

The Relationship Between Erotic Fantasy
and Sexual Orientation

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ABSTRACT

THE RELATIONSHIP BETWEEN EROTIC FANTASY AND SEXUAL ORIENTATION

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This study examined the relationship between frequency of erotic fantasy and sexual orientation and its implications for unidimensional vs. bidimensional theories of sexual orientation. In addition, normative data on the content and frequency of fantasy were examined with the aim of resolving some of the controversies in the existing literature. One hundred and fifty heterosexual, homosexual, and bisexual volunteers were surveyed. They were attending university either on a full-time or part-time basis. Multiple self-report measures were used to measure frequency of fantasy and to assess sexual orientation.

It was found that the method used to assess frequency of fantasy had some bearing on the patterns that emerged. Bisexuals reported as much opposite-sex fantasy as heterosexuals on all fantasy measures and as much same-sex fantasy as homosexuals on some of these measures. Bisexuals reported a lower incidence of homoerotic fantasy than homosexuals on a measure possessing a more discriminating upper range of frequencies. The results on frequency of fantasy did not provide unequivocal support for either a unidimensional or bidimensional theory. When applying theoretical, as opposed to strict quantitative criteria, the

results were most consistent with the predictions of a bidimensional model as bisexuals displayed a prominent homoerotic response capacity on all fantasy measures. Respondents' ratings of arousal, in response to imaginal sexual acts, also conformed to predictions of a bidimensional model. It was concluded that a more molecular approach to theory building, focusing on the relationship between different facets of sexual functioning (i.e., erotic fantasies, sexual feelings, arousal, and behavior) and sexual orientation might better enable us to unravel some of the complexities of human sexual preference.

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Introduction

Erotic fantasy can be defined as cognitive activity containing imaginal sexual content. This activity may be internally generated or activated by an external stimulus (Kelley & Byrne, 1978; Mednick, 1976). Erotic fantasies can range in content from the recreation of past events to material which the person has never experienced. The fantasy may consist of a simple image, a set of loosely defined concepts or a structured scenario with an unfolding sequence of interactions (Crepeault & Couture, 1980; Masters & Johnson, 1979; Sue, 1979; Hariton & Singer, 1974). Involuntary sexual fantasies occur in the form of dreams when we are asleep. Conscious fantasies may appear spontaneously or may be induced voluntarily by the subject (Byrne, 1981). Fantasies may occur during sexual activity or outside of it (Crepeault & Couture, 1980).

Descriptive studies of sexual fantasy have confirmed that it is a common phenomenon among both males and females. Most of these studies report that over 60% of male and female subjects engage in fantasy on a moderate to regular basis either during sexual activity (Crepeault & Couture, 1980; Sue, 1979; Hariton & Singer, 1974) or in nonsexual contexts (Couture, 1980; Brown & Hart, 1977).

The Influence of Erotic Fantasy on Human Sexual Functioning

The human capacity for generating fantasy, together with its pervasive presence in the lives of many individuals has spurred interest in the influence of erotic fantasy on sexual behavior and feelings. However, the exact significance and scope of erotic fantasy in relation to human sexual functioning are only now beginning to be explored.

One of the recognized functions of erotic fantasy is its role in the activation and maintenance of erotic excitement. There is reliable evidence that erotic fantasy leads to sexual arousal (defined in terms of genital physiological responses) in males and females (Herman, 1977; Hoon & Wincze, 1977). It has also been reported that compared to visual or verbal erotic material, imaginal sexual acts can produce a stronger experience of sexual arousal (Campagna, 1975; Byrne & Lamberth, 1971). Sexual fantasies can also be used to enhance sexual arousal during intercourse (Sue, 1979; Nims, 1975) and to facilitate the occurrence of orgasm (Lobitz & LoPiccolo, 1972). Arousal may also affect fantasy; the experience of sexual arousal increases the tendency to produce fantasies of receptivity in the opposite sex (Griffitt, 1973). Since sexual arousal is a prerequisite for most sexual acts, it is not surprising that clinicians often encourage, or train clients with

sexual problems to use erotic fantasies to enhance arousal and thereby facilitate sexual functioning (Helman, LoPiccolo, & LoPiccolo, 1976; Kaplan, 1974; Lobitz & LoPiccolo, 1972).

Some investigators have suggested that imaginal events are important in maintaining sexual deviations such as fetishism (McGuire, Carlisle & Young, 1965) and exhibitionism (Blair & Lanyon, 1981). Some support for the hypothesis that fantasy acts as an internal mediator of behavior has emerged from clinical settings where fantasy is often used as an agent of change. Deliberate manipulations of sexual fantasy have become an important method in the treatment of sexual variance (Abel & Blanchard, 1974) and several treatments involving imaginal restructuring have evolved (Flowers & Booraem, 1975; Husted, 1975; Lobitz & LoPiccolo, 1972; Catella & Wisocki, 1971).

Other speculations as to the functions, or effects, of erotic fantasy include the suggestions that it may allow partial relief of unfulfilled desires (Crépault & Couture, 1980; Mednick, 1976); it introduces novelty and variety into people's sex lives (Hunt, 1974); it may promote the ability to delay sexual gratification (Allgefer, 1978; Kelly & Byrne, 1978), and that fantasies give impetus and direction to actual sexual behavior (Byrne, 1977; Kinsey et al, 1948, 1953).

Erotic Fantasy and Sexual Orientation

Recently, Storms (1980, 1981) has proposed that the nature of one's erotic fantasies is the core psychological dimension underlying sexual orientation. According to this proposal, a person's sexual orientation is closely related to the contents and frequency of his or her erotic fantasies.

What little has been hypothesized about the development of erotic fantasies seems to be consistent with the idea that they are closely associated with sexual orientation. The content of fantasy has been increasingly recognized to be the result of social learning by many researchers (Carlson & Costeman, 1977; Singer, 1974; Singer & Antrobus, 1963). An individual's first sexual fantasies seem to occur very early in adolescence (Gagnon & Simon, 1973; Kinsey et al, 1948, 1953). There is speculation that these early fantasies may be of critical importance for future sexual functioning. For instance, Sandler (1975) has stressed the importance of fantasy in the development of children's sexual concepts. Gagnon (1974) hypothesizes that what is learned about sex at key developmental stages may be incorporated into specific sexual scripts (or cognitive plans for guiding action and for interpreting it). Furthermore, these sexual scripts are likely to acquire reinforcing properties through their repeated associations with the pleasurable sensations of masturbation and orgasm. Such early private sexual

experiences could have the effect of strengthening or sustaining either heterosexual or homosexual fantasy content. Future sexual fantasies may be elaborations on an individual's first and most dramatic fantasies (Sarnoff, 1976), hence promoting the development of a specific erotic orientation. It has been suggested that an individual's awareness of his or her own erotic fantasies is a major determinant of one's self-defined sexual orientation (Gagnon & Simon, 1973). The development of such a self-identity could ultimately, selectively facilitate particular sexual behavior patterns.

Some of the earliest evidence on the relationship between erotic fantasy and sexual orientation comes from the work of Kinsey and his associates (Kinsey, Pomeroy, Martin, & Gebhard, 1953). While interviewing subjects on their sexual behavior, these researchers inquired about their erotic fantasies as well. Kinsey and his co-workers found that heterosexual subjects tended to have fantasies concerning the opposite sex while homosexual subjects tended to report fantasies dealing with their own sex. Using three categories of frequency (i.e. definite and/or frequent, some, never) these investigators reported that the frequency of fantasizing among homosexual and heterosexual males was similar. Erotic fantasies, however, were less frequent among females, particularly those who were heterosexual.

Kinsey and his colleagues used a structured interview and a variety of recorded data (such as diaries and correspondence) to obtain information on their respondents' overt sexual experiences and their psychosexual responses (such as sexual feelings and sexual fantasies). The investigators combined this information to arrive at a rating of a person's overall sexual response tendencies. These ratings comprise Kinsey's 7-point scale of sexual orientation. The scale reflects the notion of a continuity of gradations between exclusively heterosexual and exclusively homosexual histories. According to Kinsey and his associates, the ratings represent the relative amounts of homosexual and heterosexual response in an individual's history without reference to the contribution of psychosexual responses versus overt behavior. Thus two individuals with a similar rating could have various amounts of diverse overt experience or quite different psychological responses. Since the psychological and overt aspects of any sex history may, or may not, parallel each other, some evaluation of the relative importance of these two domains must be made in each case. Kinsey and his colleagues do not specify on what basis one should make such judgments. They point out, however, that in their own research, where each year of each individual history has been rated independently by at least two team members, their independent ratings differ in less than one percent of the

year-to-year classifications.

While this study suggests a close correspondence between an individual's sexual orientation and the content of their erotic fantasies, it is difficult to draw conclusions as to the relationship between these two variables since fantasy as well as overt behavior were the basis on which respondents were classified into the orientation groups. There was thus no independent assessment of sexual orientation.

Masters & Johnson (1979) collected fantasy material while interviewing subjects of both genders who were heterosexual, homosexual, and ambisexual (subjects who showed no preference for the gender of their sexual partner). These individuals were recruited on a volunteer basis, enjoyed excellent sexual functioning and had above-average levels of education. The homosexual subjects represented the full range of Kinsey sexual orientation ratings (Kinsey Scale 1-6) and were involved in homosexual activity at the time of recruitment. The Kinsey ratings suggest that this was a diverse group of homosexuals. The heterosexual sample was limited to men and women with no higher than a Kinsey 1 orientation rating and who were heterosexually active when recruited.

Masters & Johnson found that the gender of the fantasized partner was largely predicted by the orientation of the subject. There were, however, some other interesting qualitative similarities and differences

between orientation groups. Fantasies dealing with forced sexual encounters and cross-preference partners occurred both in the fantasies of subjects who were unequivocally heterosexual (Kinsey 0, 1) and those who were unequivocally homosexual (Kinsey 5, 6). The fantasy content of the ambisexual subjects differed from that of the other groups. Their themes rarely involved men or women. Rather their content was directed toward potential sexual opportunities or consisted of detailed recollections of particularly stimulating prior experiences. Masters & Johnson also report that homosexual men and women had a more 'diverse' fantasy pattern than their heterosexual counterparts (the nature of the diversity was not specified).

