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Sexual Fantasy

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This article reviews the research literature on sexual fantasy, a central aspect of human sexual behavior. Topics include (a) gender similarities and differences in the incidence, frequency, and content of sexual fantasies and how they relate to sociocultural and sociobiological theories of sexual behavior; (b) the association between frequency or content of sexual fantasies and variables such as age, sexual adjustment and satisfaction, guilt, sexual orientation, personality, and sexual experience; and (c) "deviant" sexual fantasies (i.e., what they are, whether they play a role in the commission of sexual crimes, and whether they can be modified). The article ends with a summary of major findings and suggestions for future research.

Everybody daydreams and fantasizes, at least some of the time (J. L. Singer, 1966). Fantasies can be about anything—escape to beautiful places, money, revenge, fame—but probably the most intriguing if not most common fantasies concern romance and sex (Byrne, 1977; Giambra, 1974; Wagman, 1967). That "sex is composed of friction and fantasy" is an often-quoted remark (Kaplan, 1974, p. 84). Certainly it is by now a truism that one's brain is at least as important a sexual organ as one's genitals. What humans think about can either enhance or inhibit sexual responsivity to any form of sensory stimulation, and, in the absence of any physical stimulation, sexual fantasy alone is arousing.

Understanding sexual fantasies therefore seems central to an understanding of an important aspect of human sexuality. However, because descriptions of fantasies are often titillating, they may not be considered worthy of serious study. Indeed, because popular collections of sexual fantasies (e.g., Friday, 1974, 1975, 1980; Kronhausen & Kronhausen, 1969) have an obviously erotic function, scientific research on this topic may be tainted. Such research may be considered frivolous and not academically respectable.

One reason for considering the study of sexual fantasy important, however, is that aside from the simple fact that sexual fantasies are nearly universally experienced, they can affect later sexual behavior as well as reflect past experience (e.g., Eisenman, 1982; Malamuth, 1981). In other words, what people do sexually with other people can sometimes be influenced by their fantasies, and, in turn, people's fantasies are affected by what they have previously done, seen, or read about.

In addition, it has been suggested that because sexual fantasies are private and do not depend on the participation of a partner, they may be more revealing than actual behavior of gender differences in sexuality (Ellis & Symons, 1990). In fantasy one can imagine anything one likes, however unrealistic, without experiencing embarrassment or rejection or societal and legal restrictions. Sexual fantasies, therefore, may provide a unique insight into the different scripts that may underlie sexual behavior in men and women (Gagnon & Simon, 1973).

Sexual fantasies are also considered important because they are thought to play a significant role in the commission of sexual offenses such as exhibitionism, rape, and child sexual abuse (e.g., Abel & Blanchard, 1974). In addition, lack of sexual fantasies or guilt about sexual fantasies may contribute to sexual dysfunction (e.g., Cado & Leitenberg, 1990; Zimmer, Borchardt, & Fischle, 1983).

A review of the research on sexual fantasy may provide some answers to a number of interesting factual questions. It may also indicate how much is still to be learned. For example, how many people have sexual fantasies during intercourse or during the day outside of sexual activity? How often do people have sexual fantasies? What are the most common kinds of sexual fantasies? Which types of fantasies are most popular? Are there gender differences in the incidence, frequency, or content of sexual fantasy? When do people first begin to have sexual fantasies, and does frequency or content change with age and different experience? Can it be determined whether there has been any change in frequency or content of sexual fantasy over recent decades? Are there cross-cultural similarities or differences in sexual fantasies? How often do people feel guilty about sexual fantasies, and why do some people feel guilty and others not? Are fantasies usually shared between partners? Do sexual fantasies vary as a function of sexual orientation? Do sexual fantasies predict behavior? How does erotica-pornography reflect people's internal sexual fantasies?

Several theoretical questions are also addressed during the course of this review. The first pertains to the underlying purpose(s) of sexual fantasy. Sexual fantasies can be triggered by something one reads or sees, they can be internally generated, or they may be some combination of the two (Jones & Barlow, 1990). Fantasies can be used to stimulate sexual arousal, but the reverse pathway is also possible (i.e., arousal can stimulate fantasies). In general, though, most sexual fanta-

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sies appear to be deliberate patterns of thought designed to stimulate or enhance pleasurable sexual feelings regardless of whether the fantasies involve reminiscing about past sexual experiences, imagining anticipated future sexual activity, engaging in wishful thinking, or having daydreams that are exciting to imagine without any desire to put them into practice. Some theorists (e.g., Freud, 1908/1962), therefore, argue that sexual fantasies reflect sexual dissatisfaction and deprivation and that they occur in compensation for a lack of other enjoyable sexual stimulation. Others (e.g., J. L. Singer, 1966) argue the reverse, that sexual fantasies reflect healthy sexuality and are simply another form of normal sexual stimulation used to promote sexual arousal and enjoyment. We evaluate which of these positions is most supported by the evidence. Another theoretical debate concerns sociobiological and socialization explanations of gender differences in human sexuality (cf. Gagnon & Simon, 1973; Symons, 1979). Do these theories make different predictions regarding gender differences in frequency and content of sexual fantasy, and how consonant are they with existing data regarding sexual fantasy? A third theoretical question concerns the origins of individual differences in sexual fantasy preferences. Why are some people more aroused by one type of fantasy than another? What are the possible learning mechanisms that reinforce different sexual fantasies? A fourth theoretical issue we consider is what defines deviant fantasies and arousal and how well such fantasies predict behavior. Also, are deviant fantasies and arousal involved in the commission of sexual crimes, and, if so, are there effective therapeutic techniques for changing such fantasies?

Definition, Measurement, and Methodological Issues

Before proceeding to a review of the research literature, it is helpful to discuss some definition and measurement issues. Fantasy, in general, and sexual fantasy, in particular, are not easily defined or measured. In general, a fantasy or daydream (the two are not usually distinguished) is considered an act of the imagination, a thought that is not simply an orienting response to external stimuli or immediately directed at solving a problem or working on a task (Klinger, 1971; J. L. Singer, 1966). As pointed out by G. D. Wilson (1978), a sexual fantasy can be an elaborate story, or it can be a fleeting thought of some romantic or sexual activity. It can involve bizarre imagery, or it can be quite realistic. It can involve memories of past events, or it can be a completely imaginary experience. It can occur spontaneously or be intentionally imagined, or it can be provoked by other thoughts, feelings, or sensory cues. Sexual fantasies can take place outside of sexual activity, or they can occur during solitary masturbation or during sexual activity with a partner.

In short, the term *sexual fantasy* refers to almost any mental imagery that is sexually arousing or erotic to the individual. The essential element of a deliberate sexual fantasy is the ability to control in imagination exactly what takes place. Even reminiscences of past events can be altered so that only particularly exciting aspects are recalled or enhanced.

The review that follows is concerned only with conscious sexual fantasy when a person is awake. Sexual dreams that occur when a person is asleep are not considered. Also, supposed unconscious sexual fantasies are not considered. If a person reports having a recurrent daydream about riding a horse but does not feel any sexual arousal and does not convey any explicit sexual content, it may or may not be correct to infer that this is really a sexual fantasy in disguise. But this kind of daydream is outside the realm of the present article.

In a sense, trying to define the boundary of what is meant by sexual fantasy is also a measurement issue. Because sexual fantasies are covert, the only way to measure them is through what a person reports he or she is thinking. Obviously, one cannot have an independent observer corroborate someone else's sexual fantasies. Similarly, although one can measure physical signs of arousal to reported fantasies, there is no direct physiological measure of the content of a fantasy per se. There simply is no choice but to rely on self-report, with all its inherent methodological limitations regarding accuracy.

There are three common methods used to measure sexual fantasy. One is to provide respondents with checklists of fantasies and to ask them to anonymously indicate which they have experienced, in what context, and with what frequency. A second method, open-ended questionnaires, asks respondents, again anonymously, to describe in narrative form their favorite or most frequently recurring fantasies. Subsequently, these fantasies can be categorized and rated on various dimensions. The third method is to have respondents record the fantasies they actually experience over a given period of time using either checklists or open-ended diaries.

Each of these methods has its shortcomings. The first two rely on retrospective recall, which may not be reliable. In addition, checklists may not be sufficiently comprehensive and, as a result, may be biased toward some types of fantasies over others. Moreover, because it is not unusual for different studies to use different checklists, comparisons across studies are sometimes difficult. Open-ended questionnaires avoid some of these problems; however, because no list is provided, they may miss many fantasies people have. With open-ended questionnaires, respondents are sometimes instructed to enter only a limited number of fantasies (e.g., top three), and even if this is not the case, respondents may simply forget the less frequent ones or not want to bother writing too many down. In open-ended questionnaires, respondents also may be more subject to social desirability influences than if they simply have to endorse items on a checklist. Ongoing self-monitoring, although probably the most reliable procedure, has to continue for a long enough time to be representative. This may be impractical, especially if one is interested in the types of fantasies people have ever had rather than frequencies of fantasy over short periods.

Aside from the concern about whether or not respondents' reports of their fantasies are accurate or reliable, another frequent methodological issue concerns the sample's representativeness. Almost all of the studies reviewed involve samples of participants who are not randomly drawn or truly representative of the population in the United States or any other country. This is a serious limitation of research in human sexuality in general, not just sexual fantasy.

Given these various methodological concerns, similarities between findings across different studies are especially important, and, whenever possible, they are highlighted here. Most of the research on sexual fantasy can be organized under two main

Table 1
Percentages of Men and Women Reporting Ever Having Sexual Fantasies During Masturbation

Study	Men	Women
Kinseyetal.(1953)[a]	89	64
Hessellund(1976)"	50	26
Mednick(1977)*	90	67
Crepault et al. (1976; Crepault & Couture, 1980)*	93	100
Talbotetal. (1980)		65
Lentz&Zeiss(1983)*		54
Zimmeretal.(1983)	71	60
Knafo&Jaffe(1984)[a]	90	97
Price&Miller(1984)'		
White participants	100	76
Black participants	96	93
Campagna(1985)*	80	
Davidson & Hoffman (1986)		31
Pelletier&Herold(1988)[a]		87
Jones & Barlow (1990)"	100	74

* Author explicitly mentioned that only data for those who reported ever masturbating were included.

headings: incidence and frequency (how many people fantasize, when, and how often) and content (what people fantasize about). A third topic that deserves special emphasis because of its clinical and social significance concerns the role sexual fantasies may play in motivating criminal sexual behavior and whether fantasies associated with deviant sexual behavior can be changed.

Incidence and Frequency of Sexual Fantasies

Gender Similarities and Differences in Incidence of Sexual Fantasy

The number of men and women who have sexual fantasies typically has been ascertained in three separate contexts: during masturbation, during sexual intercourse, and during nonsexual activity. The samples are either predominantly or exclusively heterosexual in the studies reviewed in this section. (A later section reviews studies comparing the content of sexual fantasies in gay men and lesbian women with that of heterosexual samples, but to our knowledge no study has examined the incidence or frequency of sexual fantasy in gay and lesbian samples.)

The percentage of men and women in different studies who have reported ever having had sexual fantasies during masturbation is summarized in Table 1. As can be seen, the incidence tends to be greater for men than for women. In seven of nine studies in which a direct comparison is possible, a higher percentage of men than women reported fantasizing during masturbation. Across all studies contained in the table, the mean percentage of men who said they ever fantasized during masturbation was 85.9, whereas the mean percentage of women who said they ever fantasized during masturbation was 68.8. For the most part, researchers have limited this comparison to men and women who masturbate. Otherwise, any gender difference in incidence of fantasy during masturbation could be attributed to the fact that more men than women masturbate (cf. Leitenberg, Detzer, & Srebnik, 1993; Oliver & Hyde, 1993). However, even though most of these studies have controlled for the experience of ever having masturbated, they have not controlled for gender differences in frequency of masturbation for those men and women who do masturbate, which also has been shown to be consistently greater for men than for women (Leitenberg et al., 1993). Also, men usually start masturbating on a regular basis at an earlier age than women. Hence, the greater incidence of sexual fantasy during masturbation for men than for women shown in Table 1 may be due simply to men having had many more opportunities than women to fantasize during masturbation. Of course, because these are only correlational data, it could also be argued that a greater likelihood to sexually fantasize during masturbation leads to a higher frequency of masturbation, rather than vice versa. Many cultural and sociobiological explanations also could be offered to account for this gender difference, but it would be better to postpone further discussion until all of the other frequency data have been examined.

Table 2 shows the percentage of men and women who have reported having had sexual fantasies at least some of the time during intercourse. There are two findings of note here. The first is that sexual fantasizing during sexual intercourse is quite common for both men and women. Unlike masturbation, however, there is no evidence of any consistent difference between men and women. Of the six studies in which a direct comparison is possible, four showed virtually identical percentages of men and women who reported having had sexual fantasies during intercourse, one showed a higher percentage for men, and one showed a higher percentage for women.

The Price and Miller (1984) study, which reported separate statistics based on race, indicated that the incidence of fantasizing during intercourse was greater in the Black sample than in the White sample. However, there were no statistical controls for the different amounts of sexual experience observed between the groups. In addition, in a larger and probably more representative sample of Black and White men (no women), Pietropinto and Simenauer (1977) found the reverse result; Whites, on average, fantasized more than Blacks. These investi-

Table 2
Percentages of Men and Women With Intercourse Experience Reporting Ever Having Sexual Fantasies During Intercourse

Study	Men	Women
Fisher (1973)		75
Hariton & Singer (1974)		65
Crepault et al. (1976; Crepault & Couture, 1980)	77	94
Sue(1979)	59	59
Talboteta!.(1980)		63
Lentz&Zeiss(1983)		68
Knafo&Jaffe(1984)	90	90
Price&Miller(1984)		
White participants	83	78
Black participants	92	93
Davidson (1985)	47	34
Davidson & Hoffman (1986)		37
Pelletier&Herold(1988)		73
Cado & Leitenberg (1990)	84	82

gators reported frequency of fantasy during intercourse and masturbation combined. Finally, S. Fisher (1980) did not observe any difference in reported use of fantasy during intercourse between samples of Black and White married women. (The results of the Pietropinto and Simenauer study and the Fisher study are not contained in Table 1 because specific percentages were not provided.)

Because the studies summarized in Tables 1 and 2 cover several decades, it is interesting to observe that there is no clear evidence of a decade-of-birth effect. The incidence of sexual fantasies reported in recent years for men and women does not seem much different from that of earlier years, at least within the time span covered by these studies. This comparison is flawed, however, because the samples across the years are not directly comparable (e.g., they may differ in recruitment and sampling procedures, in sample sizes and demographic composition, and in methods of obtaining data).

Table 3 summarizes results from the handful of studies that have indicated the percentage of men and women who reported that they had sexual fantasies during waking hours outside of sexual activity. Although the data are limited, it is clear that the vast majority of both men and women have sexual daydreams. As was the case for intercourse, there appears to be no difference between men and women.

Sometimes participants in these studies were asked whether they had ever experienced any sexual fantasy in their lives regardless of context. The percentages who responded yes were greater than that found in any single context, typically more than 95% for both men and women (cf. Davidson, 1985; Pelletier&Herold, 1988).

