female readers and nonreaders of erotic romances except with respect to sexuality: readers engaged in sexual intercourse much more frequently than nonreaders did, and readers were much more likely to use fantasy to enhance the experience of sexual intercourse. Coles and Shamp conclude "that erotic romances provide a form of sexual stimulation for their readers similar to that provided by sexual fantasies and that they are a form of 'soft core' pornography that women find socially acceptable and nonthreatening" (p. 187); women do not buy male-oriented pornography because it tends to be

“written by and for men and emphasizes situations in which the female characters are impersonalized and objectified . . .” (p. 207). In short, the romance novel is an erotic, utopian, female counter-fantasy to pornotopia. Just as the women depicted in pornotopia exhibit a suspiciously male-like sexuality, romances “are exercises in the imaginative transformation of masculinity to conform with female standards” (Radway, 1984:147).

### *Causes of Sex Differences*

Social scientists usually attribute sex differences in sexual fantasy to sex differences in life experiences (e.g., Barclay, 1973; Fisher et al., 1988; Follingstad & Kimbrell, 1986; Hass, 1979; Knafo & Jaffe, 1984). We do not, of course, deny that various life experiences are likely to affect people’s sexual fantasies (see Chick & Gold, 1987-1988 for a review of social variables affecting fantasy production); indeed, variation in life experiences may underlie much of the intrasex variation in responses to our survey questions. Nor do we deny that males and females may typically differ in some life experiences that are likely to affect various aspects of sexuality, including sexual fantasy. Since sexual intercourse exposes males and females to very different risks, one might expect most parents to attempt in various subtle and un-subtle ways to circumscribe their daughters’ sexual activities more than their sons’. An evolutionary perspective on our species, however, should arouse suspicion of any hypothesis that purports to account for sex differences in sexual fantasy solely in terms of differential life experiences. The reason is this: all such hypotheses imply that males and females possess essentially the same (i.e., sexually monomorphic) innate brain/mind mechanisms; but to a Darwinian, it would be astonishing if selection had failed to produce sexually dimorphic mechanisms underlying human sexual feeling and action.

Throughout our evolutionary history, males and females necessarily encountered dramatically different reproductive opportunities and constraints. The minimal parental investment (Trivers, 1972) that ancestral females had to make in each successful offspring (including nine months of gestation and several years of nursing) was enormous; thus the careful choice of mates and other sexual partners and attention to the circumstances surrounding sexual intercourse must always have been crucial determinants of female fitness. A tendency to become sexually aroused merely on the basis of cosmetic, visually detected qualities, or a taste for sexual variety for its own sake, surely

would have promoted random copulations, undermined female choice of partners and the circumstances of conception, reduced the likelihood of acquiring male parental investment, increased the likelihood of being beaten, abandoned, or killed by a jealous husband (and also by angry brothers), and drastically impaired female fitness.

The minimal (as opposed to typical) male parental investment, on the other hand, was virtually nil throughout our evolutionary history, and successful men were normally able to obtain multiple wives. Thus, if the risks were low enough, it presumably would have been adaptive for an ancestral male to copulate with almost any fertile woman (close kin excepted) and to desire new women simply because they were new. If even one sexual impulse in a thousand was consummated, the reproductive payoff for ancestral males was potentially enormous; hence males would have benefitted from relatively fast and frequent sexual arousal (Knoth, Boyd, & Singer, 1988) that varied in intensity directly with visually detected cues of female "mate value" (see Daly & Wilson, 1983 and Symons, 1979, 1987a for further discussion).

In conclusion, the contrasting male and female sexual psychologies implied by the data presented here, the scientific literature on sexual fantasy, and the male and female literatures of erotic fantasy do not represent capricious or arbitrary amalgams of traits; on the contrary, they appear to reflect precisely the *coherent, integrated, sexually differentiated systems* that an adaptationist perspective on our species leads us to expect.

Some social scientists have attributed sex differences in sexual fantasy to such generalized phenomena as erotophobia-erotophilia (Fisher et al., 1988), the tendency to like or dislike sexuality, or to sex guilt (Follingstad & Kimbrell, 1986), the tendency toward self-mediated punishment for violating standards of proper sexual conduct (Mosher & Cross, 1971). If phenomena such as sex guilt or erotophobia are to affect experiences of sexual arousal and fantasy, they presumably must do so via their effects on the feelings that accompany these experiences (Knoth, Boyd, & Singer, 1988). But we found no sex differences in accompanying feelings: women were as likely as men to report enjoying and feeling excited by their sexual fantasies; men were as likely as women to report feeling guilty about and trying to repress

their fantasies.<sup>3</sup> Overwhelmingly both women and men felt positive about sexual arousal and fantasy. Most striking, women were as likely as men to report having sexual desires for tabooed partners, such as relatives or in-laws. Thus, even though men and women differed strongly in many dimensions of sexual fantasy, they were equally likely to violate social conventions by experiencing (or admitting experiencing) forbidden desires. Moreover, women were as likely as men to report enjoying tabooed sexual desires without feeling bad or guilty about them, and men were as likely as women to report feeling bothered by these desires and unable to control them. These findings concur with those of Carlson and Coleman (1977) and Knoth, Boyd, and Singer (1988), who found that women and men report equally high levels of positive affect during sexual fantasy, despite large sex differences in fantasy rates and complexity.