Masters & Johnson also found group and sex differences in fantasizing activity. All homosexual subjects reported more fantasy than their heterosexual counterparts. Ambisexual subjects reported a much lower frequency of fantasizing than the other groups. In contrast to Kinsey's findings, heterosexual, homosexual, and ambisexual women in general, reported more frequent use of fantasy than their male counterparts.

The participants in this study constituted a carefully selected group of individuals. Consequently, the findings may have limited generalizability to other groups with similar sexual preferences. Furthermore, the evidence on the fantasies of ambisexuals is based on a

limited sample of 6 male and 6 female respondents.

Masters & Johnson do not present us with any quantitative data on frequency of fantasies nor do they explain how they made their frequency judgments. This renders it impossible to make meaningful quantitative comparisons between orientation groups. It also hinders attempts to reconcile discrepancies between Masters and Johnson's findings and Kinsey's report with reference to frequency of fantasy in females.

Storms (1980) tested the hypothesis that a person's sexual orientation is associated with the type and extent of his or her erotic fantasies using an instrument he developed called the Erotic Response and Orientation Scale (EROS). EROS contains two Guttman-format subscales, one measuring fantasies toward women and the other fantasies toward men. Storms determined sexual orientation simply by asking his undergraduate subjects to assign themselves one of three labels (gay, straight, bisexual) and to rate their orientation on Kinsey's 7-point scale. As these two measures corresponded perfectly, subjects were divided into three groups based on their response to the label question.

His findings support the hypothesis that orientation is closely related to erotic fantasy contents and their frequency. One of the most interesting findings to emerge from this study was that bisexual subjects reported high levels of both homoerotic and heteroerotic fantasy. This

Is in contrast to the data reported by Masters & Johnson for their ambisexual subjects who had a very low frequency of fantasizing. Storms attempted to explain these divergent findings on the grounds that Masters & Johnson's ambisexuals may have been more accurately described as asexuals. The basis for such a conjecture by Storms is not clear. While the ambisexual subjects in Masters & Johnson's study showed no differential preference for the gender of their sexual partners, they were, nevertheless, described as having an interest in sex, being responsive to sexual stimulation, and sexually functional. These characteristics do not appear to describe asexuals. Masters & Johnson's report, cited by Storms (1980), that these individuals had difficulty establishing longterm relationships with individuals of either gender does not constitute prima facie evidence that they were asexual. In fact, leading a sexually active life at the time of recruitment was a prerequisite for inclusion in the Masters & Johnson study. The discrepancy between these two studies concerning fantasy frequency in bisexuals remains unresolved.

This controversy raises the question of how one differentiates asexual subjects in this area of research. Information on a subject's past sexual experiences, interest in, and desire for sexual activity could prove useful in making this distinction. While it may well be that asexuals report having some erotic fantasies, one

would not expect them to find such thoughts very sexually arousing. Perhaps by also including a self-report measure of the amount of sexual arousal elicited by various fantasy themes one may be in a better position to identify asexual individuals. While Masters & Johnson had information on their subjects' prior sexual histories, Storms had no such information on his subjects. He simply asked them to indicate how often they had particular fantasies. Clearly, researchers in this area must make a greater effort to identify the numbers of asexual individuals.

A number of problems can be identified with the Storms study. The instrument used to measure fantasy, EROS, seems limited in that it only contains seven fantasy themes for each of the two scales (androerotic, gynoerotic). One particular theme (having a sexual experience with a man/having a sexual experience with a woman) is repeated in four of the seven fantasies. One can thus question whether EROS does justice to the wide range of fantasies typically reported by adult males and females (Crepault & Couture, 1975; 1980; Sue, 1979; Masters & Johnson, 1979; Hesselund, 1976). Given the limited scope of EROS, it may be inappropriate to use this instrument to assess qualitative differences, other than perhaps gender preference, between sexual orientation groups. As already noted, Masters & Johnson's data provides some evidence for the existence of such

differences. It may thus be worthwhile to have a fantasy measure that allows us to explore qualitative differences other than gender preference.

In scoring EROS, the full range of frequency choices available for each fantasy item (i.e. 0 (never) to daily) was not scored because of the distribution of the subjects' responses on the items. According to Storms, the most sensible distribution of scores was obtained by dichotimization. That is, subjects' responses to each fantasy were scored either as "never having it" or "having had it at least occasionally". Given the limited discriminative power of the scoring procedure it seems reasonable to suspect that the elevated results for the bisexual group may have been artifactual. It seems highly probable that a bisexual individual will have had most of the heteroerotic and homoerotic fantasies in EROS at least once.

Issues that Need to be Addressed When Examining the Relation Between Fantasy and Sexual Orientation

There are a number of issues that require careful consideration before conducting further research on the relation between erotic fantasy and sexual orientation. One of these has to do with the measurement of sexual orientation. There are no general, agreed-upon criteria for this purpose. Most researchers tend to rely on the Kinsey sexual orientation scale. The ratings on this scale represent the proportion of heterosexual and

homosexual components of an individual's history only when a person's psychosexual responses as well as overt sexual behaviors have both been taken into consideration (Kinsey et al, 1953). This method is not entirely objective as in many cases one may have to estimate the relative importance of the psychological and overt aspects of an individual's sexual history, especially when one may be discrepant from the other. Clearly there exists more than one way of making such judgments.

Masters & Johnson (1979) used the Kinsey scale to classify their subjects on the basis of their current overt functioning. However, in addition, these investigators later obtained more information on their subjects' past sexual behaviors and attitudes. They also observed them functioning in a laboratory setting. Problems may arise, however, when individuals are simply asked to rate themselves on Kinsey's scale or to describe themselves using some common label, as was the case in the Storms study, since we do not know on what basis individuals assign themselves to categories like heterosexual, homosexual, or bisexual. Consequently, one can question how accurately such measures reflect a person's sexual orientation. There is evidence suggesting a discrepancy between how individuals label themselves and how they actually behave. Masters & Johnson (1979) describe subjects whose overt sexual behavior histories correspond to a Kinsey rating of 2 or 3 (more heterosexual

than homosexual) yet who described themselves as homosexual.

In research situations where only self-report data is available, it is possible that a more accurate assessment of sexual orientation may be obtained by considering multiple self-report measures. For instance, one can obtain information on a subject's past and present sexual functioning and the gender of partners by surveying the types of sexual behaviors they have engaged in over some representative period of time. Participants can also be questioned on their sexual feelings and attitudes. Weinberg & Williams (1974) suggest asking subjects to rate themselves on the Kinsey scale with respect to their sexual behaviors and subsequently with respect to their sexual feelings. It would be particularly interesting to ascertain whether there is a discrepancy between these Kinsey ratings. One can also ask subjects to rate how sexually arousing they find certain fantasy themes or sexual activities. There thus exists a variety of self-report methods for assessing sexual orientation varying as to the extent of inference required by the subject.

Having such a multiplicity of data may prove useful in several ways. It would better equip one to infer whether participants deliberately respond to fantasy questions so as to be consistent with their self-assigned sexual orientations. Such response consistency may have been a contaminating factor in the Storms study. Having

several measures of sexual orientation might also allow one to learn about the process by which people label themselves as homosexual, heterosexual, or bisexual. It is not known on what basis people identify themselves as belonging to one orientation or another. Do they do so on the basis of the content of their fantasies, the gender of their usual partner, their sexual feelings or some other criterion? This question is especially of interest in cases where the gender of the sex partner is variable in subjects' fantasy and in their sexual experiences. When using several measures of sexual orientation one can examine the associations among them and with patterns of sexual arousal, behavior and feelings.

Descriptive studies of erotic fantasies of adult males and females point to the existence of several variables that seem to be related to the content and frequency of fantasy reported (Crepeault & Couture, 1980; Abramson & Mosher, 1979; Sue, 1979; Moreault & Follingstad, 1978; Mosher & Cross, 1971). These individual difference variables include such things as background, attitudinal, and emotional-response factors. These need to be taken into consideration when attempting to relate erotic fantasy to sexual orientation as they may in themselves account for some of the similarities and differences in the data. Since most of the descriptive studies have focused exclusively on heterosexual populations, it would be interesting to examine whether

some of the posited relationships exist across orientation groups.

Sex differences in erotic fantasy have received much research attention. While there are inconsistencies in the literature as to the existence of quantitative differences between men and women (Wilson, 1980; Sue, 1979; Hesselund, 1976; Kinsey et al, 1953), the data do agree on the existence of qualitative differences, other than gender preference. Males tend to be active, impersonal, and visually-oriented in their fantasies compared with women whose fantasy themes are relatively passive and romantic (McCauley & Swan, 1978; Mednick, 1977; Barclay, 1973). Fantasies of aggressiveness and sadomasochism are more common in men than in women (Crepeault & Couture, 1975, 1980; Wilson, 1980). Women report more fantasies of being forced into sexual encounters and having idyllic encounters with unknown men (Masters & Johnson, 1979; Sue, 1979; Hesselund, 1976).

Carlson & Coleman (1977) examined some experiential and motivational determinants of the richness, or complexity, of induced sexual fantasies in a heterogeneous group of male and female respondents. Years of scholarship was positively related to several richness indices (color, affect, arousal) for males, but not for females. On the other hand, number of years married was positively related to richness of an induced fantasy for females, but not for males.

Brown & Hart (1977) report a positive relationship between sexual experience and quantity of fantasy in female subjects. Similarly, Carlson & Coleman's data show that men and women with a greater range of sexual experience displayed greater richness of an induced fantasy.

There is some evidence suggesting a relation between frequency of daydreaming in general and frequency of sexual fantasies. Hariton & Singer (1974) found that women who have coital fantasies frequently are women who are more prone to all kinds of daydreaming. Carlson & Coleman (1977) report a positive relation between a subject's tendency to daydream and the richness of subjects' induced fantasies.

White, Fisher, Byrne & Kingma (1977) have introduced the concept of erotophobia-erotophilia in attempting to account for individual differences in reactions to sexual stimuli. According to these authors, erotophobia-erotophilia represents an emotional response to sexual stimuli and it mediates approach-avoidance responses as well as evaluations of sexuality. A person's erotophobic or erotophilic disposition is a result of the individual's learning experiences with respect to sex. The Sexual Opinion Survey (White, Fisher, Byrne & Kingma, 1977) was developed to measure an individual's erotophobic-erotophilic disposition. This instrument asks subjects to indicate on seven-point scales their agreement-

disagreement with a series of evaluative statements about a variety of sexual topics (see Appendix C). Responses are scored in such a way as to place people along a dimension ranging from extremely negative attitudes about sex (erotophobia) to extremely positive attitudes (erotophilia).