Gender Similarities and Differences in Frequency of Sexual Fantasy

How often men and women have sexual fantasies has been examined in different ways. Probably the most reliable method is simply to have participants record whenever they have a sexual fantasy. Jones and Barlow (1990) conducted such a study with a sample of 49 male and 47 female undergraduate college students. Respondents were instructed to record each time they fantasized during masturbation, each time they had a sexual fantasy or thought provoked by some external stimulus (e.g., something they saw or read), and each time they had an internally generated sexual fantasy or thought (no distinction was drawn between sexual thoughts and sexual fantasies). The men reported having a little more than 4.5 externally triggered sexual fantasies per day, approximately 2.7 internally generated fantasies per day, and less than 1 masturbatory fantasy per day. The women, by comparison, reported only about 2 externally triggered sexual fantasies per day (significantly less than the men) and approximately 2.5 internally generated fantasies per day. They reported less than 1 masturbatory fantasy per day. If these numbers are combined, the men recorded approximately 7.2 sexual fantasies per day as compared with 4.5 for women, omitting both fantasies during masturbation (reported as less than once per day in this study) and fantasies during sexual activity with a partner (which were not recorded separately).

Table 3
Percentages of Men and Women Reporting Ever Having Sexual Fantasies When Not Engaged in Sexual Activity

Study	Men	Women
Crepault & Couture (1980)	100	
Lentz&Zeiss(1983)		82
Knafo&Jaffe(1984)	97	100
Davidson (1985)	82	81
Davidson & Hoffman (1986)		77
Pelletier&Herold(1988)		84

Other studies have consistently reported that men estimate having more sexual fantasies per day than women. For example, Ellis and Symons (1990), in a questionnaire study with 182 female and 125 male undergraduate students, found that the men estimated they had approximately one sexual fantasy per day, whereas the women estimated they had only one sexual fantasy per week. In a small sample of 30 men and 30 women, Knafo and Jaffe (1984) reported that a higher percentage of men than women said they "often or always" fantasized during masturbation and during nonsexual behavior (90.0% vs. 76.7% and 80.0% vs. 70.0%, respectively). Knoth, Boyd, and Singer (1988), in a study of adolescent boys (Mage = 15.7) and girls (*M* age = 15.8), found that 45% of the boys but only 6% of the girls endorsed the response choice of having sexual fantasies "many times a day." In contrast, the response choice of "once a week" was endorsed by 35% of the female sample and only 8% of the male sample. Davidson (1985) found that although the percentages of men and women who said they ever had sexual fantasies were the same (94% and 95%, respectively), 38% of the men said they engaged in sexual fantasies on a "frequent basis," in comparison with only 28% of the women. Kinsey, Pomeroy, Martin, and Gebhard (1948, 1953) found that, of those men and women who masturbate, 72% of the men said they used fantasy during masturbation "more or less always," as compared with 50% of the women. In a sample of young adolescents, Sorensen (1973) reported that, of those who masturbate, 57% of the boys and 46% of the girls said they fantasized "most of the time." In short, these studies suggest that men report having sexual fantasies more often than women both during masturbation and during nonsexual activity.

When frequency of sexual fantasizing during intercourse has been examined, however, there has been little evidence of any gender difference. Of the studies that have made this comparison, not a single one has noted a significant difference. For example, Sue (1979) reported that an equal percentage of men and women said "almost always" (5.4% and 6.0%, respectively) and "sometimes" (53.2% and 55.4%). Crepault and Couture (1980) and Crepault, Abraham, Porto, and Couture (1976) found that 49% of men said they had sexual fantasies during intercourse "often to always," in comparison with 53% of women. Similarly, no significant gender differences in frequency of fantasies during intercourse were reported by Cado and Leitenberg (1990), Knafo and Jaffe (1984), or Zimmer et al. (1983).

In a different approach to assessing frequency of sexual fantasies in general, Cameron (1967) asked 103 male participants and 130 female participants to estimate what percentage of the time they thought about sex. Of those who

responded with a specific number, 55% of the male participants and 42% of the female participants said greater than 10% of the time. In a related study, Cameron and Biber (1973) interviewed 4,420 individuals and asked them whether they had had a sexual thought in the past 5 min ("Did you think about sex or were your thoughts sexually colored even for a moment?"); some interviews were conducted in the morning, some in the afternoon, and some in the evening. In the age range 14 through 25, approximately 52% of the male participants said yes, in comparison with only 39% of the female participants. In the 26- to 55-year age bracket, the respective percentages were approximately 26% for men and 14% for women. When asked what had been the central focus of their thought in the past 5 min, the percentage who indicated that it was related to sex was much less (approximately 9% for male participants 14 through 55 years old and 5% for female participants across this same age range), but the same gender difference was apparent. In the recently released national survey of human sexuality, in which a true random probability sample of 3,432 men and women were interviewed, 54% of the men and 19% of the women said they thought about sex every day or several times a day (Laumann, Gagnon, Michael, & Michaels, 1994). It appears clear from these studies that men report thinking about sex more often than do women, which is certainly consistent with the general stereotype.

Men also report having a greater number of different kinds of fantasies than women. G. D. Wilson and Lang (1981) had 45 men and women in stable relationships estimate the frequency with which they had 40 different fantasies. The scores reported were a combination of how many different fantasies they had and how often they had them. The men in the sample had twice as high a mean total score as the women. Using the identical scale in a college-aged sample of Japanese men and women, Iwawaki and Wilson (1983) found that men had a mean total fantasy score 6 times higher than that of the women.

Person, Terestman, Myers, Goldberg, and Salvadori (1989) asked a sample of college students to indicate which of 55 different sexual fantasies they had experienced in the past 3 months. The mean number for men was 26.0, in comparison with 14.2 for the women. Hunt (1974) reported that of 9 fantasy themes investigated, men 25-34 years of age had a mean of 3.3 themes, as compared with 2.6 for women of comparable age. For men and women more than 55 years old, the respective means were 1.7 and 1.1.

Possible Explanations of Gender Differences in Incidence and Frequency of Sexual Fantasy

In summary, what these studies reveal about gender similarities and differences in incidence and frequency of sexual fantasies is that although an approximately equal proportion of men and women have had sexual fantasies during nonsexual activity and during sexual activity with a partner, men appear to be more likely to have sexual fantasies during masturbation than women. In addition, men appear to fantasize about sex more often throughout the day than do women.

What accounts for these gender differences in frequency of overall sexual fantasizing? One possible explanation has to do with the gender difference in masturbation practices mentioned earlier. Because men masturbate more frequently than women and tend to start masturbating on a regular basis at an earlier age, their sexual fantasies have had a greater opportunity to be paired with orgasm and therefore to be positively reinforced. However, the cause and effect relationship also could be in the reverse direction (i.e., a greater frequency of sexual fantasy in men may stimulate them to masturbate more than women; Kinsey et al., 1953). In addition, if the masturbatory reinforcement hypothesis were sufficient to explain gender differences in frequency of sexual fantasy, one also might expect that men would rate sexual fantasies to be more pleasurable or arousing than women, but there is little evidence that this is indeed the case. For example, Ellis and Symons (1990) reported that even though the men in their sample fantasized more, ratings of positive feelings (good/happy, elation, and excitement/involved) and negative feelings (frustration, guilt/shame, fear/anxiety, and disgust) that men and women experienced in regard to their fantasy did not differ. Overall, 92% of men and 89% of women said that when they had a sexual fantasy, they enjoyed the feeling. Knoth et al. (1988) similarly found no gender difference in positive ratings of "excited" and "involved" or negative ratings of "guilt" and "frustration." Sue (1979) also indicated that an equal proportion of men and women had favorable attitudes regarding their sexual fantasies during intercourse, and Cado and Leitenberg (1990) found no difference between men's and women's level of guilt feelings regarding their sexual fantasies during intercourse. Finally, Carlson and Coleman (1977) indicated that the women in their sample reported greater, not lesser, sexual arousal than men while writing their sexual fantasies.

Of course, as has been shown with pornographic-erotic stimuli, even though men and women may be similarly aroused when exposed to these stimuli (cf. Heiman, 1977; Schmidt & Sigush, 1970), this does not mean that they seek it out equally or that they prefer the same content. Similarly, even though masturbation is equally capable of reliably producing sexual arousal and orgasms in men and women (e.g., Masters & Johnson, 1966), men still masturbate more often than do women (Leitenberg et al., 1993; Oliver & Hyde, 1993). This remains true despite the widespread efforts in the past quarter century to decrease the stigma typically associated with women engaging in sexual self-exploration and self-stimulation and the convergence of other sexual behaviors between men and women (Clement, 1990). Therefore, sexual fantasies too can be equally pleasurable and equally effective in stimulating sexual arousal and still not be used equally often by men and women for other reasons.

Sociobiological and sociocultural theories have been offered to account for gender differences in sexual behavior and attitudes, including sexual fantasy. In both models, it is generally predicted that women will be more cautious than men in selecting sexual partners and in engaging in sexual activity solely for physical gratification outside of a relationship. Because sexual fantasies are typically solitary mental acts involving primarily physical imagery designed to stimulate and enhance sexual arousal rather than relationships, they would be expected to occur more often in men than in women, according to both theo-

ries. Sociobiologists, however, believe that these differences originate in natural selection and biology, whereas socialization theorists believe that they are simply outgrowths of cultural practices originally established for social and economic reasons (B. Singer, 1985).

The underlying sociobiological premise is that natural selection supports any behavior that maximizes an individual's reproductive success (Ellis & Symons, 1990; B. Singer, 1985). As a result, evolution supposedly favored those males who were most alert for potential partners and who were most easily aroused by sexual imagery and the physical attributes of potential partners. Such traits presumably would facilitate impregnating more females and having more offspring. It is argued that females, on the other hand, have a much greater parental investment (more energy and time) than males in each conception. To care for the offspring, they had to carefully choose a sexual partner who would help provide necessary resources. Therefore, in this premise, evolution supposedly favored those females who were highly selective in their choice of mates and for whom sexual arousal was most likely to occur only as an outgrowth of a secure and emotionally close relationship. According to sociobiological theory, these evolutionary-based differences in sexual behavior would lead one to expect more frequent and different kinds of sexual fantasies in men than in women (Ellis & Symons, 1990).

Sociobiological theory also suggests that hormonal differences may be the physical mechanism through which evolutionary forces govern the difference in frequency of sexual fantasies between men and women (Ellis & Symons, 1990; Kinsey et al., 1953). Studies have shown that a large difference in androgen (testosterone) levels exists between men and women when they reach sexual maturity and that testosterone can influence frequency of sexual fantasy. Before puberty male and female testosterone levels are similar, but afterward there is about a 10-fold to 20-fold increase in male levels and only a doubling of female levels (Udry, Talbert, & Morris, 1986). In a study with boys in Grades 8-10, Udry, Billy, Morris, Groif, and Raj (1985) found that serum testosterone level, independent of pubertal development per se, was a significant predictor of sexual fantasy frequency, whereas six other hormones were not. Furthermore, when boys were separated into quartiles based on testosterone levels, 58% of those in the lowest quartile thought about sex less than once a day, whereas only 27% of those in the highest quartile thought about sex less than once a day. Udry and his coworkers (1986) performed a similar analysis in postmenarcheal girls 13-16 years of age. Again, androgen levels predicted frequency of sexual fantasizing, whereas other sex hormones, such as estrogen, progesterone, and luteinizing hormone, did not. Moreover, age and pubertal development did not account for any further variance in frequency of fantasy.

These are only correlational studies, but experimental studies with hypogonadal men and surgically menopausal women tend to lend further support to these findings. Although administration of exogenous testosterone to adult men with normal levels of testosterone has no effect on sexual behavior (Bancroft, 1984), it clearly stimulates sexual motivation and fantasy in hypogonadal men with abnormally low testosterone levels. In fact, testosterone appears to have more of an effect on thinking about sex than on erectile capacity. Bancroft and Wu (1983) found that rates of erection to erotic films in hypogonadal men did not differ from rates in controls and were not affected by androgen replacement. On the other hand, erections to fantasy occurred significantly less often in the hypogonadal men and increased after androgen replacement treatment. Sherwin, Gelfand, and Brender (1985) also found that administration of exogenous androgen in a sample of 53 women who had prior hysterectomies led to an increase in frequency of sexual fantasies, although it did not otherwise affect physiological response or interpersonal aspects of sexual behavior. Finally, antiandrogens administered to men have been shown to reduce frequency of sexual fantasies (e.g., Cooper, Sandhu, Losztyn, & Cernovsky, 1992).

Biology aside, there is no question that women and men in Western cultures are socialized differently about sex (Gagnon & Simon, 1973). The traditional message transmitted to women has been to be wary of sexual overtures by men and to inhibit sexual responsivity unless it is part of a committed relationship. Women are encouraged to be cautious to avoid unwanted pregnancy and to avoid acquiring a "loose" reputation. Part of being masculine is sexual success ("scoring"), and part of being feminine is to limit sexual accessibility to the most desirable partner (make a good "catch"). Everyone knows what is meant by a "good girl" in regard to sex, but what is the parallel for boys? Men who are sexually active with many women might be considered "studs," whereas women in the same situation would more likely be viewed as "sluts." If given the chance to have sex with a physically attractive stranger, men traditionally are much more likely to see this as an opportunity and women as a danger. According to sociocultural theory, restraints on women's sexuality outside of a relationship may have their origin in patriarchal societies. Men wanted to ensure that their heirs were their children. Virginal daughters were also a more precious commodity in the arranging of marriages. In addition, if women's sexuality were kept in check, presumably conflicts between men regarding women would be lessened. In any case, it follows from these different sexual scripts transmitted to men and women across the ages that there would be gender differences in the reported frequency and content of sexual fantasies.

Sociocultural theory, like sociobiological theory, would predict that women would find romantic imagery more acceptable, if not more sexually arousing, than explicit sexual imagery devoid of any relationship context. It could be argued that women are taught not to be sexually aroused outside of the context of a relationship and not to admit it ifthey are. Robinson and Calhoun (1982), in a sample of 100 Black and 100 White college students, found that women believed it was less permissible for them personally to fantasize about various sexual acts than the men did. Knoth et al. (1988) also found that when adolescents were asked which of a list of stimuli were likely to lead to arousal, 75% of boys and only 39% of girls responded yes to sexual fantasy items, whereas 36% of boys and 50% of girls responded yes to romantic fantasy items. In addition, Wincze, Hoon, and Hoon (1977) found that although explicit sexual scenes, as opposed to romantic scenes, produced the greatest physiological (genital) arousal, women did not rate these scenes as most arousing. A study conducted by Heiman (1980) also suggests that women might learn to suppress awareness or mislabel physiological signs of sexual excitement in response to ro-

mantic imagery. Women in Heiman's sample were less likely to recognize that they were physiologically aroused to romantic stimuli that were not explicitly sexual. There was also less of a correlation between subjective ratings of arousal and physiological measures of arousal in response to fantasy than in response to films or audiotapes.

These results raise the obvious methodological point that perhaps women are not reporting as frequent sexual fantasies as men either because they do not realize that they are sexually aroused by certain romantic images or because they simply do not consider romantic fantasies without explicit sexual acts to be sexual fantasies even if they are sexually arousing. In fact, there appears to be a tendency for checklists of typical sexual fantasies to deemphasize romantic imagery in favor of explicit sexual acts. As a result, this may artificially deflate the frequency of sexual fantasies reported by women. If this methodological artifact were corrected, it might very well be that women would be found to have sexually arousing fantasies during nonsexual activity just as often as men but that the content of their fantasies would differ. However, even if this were so, there would still be a gender difference in total frequency of sexual fantasy because men masturbate more frequently than women and they usually have sexual fantasies when they masturbate. Of course, socialization theorists would argue that the gender difference in masturbation frequency is also due to the different cultural messages about sex experienced by men and women. Masturbation involves initiating sexual activity solely for the purpose of one's own physical gratification and has no relationship purpose. As such, it is more consonant with male than female cultural norms.