Although specific neuroanatomical data relevant to the question of sex differences in sexual fantasy are lacking, the frequency of sexual fantasy does appear to be associated with androgen levels. Udry et al. (1985, 1986) have recently shown that the increase in the "frequency of thinking about sex" around puberty is directly related to rising androgen levels in both males and females and is *not* secondary to accompanying physical or psychosocial changes. Further, "the androgens of puberty provide a more powerful jolt to male than to female libido. Before puberty, male and female testosterone levels are not much different. At maturity, these levels have increased by a factor of ten or twenty in males, while they only double in females" (Udry et al., 1986:226). The most convincing evidence of androgen effects on adult male sexuality comes from placebo-controlled studies of hypogonadal men on androgen replacement therapy. "Frequency of sexual thoughts" declines sharply in hypogonadal men about three weeks after the cessation of treatment, but then shows a rapid increase within two weeks of resuming treatment (Bancroft, 1984). Similar effects have been documented in young, surgically menopausal women

<sup>3</sup>Given the availability of a valid sex guilt measure—the Mosher Sex-Guilt Inventory (MSGI)—one might ask why we did not use this measure. There are two reasons. First, while the MSGI has been shown to predict a variety of sexual behaviors, *no* clear relationship has been found between scores on the MSGI and most measures of sexual arousal (Morokoff, 1985) or sexual fantasy (Follingstad & Kimbrell, 1986). Second, almost none of the questions in the MSGI are actually about either sexual fantasy or arousal. As an alternative to the MSGI, we constructed a series of questions designed to measure the types of affect associated with sexual fantasy and arousal. While the construct validity of these questions is unknown, they do have face validity for the topic at hand.

who have been administered exogenous androgens: subjective reports of desire, arousal, and frequency of sexual fantasy increase markedly in most subjects (Sherwin, Gelfand, & Brender, 1985). These data constitute a challenge to any hypothesis that attempts to explain sexual fantasy purely in terms of "social influences."

Furthermore, it is surely a mistake to assume, as many writers seem to do, that "social influences" necessarily foster rather than reduce sex differences in sexuality. In fact, a distinct ideology about sex differences is widespread among educated people in the Western world: male and female psychologies are held to be identical by nature, and differences between the sexes are assumed to result entirely from "social influences" (the rise of this ideology is discussed in Durden-Smith & deSimone, 1983). Most college students—in fact, most middle-class people—are exposed to and often espouse this belief system. Liberated women may be encouraged to act as men do; at male strip shows, for example, many women enthusiastically whoop it up as they mistakenly believe men do in such settings (see Symons, 1987a). Conversely, male indulgence in pornography and sexual variety is often characterized in the popular and scientific media as immature, adolescent, and evidencing sexual insecurity: "real men" are loving fathers and faithful husbands. Indeed, it would be surprising if messages of this sort were *not* promulgated: whether I myself am a philanderer or a faithful husband, it is surely in my interest (however defined) to convince *other men* that it is better to be the latter. It is entirely conceivable—and in our opinion likely—that many "social influences" mitigate, rather than amplify, some sex differences in sexual expression.

### *Summary of Sex Differences*

The data on sexual fantasy reported here, the scientific literature on sexual fantasy (reviewed above), the consumer-driven selective forces of a free market (which have shaped the historically stable contrasts between male-oriented pornography and female-oriented romance novels), the ethnographic record on human sexuality (Symons, 1979), and the ineluctable implications of an evolutionary perspective on our species, taken together, imply the existence of profound sex differences in sexual psychology. These differences can be summarized as follows.

(1) Both sexes can experience both lust and limerence (the experience of being in love—Tennov, 1979); however, lust tends to be an



autonomous, appetitive desire in men but not in women, whereas limerence tends to be an autonomous, appetitive desire in women but not in men (Weinrich, 1988). Male sexual fantasies and pornotopia reflect the autonomy of lust, while female sexual fantasies and erotic romances reflect the autonomy of limerence. Thus, women rarely seek out depictions of pornotopia, although they are capable of becoming sexually aroused by them (see Symons, 1979, 1987a), and men rarely read romance novels, although they are capable of falling in love. Furthermore, there is evidently no market for a female-oriented version of pornotopia (in which men are portrayed as anonymous sex objects) or for male-oriented romance novels. In women's fantasies, lust is the servant of limerence and is intimately bound up with mate choice; in men's fantasies the goal is the satiation of lust.