Validation of this personality dimension has been found in research relating position on the erotophobia-erotophilia dimension to subjects' emotional responses to erotic slides depicting autosexual, homosexual, and heterosexual acts (White, Fisher, Byrne, & Kingma, 1977); to how well students in a human sexuality class learned information about sex (Fisher, 1980) and consistency in the use of contraception among unmarried, sexually active individuals (Fisher, 1978).

Some correlates of erotophobia-erotophilia have also been identified (Byrne & Fisher, in press). Erotophobic (vs. erotophilic) men and women have less often seen erotica, have less often purchased erotica, dream about sex less often, report that they masturbate less frequently, have fewer premarital sexual partners, are more likely to advocate that legal measures be taken against homosexuals, and rate their sexual attitudes as relatively conservative.

Based on the evidence reviewed, it appears that the erotophobia-erotophilia construct may be useful when attempting to control for individual differences in the

content and frequency of fantasy reported. As already noted, erotophobic individuals report dreaming about sex less often. It is therefore quite likely that they would also report fewer erotic fantasies in general.

Implications of a Relationship Between Erotic Fantasy and Sexual Orientation

The relationship between erotic fantasy and sexual orientation merits closer examination as it is a topic of both clinical and theoretical interest. From a clinical perspective, the availability of normative data on the type, extent, and arousal function of erotic fantasy across sex and orientation groups could prove to be useful in assessment and in designing treatment programs to enhance sexual functioning. As already noted, most descriptive studies of erotic fantasy have dealt exclusively with heterosexual subjects and thus very little is known about fantasies of homosexual and bisexual individuals. Furthermore, the literature on heterosexual fantasies contains important unresolved discrepancies (Masters & Johnson, 1979; Sue, 1979; Kinsey et al, 1953).

The relationship between fantasy and orientation could also have important theoretical implications. On the basis of his research, Kinsey proposed the revolutionary idea that sexual orientation is a unidimensional, bipolar continuum from heterosexuality to homosexuality. This is consistent with principles of a biological taxonomy dear to Kinsey which acknowledge that

nature rarely contains discrete categories. Inherent in the notion of a unidimensional bipolar continuum is the premise that an individual loses degrees of one orientation as he or she moves toward the opposite end of the scale. In this model hetero- and homosexual tendencies are interdependent in an oppositional relationship to each other. Storms (1980) on the other hand, contends that homosexuality and heterosexuality are separate, independent erotic response dimensions rather than opposite extremes of a single, bipolar dimension. He bases his two-dimensional theory of sexual orientation primarily on the finding that bisexuals in his study reported as much same-sex fantasy as homosexuals and as much opposite-sex fantasy as heterosexuals. The two theories lead to different predictions about the erotic fantasies of bisexuals. Kinsey's model predicts that bisexuals will have fewer homoerotic fantasies than homosexuals and fewer heteroerotic fantasies than heterosexuals. (They are situated somewhere in the middle of Kinsey's scale, being neither homo- nor heterosexual). By contrast, Storms' model suggests that bisexuals could have as many same-sex fantasies as homosexuals and as many opposite-sex fantasies as heterosexuals. Storms' theory also allows a distinction between bisexual and asexual individuals. The latter are defined as scoring low on both the hetero- and homoeroticism dimensions.

Kinsey's conceptualization of sexual orientation has

remained largely unchallenged in the three decades since it was first postulated. Storms' two-dimensional theory is one of the few alternative formulations to have been proposed. Given that there are a number of methodological inadequacies with Storms' study as well as reason to question the adequacy of EROS in measuring diverse fantasy themes, it appears that further research is needed to evaluate the appropriateness of a two-dimensional theory.

The Present Study

This investigation was designed to obtain some normative data on the type, frequency, and arousal function of erotic fantasies in males and females of heterosexual, homosexual, and bisexual orientations. The purpose in securing this information was to facilitate qualitative and quantitative comparisons between sex and orientation groups and to attempt to shed light on some of the unresolved discrepancies in the existing literature. These discrepancies include the frequency of fantasy in males vs. females (Masters & Johnson, 1979; Kinsey et al, 1953), the frequency of fantasy in bisexuals, as well as, the content of bisexuals' fantasies (Storms, 1980; Masters & Johnson, 1979).

A major focus of this study was to examine closely the relationship between frequency of fantasy and sexual orientation using several different measures of frequency of fantasy. It was felt that the nature of this relationship might have important implications for

theories of sexual orientation. It was hypothesized that heterosexuals would report significantly more opposite-sex fantasies than homosexuals and less same-sex fantasies than homosexuals. Similarly, it was hypothesized that homosexuals would report significantly more same-sex fantasies than heterosexuals and less opposite-sex fantasies than heterosexuals. It is difficult to predict the frequency of fantasy in bisexuals given the contradictory research evidence. However, a bidimensional theory would be suggested if bisexuals reported as much homoerotic fantasy as homosexuals and as much heteroerotic fantasy as heterosexuals. Alternatively, a unidimensional theory would be suggested if bisexual individuals reported less heteroerotic fantasy than heterosexuals and less homoerotic fantasy than homosexuals.

Another major concern of the present study was to examine on what basis individuals assign themselves to a particular sexual orientation since it is not known at present what constitutes the most reliable and valid way of assessing orientation. In order to shed light on this issue, a variety of self-report measures were used differing in the degree of subjective inference required. Both the intercorrelations among these measures and their ability to discriminate between the three groups were examined.

By examining the relationship between these various self-report measures and erotic fantasy it would also be

possible to assess whether similar patterns emerge regardless of the classification process used in defining orientation. Since some of these multiple, self-report measures tapped somewhat different aspects of human sexuality (i.e. sexual behavior, sexual feelings, etc.) one could also examine whether unidimensionality vs. bidimensionality characterizes human sexual functioning in general or whether it is an issue that is most applicable to specific domains or facets of sexuality.

As already noted, descriptive studies of erotic fantasies point to the existence of individual and group differences in fantasy content and frequency (Sue, 1979; Moreault & Follingstad, 1978; Carbon & Coleman, 1977). An attempt was thus made in the present study to provide an adequate description of the subject population used. It was felt that precise description of the subject sample would allow conclusions concerning the generality of the findings. In addition to obtaining relevant demographic information from participants, they were also given the Marlowe-Crowne Social Desirability measure as well as the Sexual Opinion Survey (SOS) (both these instruments are described in the Method section).

White, Fisher, Byrne & Kingma (1977) maintain that the dimension of erotophobia-erotophilia, as measured by SOS, may be useful when attempting to account for individual differences in reactions to sexuality. Based on the literature on the correlates of erotophobia-

erotophilia, erotophobes would be expected to report fewer fantasies than erotophiles. One can also predict that they will be more likely to report fantasies focusing on conventional types of sexual activities and less likely to report cross-preference fantasies.

In summary, the aims of the present study were:

(1) to obtain some normative data on the content, frequency, and arousal function of erotic fantasies of heterosexual, homosexual, and bisexual volunteers so as to resolve some of the controversies in the existing literature.

(2) to examine both qualitative and quantitative relationships between erotic fantasy and sexual orientation (using multiple measures of frequency of fantasy and sexual orientation) and to elaborate on their implications for theories of sexual orientation (i.e. the unidimensional vs. bidimensional theory).

(3) to examine the association between several self-report measures of sexual orientation and to attempt to infer on what basis individuals categorize themselves as "straight", "gay", or "bisexual".

Method

Participants

The sample consisted of 150 individuals recruited on a volunteer basis from two English-language universities in the Montreal area. In order to ensure a sufficient number of homosexual and bisexual respondents, additional

participants were recruited through the cooperation of gay student organizations on these campuses and through gay and bisexual friendship networks in the Montreal area. There were 50 participants in each group as classified on the basis of their self-assigned labels (i.e. "gay", "straight", or "bisexual"). There were equal numbers of male and female respondents within each orientation group. Criteria for inclusion in the study included being in the age-range of 18-30 years and having completed a minimum of two years of post-secondary education. All participants were attending university either on a full-time or part-time basis. Table 1 presents selected demographic information on participants within each orientation group.

Measures

Participants completed six paper-and-pencil self-report instruments. These questionnaires were presented in the following sequence:

(1) The Erotic Fantasy Questionnaire (EFQ). This was one of two instruments used to assess type and frequency of fantasy. The EFQ was developed for the present study after a thorough review of the literature on erotic fantasies of college students and the general adult population (Crepeault & Couture, 1975; 1980; Sue, 1979; Masters & Johnson, 1979; Brown & Hart, 1977; McCauley & Swan, 1978; Hesselund, 1976; Hariton & Singer, 1974; Hunt, 1974; Barclay, 1973). This review revealed that adult

TABLE 1

SELECTED CHARACTERISTICS OF THE SAMPLE
(N 150)

VARIABLES		HETEROSEXUAL	BISEXUAL	HOMOSEXUAL
Age	<u>M</u>	23.2	23.0	23.5
	<u>SD</u>	2.8	2.4	2.8
Education (total in years)	<u>M</u>	15.8	15.6	15.5
	<u>SD</u>	1.6	1.4	1.7

males and females have diverse fantasies whose content ranges from highly specific to highly general themes. EFQ was constructed to reflect these findings.

This instrument asked individuals to rate on 11-point scales (ranging from 0 times - 28 or more times) how often they have had 42 fantasies during the past six months. There are 21 fantasies dealing with opposite-sex themes (heteroerotic scale), and 21 fantasies dealing with same-sex themes (homoerotic scale). Scores on each of the two scales can range from 0 - 588. The fantasy themes also vary as to the specific sexual act and whether the subject is agent or recipient. The EFQ also solicits ratings of sexual arousal for each of the fantasy items. The EFQ can thus be used to make both quantitative and qualitative comparisons of the erotic fantasies of different sexual orientation groups. Some of the psychometric properties of the EFQ are presented in the Results section. A copy of this questionnaire appears in Appendix A.