Men may also have more sexual fantasies than women simply because they are more exposed to external sexual images that stimulate fantasy. For example, popular media and advertising contain many more sexual images of women than of men. Clothing in Western society also accentuates the sexual features of women more than those of men. This hypothesis is consistent with Jones and Barlow's (1990) finding that men and women differed in externally triggered sexual fantasies but not in internally triggered fantasies.

Age of Onset of Sexual Fantasies and Developmental Changes in Frequency

Although gender is the demographic variable that has been studied most in relation to frequency of sexual fantasy, age has also received some attention, especially in regard to onset of first sexual fantasies and in regard to changes in frequency of sexual fantasies across the life span. (Other common demographic variables, such as socioeconomic status, education, and ethnicity, have not been studied in sufficient detail to warrant review.)

Much more is known about young children's sexual behavior than about their sexual feelings and thoughts. There is no question, however, that sexual curiosity and activity is a normal part of development preceding puberty (Rutter, 1971). From the earliest age, boys have erections (sometimes they are born with them) and girls have vaginal lubrication (Martinson, 1980). Genital self-stimulation for obviously pleasurable purposes is commonly observed in young children, and by age 5 most children have asked questions about sexual anatomy and reproduction (Rutter, 1971). Finally, a number of studies have shown that between 30% and 60% of prepubescent children have engaged in sporadic sex play with other children (Elias & Gebhard, 1969; Finkelhor, 1983; Kinsey et al., 1948, 1953;Leitenberg, Greenwald, & Tarran, 1989; Ramsey, 1943; Sears, Maccoby,& Levin, 1957).

Often, young children do not understand what they are experiencing sexually, and without such understanding it is uncertain to what extent they may have sexual fantasies or thoughts about sex. Certainly the classic studies of fantasy in young children under age 5, in which spontaneous stories were analyzed, reveal very little if any sexual content (Ames, 1966; Pitcher & Prelinger, 1963). Instead, the predominant themes were violence and aggression, death, hurt or misfortune, morality, nutrition, dress, sociability, and crying. Ames (1966) found that only 1.8% of the stories were related to reproduction in some form, and none of these stories resembled what is usually thought of as a sexual fantasy.

Sutton-Smith and Abrams (1976) assessed sexual fantasy contained in the stories of 150 children 5 to 10 years old. Again, the authors did not specifically try to elicit psychosexual imagery or any other specific content. Each child told two stories to the investigators over the course of a year. Twenty-four children told tales with reference to either sexual or romantic behavior. Of these, 9 boys told psychosexual stories and 4 boys told romantic stories, whereas no girls told psychosexual stories and 11 told romance stories.

These are, however, rather indirect methods of assessing sexual fantasies. Even adults are not likely to convey much sexual content when simply asked to write or tell stories on any topic (Routh, Warehime, Gresen, & Roger, 1973). The problem, of course, is that this is a taboo topic in children, and most parents would not welcome more explicit probing. Although anecdotal evidence suggests that erotic fantasy can appear at approximately age 3 or 4 (Gardner, 1969; Langfeldt, 1981), direct and systematic studies of sexual fantasies are lacking not only for children under age 5 but also for older children between ages 5 and 11. Undoubtedly, children of this age have occasional romantic-sexual fantasies or daydreams of some kind, however vague and ill formed they may be; however, how often they occur, what their content might be, what stimulated them, and whether they are sexually arousing remain unknown.

It is usually thought that sexual fantasies begin occurring on a regular basis during early adolescence, concurrent with a general increase in sex drive and sexual arousal. Retrospective studies suggest that the mean ages at which adults recall experiencing their first sexual fantasy are approximately 11 to 13. Of course, adults may not remember their earlier fantasies. Lehne (1978), in a sample of gay men, found that the mean age at which these men remembered experiencing their first homoerotic fantasy was 12.2. Twelve percent reported that such fantasies occurred before age 10, and 83% reported that they occurred before age 13. In another retrospective study, this time with a heterosexual sample of male and female college students, Gold and Gold (1991) found that the men reported their first sexual fantasy as occurring at a mean age of 11.5; women reported a mean age of 12.9. This age difference may seem paradoxical because, on average, girls experience puberty earlier than boys, but it is consistent with the finding that adolescent

girls also report onset of sexual arousal several years later than boys (Knoth et al., 1988). Also, girls typically start masturbating later than boys (e.g., Kinsey et al., 1948, 1953).

As Storms (1981) pointed out, this gender difference in age of onset of sexual fantasies may have more to do with different socialization experiences than with different physiological capacities. It may also involve different triggers for first sexual fantasies. Gold and Gold (1991) asked participants to describe the events or experiences that led to their first sexual fantasies. Female participants were more likely to say that their first fantasies were stimulated by a relationship (31% of women vs. 6% of men), whereas male participants were more likely to have their first sexual fantasies in response to a visual stimulus. Fifty-nine percent of men and 39% of women said their first fantasy was provoked by seeing a boy/girl they liked, and 27% of men and 7% of women said it was provoked by seeing a sexy older person like a teacher.

Another sort of developmental difference in sexual fantasies between men and women was noted by Sue (1979). The first occurrence of sexual fantasies during intercourse appears to begin later, on average, for women than for men. In response to the question "When did you first begin to fantasize during sexual intercourse?" 35.7% of the men said "from the very beginning," as compared with 17.8% of the women. Only 6% of men reported starting after 2 or more years, in comparison with 21% of women.

Although men may start having fantasies on a regular basis at an earlier age than women, the pattern of change in frequency of sexual fantasy across the life span appears to be the same for both sexes. In general, there is a curvilinear relationship between age and frequency of sexual fantasy. In young children and elderly people, sexual fantasies occur less frequently than in midadolescence and late adolescence or young and middle adulthood. For example, in the Cameron and Biber (1973) study, participants were asked at randomly chosen times of the day what they were thinking about over the past 5 min and whether they thought about sex at all, even for a moment. Children 8 to 11 years old (119 boys and 116 girls) were included and could be compared with those in other age brackets, including adolescence, young adulthood, middle age, and older adulthood. Approximately 25% of both boys and girls in the younger age bracket answered yes (sex had at least crossed their minds); this rate increased to a maximum, by ages 14-15, of 57% for boys and 42% for girls. By ages 56 to 64, only 19% of men and 12% of women responded affirmatively.

Studies using only adult samples have generally shown a linear decline in frequency of sexual daydreams and fantasies with age. Giambra (1974) studied seven groups of men, the youngest being 17-23 years old (n = 214) and the oldest 75-91 years old (w = 26). Participants completed the Imaginal Processes Inventory (J. L. Singer & Antrobus, 1970), which contains a sexual daydreaming subscale as well as other nonsexual content subscales. Sexual daydreaming was most frequent in the youngest age group and declined thereafter. Giambra and Martin (1977) replicated these findings in another sample of men ranging from 24 to 91 years of age. Halderman, Zelhart, and Jackson (1985), using the short form of the Imaginal Processes Inventory in samples of men and women 18 years old or older, found that frequency of sexual fantasies progressively decreased across successive age groups for both men and women. Purifoy, Grodsky, and Giambra (1992), in a sample of 117 women 26 to 78 years of age, found that frequency of sexual daydreaming (as measured again by the Imaginal Processes Inventory subscale) was greatest in the 26- to 39-year-old group and least in the 56- to 78-year-old group. Zimmer et al. (1983) found that frequency of sexual fantasy was significantly higher in both male and female participants less than 35 years of age than in those more than 35 years old. Hunt (1974) also found that younger adults (25-34 years of age) have a greater number of different fantasies than older adults (more than 55 years of age). Brown and Hart (1977), in a younger sample of women, found a slightly different trend. There were four age groups: 19-21, 22-25, 26-35, and 36-45. Women between the ages of 22 and 25 and 26 and 35 reported the greatest number of sexual fantasies, younger women (19-21) reported a moderate number, and women in the oldest group (36-45) reported the fewest.

One caution about these findings should be highlighted. Age is confounded with decade of birth and possibly different attitudes toward the acceptability of sexual fantasies. Thus, older people may be reporting fewer fantasies because they have more negative attitudes toward sexual fantasy. However, the fact that the same linear trend of decreasing fantasy with increasing age occurred when studies were conducted in the 1970s as in the 1980s and the 1990s suggests that this may be more of an age effect than a decade-of-birth effect.

Presumably, the decreasing frequency of sexual fantasy in older adults reflects a decrease in frequency of sexual drive in general as well as a decrease in the frequency of sexual intercourse and masturbation during which sexual fantasies often occur. It also presumably reflects an increased preoccupation with matters other than sex, such as children, jobs, and health. It would be interesting, however, to see a breakdown for sexual fantasies during masturbation and intercourse across age groups. It may well be that the proportion of times that sexual fantasies are used during masturbation and sexual intercourse does not decline with age (in fact, it may increase) but, rather, that the overall frequency of sexual activity declines. Regardless, the results of existing studies indicate that the frequency of sexual fantasy during nonsexual activity does decrease with age. Interestingly, daydreaming frequency in general, not simply sexual daydreaming, has been observed to decline with age (J. L. Singer & McCraven, 1961), so this may not be a special sexual phenomenon.

In summary, studies on the relation between age and frequency of sexual fantasy reveal that (a) little is known about sexual fantasies in young children, (b) boys seem to start having sexual fantasies on a regular basis at an earlier age than girls, and (c) frequency of fantasy in adults seems to decrease in a linear fashion with increasing age for both men and women equally.

Sexual Satisfaction

Freud (1908/1962, p. 146) wrote that "a happy person never phantisizes [sic], only an unsatisfied one." Other psychoanalytic theorists have espoused similar negative views about sexual fantasies, suggesting that they are the result of sexual dissatisfaction, immaturity, frustration, inhibition, masochism, and

unconscious sexual conflicts, especially in women (cf. Deutsch, 1944; Hollender, 1963; Horney, 1967; Reich, 1942). Hariton and Singer (1974) referred to these as deficiency or conflict-model theories of sexual fantasy.

The evidence fails to support the Freudian position. In fact, traditional wisdom has been turned upside down by research findings. It is now considered a sign of pathology not to have sexual fantasies rather than to have them. For example, infrequent sexual fantasy is one of the defining criteria for the sexual disorder "inhibited sexual desire" described in the *Diagnostic and Statistical Manual of Mental Disorders* (3rd ed., rev.; *DSM-III-R;* American Psychiatric Association, 1987). Nutter and Condron (1983) compared sexual fantasizing behavior in a clinical sample of women who were diagnosed as having an inhibited sexual desire disorder and in a control group of women who reported a satisfying sex life. The controls fantasized more frequently during masturbation, foreplay, and intercourse, as well as during general daydreaming outside of sexual activity. In a subsequent study, Nutter and Condron (1985) repeated this comparison in three groups of men: a clinical sample complaining of inhibited sexual desire, another clinical sample complaining of erectile dysfunction, and a control group. Both the control group and the erectile dysfunction group reported more frequent fantasies during masturbation, foreplay, intercourse, and daydreaming outside of sexual activity than the inhibited desire group. The erectile dysfunction group differed from controls only during masturbation, when they were more likely to use fantasy.

Zimmer et al. (1983) also studied sexual fantasizing in a sexually distressed clinical sample of men and women (the nature of the distress was not specified). There were two comparison groups: One included a clinical sample of psychotherapy clients who were psychologically but not sexually distressed, and the other included men and women who were neither psychologically nor sexually distressed. Samples were similar in age, education, and marital status. The results indicated that although the sexually distressed group fantasized less often during intercourse and during general daydreaming, the three groups showed no difference during masturbation.

Also, contrary to the prediction of deficiency theories of sexual fantasy, women who experience more frequent orgasms during both intercourse and masturbation fantasize more often (Arndt, Foehl, & Good, 1985; Crepault et al., 1976; S. Fisher, 1973; Lentz & Zeiss, 1983; G. D. Wilson, 1978). Moreover, Lentz and Zeiss (1983) found that women who had more erotic fantasies during masturbation experienced more frequent orgasms during intercourse. The positive association between sexual fantasy frequency and orgasmic frequency during intercourse also appears to be true for men (Epstein & Smith, 1957; G.D.Wilson, 1978).

Having fantasies has also been shown to be positively related to sexual arousability. Harris, Yulis, and LaCoste (1980) found that the ability to have detailed sexual fantasies was associated with greater self-reported arousal to varied sources of sexual stimulation in both men and women. Stock and Geer (1982) found that women who reported more frequent use of sexual fantasy during masturbation also showed greater arousal to erotic audiotapes and self-generated fantasy, as measured in the laboratory with vaginal photoplethysmography.

On the basis of these results, it is no surprise that sex therapists routinely encourage women who are not orgasmic to use sexual fantasies during masturbation and intercourse (cf. Barbach, 1975; Heiman, LoPiccolo, & LoPiccolo, 1976; McGovern, Stewart, & LoPiccolo, 1975; Zeiss, Rosen, & Zeiss, 1977). Zeiss et al. (1977) have also shown that women who were instructed to fantasize about sexual intercourse during solitary masturbation had an increased likelihood of experiencing orgasm later when engaged in sexual activity with a partner. Encouragement of sexual fantasizing during nonsexual activities is also a standard component of treatment programs for sexual desire disorders for both men and women (LoPiccolo & Friedman, 1988).

Deficiency theories would also predict that ratings of general sexual satisfaction should be inversely related to frequency of sexual fantasy. Studies have generally found, however, that frequency of sexual fantasy is either positively correlated with ratings of general sexual satisfaction, especially in women, or unrelated to sexual satisfaction. For example, G. D. Wilson and Lang (1981) and Arndt et al. (1985) both found that there was a positive correlation between fantasy frequency and sexual satisfaction in their female sample, although there was no significant association for men. Cado and Leitenberg (1990) found that men and women who felt most guilty about having sexual fantasies during intercourse reported not only fantasizing less often but also having more sexual problems and being less sexually satisfied in general. They also were more dissatisfied with their current or most recent sexual relationship than the low-guilt participants who fantasized more often. On the other hand, Heiman (1980) and Davidson and Hoffman (1986), in samples of women, and Knafo and Jaffe (1984), in a sample of men and women, found no significant correlation between amount of fantasy and sexual satisfaction. Alfonso, Allison, and Dunn (1992) found a negative relationship between fantasy frequency and sexual satisfaction for men and a positive relationship for women.

Because people who are deprived of food tend to have more frequent daydreams about food (Keys, Brozek, Henschel, Mickelsen, & Taylor, 1950), it might be expected that sexual deprivation would have the same effect on sexual thoughts. The little evidence that exists, however, suggests otherwise. Those with the most active sex lives seem to have the most sexual fantasies, and not vice versa. Several studies have shown that frequency of fantasy is positively correlated with masturbation frequency, intercourse frequency, number of lifetime sexual partners, and self-rated sex drive (Crepault et al., 1976; Giambra & Martin, 1977; G. D. Wilson & Lang, 1981). In addition, Streissguth, Wagner, and Wechsler (1969) found that hospitalized men deprived of sexual activity with partners had lower sexual fantasy scores than comparable outpatient and nonpatient samples, even though the groups did not differ on overall daydreaming frequency. However, their illness may have played a role in decreasing their sexual fantasy, so this does not seem like a fair test of the deprivation hypothesis.