(2) Because the goal of limerence is mate choice, the "limerent object" (Weinrich, 1988) in women's fantasies is personalized, hence the importance of nonphysical partner characteristics, context, and feelings. Because the goal of lust is sexual satisfaction, the "lusty object" (Weinrich, 1988) in men's fantasies tends to be objectified rather than personalized, hence the focus on sexual organs, sexual acts, and physical attributes, and (compared with women's fantasies) the lesser importance of nonphysical partner characteristics, context, and feelings.

(3) Men tend to become sexually aroused by visual stimulation; hence men's sexual fantasies are overwhelmingly likely to focus on visual images of the imagined partner. Women's fantasies are also visual, of course, since *Homo sapiens*, like other higher primates, is a fundamentally visual species, but women become sexually aroused (as opposed to sexually interested) primarily via tactile stimulation by favored males; hence women's fantasies tend to emphasize the touch of an imagined partner who has passed a (partly visual) test of desirability. The ethnographic record strongly implies that the sex difference in the tendency to become sexually aroused by visual stimuli is a human universal (Symons, 1979). (Though we neglected to do so, it would be interesting to investigate the relative importance of touching versus being touched in sexual fantasies; we predict that men will emphasize the former and women the latter.)

(4) Women tend to imagine themselves as objects of male passion and solicitude, while men tend to imagine women as responsive, lusty objects. As Money and Ehrhardt (1972) note, when men and women become sexually aroused by viewing pictures or films of explicit sexual

activity, they do so via fundamentally different psychological processes: to a man, the female in the scene is a sexual object, and he imagines taking her out of the scene and having sex with her; but a woman, viewing the same scene, subjectively identifies with the female and imagines herself as the lusty object of male passion. This type of sex difference has also emerged in studies of projective sexual fantasies in response to masturbation stimuli (Abramson & Mosher, 1979; Mosher & Abramson, 1977).

(5) In contrast to women, men tend to experience an autonomous predilection for a variety of sexual partners (Symons, 1979), and their fantasies reflect this, though both sexes may usually experience maximal sexual excitement at the beginning of a new relationship (Symons, 1987a).

### *Limitations and Implications*

Since sexual fantasies are not constrained by most real life exigencies, the study of sexual fantasy probably provides a clearer picture of male and female sexual natures than does the study of sexual action. Our goal has been to characterize, approximately and provisionally, some of the sexually dimorphic brain/mind mechanisms underlying human sexuality by analyzing sex differences in patterns of sexual fantasy. Our understanding of these patterns could be greatly augmented and refined by giving the present questionnaire to other samples that vary in age, social class, culture, and so forth. One limitation of the present study is the relative youth and inexperience of its subjects; it will be interesting to compare their responses with those of older, more experienced men and women. Another limitation of the present study is that the survey questions were developed by two men. No doubt female sexual psychology would have been more fully and subtly probed had women collaborated in designing the questionnaire.

It is probably impossible to fully or adequately characterize a sexually dimorphic human psyche using a unisex language (there are English words for distinctively male and female body parts, but none for distinctively male and female experiences). Nevertheless, one way to increase our understanding of psychological sex differences would be to progressively alter questionnaire items with the intent of *maximizing* sex differences in response. By comparing questions that elicited a sex difference with variants that did not, and questions that elicited minor sex differences with variants that elicited major differences, we might eventually expand and refine our conceptions of male and female sexual natures.

Our data have implications for future research on sexual fantasy. We found touching, partner response, and emotional responses to be important aspects of women's fantasies—more important than visual images of sexual acts or partners. Yet most research on sexual fantasy has focused on content themes, either using fantasy checklists (e.g., Iwawaki & Wilson, 1983; Knapo & Jaffe, 1984; Wilson & Lang, 1981) or content analysis of written fantasies (e.g., Barclay, 1973; Follingstad & Kimbrell, 1986; Hass 1979). Checklists offer a compendium of visualized sexual acts, but they neglect the affective dimensions of fantasy that seem to be so important to women. Content analyses circumvent some of these problems by allowing for the expression of emotions; however, recording sexual fantasies on paper may tend to bias them in a graphic, visual direction. In a study of sexual fantasies among female prostitutes, Diana (1985) found that the women fantasized predominantly about romance, falling in love, marriage, and being desired for their physical and inner beauty. Diana writes: "So in a real sense the fantasies are not sexual at all. Primarily, they seem to reflect the deep desire to be loved, appreciated and cared for materially and emotionally. Yet, when asked to write out one of their fantasies, most [of the prostitutes] described fantasies with explicit sexual themes" (p. 134). The explanation may be that sexual acts and body parts are simply easier to describe than are romantic nuances and emotions. The nonvisual dimensions of female sexual fantasies are richly evoked by professional writers of erotic romances, but such expression is probably much more difficult for the average person. Furthermore, to many people "sexual fantasy" may connote a visual image of a sexual act; hence many women may not consider their erotic fantasies to be sexual per se, and thus may not think it appropriate to record them. Future research should strive to encompass the manifold dimensions of imagined erotic experiences.

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