(2) The Erotic Response and Orientation Scale (Storms, 1980). This was the second instrument used to measure frequency of fantasy. It contains two Guttman-format subscales, one measuring fantasies toward women and the other fantasies toward men. It contains a total of 14 items across both scales. Storms' EROS measure was included in an attempt to replicate his findings. Storms reports internal reliabilities of 0.93 and 0.92 for each of the two scales (i.e. coefficients of reproducibility).

He also reports coefficients of scalability of 0.74 and 0.77 for the androerotic and gynoerotic scales, respectively. A copy of this measure is presented in Appendix B.

(3) The Sexual Opinion Survey (Fisher, Byrne, & White, 1981; White, Fisher, Byrne, & Kingman, 1977). This instrument was developed to measure an individual's erotophobic-erotophilic disposition. It asks subjects to indicate on 7-point scales their agreement-disagreement with a series of evaluative statements about a variety of sexual topics. Responses are scored in such a way as to place people along a dimension ranging from extremely negative attitudes about sex (erotophobia) to extremely positive attitudes (erotophilia). Higher scores are indicative of an erotophilic disposition. A copy of SOS appears in Appendix C: White et al. (1977) report a split-half reliability of 0.84 for the SOS suggesting good internal consistency. Gilbert and Gamache (in press) report a split-half analysis which reveals a between-forms correlation of 0.77, a Guttman split-half correlation of 0.87, and Cronbach's alphas of 0.83 and 0.80 for the two halves.

(4) The Sexual Behavior Survey (SBS). This measure was developed for the present study. It asks respondents to indicate on 11-point scales (ranging from 0 times - 28 or more times) how often they have engaged in specific sexual activities during the past six months. It contains 20

items dealing with homosexual acts and another 20 items dealing with heterosexual experiences. Total scores on each of the two scales can range from 0 - 560. Most of the items on the SBS also appear as fantasy items on the EFQ. The SBS was used to infer whether individuals have engaged in predominantly heterosexual, homosexual, or bisexual behavior in the recent past. It constituted one of the alternative methods of assessing sexual orientation. SBS is presented in Appendix D.

(5) Demographic Information Sheet (DIS). This questionnaire was designed to obtain relevant background information from respondents (i.e. age, education, marital status, etc.) The last two pages of the DIS contain several ~~self-report~~ measures of sexual orientation. Subjects are asked to: a) indicate what percentage of their sexual encounters over the past six months have been with male partners and what percentage with female partners; b) rate themselves on Kinsey's scale with respect to their "sexual behavior" and subsequently with respect to their "sexual feelings"; c) label themselves as either "gay", "straight", or "bisexual". A copy of DIS appears in Appendix E.

(6) Marlowe-Crowne Social Desirability Scale (MC) (Crowne & Marlowe, 1960). This instrument was included to assess participant's tendencies to respond in socially desirable ways. Scores on this scale can range from 0 - 33 with higher scores being indicative of a tendency to respond in

socially desirable ways. Crowne and Marlowe (1960) report an internal consistency coefficient of 0.88 using Kuder-Richardson formula 20 and a test-retest correlation of 0.89 (with a one month interval between test administrations). A copy of MC is presented in Appendix F.

Procedure

All the heterosexual and a small percentage of the homosexual and bisexual subjects (i.e., 16 individuals) were recruited through advertisements posted at the universities. These advertisements gave potential respondents a choice of times and locations at which they could participate in the study. Most of the homosexual and bisexual participants were recruited from gay student organizations as well as gay and bisexual social organizations in the greater Montreal area. In such cases, subjects were usually tested at their meeting site or they agreed to come to the campus at one of the pre-specified times. While the majority of the respondents were tested in small groups ranging in size from 4 - 12 people, in some cases, depending on the availability of subjects, participants were tested individually (a total of 25 participants).

A letter was attached to the front of the questionnaire package describing the study as "a survey of the sexual fantasies and behaviors of adult males and females of heterosexual, homosexual, and bisexual

orientations". Anonymity and confidentiality were assured. Participants were warned that the subject matter about which they would be questioned was personal and they could withdraw from the study at any time. They were also invited to contact the investigator should they have any further questions about the study or if they desired a copy of the results once it was completed. A copy of the introductory statement appears in Appendix G.

Once they agreed to participate, individuals were given a package containing the six questionnaires in the order described earlier. Most participants required 20 - 40 minutes to fill out a package.

Under all testing situations, one or two members of the research team (author, 3 assistants) were present to supervise the administration of the questionnaires. The research team included three males (22, 24, and 27 years old) and one female (22 years old). In all testing situations, a male member of the team functioned as the principle examiner briefly describing the study and answering peoples' questions. This person was the sole supervisor with small groups. With larger groups, he was assisted by one other team member - either a male or a female. When individuals were tested in groups, seating arrangements were such so as to safeguard the privacy of each participant. Furthermore, respondents were not asked to identify themselves as to their sexual orientation when being admitted to a testing session. They provided this

Information on the questionnaires. When subjects in a group-administration situation completed their questionnaire package, they were asked to deposit it in a large box which contained several other already filled-out packages. This box was located at the front of the room. Every attempt was made to safeguard the anonymity and confidentiality of each participant.

A similar procedure was used when people were tested individually. They were asked to deposit their completed questionnaire package in the box at any position other than at the top of the pile.

The only time the researchers knew in advance the sexual orientation of a participant was when the experimenters went to gay and bisexual groups or social clubs to recruit subjects and/or to administer questionnaires. Again, the same procedure of depositing a completed questionnaire in a box was followed.

Design and Statistical Analyses

This was a correlational study focusing primarily on the relationship between frequency of fantasy and sexual orientation. Multiple measures were employed to assess both frequency of fantasy and sexual orientation. As some of the measures were developed for this study, their psychometric properties were examined. This entailed computation of reliability coefficients and use of principal component analysis to examine factor structure. Univariate analyses of variance were used to investigate

the relationship between background/attitudinal variables and sexual orientation as well as the relationship between frequency of fantasy and sexual orientation. These analyses were followed by a posteriori comparisons where appropriate. The relationships between the multiple measures of sexual orientation were examined by computing correlational coefficients and conducting a principal component analysis. Discriminant analyses were conducted to assess what measures best discriminate between the three orientation groups.

Results

Sample Characteristics

Subjects who classified themselves in the heterosexual, bisexual and homosexual groups were compared with respect to a number of background and attitudinal variables which previous researchers have identified as potentially related to content and/or frequency of fantasy reported (Wilson, 1980; Sue, 1979; Brown & Hart, 1977; Carlson & Coleman, 1977; White, Fisher, Byrne & Kingma, 1977; DeMartino, 1974). A two-way (group X sex) Analysis of Variance (ANOVA) did not reveal any significant group differences in age, $F(2, 144) = 0.38, p > .68$, or years of education, $F(2, 144) = 2.98, p > .06$. While there were no sex differences in years of education, $F(1, 144) = 2.67, p > .10$, there was a sex difference in age, $F(1, 144) = 4.24, p < .05$. The mean age of women ($M=22.8$) was lower than that of men (23.7).

The three groups were also contrasted with respect to a number of other variables including: primary language, marital status, present living arrangements, religious practice at present, and parents' combined annual income. Table 2 summarizes the responses of each group to these questions. The chi-square statistic was used to investigate group differences with respect to the frequency distribution of these nominal and ordinal variables. An examination of Table 3 points to a significant difference in "present living arrangements", $\chi^2(6) = 34.08, p < .001$. While more than half (56%) of the heterosexuals still lived with their parents, many of the homosexual respondents (52%) lived alone and close to half (44%) of the bisexuals reported living with a friend or lover.

To summarize the demographic data, there were no differences between heterosexual, homosexual, and bisexual subjects in age, years of education, primary language, marital status, practicing a religion, or parents' annual income. A sex difference in mean age of the female sample was observed as well as group difference in present living arrangements.

Subjects' erotophobic-erotophilic disposition as reflected by their score on the Sexual Opinion Survey (SOS) was related to both sex and orientation. A two-way ANOVA revealed both group $F(2, 144) = 12.6, p < .001$, and

TABLE 2

SELECTED DEMOGRAPHIC VARIABLES
(N 150)

VARIABLES	HETEROSEXUAL	HOMOSEXUAL	BISEXUAL
Primary Language			
English	76%	70%	76%
French	16	28	22
Other	8	2	2
Marital Status			
Single	90%	94%	78%
Living Common-law	4	2	8
Married	4	2	12
Separated	2	0	2
Divorced	0	2	0
Living Arrangements			
With parents	56%	22%	18%
With spouse	6	2	12
With friend/lover	24	24	44
Alone	14	52	26
Religious Practice (at present)			
Yes	44%	44%	40%
No	56	56	60

cont'd....

TABLE 2 (Cont'd)

VARIABLES	HETEROSEXUAL	HOMOSEXUAL	BISEXUAL
Combined Annual Parental Income			
under 5,000	0%	0%	0%
5,000 - 10,000	2	4	0
10,000 - 15,000	6	2	2
15,000 - 20,000	12	22	18
20 - 30,000	28	28	24
30 - 40,000	22	22	18
40 - 50,000	18	8	18
over 50,000	12	14	20

TABLE 3

CHI SQUARE COMPARISONS BETWEEN GROUPS ON SELECTED
DEMOGRAPHIC VARIABLES
(N 150)

Variables	Degrees of Freedom (df)	Chi-Square (χ^2)
Primary Language	4	4.79
Marital Status	8	10.46
Living Arrangements	6	34.08*
Religion	2	0.00
Parental Income	12	9.96

* Significant chi-square, $p < .0001$.

sex differences $E(1, 14) = 37.8, p < .001$. There were no significant interaction effects, $F(2, 144) = .24, p > .79$. Post-hoc analyses using Tukey's tests showed that bisexuals scored higher than homosexuals, $Q(3, 144) = 4.08, p < .02$ and heterosexuals, $Q(3, 144) = 7.1, p < .01$. Males obtained higher scores than females. Table 4 summarizes the means by group on SOS.