The sex drive-deprivation question has been studied indirectly in examinations of the amount of sexual imagery contained in responses to projective material such as Thematic Apperception Test (TAT)-like cards. Epstein and Smith (1957), in a sample of men, found that sexual imagery

in response to TAT-like cards was positively related to overall sex drive, as defined by the average number of orgasms per week, but was unrelated to immediate state of sexual deprivation, as defined by the time since the men last had an orgasm. The amount of deprivation, however, was not great. Clearly, a better test of the effects of extreme sexual deprivation on frequency of sexual fantasy is needed in which groups who volunteer are assigned to different and more lengthy periods of sexual deprivation while fantasy is measured.

In general, though, the results so far available suggest that the frequency of sexual fantasy does not increase to compensate for lack of sexual activity. If anything, the reverse appears so far to be true: More sexual activity is associated with more frequent fantasy.

The results of the studies reviewed in this section could be interpreted as indicating that more frequent fantasy contributes to greater sexual desire, orgasm during intercourse, greater arousability, fewer sexual problems, and perhaps greater sexual satisfaction in general. The direction of causality, however, can obviously be the reverse as well. For example, those individuals who are not sexually distressed may have more enjoyable experiences on which to draw for fantasy. In addition, if sexual activity is pleasurable, an individual might be more likely to engage in sexual fantasies because he or she might also expect that fantasies would be pleasurable.

These findings can also be interpreted as supporting the hypothesis that sexual fantasy primarily has a drive-induction rather than drive-reduction function in that people who have more frequent sexual fantasies are also engaged in greater sexual activity in general. However, because sexual fantasy can be stimulated by sexual activity, as well as vice versa, no cause-and-effect conclusions can be drawn from these correlational data.

It also would be a mistake to infer from these studies that sexual fantasies are never problematic. Certainly they can be if (a) there is extreme guilt about having sexual fantasies, (b) individuals are so preoccupied with their sexual fantasies that the fantasies interfere with daily functioning, and (c) fantasies are acted out in a way that is harmful to the individual or to others, as is the case with many paraphilias and sexual offenses.

Guilt

Gagnon and Simon (1973) cogently observed that "in United States society and perhaps in most western societies to learn about sex is to learn about guilt" (p. 262). They suggested that to be sexual, people need to learn how to manage not only guilt about their sexual behavior but guilt about the sexual thoughts they have. Accordingly, one might expect to find a relationship between guilt and frequency of sexual fantasies. This is true for feelings of guilt about sex in general as well as feelings of guilt about sexual fantasies in particular.

Several studies have investigated the association between frequency of sexual fantasy and "sex guilt," using a measure developed by Mosher (1966) to assess the disposition to feel guilty about sexual matters in general. Moreault and Follingstad (1978) found that female undergraduates who had higher sex guilt reported fewer sexual fantasies. Pelletief and Herold (1988), in another sample of women, also reported that greater sex guilt was associated with less frequent and less varied sexual fantasies. Green and Mosher (1985) and Follingstad and Kimbrell (1986) similarly found that both men and women who scored high on sex guilt indicated that they experienced less sexual arousal than participants low in sex guilt when they were asked to have sexual fantasies or to write them down.

Closely related to guilt feelings about sex are negative attitudes in general about sex. W. A. Fisher, Byrne, White, and Kelley (1988) developed a bipolar measure of "erotophobia-erotophilia." They considered erotophobia to be a personality dimension similar to sex guilt that had its origins in a sexually restrictive and punitive upbringing. They found that women (but not men) who scored high on erotophobia fantasized less often about sex. Purifoy et al. (1992), using a different measure, similarly found that negative attitudes toward sexuality (genitals, masturbation, oral sex, and intercourse in the female superior position) were associated with less frequent sexual fantasizing in a sample of women between the ages of 26 and 78.

Studies also have examined feelings of guilt specifically about having sexual fantasies. The first question of interest is how many people feel guilty about their sexual fantasies. Davidson and Hoffman (1986), in a sample of 212 married undergraduate and graduate female students, found that 29% felt guilty about their sexual fantasies (7% frequently and 22% occasionally). Zimmer et al. (1983), in a mixed sample of psychologically distressed, sexually distressed, and nondistressed participants, found that 31% of men and 24% of women reported feeling guilty about their sexual fantasies. Gil (1990), in a sample of 160 conservative Christians, found that 16% of men and women combined said they felt guilty after having a sexual fantasy, 5% felt unhappy with themselves, and 45% felt that sexual fantasies were morally flawed or unacceptable. Knoth et al. (1988) found that only 5% of their adolescent male participants and 7% of their adolescent female participants reported feeling guilty about their sexual fantasies. Ellis and Symons (1990), in their study of 182 female and 125 male college students, found that only 2% of men and 4% of women said they generally felt guilty or ashamed when they had sexual fantasies. But 8% of men and 22% of women said they usually tried to repress the feelings associated with fantasy as opposed to enjoying them. Although the Knoth et al. and Ellis and Symons studies suggest that younger participants may feel less guilty about sexual fantasies, Mosher and White (1980) found the reverse trend. Lesser sexual experience for both men and women was associated with greater guilt about sexual fantasies. In addition, in a never-married sample of men and women with sexual intercourse experience, Davidson (1985) reported that 58% of men and 69% of women reported having experienced guilt feelings about their sexual fantasies.

Two studies have examined guilt feelings associated exclusively with having sexual fantasies during intercourse, as distinguished from guilt feelings about sexual fantasies in general. Cado and Leitenberg (1990), in a sample of 178 male and female respondents (*M* age = 27), found that approximately 25% of both men and women experienced considerable guilt about having sexual fantasies when making love with a partner. As was the case for sex guilt in general, those who felt most guilty specifically about having sexual fantasies during intercourse also fantasized less often. Fi-

nally, Sue (1979) reported that 18% of male participants and 19% of female participants felt "uneasy" or "ashamed" about having sexual fantasies during intercourse.

In short, it appears that although most people do not feel guilty about their sexual fantasies, a substantial minority do. The studies reviewed also indicate that there is little difference between men and women in this regard. One slight exception might be noted. Gold and Gold (1991) found that women felt more guilty and disgusted by their first sexual fantasies than did men, even though they felt the same amount of guilt as the men about their current sexual fantasies.

An obvious next question is why some people feel guilty about their sexual fantasies and others do not. Cado and Leitenberg (1990) found that those participants who felt most guilty about having sexual fantasies during intercourse did not have fantasies that were different in content from those of participants who felt little guilt; however, the participants who experienced guilt held different beliefs about the sexual fantasies they had. High-guilt participants believed that sexual fantasizing during intercourse was more immoral, socially unacceptable, abnormal, and uncommon than did low-guilt participants. They also believed that such fantasies reflected more negatively on their sexuality and their character than did low-guilt participants. In addition, participants who felt most guilty about having sexual fantasies during intercourse were more likely to believe that such fantasies were harmful to their relationship and to their partner regardless of whether or not their partner knew about them. In essence, the participants who felt most guilty about their sexual fantasies believed they should not "have to" use fantasies during sexual activity with a partner and that their use of such fantasies must mean something is wrong with them or their relationship.

Those who felt most guilty about having sexual fantasies during intercourse also appeared to believe that having such fantasies was akin to deceiving their sexual partner because it was not a shared activity. This raises the interesting question of whether or not people in fact tend to share their sexual fantasies with their partner. Although there is very little information about this issue, the data available suggest that only a minority do. Davidson (1985), in an unmarried sample of respondents, found that only 26% of the male participants and 32% of the female participants indicated that their sexual partners were aware of their sexual fantasies. In a younger married sample, the percentages were similar; only about 25% of men and women said that their spouses were aware of their sexual fantasies (Davidson & Hoffman, 1986). Perhaps sharing fantasies occurs more often as the relationship continues and the partners develop greater trust in each other, but this is not known for sure. Willingness to share fantasies may also depend on their content (e.g., whether the partner or someone else is part of the fantasy). The extent to which couples act out some of their fantasies together and the effects of doing so are also unknown.

Although only a minority of young couples actually share their fantasies, a survey of 2,079 university students from seven countries (Hungary, Ireland, Mexico, The Netherlands, the Soviet Union, the United States, and Yugoslavia) indicated that most said they would not feel any jealousy if their partner told them about such fantasies, even if the fantasies were about another person (Buunk & Hupka, 1987). This study did reveal an interesting sex difference, however. Across all countries, women reported a less likelihood of feeling jealous than men.

Although guilt about sex in general or about sexual fantasies during intercourse specifically is associated with a lower frequency of sexual fantasies, one cannot be certain of the mechanism underlying this association. People who feel the most guilt may make a conscious effort to suppress their fantasies. It also could be that sexual fantasies contaminated by guilt feelings are not as pleasurable or arousing and therefore are simply less reinforcing and less likely to occur. One also cannot rule out a reverse effect. Perhaps more frequent experience with having sexual fantasies reduces feelings of guilt about them and about sex in general.

Other Personality Characteristics and Personal Values

A number of studies have identified "fantasy-prone" individuals (for a review of this literature, see Lynn & Rhue, 1988) who spend considerable time fantasizing. These individuals seem to be more absorbed by their fantasies, to have more vivid fantasies, and possibly to be more hypnotizable. Whether or not such individuals are also especially prone to having sexual fantasies as distinguished from fantasies in general is unknown.

In normative samples, the data are mixed as to whether overall daydreaming frequency is related to frequency of sexual fantasies. Hariton and Singer (1974) and Knafo and Jaffe (1984) found that individuals with a greater tendency toward daydreaming in general also experienced more frequent sexual fantasies. On the other hand, Campagna (1985), Smith and Over (1987), Hardin and Gold (1988), and Meuwissen and Over (1991) did not observe any relationship between general daydreaming frequency and sexual fantasy.

Another personality dimension that has been occasionally examined in relation to sexual fantasy is general "anxiety." The findings are again inconsistent. Whereas two studies reported that anxiety is positively correlated with frequency of fantasy (Brown & Hart, 1977; Wagman, 1967), others found no relationship to either anxiety or neuroticism (Arndt et al., 1985; Crepault et al., 1976; Hariton & Singer, 1974).

Hariton (1973) reported that women who tended to be more nonconformist, creative, independent, aggressive, and impulsive had more frequent and varied sexual fantasies, whereas women who were characterized as more traditionally feminine in personality (i.e., more passive, affiliative, and nurturant) had fewer sexual fantasies. Similarly, Brown and Hart (1977) reported that women who held more liberal views regarding sex role stereotypes had more frequent sexual fantasies. On the other hand, Halderman et al. (1985) found no association between liberal and conservative political attitudes and frequency of fantasy in samples of men and women, except for men more than 65 years old.

In summary, aside from the guilt feelings and negative attitudes about sex discussed in the prior section, too few studies have systematically examined the association between personality variables and sexual fantasy. Those that have done so have reported inconsistent findings, so the relation to frequency of sexual fantasy is not convincing.

Content of Sexual Fantasies

Although the number of different kinds of sexual fantasies people can have at first seems endless, fantasies can be categorized into two mutually exclusive types: memories of past sexual experience that are arousing to recall and experiences that have not occurred but that are exciting to imagine. One needs to be more detailed than this, however, to convey the varied content. The two most common ways of analyzing content of sexual fantasies are factor analysis of responses to checklists of fantasies and descriptions of people's most popular or most frequently occurring fantasies (e.g., the top five).

Factor Analysis

A relatively large number of studies have used factor analysis to try to empirically derive categories of sexual fantasies (Arndt et al., 1985; Crepault et al., 1976; Crepault & Couture, 1980; Iwawaki & Wilson, 1983; Meuwissen & Over, 1991; Smith & Over, 1991; G. D. Wilson & Lang, 1981). Usually these studies initially provide participants with a list of sexual fantasies based on fantasies generated from interviews or other previously published studies. Respondents then are asked whether or not they have ever experienced each fantasy on the list, the frequency with which each fantasy has been experienced, and sometimes how sexually arousing each fantasy is. Subsequently, a factor analysis of these data is performed. As Meuwissen and Over (1991) have pointed out, however, the dimensions identified by the factor analysis obviously are dependent on the original list of items participants are asked to rate. If certain items are not included (e.g., holding hands on a moonlit evening, sex with multiple partners, or being overpowered), then they cannot show up in separable factors. In most of these studies, therefore, the lists are extensive, although some still could be faulted for being too limited or biased.

Another methodological problem is that none of these factor-analytic studies have used a large enough sample size relative to the number of items in the original list. The usually recommended Tatio of 5 to 10 participants per item has not been followed. The most serious problem with these studies, however, is that, with the exception of G. D. Wilson and Lang (1981) and Iwawaki and Wilson (1983), each has used a different list of fantasies. Thus, one cannot determine the reliability of the factors or of the items loading in each factor. As a result, all of these studies should be considered preliminary.

It would be exceedingly tedious and take too many pages to list the items contained in each factor reported in each of these studies, and unfortunately the factor labels themselves typically are not particularly informative. In short, however, what these factor-analytic studies reveal is that sexual fantasies do group into somewhat separable categories. Although these studies have not produced identical factor structures (again no surprise considering the small number of participants and the different lists of fantasy items used in each study), certain commonalities can be discerned. There appear to be four overarching content categories for both men and women: (a) conventional intimate heterosexual imagery with past, present, or imaginary lovers who usually are known to the person; (b) scenes intimating sexual power and irresistibility (including seduction scenes, multiple partners, etc.); (c) scenes involving somewhat varied or "forbidden" sexual imagery (different settings, positions, practices, questionable partners, etc.); and (d) submission-dominance scenes in which some physical force or sadomasochistic imagery is involved or implied. The second and third categories sometimes overlap and appear as a single factor, even though psychologically they may serve different functions. On the other hand, the second and last categories often appear as empirically separate factors, even though psychologically they may serve the same function (the way in which submission and dominance fantasies can be interpreted as fantasies that affirm sexual power and irresistibility is discussed later). It should be noted that the first category, conventional heterosexual imagery with a past, present, or imaginary lover, is by far the most common.

Most Popular Fantasies

Researchers also have tried to convey the content of sexual fantasies by listing the top 2, top 5, or top 10 fantasies ranked in order of frequency of occurrence. Sometimes these data are obtained from studies in which checklists of different fantasies are provided to participants (unfortunately, the lists are usually not the same across studies). In other instances, participants are asked to write down their favorite, most arousing, or most frequently recurring fantasies. Despite the different methodologies and samples used in these studies, some common findings are apparent and generally consistent with the results from the factor-analytic studies.

In one of the pioneer studies in this area, Hariton and Singer (1974) provided 141 married women with a 15-item fantasy list that they had derived on the basis of pilot research. The most commonly experienced fantasy was "of an imaginary romantic lover," followed closely by "I imagine that I am being overpowered or forced to surrender," "reliving a sexual experience," and "pretending I am doing something wicked or forbidden."