The mean MC scores for each group are presented in Table 5. A two-way ANOVA (group X sex) on MC scores did not point to a group effect, $E(2, 102) = 2.2, p > .11$, but there was a sex difference, $E(1, 102) = 5.9, p > .02$. Interaction effects were observed, $E(2, 102) = 4.6, p < .01$. Tests of simple main effects followed by post-hoc analyses where appropriate revealed that homosexual males obtained higher MC scores than homosexual females, $Q(2, 102) = 4.54, p < .01$. Heterosexual females obtained higher scores than heterosexual males, $Q(2, 144) = 5.8, p < .01$.

Descriptive Examination of Fantasies Reported on EFQ

As it will be recalled, the EFQ contains 21 heteroerotic and 21 homoerotic fantasy themes. It asks respondents to indicate on 11-point scales, ranging from 0 - to - 28 or more times, how often they have had a particular fantasy during the past six months. For responses other than those at the two extremities of the scale (i.e., 0, or 28+), respondents receive a score which is the mean of the numeric range they have circled. EFQ

TABLE 4

MEAN SCORES ON THE SEXUAL OPINION SURVEY
BY ORIENTATION
(N 150)

<u>VARIABLE</u>		<u>HETEROSEXUAL</u>	<u>HCMOSEXUAL</u>	<u>BISEXUAL</u>
SOS	<u>M</u>	79.7	86.9	96.5
	<u>SD</u>	17.4	17.0	16.5

TABLE 5

MEAN SCORES ON THE MARLOWE-CROWNE
BY ORIENTATION AND SEX

SEX		HETEROSEXUAL	HOMOSEXUAL	BISEXUAL
Male	<u>M</u>	10.1	14.3	11.0
	<u>SD</u>	5.1	5.4	4.5
Female	<u>M</u>	15.7	9.9	9.3
	<u>SD</u>	5.6	4.9	4.7

also solicits ratings of sexual arousal for each fantasy item. These ratings range from 1 (not all arousing) to 9 (extremely arousing). A listing of the most frequent heteroerotic and homoerotic fantasies of the three groups appears in Appendices H-J (for males) and K-L (for females).

Most Frequent Preferred-Partner Fantasies. Summarizing the contents of Appendices H-L, the most frequent, preferred fantasies of heterosexual and homosexual subjects occur with a mean rate of 23-25 times over a six-month period. This corresponds approximately to a frequency of once per week. The more frequent heteroerotic and homoerotic fantasies of bisexuals occur at a mean rate of about 20 times per six months, or slightly less than once per week.

The corresponding arousal scores for the most frequent fantasies of heterosexual and homosexual participants range from 7.1 - 8.0, i.e., in the high arousal range. The sole exception to this is "passionate kissing with a man" which is a common fantasy of heterosexual women and has a mean arousal rating of 6.3. The corresponding mean arousal scores for bisexual respondents range from 6.7 to 7.5, i.e., in the moderate to high arousal range.

These high frequency fantasies are also quite common among all respondents since 96 - 100% of all heterosexual,

homosexual, and bisexual individuals report having these fantasies at some point during the past six months.

In terms of the content of these fantasies, themes involving touching and caressing of a naked body and touching and caressing of genitals are reported by all three groups. There are some sex-differences in content. The preferred-fantasy themes of heterosexual and homosexual males as well as the heteroerotic and homoerotic fantasies of bisexual males all contain thoughts of giving and/or receiving oral-genital stimulation. High-frequency themes of homosexual and heterosexual women include having a sexual experience with a loved one as well as engaging in passionate kissing. Bisexual women also report the passionate kissing theme as well as "touching and caressing a woman's breasts".

An examination of Appendices H-M does not suggest any marked discrepancies between orientations or between males and females as to the prevalence of subject passivity in fantasy themes. The bulk of respondents' frequent fantasies appear to entail passive and active elements. In order to examine this issue more closely, subjects' scores on all the extremely passive items on EFQ were totaled as well as their scores on all extremely active fantasies. This was done for each subject's preferred-partner fantasies on EFQ. Passivity vs. activity was defined in terms of the degree of subject and partner involvement in the imagined sexual activity. In passive

themes, the partner was the only active participant whereas in active themes the subject was the only active individual. A list of these active vs. passive themes is presented in Appendix N.

A two-way ANOVA revealed both group, $F(2, 144) = 4.7$, $p < .03$, and sex differences, $F(1, 144) = 110$, $p < .001$, in frequency of heteroerotic active themes. While heterosexuals had higher scores than homosexuals, $Q(3, 144) = 19$, $p < .01$, they did not differ from bisexuals, $Q(3, 144) = 0.1$, $p > .10$. An interaction effect was also observed, $F(2, 144) = 4.2$, $p < .05$. Tests of simple main effects followed by post-hoc comparisons revealed that heterosexual males reported a higher incidence of active themes than their female counterparts, $Q(2, 144) = 3.9$, $p < .01$. The analysis of heteroerotic passive themes revealed a group difference, $F(2, 144) = 92$, $p < .001$. A sex-effect was not observed, $F(1, 144) = .09$, $p > .77$. While heterosexuals had higher scores than homosexuals, $F(2, 144) = 16$, $p < .01$, post-hoc comparisons did not reveal any differences between heterosexuals and bisexuals, $Q(3, 144) = 0.7$, $p > .05$.

A group effect was found on the frequency of homoerotic active themes, $F(2, 144) = 139$, $p < .001$. There was no sex effect $F(1, 144) = 1.3$, $p > .25$. Post-hoc analysis revealed that homosexuals reported a higher incidence of such themes than bisexuals, $Q(3, 144) = 3.64$, $p < .04$.

While no sex difference was observed on homoerotic passive themes, $E(1, 144) = 1.0, p > .05$, a group effect was evident, $F(2, 144) = 107, p < .001$. Post-hoc comparisons did not reveal any difference between homosexuals and bisexuals $Q(3, 144) = 1.63, p > .05$. As was expected, homosexuals scored higher than heterosexuals, $E(2, 144) = 19, p < .01$.

With respect to their preferred-partner fantasies, heterosexuals do not differ from bisexuals in incidence of either active or passive themes. Heterosexual females do report a lower frequency of active themes than their male counterparts. Homosexuals obtained a higher mean score on same-sex, active themes than bisexuals. The two groups do not differ with respect to frequency of passive themes.

Cross-Preference Fantasies Cross-preference themes do not comprise high-frequency fantasies of either heterosexual or homosexual participants. In fact, the mean frequency range of such fantasies for all homosexual respondents and for heterosexual women is 2.6 - 5.1 times over a six-month period. This corresponds to less than once a month. Heterosexual males report mean frequencies of less than 0.6 for a six-month period. The corresponding mean arousal scores for the cross-preference fantasies of both heterosexual and homosexual respondents range from 2.8 - 5.8 and fall within the low-to-moderate arousal levels.

The prevalence of cross-preference themes appears to be more widespread among homosexual women and least common

among heterosexual males. Over 50% of homosexual women report having at least one cross-preference fantasy during the past six months. The corresponding figure for homosexual males and heterosexual females is 36% while it is only 16% for heterosexual males.

An examination of the content of these fantasies reveals that themes focusing on touching and caressing of genitals and giving and/or receiving oral-genital stimulation are common to both groups and sexes. A more precise examination of the quantitative relationship between frequency of cross-preference fantasies and sexual orientation is presented in the next section.

The Quantitative Relation Between Erotic Fantasy and Sexual Orientation

Measures of Erotic Fantasy. The instruments used to assess frequency of fantasy were the EFQ and EROS. Both of these measures have already been described. As the EFQ was developed for the purpose of the present study, some of its psychometric properties were examined. Reliability coefficients were calculated using subprogram reliability of the SPSS series (Hull & Nie, 1981). Cronbach's alpha, a member of the Guttman family of coefficients, was computed for each of the two scales (heteroerotic and homoerotic) as well as for the entire instrument. Cronbach's alpha is based on the consistency of responses to all items on the test. This interitem consistency is influenced by two sources of error variance - content

sampling and heterogeneity of domain. The more homogeneous the domain the higher the interitem consistency (Anastasi, 1976). The reliability of the heteroerotic scale was 0.98 while that of the homoerotic was also 0.98. Cronbach's alpha for all 42 items of the EFQ was 0.94. These results suggest excellent interitem consistency.

Split-half reliabilities were also computed for each of the two scales. Split-half reliability provides a measure of consistency with regard to content sampling. This type of reliability is often referred to as a coefficient of internal consistency (Anastasi, 1976). This analysis revealed a between-scales correlation of 0.91 for the heteroerotic scale. Equal and unequal length Spearman-Brown coefficients of .95 were obtained for this scale as well as a Guttman split-half reliability of .95. The between scales correlation for the homoerotic scale was 0.93. Equal and unequal length Spearman-Brown coefficient of .97 were obtained as well as a Guttman split-half reliability of .96. The two scales thus also have excellent internal consistency.

A principal component analysis was also conducted on the EFQ to examine its factor structure. Subprogram FACTOR of the SPSS series (Nie, Hull, Jenkins, Steinbrenner, & Bent, 1975) was used. Extraction of principle components was accomplished without iterations, and was followed by an orthogonal rotation using the

varimax criterion. The initial principal component analysis yielded five factors with eigenvalues greater than one (refer to Table 6). The first two factors accounted for over 72% of the variance. As only six (out of 42) items had loadings of over .30 on factors 3, 4, or 5, a second analysis was performed limiting the number of factors to two. These two factors and their loadings are presented in Table 7 for all 42 items. The homoerotic fantasy items load high-positive on Factor 1 while the heteroerotic items load high-positive on Factor 2. Factor structure 1 thus appears to define a response to homoerotica while Factor structure 2 defines a response to heteroerotica.

The other fantasy measure, EROS, was first used by Storms (1980). Reliability measures on EROS were presented in an earlier section. Storms obtained these values using a dichotomous scoring procedure (i.e., yes, no) for each of the sixteen items on the questionnaire. In the present study two different scoring procedures were used as more precise quantitative information on frequency of fantasies was desired. Thus in addition to Storms' dichotomous scoring, a second method was used which gave subjects a score ranging from 0 (i.e., never) to 365 (i.e. daily) on each of the 8 items for each of the two scales. Reliability coefficients were calculated using this alternative scoring procedure. Cronbach's alpha was computed for each of the two scales

TABLE 6
RESULTS OF PRINCIPLE COMPONENT ANALYSIS
ON EFQ

FACTOR	EIGENVALUE	PCT OF VAR	CUM PCT
1	17.73	42.2	42.2
2	12.73	30.3	72.5
3	1.43	3.4	75.9
4	1.29	3.1	79.0
5	1.08	2.6	81.6

TABLE 7

VARIMAX ROTATED FACTOR MATRIX
OF EFQ

	FACTOR 1	FACTOR 2
1 EFQHETO1	-.16883	.80369
EFQHETO2	-.14912	.87534
EFQHETO3	-.20015	.88707
EFQHETO4	-.24674	.89412
EFQHETO5	-.10698	.86119
EFQHETO6	.09354	.44722
EFQHETO7	.05069	.78057
EFQHETO8	-.18492	.89115
EFQHETO9	-.20359	.89149
EFQHETO10	-.19186	.86499
EFQHET11	.12062	.65243
EFQHET12	-.00647	.76270
EFQHET13	.04583	.79920
EFQHET14	-.04743	.81102
EFQHET15	-.22838	.90034
EFQHET16	-.06495	.87937
EFQHET17	-.25168	.80317
EFQHET18	.31117	.73325
EFQHET19	-.34907	.79218
EFQHET20	.00032	.85294
EFQHET21	.05667	.75540
2 EFQHQM01	.89045	-.17037
EFQHQM02	.91556	-.08538
EFQHQM03	.93243	-.12694
EFQHQM04	.92257	-.21783
EFQHQM05	.92879	-.13562
EFQHQM06	.54801	.04860
EFQHQM07	.83842	.02945
EFQHQM08	.93542	-.11121
EFQHQM09	.93565	-.14014
EFQHQM10	.90777	-.15312

cont'd ...

TABLE 7 Cont'd

	FACTOR 1	FACTOR 2
EFQHOM11	.68728	.20728
EFQHOM12	.77195	.11716
EFQHOM13	.86823	-.04701
EFQHOM14	.87157	-.15494
EFQHOM15	.92853	-.18292
EFQHOM16	.92659	-.13463
EFQHOM17	.78328	.24478
EFQHOM18	.86318	.05185
EFQHOM19	.81260	-.21876
EFQHOM20	.86112	-.07397
EFQHOM21	.79538	.11494

1 marks the beginning of heteroerotic themes 1-21
 2 marks the beginning of homoerotic themes 1-21

(heteroerotic and homoerotic) as well as for the entire Instrument. The reliability of the heteroerotic scale was 0.87 while that of the homoerotic scale was 0.91. Cronbach's alpha for all 16 items of the EROS was 0.89. These results suggest good interitem consistency.

Quantitative Relationships using EFQ. The relation between frequency of heteroerotic and homoerotic fantasy reported on EFQ and subjects' self-assigned orientation labels was examined first. Table 8 presents the mean scores of each group on the heteroerotic and homoerotic scales. A one-way ANOVA on each of the two scales strongly supported the general hypothesis that people of various sexual orientations differ sharply as to the content and frequency of their fantasies. A between-groups effect was observed on the heteroerotic scale, $F(2, 147) = 117.4, p < .001$ as well as on the homoerotic scale, $F(2, 147) = 132.3, p < .001$.

Differences between groups were examined using a - posteriori comparisons. While specific hypotheses were advanced in the Introduction as to the frequency of fantasy reported by the heterosexual and homosexual groups, it was not appropriate to use a-priori contrasts as all the comparisons were non-orthogonal. Dunn's multiple comparison procedure is applicable to both orthogonal and non-orthogonal planned comparisons. However, Dunn (1961) reports that when the number of treatment means in an experiment is small and the number

TABLE 8

EFQ MEANS BY SEXUAL ORIENTATION
(N 50 in each group)

EFQ		HETEROSEXUAL	HOMOSEXUAL	BISEXUAL
Heteroerotic	<u>M</u>	314	38	341
	<u>SD</u>	104	52	150
Homoerotic	<u>M</u>	16	357	320
	<u>SD</u>	37	106	165

of comparisons is relatively large, her procedure leads to longer confidence intervals than either the Tukey or Scheffe tests. Since under such conditions Dunn's procedure is less powerful than some of the post-hoc techniques, Tukey tests were used to examine differences between groups.

Post-hoc comparisons revealed that heterosexuals reported more opposite sex fantasy than homosexuals, $Q(3,147) = 17.8, p < .001$ and less same-sex fantasy than homosexuals, $Q(3,147) = 20.9, p < .001$. Bisexuals reported as much opposite-sex fantasy as heterosexuals, $Q(3,147) = 1.74, p > .05$ and as much same-sex fantasy as homosexuals, $Q(3,147) = 2.3, p > .05$.

Quantitative Relationships Using EROS with Dichotomous Scoring (EROS-D) The relationship between frequency of same-sex vs. opposite-sex fantasies reported on EROS and self-assigned labels was explored next. Table 9 presents the means and standard deviations for each group for heteroerotic and homoerotic fantasy. This analysis utilized Storms' dichotomous scoring procedure in which a score of "0" was assigned to each item a person reported never having experienced and a score of "1" was allotted to each fantasy participants reported having experienced at least once during the past twelve months. ANOVA results for both the opposite-sex and same-sex scales suggested differences between groups on both scales, $F(2, 147) = 46, p < .001$, and $F(2, 147) = 214, p < .001$, respectively. Tukey

TABLE 9

EROS-D MEANS BY SEXUAL ORIENTATION
(N 50 in each group)

EROS		HETEROSEXUAL	HOMOSEXUAL	BISEXUAL
Heteroerotic	<u>M</u>	7.6	4.6	7.9
	<u>SD</u>	1.3	3.0	0.5
Homoerotic	<u>M</u>	2.5	7.9	7.9
	<u>SD</u>	2.5	0.5	0.6

tests revealed that homosexuals reported more same-sex fantasy than heterosexuals, $Q(3,147) = 25, p < .001$ and less opposite-sex fantasy than heterosexuals, $Q(3,147) = 11, p < .001$. Bisexuals, on the other hand, reported as much homoerotic fantasy as homosexuals, $Q(3,147) = 0, p = 1$ and as much heteroerotic fantasy as heterosexuals, $Q(3,147) = 1.19, p > .05$.

Quantitative Relationships Using EROS with the full range of Scores (EROS-FR). Subjects' responses to the EROS items were rescored using the full range of values available (refer to Appendix B). In other words, respondents received numeric scores of 0 (i.e., never), 1.5 (i.e., 1 - 2 times), 4.5 (3 - 6 times), 9.5 (7 - 12 times), 12 (monthly), 52 (weekly), and 365 (daily) to indicate how often they had had particular fantasies during the past twelve months. As this scoring procedure tended to yield a wide range of scores and heterogeneous variances (Bartlett-Box $F(147) = 36, p < .001$ for heteroerotic scale and Bartlett-Box $F = 118, p < .001$ for the homoerotic scale), a square-root transformation was deemed appropriate to make the variances more homogeneous (Kirk, 1968). Table 10 presents the means and standard deviations for each group on the two scales. Post-hoc comparisons revealed that homosexual respondents reported a higher frequency of homoerotic fantasy than heterosexuals, $Q(3,147) = 18.9, p < .001$, as well as a lower incidence of opposite-sex fantasy than heterosexuals,

TABLE 10

EROS-FR MEANS BY SEXUAL ORIENTATION

EFQ		HETEROSEXUAL	HOMOSEXUAL	BISEXUAL
Heteroerotic	<u>M</u>	63.5	13.9	62.8
	<u>SD</u>	30.9	14.4	33.1
Homoerotic	<u>M</u>	55.6	86.7	61.3
	<u>SD</u>	6.9	37	36.1

$Q(3,147) = 12.7, p < .001$. Bisexuals reported as much heteroerotic fantasy as heterosexuals, $Q(3,147) = 0.2, p > .05$, but less same-sex fantasy than homosexuals, $Q(3,147) = 5.9, p < .01$.

To summarize, heterosexuals reported more opposite-sex fantasy and less same-sex fantasy than homosexuals on each of the three measures (i.e., EFQ, EROS-D, EROS-FR). Alternatively, homosexuals reported more homoerotic and less heteroerotic themes than heterosexuals. Bisexuals reported as much same-sex fantasy as homosexuals and as much opposite-sex fantasy as heterosexuals on both EFQ and EROS-D. This is somewhat discrepant from the pattern for bisexuals that emerged on EROS-FR where this group reported a lower mean frequency of homoerotic fantasy than homosexuals. The incidence of bisexual's heteroerotic fantasies was similar to that of heterosexual respondents. It is apparent that when one uses an instrument which allows for a more extensive upper-range in assessing frequency of fantasy, a different pattern surfaces for bisexuals at least with respect to homoerotic fantasy.

Arousal, Frequency of Fantasy and Sexual Orientation

As it will be recalled, the EFQ asked subjects to provide ratings of sexual arousal for each of the 21 heteroerotic and homoerotic themes. A weighted frequency score was derived by multiplying the frequency of fantasy reported for each item by the corresponding arousal score for that item and summing across items within each of the

heteroerotic and homoerotic scales. This analysis was conducted in order to examine whether the relationship between weighted frequency and sexual orientation would be similar to that observed in the initial (unweighted) EFQ analysis. Table 11 presents the mean weighted scores for each group on the two scales. Differences between orientation groups were observed on both the heteroerotic, $F(2,147) = 87, p < .001$, and homoerotic scales, $F(2,147) = 88, p < .001$. Tukey tests revealed that heterosexuals reported more opposite-sex fantasy than homosexuals, $Q(3,147) = 15.2, p < .001$ and a lower incidence of same-sex fantasy than homosexuals, $Q(3,147) = 16.9, p < .001$. Bisexuals reported as much same-sex fantasy as homosexuals, $Q(3,147) = 1.53, p > .05$, and as much opposite-sex fantasy as heterosexuals, $Q(3,147) = 1.92, p > .05$. These findings are similar to those obtained by considering the unweighted EFQ scores.