Hunt (1974) found the following 5 fantasies, in order of frequency, to be the most common for both men and women: intercourse with a loved one, intercourse with a stranger, multiple partners of the opposite sex at the same time, doing things sexually that you would never do in reality, and being forced or forcing someone to have sex. Crepault et al. (1976) and Crepault and Couture (1980) found that the 2 most popular fantasies for both men and women were being with another partner and reliving a previous sexual experience. In addition, the 5 themes most often chosen by women were among the top 7 chosen by men, namely being with another partner, previous sexual encounter, a scene from an erotic film, fellatio, and cunnilingus. When Sue (1979) had participants rate the frequency of 13 different fantasies, the 2 most frequent for both men and women involved oral-genital sexual activity and others finding one sexually irresistible. When G. D. Wilson and Lang (1981) had male and female participants indicate which of 40 fantasy items they found most exciting, both men and women reported "intercourse with a loved partner." Shanor (1977) found that the 5 most frequently occurring fantasies in the 303 women she interviewed were sex with a new male partner, replay of a prior sexual experience, sex with a celebrity, seducing a younger man or boy, and sex with an older man. In a subsequent survey study with 4,062 men (Shanor, 1978), she found that their 5 most frequently occurring fantasies were image of a nude or semi-

nude female, sex with a new female partner, replay of a prior sexual experience, sex with two or more women, and power to drive a woman wild. Davidson (1985) found that the 5 most frequently experienced fantasies for men were different sexual positions during intercourse, woman as aggressor, oral sex, sex with a new female partner, and sex on the beach. For women, the top 5 were sexual activity with current partner, reliving a past sexual experience, different sexual positions during intercourse, having intercourse in rooms other than the bedroom, and having sex on a carpeted floor.

The most popular fantasies reported by respondents in other studies could be enumerated, but they convey very little new information. It is clear that by far the most common sexual fantasies for both men and women are (a) reliving an exciting sexual experience, (b) imagining having sex with one's current partner, and (c) imagining having sex with another partner. There does not appear to be any consistent or large gender difference in the popularity of these three basic fantasies. Although McCauley and Swann (1978, 1980) reported that men tended to fantasize more about past experience and women more about imaginary experience, this difference has not been replicated by other investigators (e.g., Crepeault et al., 1976; Crepeault & Couture, 1980; Davidson, 1985; Knafo & Jaffe, 1984; Sue, 1979; Zimmer et al., 1983). The other most common fantasies involve oral sex, sex in a romantic location, indications of sexual power or irresistibility in one form or another, and being forced into sex.

Although the content of sexual fantasies during nonsexual activity, masturbation, and sexual activity with a partner seems to be highly correlated (e.g., G. D. Wilson & Lang, 1981), there are some differences worth noting. Imagining having sex with one's current lover appears to be a more popular sexual daydream when one is not engaged in sexual activity, for example, whereas imagining sex with a new partner is a more popular fantasy during intercourse. In addition, when Lentz and Zeiss (1983), in a sample of undergraduate women, asked participants to classify their fantasies as being romantic, erotic, or mixed in different contexts, they found that during nonsexual activity romantic and mixed fantasies were more common than solely erotic fantasies. During masturbation, however, erotic and mixed were more common than romantic alone. During sexual activity with a partner, each type was equally likely.

Gender Differences in the Content of Sexual Fantasy

The results reviewed so far suggest that broad content categories of sexual fantasies are similar for both men and women. This is, perhaps, not surprising because the most common fantasies people have presumably reflect shared cultural experiences and the prevailing sexual imagery dominant in society (Miller & Simon, 1980; Rokach, 1990). Both sociobiological and socialization theories (as described earlier), however, would also predict that there should be gender differences as well as similarities in the content of sexual fantasies. Indeed, as indicated next, many significant differences have been found.

Active versus passive roles in fantasy. Some gender differences have been found in terms of what role the person plays in his or her fantasy (i.e., Was he or she primarily the actor or the recipient of the sexual activities imagined?). In accordance with sociobiological precepts and long-established sex role practices in Western culture in which men pursue women and are more likely to initiate sexual activity, especially in casual relationships (O'Sullivan & Byers, 1992), it would be expected that in fantasy men more than women would imagine doing something sexual to a partner and women more than men would imagine something sexual being done to them (Christensen, 1990). The data tend to support this hypothesis.

Mednick (1977) asked 48 male and 48 female graduate and undergraduate students to describe, in narrative form, their most common fantasy in the previous 3 months. When these written fantasies were later examined, it was found that the women were more likely than the men to imagine themselves as the recipients or the objects of sexual activity rather than the providers or performers; the opposite was true for the men. Zimmer et al. (1983) had participants rate whether they were predominantly active, passive, or both in their favorite sexual fantasies. Fifty-four percent of the men indicated they were predominantly active, in comparison with 31% of the women. Sixty-two percent of the women said they were predominantly passive, as compared with 28% of the men. Although no active-passive factor emerged in the G. D. Wilson and Lang (1981) study, the items had intentionally been worded in such a way that scores for active and passive fantasies could be computed. Men had more active than passive roles in their fantasies, whereas women imagined themselves as more passive than active. This finding was replicated in the sample from Japan (Iwawaki & Wilson, 1983).

According to Money and Ehrhardt (1972), this basic active-passive difference is also reflected in men's and women's responses to pornographic films. Even though both may be equally aroused by a particular film, the man tends to imagine having sex with the woman in the film, whereas the woman watching imagines herself as the object of the man's passion. In other words, the man focuses on the woman's body, whereas the woman focuses on the man's interest in her body.

Explicit-visual sexual imagery versus emotional-romantic imagery. Barclay (1973) first reported that a qualitative analysis of the sexual fantasies of men and women suggested that men's fantasies contained more visual imagery and explicit anatomic detail, whereas women's sexual fantasies contained greater reference to affection, emotions, and story line. This result has subsequently been confirmed in a more empirical manner by other investigators.

Kelley (1984) had 123 male and 123 female undergraduate students write out a sexual fantasy after being exposed to erotic slides. The women's fantasies had significantly more references to affection and commitment. Hardin and Gold (1988) asked female and male college students to write down three detailed sexual fantasies they had and to return their responses anonymously. Explicitness was rated in terms of number of sexual acts mentioned and number of body parts mentioned. Commitment-romance was defined as the total number of times either commitment or romance was mentioned. There was an overall interrater agreement of 90%. Men had more explicit fantasies than women, as defined by number of sexual acts mentioned but not body parts. In contrast, women had more descriptions of commitment and romance in their sexual fantasies than did men. Follingstad and Kimbrell (1986) also found that more

sexually explicit fantasies were described by their male participants than by their female participants. Finally, Gil (1990), in a sample of conservative Christian men and women, found that romantic themes were mentioned twice as often in the sexual fantasies of women than in those of men; among men, there was greater mention of explicit scenes.

Ellis and Symons (1990) administered a questionnaire designed to assess content differences in sexual fantasies between men and women to 307 college students. When asked how important emotional setting (e.g., mood and ambience) and physical setting (e.g., looks, textures, and sounds and smells of a place) were in their sexual fantasies, women said that these factors were more important than did men. Similarly, women more than men said that the buildup that precedes sexual encounters was an important part of their sexual fantasies. Participants were also asked whether they focused more on the personal-emotional characteristics of the fantasized partner, their own physical or emotional response within the fantasy, the sexual act itself, or the physical characteristics of partners. Forty-one percent of women and only 16% of men said they focused on the "personal or emotional characteristics of the partner," and 34% of women and 13% of men said they focused on "their own physical or emotional response" within the fantasy. In contrast, 50% of the men and 13% of the women said they focused on the "physical characteristics of partners," and 20% of men and 12% of women said they focused on "sexual acts." When asked whether they focused more on visual images or feelings, 57% of the women and only 19% of the men said "feelings," whereas 81% of the men, as compared with 43% of the women, said "visual imagery." Similarly, when asked how important genital features of imagined partners were in their fantasies, men said that this was much more important than did women.

Number of sexual partners. The fantasy of having sex with multiple partners of the opposite gender can be exciting to both men and women, in part because it signifies one's sexual desirability and power. Nevertheless, fantasizing about having sex with multiple partners at the same time appears to be more consonant with the male stereotype of being a "superstud" than with the female stereotype of wanting a close, loving, monogamous relationship. It is not surprising, therefore, that a number of studies have shown that men are more likely than women to have this fantasy. For example, in a large survey study, Hunt (1974) reported that 33% of men had fantasies about having sex with multiple partners of the opposite sex, in comparison with 18% of women. Wilson (1987), as part of a survey of 4,767 adult readers of Britain's best-selling daily newspaper, asked respondents to describe their favorite sexual fantasy. A content analysis of a randomly chosen subsample of 600 respondents indicated that 31% of the men and 15% of the women reported a fantasy involving group sex. Similar differences in the percentage of men and women who reported having sexual fantasies involving more than one sexual partner at a time have been found in smaller sample studies. For example, Davidson (1985) reported figures of 42% and 17%, respectively, for men and women; Hessellund (1976), 37% and 7%; Person et al. (1989), 52% and 27%; and Sue (1979), 19% and 14%. Although specific percentages were not indicated, Hardin and Gold (1988) and Knafo and Jaffe (1984) also found that multiple partner fantasies were more commonly experienced by men than by women.

Ellis and Symons (1990) asked three direct questions pertaining to number of different sexual partners in fantasy. When asked "How many different imagined partners do you have sexual fantasies about in a single day?" men reported a mean of 1.96, and women reported a mean of 1.08 ($p < .001$). When asked whether, throughout the course of their life, they thought they had had sexual encounters in imagination with more than 1,000 different people, 32% of the men said yes, in comparison with 8% of the women. Men also reported switching one imagined partner for another during the course of a single fantasy more often than women did.

Submission fantasies. That women commonly experience sexual fantasies in which they are forced to submit sexually was first made clear in the Hariton and Singer (1974) study. In a sample of 141 married women, these investigators found that, of the 15 fantasy items used, the theme of being overpowered was the second most frequent sexual fantasy reported during sexual intercourse. Other studies have since confirmed that fantasies of being overpowered or forced to have sex (so-called "rape" fantasies) are, indeed, not unusual in women. For example, Knafo and Jaffe (1984) found that, of the 21 fantasies listed, the one that was reported to occur most frequently during intercourse by women in their sample was "I imagine that I am being overpowered." This was the fourth most frequent fantasy during masturbation and the fifth most frequent fantasy during nonsexual activity. Davidson and Hoffman (1986) found that the fantasy of "being forced to sexually surrender by an acquaintance" was the seventh most preferred fantasy of the women in their sample. Similarly, Crepault et al. (1976) found that, for women, "being overpowered and forced to surrender while being tied up" was the seventh most frequent fantasy of the 31 listed. Pelletier and Herold (1988) reported that 51% of their female sample had experienced fantasies of being forced to submit sexually. When S. Fisher (1973) asked 40 married women to provide at least two examples of fantasies they had on at least several occasions during intercourse, about 20% of the fantasies reported involved being raped or humiliated. Talbot, Beech, and Vaughn (1980) and Kanin (1982) both reported that 29% of the female participants in their samples had experienced sexually arousing submission fantasies. Arndt et al. (1985) found that 30% of their female sample had the fantasy "I'm a slave who must obey a man's every wish," and 22% had the fantasy "I'm made to suffer before a man will satisfy me sexually."

Although men more frequently than women have sexual fantasies of overpowering their partner (see next section), they also have erotic fantasies in which they are submissive to dominant women (Grendlinger & Byrne, 1987). Nonetheless, comparison studies tend to show that submission fantasies are more common in women. Hunt (1974) found that nearly twice as many women as men had the fantasy of being forced to have sex (19% and 10%, respectively). Sue (1979) similarly found that, during intercourse, women were more likely than men to fantasize about being forced or overpowered into sexual activity (36% vs. 21%). In Wilson's (1987) survey, in which respondents were asked to describe their favorite fantasy, 13% of women and only 4% of men indicated that their favorite fantasy was one of being forced to have sex. Person et al. (1989) sim-

ilarly found that when participants were asked to rate the occurrence of 55 different sexual fantasies they had had in the previous 3 months, 20% of women and 15% of men endorsed the fantasy "being forced to submit."

That some women derive pleasure from submission fantasies is, of course, controversial. It unfortunately feeds into the myths that women want to be raped and enjoy being raped. In fact, women who find submission fantasies sexually arousing are very clear that they have no wish to be raped in reality (Kanin, 1982). In addition, erotic fantasies about being overpowered by a man are very different from real rape (Bond & Mosher, 1986). In the fantasy, women are in perfect control over what takes place, whereas the reverse obviously is true in actual rape. The imagined violence is much less, they do not experience physical pain, and they know they actually are safe and do not have to fear for their lives. Bond and Mosher (1986) further pointed out that the typical female erotic rape fantasy involves imagining a sexually attractive man whose sexual passion is irresistibly stimulated by the woman's sexual attractiveness. In the fantasy, the man uses just enough force to overcome her token resistance and to arouse her sexually. They found that women responded much more negatively to a realistic rape scene than they did to an erotic rape scene.

Several different explanations have been offered to account for submission fantasies in women. Perhaps the one first offered by Hariton (1973) has the most intuitive appeal. She suggested that, in many ways, these submission fantasies are actually fantasies of sexual power rather than weakness because the woman perceives herself to be so desirable that the man cannot resist or help himself In the fantasy, the woman imagines enjoying submitting to the man's force, so it is done for her pleasure. In other words, it could be argued that the rape fantasy is just another example of the affirmation of sexual power-irresistibility theme so common in sexual fantasies involving seduction, group sex, exhibitionism, and the like.

Another common explanation is that a woman raised in an environment with sexual prohibitions can feel blameless if the sexual behavior and stimulation she imagines are not her doing (Knafo & Jaffe, 1984). This is especially true if the imagined sexual behavior is considered socially unacceptable (e.g., sleeping with a close friend's spouse, a lover's best friend, or someone she hardly knows). If a woman imagines being forced to engage in what is considered improper sexual behavior, she may feel less guilty about it and, as a result, enjoy the fantasy more.

Moreault and Follingstad (1978) reported data consistent with this hypothesis. In a sample of 90 female college students, these investigators found that participants who scored high on a measure of general sex guilt were more likely than low-guilt participants to report having had fantasies of being overpowered, being forced to surrender, and being dominated sexually while helpless. High-guilt participants also more frequently had the fantasy "I am so beautiful that men cannot resist me." On the other hand, Pelletier and Herold (1988), in a slightly older sample of female college students, did not find that high-guilt participants were any more likely than low-guilt participants to have submission fantasies.

A third explanation has been provided by feminist writers such as Brownmiller (1975). She has suggested that women have been so conditioned by the male dominant culture that they have come to accept male sexual aggression and female sexual subjugation. In fact, the media often eroticize female sexual submission, and repeated exposure to such imagery may contribute to the prevalence of this fantasy in women (Come, Briere, & Esses, 1992). This explanation, however, fails to account for the many men who also have submission fantasies in which the woman is imagined as the dominant person.