The Discriminative Powers of EFQ, EROS-D, and EROS-FR

Separate, stepwise Discriminant Analyses (Klecka, 1970) were conducted using the scores on these three instruments to assess how well each measure differentiates between the three groups (as classified according to self-labels). In each of the three separate analyses, the discriminating variables were the heteroerotic and homoerotic scores on EFQ, EROS-D, or EROS-FR. The stepwise Discriminant Analysis employed pooled scores to determine if the data enabled differentiation of subjects

TABLE 11

MEAN-WEIGHTED FREQUENCIES OF HETEROSEXUAL, HOMOSEXUAL
AND BISEXUAL INDIVIDUALS ON THE EFQ SCALES

EFQ SCALE		HETEROSEXUAL	HOMOSEXUAL	BISEXUAL
Heteroerotic	<u>M</u>	2297	158	2567
	<u>SD</u>	912	299	1440
Homoerotic	<u>M</u>	71	2683	2447
	<u>SD</u>	184	1099	1534

into their respective orientation groups. This technique also produced a predicted group membership for each subject. Wilks' Lambda, a measure of group discrimination, was used to select the variables for entry into the stepwise analysis on the basis of their discriminating power. This statistical technique uses the overall multivariate F-ratio for testing differences in the group centroids. The variable which maximizes the F-ratio will also minimize Wilks' Lambda.

The first analysis used the two EROS-D scales as the discriminating variables. When the predicted group membership was compared with the actual group membership, (see Table 12) it was found that 120 out of 150 individuals, or 80%, were classified correctly on the basis of information from 2 variables (i.e., the total heteroerotic and homoerotic scores on EROS-D), Wilks' = .26, [equivalent $F(2, 147) = 214$], $p < .001$.

The second analysis used the EROS-FR heteroerotic and homoerotic scores as the discriminatory variables. When the predicted group membership was compared to the actual group membership (see Table 13) it was found that 131 out of 150 individuals, or 87%, were classified correctly on the basis of information, from two variables, Wilks' = .44, [equivalent $F(2, 147) = 95$], $p < .001$.

Using the total homoerotic and heteroerotic scores of EFQ as the discriminating variables, it was found that 90%

TABLE 12

COMPARISON OF ACTUAL GROUP MEMBERSHIP
WITH PREDICTED GROUP MEMBERSHIP USING
EROS-D

ACTUAL GROUP	PREDICTED GROUP			
	HETEROSEXUAL	HOMOSEXUAL	BISEXUAL	
Heterosexual	50	43	0	7
Homosexual	50	1	28	21
Bisexual	50	1	0	49

TABLE 13

COMPARISON OF ACTUAL GROUP MEMBERSHIP
WITH PREDICTED GROUP MEMBERSHIP USING
EROS - FR

ACTUAL GROUP	PREDICTED GROUP		
	HETEROSEXUAL	HOMOSEXUAL	BISEXUAL
Heterosexual	50	49	0
Homosexual	50	0	46
Bisexual	50	10	5

of the cases were correctly classified, Wilks = .36, [equivalent $F(2, 147) = 132$], $p < .001$. Table 14 displays the comparison of actual group membership to predicted group membership using EFQ.

Examination of Tables 12-14 reveals that information available from EROS-D results in several misclassifications of homosexual individuals since 42% of them become classified as bisexuals. The heteroerotic and homoerotic scores on EROS-FR and EFQ result in some misclassification of bisexuals. About 30% of them are classified as either homosexual or heterosexual.

Sex Differences In Frequency of Fantasy

Sex differences in frequency of fantasy were examined using a 2-way (group x sex) ANOVA on all three fantasy measures. In addition to the already observed group effects, a sex-effect was found on the EFQ-heteroerotic scale, $F(1, 144) = 4.9$, $p < .03$. There were no significant interaction effects, $F(2, 144) = 1.4$, $p > .26$. Male participants reported more fantasy than their female counterparts. A sex-effect was not observed on the homoerotic scale of EFQ, $F(1, 144) = 3.1$, $p > .08$. Men and women reported comparable frequencies of same-sex fantasy. Tables 15 and 16 present the mean frequency of fantasy of males and females on the EFQ scales.

There were no sex differences between groups on

TABLE 14

COMPARISON OF ACTUAL GROUP MEMBERSHIP
WITH PREDICTED GROUP MEMBERSHIP USING
EFQ

ACTUAL GROUP	PREDICTED GROUP		
	HETEROSEXUAL	HOMOSEXUAL	BISEXUAL
Heterosexual	50	0	0
Homosexual	0	49	1
Bisexual	9	6	35

TABLE 15

MEAN FREQUENCY OF FANTASY OF MALES
AND FEMALES ON EFQ HETEROEROTIC SCALE

SEX		Heterosexual	Homosexual	Bisexual
Male	<u>M</u>	351	39	360
	<u>SD</u>	97	57	158
Female	<u>M</u>	277	36	322
	<u>SD</u>	98	48	142

TABLE 16

MEAN FREQUENCY OF FANTASY OF MALES
AND FEMALES ON EFQ HOMOEROTIC SCALE

SEX		Heterosexual	Homosexual	Bisexual
Male	<u>M</u>	4	393	346
	<u>SD</u>	8	109	178
Female	<u>M</u>	28	322	295
	<u>SD</u>	49	92	150

either the heteroerotic or homoerotic scales of EROS-D, $E(1, 144) = .53, p > .47$, and $E(1, 144) = .03, p > .90$, respectively. Tables 17a and 17b present the mean frequencies and standard deviations of male and female respondents of all orientations on EROS-D.

The relationship between frequency of fantasy and sex was also examined with respect to EROS-FR. A sex-effect was obtained on opposite-sex fantasies, $F(1, 144) = 7.6, p < .006$. There were no interaction effects, $F(2, 144) = 1.2, p > .31$. Men reported a higher mean-frequency of fantasy than women. A sex effect, $F(1, 144) = 10.1, p < .002$, as well as two-way interaction effects, $F(2, 144) = 5.1, p < .01$, were observed on the homoerotic scale of EROS-FR. Tests of simple main effects were conducted first and these were followed by Tukey tests where appropriate. These post-hoc comparisons revealed that homosexual men reported a higher frequency of fantasy than their female counterparts, $Q(2, 144) = 5.9, p < .01$. Furthermore, homosexual men reported a higher frequency of same-sex fantasy than bisexual men $Q(2, 144) = 11.09, p < .001$. Homosexual women also had a higher mean-frequency than bisexual women $Q(2, 144) = 4.38, p < .01$.

In summary then, it appears that there are sex differences in frequency of fantasy depending on the instrument used to assess frequency. Sex-differences do not emerge for either heteroerotic or homoerotic fantasy on

TABLE 17

MEAN FREQUENCY OF FANTASY OF MALES
AND FEMALES ON EROS-D SCALES

A. EROS-D, HETEROEROTIC

SEX		HETEROSEXUAL	HOMOSEXUAL	BISEXUAL
Male	<u>M</u>	7.44	4.40	7.84
	<u>SD</u>	1.64	3.10	0.62
Female	<u>M</u>	7.68	4.80	7.92
	<u>SD</u>	0.71	2.99	0.28

B. EROS-D, HOMOEROTIC

SEX		HETEROSEXUAL	HOMOSEXUAL	BISEXUAL
Male	<u>M</u>	2.48	7.88	7.80
	<u>SD</u>	2.30	0.33	0.82
Female	<u>M</u>	2.52	7.84	7.92
	<u>SD</u>	2.70	0.62	0.28

EROS-D. EFQ reveals that women have a lower mean frequency of opposite-sex fantasy than do males.

EROS-FR scores on heteroerotic fantasy also indicate significant differences between men and women. Males have higher mean scores than their female counterparts. Finally, differences in the frequency of same-sex themes also surface on EROS-FR. Homosexual men report more frequent fantasy than homosexual women. Male and female homosexuals report more homoerotic fantasy than their respective bisexual counterparts.

Cross-Preference Fantasies

The domain of cross-preference fantasy was discussed briefly with reference to the descriptive examination of subjects' fantasies. It will be recalled that these did not seem to be high-incidence fantasies of our respondents. In order to examine more accurately the quantitative relationship between cross-preference fantasy and sexual orientation, the total mean scores on EFQ for cross-preference themes for homosexual and heterosexual participants were compared. Table 18 presents the means and standard deviations for each of the two groups. T-test comparisons of the combined male and female data (for each group), reveal a higher incidence of cross-preference fantasies in homosexuals, $T(98) = 4.86$, $p < .001$. In other words, homosexuals report experiencing opposite-sex fantasies more frequently than heterosexuals report experiencing same-sex fantasies. Sex-differences

TABLE 18

MEAN FREQUENCY OF CROSS PREFERENCE FANTASIES OF
 HETEROSEXUAL AND HOMOSEXUAL PARTICIPANTS
 ON EFQ

SEX		HETEROSEXUALS	HOMOSEXUALS
Male & Female combined	<u>M</u>	15.0	38.0
	<u>SD</u>	36.6	52.3
Male Only	<u>M</u>	3.9	39.8
	<u>SD</u>	7.9	56.9
Female Only	<u>M</u>	28.0	36.2
	<u>SD</u>	48.6	48.4

were also examined within groups. While there is no difference between male and female homosexuals with respect to frequency of cross-preference themes, $T(48) = .48$, $p > .70$, a sex-difference does surface within the heterosexual group, $I(48) = 4.9$, $p < .001$. Heterosexual women report a higher incidence of cross-preference themes than do their male counterparts.

Incidence of cross-preference fantasies between heterosexuals and homosexuals was also examined with respect to EROS-FR. A T-test comparison of the combined male and female data for each group, $I(98) = 4.89$, $p < .001$, further confirmed the finding that homosexuals report higher levels of opposite-sex fantasy than heterosexuals report about the same sex. As was the case with EFQ, sex-differences emerged within the heterosexual sample, $I(48) = 2.02$, $p < .05$. In other words, female heterosexuals report higher levels of cross-preference fantasy. Unlike EFQ, EROS-FR also pointed to sex differences within the homosexual group, $I(48) = 2.94$, $p < .01$. Homosexual males report experiencing more frequent opposite-sex fantasy than their female counterparts.

The means and standard deviations for each group on EROS-FR appear in Table 19. Not only do homosexuals, as a group, report higher levels of cross-preference fantasy than heterosexuals but homosexual males report a higher incidence of cross-preference fantasy than homosexual females.