Another possible explanation for submission fantasies is that victims of sexual abuse during childhood and perhaps even sexual aggression during adulthood may become conditioned to associate dominance and submission with sexual stimulation (cf. Briere, Smiljanich, & Henschel, 1994). Because more women than men have been victims of sexual abuse (Finkelhor, Hotaling, Lewis, & Smith, 1990), it follows that more women would have had this conditioning experience. The evidence to support this hypothesis, however, is mixed. Two recent studies have examined how histories of childhood sexual abuse might be related to adult sexual fantasies. Gold (1991) found that women who had been sexually abused during childhood had more force imagery contained in their written descriptions of their fantasies (being forced and forcing others appear to have been combined) and had more fantasies with their imaginary sexual partner in control than women who had not been abused. Briere et al. (1994) found that women, but not men, who had been sexually abused during childhood had more fantasies of being forced to have sex than their nonabused counterparts. Briere et al. (1994) also found that this relationship was strongest for women whose sexual abuse occurred earlier in childhood. In fact, it may be unique to this age period because several studies have failed to observe any relation between being a victim of sexual aggression during adulthood and subsequent sexual fantasies involving forced sexual encounters (Gold, Balzano, & Stamey, 1991; Kanin, 1982; Pihlgren, Gidycz, & Lynn, 1992). Negatively toned flashbacks of a prior sexual assault, however, are common (e.g., Foa, Rothbaum, Riggs, & Murdock, 1991; Kramer & Green, 1991), which raises a critical caveat in regard to the force fantasies measured in the child abuse studies. It is not clear to what extent these were pleasurable or sexually arousing fantasies as distinguished from distressing flashbacks and intrusive undesired images of past traumatic experiences. Gold (1991) specifically mentioned that several respondents explicitly indicated that what they reported were accounts of these childhood experiences. Further studies with adult survivors of childhood sexual abuse are needed to determine whether the force fantasies they experience are arousing or distressing, or both, and whether they are linked in any way to characteristics of the abuse and the sexual feelings they experienced at the time of the abuse.

Dominance fantasies. The converse of the submission fantasy is the dominance fantasy in which one forces someone else into various sexual activities. In accord with both socialization and sociobiological theory, this fantasy appears to be more frequent in men than in women. For example, Hunt (1974) found that 13% of men as compared with only 3% of women had the fantasy of forcing someone to have sex. Sue (1979) reported figures of 24% and 16% for men and women, respectively; Miller and Simon (1980); 24% and 6%; Arndt et al. (1985), 39% and 25%; and Person et al. (1989), 31% vs. 5%. In samples of men only. Crepault and Couture (1980) and Grendlinger and Byrne

(1987) reported that 33% and 54% of men, respectively, had fantasies of forcing sex on women.

One explanation of the greater frequency of force fantasies among men than among women is that such fantasies are more consistent with sex role stereotypes in Western culture, in which portrayals of male dominance and female subordination and submission are common. This is evident in general social, political, and economic contexts, as well as in specific scenes of sexual interactions between men and women. It is almost routine to see movies in which a male character kisses a woman even though she may have been expressing disinterest, whereupon she enthusiastically submits to further sexual activity. The message conveyed is that if the man is physically forceful and takes the initiative and persists, the woman may respond. In this regard, it is important to note that men are much more likely to be sexually aroused by rape scenes when the female victim is portrayed as changing her mind and enjoying the sex forced on her (Malamuth & Check, 1980). It is uncertain, however, whether violent pornography actually increases the likelihood that men who are not rapists will have rape fantasies. Malamuth (1981) reported results suggesting that it does, whereas W. A. Fisher and Grenier (1994), using similar stimuli and measures, reported results suggesting that it does not.

Another explanation is that dominance fantasies affirm sexual power and irresistibility. In the typical male force fantasy, the woman cannot resist his masculine strength and she becomes sexually aroused despite her initial resistance. In other words, dominance fantasies may serve the same function for men that submission fantasies serve for women. For men, force overwhelms the woman so that she cannot resist desiring him; for women, physical attributes and personality overwhelm the man so that he cannot resist desiring her.

A third explanation draws on comparisons with other species in which males often not only have to engage in fighting or threatening behavior with other males to obtain a female but have to physically pursue and subdue the female before copulation. Sociobiological theory suggests that humans may share in this biological heritage (G. D. Wilson, 1978).

An important issue raised by force fantasies is whether or not they are linked to actual acts of sexual aggression by men against women. We postpone discussion of this issue, however, until we address the more general topic of the role of sexual fantasies in the commission of various sexual crimes, including child sexual abuse and exhibitionism as well as rape.

Summary of gender differences in content of sexual fantasies. There appear to be some notable differences in the content of sexual fantasies of men and women. Men's fantasies are more active and focus more on the woman's body and on what he wants to do to it, whereas women's fantasies are more passive and focus more on men's interest in their bodies. Men's sexual fantasies also focus more on explicit sexual acts, nude bodies, and physical gratification, whereas women use more emotional context and romance in their sexual fantasies. Men are more likely to fantasize about multiple partners and group sex than are women. Finally, women are more likely to have submission fantasies, whereas men are more likely to have dominance fantasies, although both types of force fantasies may indirectly be serving the same purpose: affirming sexual power and irresistibility. Each of these gender differences in fantasy content is consistent with sex role stereotypes and with the different sexual scripts taught to men and women (Gagnon & Simon, 1973). Whether or not these different scripts also have biological origins, there is no question that they are well ingrained. It would be interesting to know whether these gender differences in content of sexual fantasy appear in different cultures. Unfortunately, there is not enough information about sexual fantasies in different societies to answer this question.

Do Commercial Erotic Preferences Reflect Gender Differences in Sexual Fantasy?

Although women can be as physically aroused as men by typical X-rated videos (for reviews, see Griffitt, 1987; Schmidt, 1975) and can masturbate to orgasm as rapidly as men when viewing these films (T. D. Fisher, Pollack, & Malatesta, 1986), they have much more negative attitudes toward this material than do men. In fact, they usually do not seek out these films for stimulation. Instead, men are the primary consumers of what is usually thought of as pornography, whereas women are the primary consumers of romance novels. Is this difference in consumption patterns related to the social acceptability of pornography for men and romance novels for women? Or is it a result of these respective forms of erotica resonating differently with fantasies of men and women? If one examines the typical X-rated movie, one immediately sees naked bodies engaged in sexual activity without much story line, gradual buildup, affectional-emotional ties, and so forth. The fantasy being portrayed is primarily the male fantasy of multiple female sexual partners ever ready for sexual activity of any kind without any chance of the man being rejected. On the other hand, the primary fantasy of the typical romance novel is a woman who inflames the passion and lifelong love of a desirable man under difficult circumstances. The strong, dominant man is overcome by feelings of love and sweeps the heroine away. She can happily succumb, secure in his love and desire. The sex, however fervent, is subsidiary to the love story. Thus, pornography appears to be commercially successful because it closely corresponds to men's sexual fantasies, whereas romance fiction appears to be commercially successful because it corresponds more closely to women's fantasies.

Comparison of Fantasies in Homosexual and Heterosexual Samples

The studies so far reviewed involved samples with exclusive or predominantly heterosexual orientations. Is the content of sexual fantasy different for homosexual samples? Unfortunately, very few studies have compared sexual fantasies of homosexual and heterosexual samples. Masters and Johnson (1979) reported on a small sample of 30 gay men and 30 lesbian women and a corresponding heterosexual sample of 30 men and 30 women. Although it is not clear how the fantasies were recorded, the authors reported that the five most common fantasy categories for gay men, in order of frequency of occurrence, were imagery of sexual anatomy, primarily penis and buttocks; forced sexual encounters with men and women (forcing or being forced, or both); sexual encounters with women; idyllic sexual encounters with unknown men; and observing group sexual activity. For the heterosexual men, the most common fantasy

categories were replacement of established sexual partner, forced sexual encounter with women, observing sexual activity of others, homosexual activity, and group sexual experiences. The top five fantasy categories for the lesbian sample were forced (forcing or being forced, or both) sexual encounter, idyllic encounter with established partner, sexual encounters with men, recall of past gratifying sexual encounters, and sadistic imagery directed toward genitals of both men and women. For the heterosexual female sample, the top five categories were replacement of established sexual partner, forced sexual encounter, observation of sexual activity, idyllic encounters with unknown men, and homosexual encounters. In general, it appears that the fantasy content of the homosexual and heterosexual samples was more similar than different, except of course for the gender of the imagined partner. For example, forced sex (forcing and being forced combined) was ranked either first or second for all four groups.

Masters and Johnson's (1979) finding that homosexual fantasies were ranked in the top five most common fantasies of their heterosexual samples is atypical. No other study has obtained similar findings. Across different recent studies in which these data were reported, approximately 15% of heterosexual women (range = 2%-35%) and 7% of heterosexual men (range = 1%-18%) reported ever having experienced homosexual fantasies (Crepault et al., 1976; Crepault & Couture, 1980; Hunt, 1974; Kinsey et al., 1953; Pelletier & Herold, 1988; Person et al., 1989; Sue, 1979). The higher incidence of homosexual fantasies in heterosexual women than in heterosexual men may have to do with the historically greater taboo on male homosexuality in Western society.

Price, Allensworth, and Hillman (1985), in a larger and probably more representative group of respondents than in the Masters and Johnson (1979) study, also found a striking similarity in the content of the fantasies of homosexual and heterosexual participants, except for the gender of the imagined partner. The top five fantasies for the gay men were unspecified sexual activity with another man, performing oral sex, having partner perform oral sex, participating in anal sex, and sex with another man not previously involved with. The top five for their heterosexual male sample were having partner perform oral sex, performing oral sex, anticipating sexual activity with current partner, having sex with more than one partner at a time, and being with someone other than present sexual partner. The top five fantasies for their lesbian sample were unspecified sexual activity with another woman, having partner perform oral sex, performing oral sex and anticipating sexual activity with partner (equal numbers of participants reported these two fantasies), and being held and touched. The corresponding top five for their heterosexual female sample were anticipating sexual activity with current partner, having partner perform oral sex, being irresistible to opposite sex, having sex with more than one person at a time, and being held and touched.

Sexual Experience and Theories of the Origins of Sexual Fantasy Preferences

It is not easy to explain why a certain mental image is more sexually exciting to one person than to another. Although conceivably all stimuli that happen to be associated in the past with sexual arousal and orgasm could become equally erotic in their own right through classical and instrumental conditioning processes (cf. Rachman, 1966), this does not really happen. Few people are turned on by doorknobs, bedroom dressers, or bathroom fixtures, even though these cues are often in the environment when sexual arousal and orgasm take place. Instead, there is probably a biological preparedness (Seligman, 1971) as well as a socialization process (Gagnon & Simon, 1973) that guides people to attend to some cues and not others as sexual. Within these limits, however, idiosyncratic conditioning experience may indeed play an important role in developing sexual fantasy preferences.

For example, one person might have first experienced marked sexual arousal while watching a particular movie scene, while wrestling, while reading a story about group sex, or while kissing someone toward whom he or she felt affectionate. It is hypothesized that stimuli that are initially associated with such sexual arousal then acquire even greater arousal properties if they are later imagined during masturbation or during other sexually arousing activities leading to orgasm (McGuire, Carlisle, & Young, 1965). The fantasy can then be elaborated and altered in various ways during repeated masturbation episodes. The elements of the fantasy that are most arousing are retained, and the elements that are not arousing are discarded. New elements can be incorporated into the fantasy if they are found to be arousing, and new experience can lead to new fantasies or can reinforce earlier ones. Eventually, particular fantasies can become entrenched as a result of being repeatedly reinforced by the pleasurable sensations of sexual arousal and orgasm during masturbation and sexual activity with a partner.

Storms (1981), in a provocative article, suggested how this conditioning process could be involved in development of homoerotic fantasies and, in turn, perhaps homosexual orientation. He pointed out that it is well established that homosexual fantasies often occur at least several years in advance of homosexual experiences (see also Lehne, 1978), and he suggested that if these fantasies predominate, they dictate later sexual orientation. The gist of Storm's theory is that studies show that sex drive develops at an earlier age, on average, for homosexuals than for heterosexuals; therefore sexual arousal is more likely to be paired with same-sex cues for homosexuals than for heterosexuals because the prevailing social pattern is to associate primarily with same-sex children during preadolescence and early adolescence; and homosexual fantasies lead to later homosexual behavior. One problem with this sort of accidental conditioning explanation, however, is that so many people who have an equal opportunity to have the same stimulus-arousal pairings do not, in fact, develop homosexual fantasy preferences.

Luria (1982) published an interesting case study of two sisters that nicely illustrates the difficulty in accounting for different fantasy preferences in people with similar experiences. Both girls were exposed equally and at an early age to similar pornography because their parents and other family members were involved in the publication and distribution of pornographic materials. Both sisters reported masturbating regularly beginning at approximately age 6, but one used imagery seen in the pornographic magazines during masturbation and the other did not. Obviously, other aspects of personal experience and personality development combine in a complex manner with sexual experience to determine sexual fantasy preferences. In this

area, longitudinal studies are needed that trace the development of different sexual fantasy preferences across time from childhood to late adulthood.

This is not to suggest that fantasy content is unaffected by what one has read, seen, heard about, or directly experienced. To the contrary, it clearly is. As indicated earlier, one of the most popular fantasies people have is a memory of some past exciting sexual experience. In addition, people obviously can embellish in imagination things read or seen, even if not directly experienced. Research has also shown that exposure to visual or written erotic imagery can stimulate fantasy in accord with what was just seen or read (e.g., Przybyla, Byrne, & Kelley, 1983; Schmidt & Sigush, 1970).

It also appears that as people have more varied sexual experiences, new images are often incorporated into fantasy. The most consistent research finding regarding the relation between sexual experience and content of sexual fantasy is that individuals with a greater variety of sexual experiences also tend to have a greater number of different sexual fantasies (Brown & Hart, 1977; Gold & Gold, 1991; Knafo & Jaffe, 1984; PeUetier & Herold, 1988; Person, Terestman, Myers, Goldberg, & Borenstein, 1992). Greater sexual experience is also associated with more sexually explicit and vivid fantasies (Brown & Hart, 1977; Carlson & Coleman, 1977; Gold & Gold, 1991; Hardin & Gold, 1988; Pelletier & Herold, 1988; Smith & Over, 1987). In other words, people are more likely to fantasize about topics they are familiar with, and as they have different sexual experiences the diversity of their fantasies apparently also increases. According to Kinsey et al. (1953), women may be more prone than men to change their fantasies with experience, but this finding has not been reported by other investigators.

Person et al. (1992) pointed out that the results from these studies are again contrary to Freud's assertion that the usual motivation for sexual fantasies is unsatisfied wishes. Fantasies cannot be viewed as compensations for lack of experience if they are positively correlated with the type of sexual experiences people have.

On the other hand, boredom with prior experience can also influence the content of sexual fantasies. For example, there is some evidence that younger unmarried women are more likely to fantasize about their current lover; married women are more likely to fantasize about other men (Pelletier & Herold, 1988; Wolfe, 1981), and unhappily married women are more likely to fantasize than happily married women (Davidson & Hoffman, 1986; Hariton & Singer, 1974).

Obviously, there is far from a firm understanding of all the factors that contribute to the development of sexual fantasy preferences. Few studies have examined how personality dimensions or individual attitudes toward sexuality might influence specific fantasy content preferences. It also is not known whether any changing societal attitudes toward sexuality over the years have caused any change in preferred fantasy. Even though some of the studies reviewed span different decades, the measures used and the populations sampled were not the same, so a systematic decade-by-birth analysis is impossible. Finally, more research is needed to determine whether, how, and why individuals' preferred fantasies tend to change over time.

Sexual Fantasies and Sexual Offenses

Role of Sexual Fantasy in Criminal Sexual Behavior

As already observed, many people have "forbidden" sexual fantasies without really desiring to put them into practice for many practical and ethical reasons. Therefore, what, if anything, should be considered a "deviant" fantasy? Those fantasies that are simply statistically the most unusual, or those that are associated with socially unacceptable behavior even if they are not all that unusual? If the latter is the case, does there have to be a causal association in which it is demonstrated that the fantasy significantly increases the likelihood that the socially unacceptable behavior will occur? Or is a similar content between a fantasy and an unacceptable behavior sufficient to call the fantasy deviant even if the behavior never occurs? These are controversial questions with important clinical and social implications. They take on particularly charged meaning in the context of sexual crimes. Do deviant sexual arousal and deviant fantasy play an important role in the commission of sexual offenses? How predictive are fantasies alone of criminal sexual behavior?

There is an extensive literature on motivations for sexual offenses that is beyond the scope of the present article. Instead, only major issues and research pertaining to the possible association between sexual fantasies and sexual offenses are considered.

Sexual crimes such as rape, child molestation, and exhibitionism have multiple social, cultural, personal, interpersonal, and situational causes (Finkelhor & Araji, 1986; Groth, 1979; Hall & Hirschman, 1991; Malamuth, 1986; Marshall, Laws, & Barbaree, 1990). Moreover, not all rapists, all child molesters, or even all exhibitionists are motivated in the same manner. Therefore, the extent to which sexual fantasy and sexual motivation in general contribute to these crimes can be expected to vary considerably across sex offenders, even for the same type of offense. Although some theorists have tended to discount the role of sexual motivation in the commission of sexual crimes, considering them instead solely as acts of aggression, power, and control (e.g., Brownmiller, 1975; Groth, 1979), the preponderance of evidence suggests that this is not an either-or question (cf. Finkelhor, 1984; Marshall et al, 1990). In fact, leading research investigators (e.g., Abel & Blanchard, 1974) have long attached considerable weight to what has sometimes been referred to as the deviant sexual arousal theory or the sexual preference hypothesis. According to this theory, sex offenders are more sexually aroused by stimuli associated with the sexual offense (e.g., thoughts of rape or of sex with a child) than by stimuli associated with mutually consenting sexual activity; as a result, it is assumed they are more likely to fantasize about and to engage in the deviant sexual behavior. In addition, this theory predicts that even if there is no greater arousal to stimuli related to sexual offenses than to imagery of consenting sexual activity between adults, sex offenders would be more aroused by and have more frequent sexual fantasies associated with deviant acts than nonoffender comparison groups. The underlying hypothesis appears to be that deviant arousal increases the likelihood of deviant fantasy, which in turn increases the likelihood of deviant behavior, at least for sex offenders.

The first part of the deviant arousal hypothesis—that offenders are more aroused by imagery associated with the sexual offense than by other sexual imagery—has been addressed mainly in laboratory studies using Plethysmograph measures of genital arousal (changes in penile circumference; all studies have been done with male participants). Par-

ticipants in these studies are typically instructed to imagine the sexual activity described while listening to audiotapes or viewing slides. It should be observed that the Plethysmograph is susceptible to faking and suppression of response and that, in general, its ability to classify offenders without many false negatives and false positives is not good (cf. Becker, Kaplan, & Tenke, 1992; Hall, Proctor, & Nelson, 1988; Simon & Schouten, 1991). Despite these limitations, the Plethysmograph is still considered by many researchers in this area, whether rightly or wrongly, to be a more objective (valid) measure of sexual arousal than self-report.

The results of Plethysmograph studies provide only mixed support for the first part of the deviant arousal hypothesis. The strongest support is found in studies of nonfamilial child molesters. In the best study done with this population, approximately 35% to 40% of convicted male child molesters exhibited greater sexual arousal to children than to adults (Barbaree & Marshall, 1989; Marshall, Barbaree, & Christophe, 1986). An additional 15% showed equally high arousal to both young children and adults. By contrast, no controls had greater arousal to children, although 18% exhibited equal arousal to children and adults. Fedora et al. (1992) also recently reported that 18% of controls showed arousal to cues of children. Nevertheless, when one considers only the degree of arousal to child stimuli independent of arousal to adults, plethysmographic studies consistently have found that, as a group, nonfamilial child molesters (but not most incest offenders) are more aroused by child stimuli than are controls (Barbaree, 1990).

It was also once thought that a substantial number of rapists might be more sexually aroused by fantasizing about rape imagery than mutually consenting sexual imagery, but most evidence from Plethysmograph studies now indicates that this is not the case (for recent reviews of this literature, see Barbaree, 1990; Barbaree & Marshall, 1991; Blader & Marshall, 1989). There is even considerable doubt as to whether most men convicted of rape are substantially more aroused by cues of rape than are men who have never committed such an offense (Blader & Marshall, 1989; Hall, Shondrick, & Hirschman, 1993). One also should not confuse arousal to rape scenes with arousal to sadomasochistic scenarios such as bondage and spanking in which consent is implied. For example, even when a group of rapists showed greater arousal than control participants to rape scenes, there were no differences between the groups in response to sadomasochistic scenes (Quinsey, Chaplin, & Upfold, 1984). Finally, in those studies in which men convicted of rape have shown equal arousal to rape and consenting scenes and controls have not, the data have usually been interpreted to mean not that these rapists are particularly excited by the rape cues but, rather, that their arousal is just not as inhibited as that of controls by the addition of cues of nonconsent and resistance (e.g., Barbaree, Marshall, & Lanthier, 1979). This interpretation is consistent with what is known about the most common of all types of rapes, acquaintance rape or "date" rape. As pointed out by Blader and Marshall (1989), men who sexually assault acquaintances usually want consenting sex but are not deterred by resistance, often because they do not believe that it is real or because they believe that the woman will eventually change her mind if they forcefully persist.

Plethysmographic studies of exhibitionists are more rare than such studies of child molesters and rapists. Freund, Scher, and Hucker (1984) did not find any difference in arousal to consenting scenes between exhibitionists and a control group of nonoffenders. Both groups showed greatest arousal to consenting intercourse imagery. A subsequent study conducted by Marshall, Payne, Barbaree, and Eccles (1991) found that only 13.6% of exhibitionists had greater arousal to cues of exposure than to cues of consenting sexual activity. However, 34% of the exhibitionists but none of the controls had a response to the exposure stimuli that was at least 70% of the response to normal consenting stimuli. In addition, as a whole, the exhibitionists showed greater arousal than the control participants to the exposure scenes. Even so, Marshall, Payne, et al. (1991) concluded that the importance of deviant sexual arousal in exhibitionism is exaggerated.

It needs to be made clear that the extent of arousal in these studies, as measured by the Plethysmograph, is not necessarily predictive of what offenders fantasize about in daily life (Marshall, Barbaree, & Eccles, 1991) or of what they do. Arousal to imagery in laboratory studies aside, therefore, the questions remain as to whether subgroups of sex offenders, in fact, have more frequent deviant fantasies than nonoffender samples and, if so, whether these fantasies are causally linked to the commission of sexual offenses. Surprisingly, we did not locate any systematic comparison of frequency of different types of sexual fantasies in different sex offender samples in comparison with each other or with controls. Nevertheless, there seems to be little question that many men who commit sexual offenses frequently have sexually arousing fantasies about these acts and masturbate to these fantasies regularly and presumably more often than nonoffenders. Clinical evidence suggests that this is especially true for chronic pedophile offenders, sadistic rapists (but not the typical date rape offender), and exhibitionists. Even research studies, in which denial of such fantasy may be more likely than in clinical work, indicate that the incidence of such fantasies in offender samples is quite high. For example, McGuire et al. (1965) found that, in a group of 52 men who had committed deviant sexual acts, 75% admitted that their most common sexual fantasy pertained to their paraphilic behavior. Evans (1968) found that 50% of his sample of exhibitionists admitted to regularly masturbating to fantasies of exposure. A study of 16 psychiatrically hospitalized men who had committed some form of sadistic sexual crime revealed that 13 had masturbatory fantasies related to their deviant behavior (MacCulloch, Snowdon, Wood, & Mills, 1983). In a study of men who had been convicted of committing sexual homicides, approximately 80% had masturbatory fantasies related to sexually assaultive behavior (Burgess, Hartman, & Ressler, 1986). The percentage is even higher for serial sexual murderers (Prentky et al., 1989). Finally, 52% of 129 child molesters admitted having sexual fantasies about children (Marshall, Barbaree, & Eccles, 1991).

Of course, an association between past fantasy and past behavior does not necessarily mean that the fantasy caused the behavior to occur any more than the behavior caused the fantasy to occur. Developmentally, the evidence is mixed as to which occurs first, fantasy or behavior. Some offenders begin having deviant fantasies at an earlier age than they commit an

offense, whereas others do not. For example, Abel et al. (1987) found that 58% of 400 nonincarcerated sex offenders reported that, before age 18, they had experienced fantasies to deviant themes that they later carried out. On the other hand, Marshall, Barbaree, and Eccles (1991) found that only 29% of a sample of 129 outpatient child molesters reported having sexual fantasies about young children before age 20. For nonfamilial offenders of boys, the percentage was higher (41%); the percentage for nonfamilial offenders of girls was 35%. For the sample as a whole, only 22% said fantasies about children preceded their first sexual involvement with a child.

Even if sexual fantasies have an impact on sex offenders' behavior, however, no studies have assessed the relative importance of fantasy in comparison with all other contributing factors in rapists, child molesters, or exhibitionists. Moreover, and most important, there is no evidence that sexual fantasies, by themselves, are either a sufficient or a necessary condition for committing a sexual offense. For example, as reviewed earlier in this article, many men who have never committed a sexual assault have fantasies of forcing sex on someone. The range is from a low of 13% (Hunt, 1974) to a high of 54% (Grendlinger & Byrne, 1987), and the mean percentage across seven studies is 31% (Arndt et al., 1985; Crepault & Couture, 1980; Grendlinger & Byrne, 1987; Hunt, 1974; Miller & Simon, 1980; Person et al., 1989; Sue, 1979). In nonoffender samples of men, Grendlinger and Byrne (1987) found that such fantasies accounted for only 6.57% of the variance in any type of past coercive sexual behavior, and Gold and Clegg (1990) did not find any significant association. Arousal to rape scenes in laboratory studies also does not accurately predict sexually aggressive behavior elsewhere. Many men who have never attempted to rape anyone are aroused when imagining rape scenes, especially those in which the victim appears to later acquiesce (e.g., Malamuth & Check, 1983).

Even fantasies about sex with children and arousal to sexual imagery of children do not, by themselves, indicate that someone is a child molester or has a strong potential to be a child molester. For example, in an anonymous survey, Briere and Runtz (1989) found that 21% of male undergraduate students acknowledged that "little children sometimes attract me sexually," and 9% of the students admitted having sexual fantasies about children. None of these individuals, however, said they had molested children. Crepault and Couture (1980) reported that 61% of their adult male sample said they had experienced a sexual fantasy in which they "sexually initiated a young girl." Templeman and Stinnett (1991) found that 17% of male college students admitted recently experiencing a sexual thought about having sex with girls under age 15 (5% with girls under age 12). Given the taboos in this area, one might expect that the percentages are much greater than people are willing to admit. It would be interesting to know how many fathers have on occasion been momentarily sexually aroused by the sight of their developing daughters, particularly in early adolescence, and quickly suppressed such feelings and thoughts. Finally, it should be remembered that nearly 20% of nonoffender control samples show arousal to imagery of prepubescent children in Plethysmograph studies (Barbaree & Marshall, 1989; Fedora et al., 1992).

Obviously, there can be a large gap between fantasy and behavior. As indicated in the *DSM-III-R*, "the imagery in a paraphilic fantasy is frequently the stimulus for sexual excitement in people without a paraphilia . . . such fantasies and urges are paraphilic only when the person acts upon them or is markedly distressed by them" (American Psychiatric Association, 1987, p. 279). The terms *deviant fantasy* and *deviant arousal* are therefore often misleading unless linked to deviant behavior. It can be argued, for example, that sexual fantasies about force are not deviant because so many people have them and do not act on them. To a lesser extent, one can say the same even about exhibitionistic fantasies and fantasies about children. Generally, then, it seems that one needs to be concerned about these sorts of fantasies primarily in those individuals in whom the barrier between thought and action has been broken. Once this has occurred, sexual fantasies often become part of the chain of events leading to recurrent sexual crimes, and then they indeed have to be considered as serious danger signals. In nonoffenders, concern also is warranted if sexual fantasies about rape or children are preferred over all other fantasies and take on a compulsive or exclusive character. In addition, there is reason for concern if sexual fantasies about rape, children, or exhibitionism occur in individuals who display several other risk factors for committing a sexual offense such as lack of victim empathy, distorted beliefs about consent and harm, feelings of hostility toward women, endorsement of rape myths, feelings of masculine inadequacy, feelings of emotional loneliness and lack of intimacy, dysfunctional sexual and family histories, and so forth (Finkelhor & Araji, 1986; Malamuth, 1986; Marshall et al., 1990).

Modification of Sexual Fantasies in Sexual Offenders

Most treatment programs for sex offenders include a component designed to directly modify sexual fantasies. Although it is beyond the scope of this article to review the vast literature on treatment of sex offenders (for recent reviews, see Abel, Osborn, Anthony, & Gardos, 1992; Bradford, 1990; Kelly, 1982; Laws & Marshall, 1991; Marshall, Jones, Ward, Johnston, & Barbaree, 1991; Quinsey & Earls, 1990; Quinsey, Harris, Rice, & Lalumiere, 1993; Quinsey & Marshall, 1983), the major approaches used to try to alter the content of sexual fantasies in sex offenders and those engaged in paraphilic behavior can be briefly described. It is generally of interest to know whether strongly entrenched fantasies are, in fact, alterable and whether this affects subsequent behavior in sex offenders. If specific therapy techniques can modify preferred sexual fantasies in sex offenders, presumably they could be used to change the content of sexual fantasies in other people as well.

Because behavioral researchers in the 1960s and 1970s believed that deviant sexual arousal was a central cause of sexual offenses and because offenders usually reported having fantasies about the types of behavior in which they engaged, most initial efforts at treatment were directed toward developing techniques for suppressing "inappropriate" arousal and fantasy and increasing "appropriate" arousal and fantasy. The two major behavior therapy approaches used were either some form of masturbatory reconditioning or aversive conditioning.

If it were true, as was generally assumed, that sexual fantasies were reinforced as a result of being paired with sexual arousal

and orgasm during masturbation (or other sexual activity), common sense suggested that masturbation could also be used to change fantasies. Several different procedures for changing fantasies during masturbation have been developed (Laws & Marshall, 1991). The technique of orgasmic reconditioning was first described in detail by Marquis (1970). Men (again, all of this research has been conducted with male participants) were instructed to begin masturbating using their fantasies related to their deviant behavior but to switch to an appropriate fantasy just at the point of ejaculatory inevitability. If the individual was able to do this successfully a number of times, he was then instructed to gradually switch from the fantasy related to his deviant behavior to an appropriate fantasy earlier in the sequence of masturbation until he reached the point of being able to masturbate completely without the deviant fantasy. He was thereafter instructed to always masturbate using appropriate fantasies. It was thought that, as a result of the masturbatory reconditioning procedure, appropriate fantasies would gain arousing properties because they would be reinforced by orgasm, whereas inappropriate fantasies would lose their arousing properties because they were no longer being reinforced by orgasm. If deviant fantasies become less arousing, their frequency both during masturbation and otherwise would also be expected to decline. In addition, as fantasies changed, it was thought that behavior would also change. In an uncontrolled series of 14 cases, Marquis (1970) reported results in support of each of these expectations for 12 cases. Subsequently, Marshall (1973) combined masturbatory conditioning with an aversive conditioning procedure and found, in a mixed sample of 12 pedophiles, fetishists, and rapists, that 11 showed decreased arousal to deviant fantasies and increased arousal to appropriate fantasies. Variations on this approach were also described in several other uncontrolled case studies with seeming success, and clinicians began to use these procedures routinely (for a review, see Laws & Marshall, 1991).

Unfortunately, the masturbatory reconditioning technique was often used in conjunction with aversive conditioning procedures designed to reduce the arousal properties of deviant stimuli; thus, an independent assessment of its effectiveness usually was not possible. Long-term follow-ups also were not conducted, so it is unclear whether changes could be sustained over time with this procedure. In addition, a controlled study with a small sample of homosexual men who expressed a desire to switch the content of their fantasies to heterosexual imagery suggested that this technique alone could not be successfully used for this purpose (Conrad & Wincze, 1976). Although homosexual men obviously represent a different sort of sample from sex offenders, this result raised questions about the effectiveness of the technique for changing long-established fantasies in sex offenders as well.

Another seemingly more powerful masturbatory reconditioning technique, masturbatory satiation, was developed later (Abel et al., 1984; Marshall, 1979). The essence of this procedure involves having men masturbate to the fantasies related to their deviant behavior immediately after they have ejaculated and when they usually cannot be aroused again. In addition, while they masturbate they tape-record their fantasies, which can later be spot checked by a therapist. They usually are instructed to continue masturbating in this manner for up to 45 min. Because this procedure is usually in a treatment package with multiple components, convincing evidence of its independent effectiveness is lacking (Johnston, Hudson, & Marshall, 1992; Laws & Marshall, 1991).

In short, despite their face validity, it is far from certain that masturbatory conditioning techniques, in isolation from other therapy components, work to permanently change fantasies or behavior in sex offenders.

Aside from masturbatory conditioning procedures, various aversion conditioning techniques have been used to try to change the content of fantasies of male sex offenders or of men with noncriminal paraphilias. For example, Kelly (1982) found that of 32 published studies he reviewed on procedures designed to change the arousal pattern of pedophilic sex offenders, 75% had used some kind of aversion conditioning technique. The earliest studies typically used mild, albeit painful, electric finger shock as an aversive stimulus (e.g., Marks & Gelder, 1967). The shock usually would be paired in a classical conditioning paradigm with visual, auditory, and fantasy stimuli associated with the deviant behavior. Sometimes an instrumental conditioning procedure was used in which the shock was delivered only after the person gave a signal indicating that he was aroused. Although shock aversion was demonstrated, in single case experiments, to be capable of suppressing arousal to paraphilic stimuli in a number of different studies (e.g., Bancroft & Marks, 1968), its lasting effects were questionable, as was its justification if it could not be shown to be substantially more effective than less aversive interventions. In any case, shock aversion is seldom used anymore.

Covert sensitization, another aversion procedure developed in the 1960s (Cautela, 1967), continues to be used. In this procedure, images of the deviant act are paired in imagination with images of aversive events (e.g., nausea, being caught, or embarrassment). The procedure is called "covert" because the offender imagines the sequence of arousing and aversive images as they are described to him by the therapist. Sometimes escape scenes are built into the sequence (i.e., the offender imagines starting to engage in the chain of deviant behavior, beginning to feel aroused, then nauseous, and then withdrawing and feeling tremendous relief). Controlled single case experimental methodology using ABA designs and multiple baseline designs demonstrated that suppression of fantasies and urges related to the deviant behavior, at least in the short-term, could be attributed to the specific effects of the covert sensitization procedure (e.g., Brownell, Hayes, & Barlow, 1977). Maletzky (1980, 1991) extended this procedure by pairing the foul odor of valeric acid or rotting tissue with the sexually deviant imagery. Calling this procedure "assisted" covert sensitization, Maletzky has reported exceptionally good long-term outcomes in both controlled and uncontrolled studies with very large samples of sex offenders. He has reported a success rate of more than 90% in changing fantasies, arousal to deviant cues, and overt behavior in samples of heterosexual pedophiles (« = 2,865; 94.7% positive outcome) and exhibitionists (n = 770; 93.1% positive outcome). Not all of these men were treated exclusively with assisted covert sensitization, however, so not all of the effects can be attributed to this procedure. Nevertheless, Maletzky's data probably provide the strongest support that

behavior therapy approaches designed mainly to reduce arousal to imagery associated with sex offenses and to decrease the use of fantasies related to sexual offenses can affect deviant behavior for sustained periods of time.

Most contemporary treatment programs for sex offenders continue to use masturbatory reconditioning and covert sensitization procedures, but they typically do so in conjunction with therapy designed to increase victim empathy, modify distorted beliefs about rape and sexual activity between adults and children, eliminate rationalizations and denial of responsibility, enhance relationship and interpersonal skills, develop stress and anger management skills, and promote relapse prevention and personal management skills (Marshall, Jones, et al., 1991). Therefore, it remains far from clear that attempts to change fantasies alone have an enduring and beneficial effect on behavior in sex offenders. Such attempts may not even be an essential element in the treatment package. In fact, the results of a recent study comparing treatment designed solely to modify deviant arousal and fantasy in a group of exhibitionists with treatment designed to also change distorted cognitions about women's reactions, enhance relationship and interpersonal skills, and increase awareness of relapse prevention issues favored the broader approach (Marshall, Eccles, & Barbaree, 1991). Although only recidivism data were reported, it would be interesting to know the extent to which addressing these broader social and cognitive issues also affects exhibitionistic fantasies. They may very well lose their appeal if the exhibitionist truly understands that women are not awed but instead consider their behavior pathetic. Similar comparisons and dismantling studies need to be conducted with other types of sex offenders.

Drugs also have been used to reduce deviant arousal and fantasy in sex offenders. Two antiandrogens, medroxyprogesterone and cyproterone acetate, have been most studied. They appear to be equally effective (Cooper et al., 1992). But as Cooper et al. (1992) and Marshall, Jones, et al. (1991) have indicated, their tendency to indiscriminately suppress sexual arousal to all stimuli (both appropriate and inappropriate), as well as their negative side effects, makes their usefulness questionable. Bradford and Pawlak (1993), however, recently reported more specific suppressing effects of cyproterone acetate in a group of 20 pedophiles. After drug administration participants with an initially high testosterone level showed a reduction in percentage erection to pedophilic and coercive imagery, but, surprisingly, erections to mutually consenting scenes increased. For participants with initially low testosterone levels, however, there was a general suppression of response to both types of stimuli.

If well-established fantasies can indeed be reliably changed in a lasting way through these various therapeutic techniques (and there is still some question that they can), should such techniques also be used to suppress troubling and guilt-provoking fantasies in people who are not engaged in paraphilic or criminal sexual behavior? This question poses an interesting dilemma. Although some fantasies may distress an individual, if they are not linked to paraphilic or criminal behavior, attempts to change them may cause more harm than good. Such therapeutic efforts may pathologize the fantasy when this is inappropriate. A similar argument was made about conversion therapies for homosexuality a number of years ago (Davison, 1978). Also, attempts to suppress certain fantasies rather than accept them as normal may backfire in a manner similar to what occurs in obsessive-compulsive disorders. Unwanted thoughts may increase rather than decrease the more a person tries not to have them.

Conclusions and Summary

The major findings gleaned from this review are as follows.

1. Sexual fantasies are commonly experienced by both men and women throughout the day, as well as during masturbation and sexual activity with a partner. Approximately 95% of men and women say they have had sexual fantasies in one context or another.
2. The incidence or frequency of sexual fantasy, however, appears to be somewhat higher for men than for women during nonsexual activity and during masturbation, although not during intercourse. These gender differences are consistent with both sociocultural and sociobiological theories of human sexual behavior. The predictions these theories make about sexual fantasy tend to be the same, however, so existing studies do not provide evidence supporting one theory over the other.
3. Little is known about sexual fantasies in young children, but adults typically recall onset of first sexual fantasies at approximately the ages of 11 to 13 and men appear to start having sexual fantasies on a regular basis at an earlier age than women.
4. Frequency of sexual fantasy in the adult years tends to show a linear decline in both men and women.
5. There is no indication that incidence or frequency of sexual fantasy has shown any systematic change in either men or women over the span of years in which studies on this topic have been conducted.
6. Contrary to Freud's assertion, sexual fantasy is not a sign of sexual dissatisfaction or pathology. Instead, sexual fantasies occur most often in those people who exhibit the least number of sexual problems and the least sexual dissatisfaction.
7. Similarly, and again contrary to Freud's belief, sexual fantasies generally do not appear to occur because of an absence of sexual activity. Instead, more sexual fantasies are reported by those people with higher rates of sexual activity and the most sexual experience. The usual motivation for sexual fantasies appears to be simply to stimulate or enhance sexual arousal rather than to compensate for a state of deprivation.
8. Although most people seem untroubled by their sexual fantasies, approximately 25% feel strong guilt. Individuals who feel most guilty about having sexual fantasies during sexual activity with a partner tend to believe that such fantasizing is immoral, socially unacceptable, abnormal, uncommon, and indicative of something wrong with them or their relationship, or both. Guilt about sexual fantasies is associated with more sexual problems and fewer fantasies.
9. Although the methodology of factor-analytic studies conducted in this area leaves much to be desired, the results tend to suggest that there are four major categories of sexual fantasies for both men and women: (a) conventional heterosexual imagery with past, present, or imaginary lovers; (b) scenes indicating sexual power and irresistibility; (c) scenes involving varied settings, practices, and positions; and (d) scenes of submission or dominance in which some level of physical force is involved or implied.

10. Consistent with both socialization and sociobiological theories, there are a number of gender differences in the content of sexual fantasies: (a) Men more than women imagine doing something sexual to their partner, whereas women more than men imagine something sexual being done to them; (b) men tend to have more explicit and visual imagery in their fantasies, whereas women tend to have more emotional and romantic imagery; (c) the fantasy of having sex with multiple sexual partners at the same time is more common for men than for women; and (d) submission fantasies of being forced or overpowered are more usual for women, whereas dominance fantasies are more usual for men, although both types of force fantasies may indirectly be serving the same purpose (i.e., affirming sexual power and irresistibility).

11. These gender differences in types of fantasies are also reflected in different consumption patterns of commercial erotica, men preferring pornography and women preferring romance novels.

12. The content of sexual fantasies in gay men and lesbian women tends to be the same as in their heterosexual counterparts, except that homosexuals imagine same-sex partners and heterosexuals imagine opposite-sex partners.

13. Prevailing theory and retrospective evidence suggest that people's preferred sexual fantasies may depend in part on conditioning history, in which elements of scenes found to be arousing are repeatedly paired with further pleasurable arousal and orgasm during masturbation and other sexual activity. What one has read and seen as well as directly experienced further influences the content of one's preferred fantasies.

14. Sex offenders often report that they have sexual fantasies related to their offense. However, these kinds of fantasies are also not uncommon in people who have never acted on them. Therefore, unless the boundary between fantasy and behavior has been crossed or other risk factors for committing a sexual offense are evident, occasional experiences of fantasies such as these are not by themselves signals of significant danger.

15. Techniques developed for treatment of sexual offenders and those engaged in paraphilic behavior appear to be capable of modifying sexual fantasies, although the evidence of their effectiveness is still preliminary. These techniques include various masturbatory reconditioning procedures and aversive conditioning procedures such as assisted covert sensitization, as well as antiandrogen drugs. Broader spectrum treatment approaches, however, may be more effective than techniques narrowly focused on suppressing sexual arousal to fantasies associated with deviant behavior.

Several major gaps in knowledge of sexual fantasy are apparent. The three most important are as follows. First, there is a need for studies of sexual fantasies in children between the ages of 5 and 12. If more were known about sexual fantasies in young children, there would be greater insight into the development of sexuality and the early effects of different socialization experiences. Second, studies of sexual fantasies in different cultures and in different historical eras are needed. There is simply no good indication of whether the content of sexual fantasies is affected by prevailing attitudes toward sexuality in different decades or in different societies. Such research might be especially helpful in distinguishing sociobiological and sociocultural theories regarding sexual fantasy. Finally, longitudinal studies, across the life span, of changes in the content of sexual fantasies and factors related to these changes are needed. Such studies would provide the sort of data needed to truly understand how people develop different fantasy preferences, what factors influence them to change over time, and how fantasy affects behavior and vice versa.

Additional studies are also needed to determine (a) whether and how the frequency or content of sexual fantasies is affected by daily and major life events; (b) whether and how frequency or content of fantasy changes during the course of relationships; (c) whether frequency of fantasy differs between homosexual and heterosexual samples; (d) whether frequency or content of sexual fantasy changes under conditions of severe sexual deprivation; (e) whether the content of fantasy changes in elderly people or whether old fantasies persist; (f) the extent to which people act out fantasies with their partner and how this affects their relationship, as well as how it affects the fantasy itself (the reality may not live up to the fantasy and may ruin it); (g) whether guilt regarding fantasies can be reduced; (h) whether there are effective interventions for increasing sexual fantasies in men and women with sexual desire disorders and whether such interventions by themselves have any demonstrable effect on sexual desire and behavior; and (i) whether frequency and content of sexual fantasies differ between subgroups of sex offenders and nonoffender comparison groups, (j) Also, in research with sex offenders, the boundaries among sexual arousal in the laboratory, sexual fantasies during masturbation, daydream sexual fantasies when not engaged in sexual activity, and actual behavior have been blurred. Whether, how, when, and why these factors are connected must be disentangled in prospective studies.

In addition, future studies need to determine (k) how and when extent of arousal to imagery in laboratory Plethysmograph studies with men and women in the general population, not just sex offenders, is related to what people fantasize about; (1) whether people randomly assigned to masturbate to certain fantasies for a period of time subsequently show greater arousal to these fantasies and frequency of having such fantasies outside of masturbation. This would be the most direct test of conditioning theories of how preferences for fantasies develop in the general population, not just in sex offenders; (m) under what conditions fantasy affects experience and experience affects fantasy; and (n) whether troubling fantasies in noncriminal and nonparaphilic samples can (and should) be changed.

Finally, there are a number of methodological shortcomings that need to be corrected in future research on sexual fantasy. First, studies need to be conducted with much more representative samples of adults. Too many studies in this area have instead been conducted with convenience samples of college students. Randomly drawn population-based samples in different countries are essential. Second, even when nonrandom volunteer samples are used, the size of the samples needs to be larger than is often found. Third, similar procedures and checklists for measuring fantasy need to be used across studies to allow easier comparisons between them, and checklists of fantasies need to ensure against gender bias by including sufficient romantic as well as explicit sexual imagery. Fourth, determinations of test-retest reliability, construct validity, and predictive validity of measures of sexual fantasy would be helpful. Fifth, greater reli-

ance should be placed on self-monitoring of fantasy than on retrospective recall. Sixth, theory-driven studies are sorely lacking and very much needed. Finally, to the extent possible, experimental and longitudinal studies of factors that might influence either the frequency or content of sexual fantasy need to be conducted. Cross-sectional correlational studies are not sufficient.

In conclusion, sexual fantasy is an integral part of everyday human existence, and it can also have clinical and social significance. As such, sexual fantasy needs to be afforded the same careful research attention as any other important aspect of human behavior. Clearly, much more and much better research in this area is needed to answer the many questions that remain.

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