TABLE 19

MEAN FREQUENCY OF CROSS PREFERENCE FANTASIES
OF HETEROSEXUAL AND HOMOSEXUAL INDIVIDUALS ON
EROS - FR

(N 100)

SEX		HETEROSEXUAL	HOMOSEXUAL
Male & Female Combined	<u>M</u>	16	85
	<u>SD</u>	39	197
Male Only	<u>M</u>	11	125
	<u>SD</u>	14	268
Female Only	<u>M</u>	22	44
	<u>SD</u>	53	65

Erotophobia-Erotophilia and Frequency of Fantasy

In examining some of the correlates of erotophobia-erotophilia, Byrne & Fisher (in press) report that erotophiles report daydreaming about sexual matters more often. The ANOVA results on SOS revealed that bisexuals have higher scores than heterosexuals or homosexuals. Furthermore, women had lower scores than their male counterparts. As it will be recalled, on the EFQ, bisexuals reported high levels of both heteroerotic and homoerotic fantasy. On the EFQ-heteroerotic scale, women reported lower levels of fantasy than males.

It seems reasonable to suspect that one's SOS score might bear some relation to frequency of fantasy reported. In order to examine whether one's erotophobic-erotophilic disposition represented a source of variation that had not been controlled for in the experiment, an Analysis of Covariance (ANCOVA) was carried out. ANCOVA adjusts the dependent variate (i.e. frequency of fantasy) so as to remove the effects of the uncontrolled variation represented by a concomitant variate (i.e. erotophobic vs. erotophilic disposition). An ANCOVA conducted on the EFQ-heteroerotic scale, revealed a significant group effect, $F(2, 143) = 133, p < .001$. In other words, individuals of various orientations differ sharply with respect to the frequency of opposite-sex fantasies even after removal of uncontrolled variation represented by SOS scores. As might be expected, the ANCOVA confirmed that the groups differed

with respect to SOS scores, $F(1, 143) = 31, p < .001$. Post-hoc comparisons were used to examine differences between orientation groups. For the heteroerotic scale, these revealed that heterosexuals reported more opposite-sex fantasy than homosexuals $Q(3,143) = 19.2, p < .001$ and that bisexuals reported as much heteroerotic fantasy as heterosexuals $Q(3,143) = 1.9, p > .10$. A sex-effect was not obtained on this scale after the adjustment of variation due to SOS scores, $F(1, 143) = .01, p > .91$.

An ANCOVA on the homoerotic scale pointed to a group-effect $F(1, 143) = 124.9, p < .001$. The groups also differed with respect to the covariate, $F(1, 143) = 1.03, p < .001$. Tukey tests revealed higher levels of homoerotic fantasy in homosexuals than heterosexuals, $Q(3,143) = 23.2, p < .001$, and no difference between bisexual and homosexual individuals, $Q(3,143) = 2.5, p > .05$. It thus appears that even after controlling for variation due to SOS scores, bisexuals still report high levels of both heteroerotic and homoerotic fantasy on EFQ.

ANCOVA on the EFQ-heteroerotic scale did not reveal any sex-differences as were observed in the ANOVA analyses on EFQ. As it will be recalled, EROS-FR revealed group differences in frequency of fantasy as well as sex differences. Men reported a higher incidence of opposite-sex fantasy than women. Homosexual males reported higher levels of same-sex fantasy than their female counterparts. In order to examine whether these sex-differences would

appear even after controlling for variation due to SOS scores, an ANCOVA was carried out on each of the EROS-FR scales.

The ANCOVA on the heteroerotic scale revealed a group effect as was expected [$E(1, 143) = 60.7, p < .001$], but did not suggest a sex-difference, $E(1, 143) = 0.94, p > .33$. Also, as expected, individuals differed with respect to SOS scores, $F(1, 143) = 19.6, p < .001$. A group-difference also appeared on the homoerotic scale, as expected, $E(2, 143) = 103, p < .001$, but there was no sex-effect, $E(1, 143) = 3.5, p > .56$. It thus seems that after controlling for variation due to subjects' erotophobic-erotophilic disposition, there are no sex differences in frequency of fantasy. The ANCOVA on the homoerotic scale yielded an interaction effect, $E(2, 143) = 5.2, p < .01$. Tests of simple main effects followed by a Tukey test revealed that homosexual males reported higher levels of same-sex fantasy than bisexual males, $Q(2, 143) = 5.3, p < .01$. This pattern was also observed in earlier ANOVA analyses on EROS-FR.

Multiple Measures of Sexual Orientation

In addition to being asked to label themselves as "gay", "straight", or "bisexual", participants were asked to rate themselves on a Kinsey scale with respect to their actual "sexual experiences" (K-1) and on another Kinsey scale with respect to their "sexual feelings" (K-2). Furthermore, respondents filled-out the Sexual Behavior

Survey (SBS) which asked them to indicate how often they have engaged in a variety of heterosexual and homosexual acts during the past six months. SBS thus yields two scores per subject: one reflecting total heterosexual experiences (SBS-HET) and another measuring total homosexual experiences (SBS-HOM). Another potential basis for classifying subjects was afforded by the arousal measures. Respondents were asked to rate their arousal to heterosexual and homosexual fantasy themes. Thus each subject had a total heterosexual arousal score (HET-AROUSAL) and a total homosexual arousal score (HOM-AROUSAL). As the SBS was developed for the purpose of the present study, some of its psychometric properties were examined. Cronbach's alpha, a member of the Guttman family of coefficients, was computed for each of the two scales (heterosexual and homosexual experiences) as well as for the entire instrument. The reliability of the heterosexual scale was 0.96 while that of the homosexual scale was 0.98. Cronbach's alpha for all 40 items of the SBS was 0.95. These results suggest excellent interitem consistency. A split-half analysis on each of the two scales revealed a between-scales correlation of 0.92 for the heterosexual scale and a Guttman split-half reliability of 0.94. A between-scales correlation of 0.93 was obtained for the homosexual scale as well as a Guttman split-half reliability of 0.96. The two scales thus also have excellent internal consistency.

Table 20 presents the Pearson correlation coefficients amongst these alternative measures of sexual orientation (i.e., K-1, K-2, SBS-HOM, HET-AROUSAL, HOM-AROUSAL). When a large number of correlations are computed, there is an increase in the probability of some of these turning out significant. The Bonferroni approach was thus used to determine statistical significance (Larzelese and Mulaik, 1975). This is a fairly conservative technique which uses the experiment as the conceptual unit for error-rate. The alpha level used was .001 (i.e., $0.05/36$). Inspection of this table points to highly significant correlations amongst most of these variables. For instance, individuals who rate themselves on the high end of K-1 (i.e., the homosexual range) are likely to rate themselves high on K-2 (also in the homosexual range) and to score high on SBS-HOM and HOM-AROUSAL. Furthermore, they are likely to score low on SBS-HET and HET-AROUSAL. There does not appear to be any relationship between SBS-HET and HOM-AROUSAL or between HET-AROUSAL and HOM-AROUSAL. Stated alternatively, how one scores on total heterosexual experiences does not say anything about their homosexual arousal score. Interestingly enough, one's heterosexual arousal score also does not say anything about their homosexual arousal score.

The intercorrelations between these self-report measures of orientation and frequency of heteroerotic and

TABLE 20

PEARSON CORRELATION COEFFICIENTS BETWEEN VARIOUS SELF-REPORT MEASURES OF
SEXUAL ORIENTATION

(N = 150)

	K - 1	K - 2	SBS-HET	SBS-HOM	HET-AROUSAL	HOM-AROUSAL
K - 1	1.00	0.93	-0.69	0.66	-0.57	0.70
K - 2	-	1.00	-0.61	0.63	-0.54	0.68
SBS-HET	-	-	1.00	-0.32	0.69	-0.34
SBS-HOM	-	-	-	1.00	-0.11*	0.82
HET-AROUSAL	-	-	-	-	1.00	-0.05*
HOM-AROUSAL	-	-	-	-	-	1.00

-all correlations significant according to Bonferroni criteria ($p < .001$) except those marked with an asterisk.

homoerotic fantasies as measured by EFQ, EROS-D, and EROS-FR are depicted in Table 21. Significant correlations exist between many of these measures using the Bonferroni criteria. An individual who rates themselves in the low-end of K-2 (i.e., the heterosexual range), is likely to obtain a high score on EFQ-heteroerotic, EROS(D)-heteroerotic, and EROS(FR)-heteroerotic and to have low scores on all three homoerotic measures. HET-AROUSAL is not correlated with EFQ-HOM and HOM-AROUSAL does not appear to be related to EFQ-HET. In other words, one's heterosexual arousal score does not provide additional information as to their frequency of homosexual fantasy (as measured by EFQ). Their homosexual arousal score also does not say anything about the frequency of heterosexual fantasy (as measured by EFQ).

A principal component analysis was conducted to further examine the relationship between these various measures of sexual orientation. The variables included in this analysis were K-1, K-2, SBS-HET, SBS-HOM, HET-AROUSAL, HOM-AROUSAL, as well as all measures of frequency of fantasy including the weighted frequency (i.e., arousal X frequency) scores on each of the two EFQ Scales. [W(EFQ)-HET denotes the weighted heteroerotic frequency score while W(EFQ)-HOM denotes the weighted homoerotic frequency score]. Extraction of principle components was accomplished without iterations and was followed by an orthogonal rotation using the varimax criterion.

TABLE 21

PEARSON CORRELATION COEFFICIENTS BETWEEN VARIOUS SELF-REPORT MEASURES OF
SEXUAL ORIENTATION AND FREQUENCY OF HETEROEROTIC (HET) AND HOMEROTIC (HOM)
FANTASIES
(N = 150)

	EFQ-HET	EFQ-HOM	EROS(D)-HET	EROS(D)-HOM	EROS(FR)-HET	EROS(FR)-HOM
K - 1	-0.62	0.75	-0.51	0.75	-0.56	0.74
K - 2	-0.65	0.74	-0.53	0.78	-0.56	0.73
SBS-HET	0.71	-0.36	0.48	-0.39	0.60	-0.47
SBS-HOM	-0.16**	0.82	-0.22*	0.58	-0.22*	0.73
HET-AROUSAL	0.98	-0.09**	0.51	-0.23*	0.81	-0.24*
HOM-AROUSAL	-0.11**	0.98	-0.20*	0.67	-0.17*	0.85

- all correlation without asterisks are significant using Bonferroni criteria, $p < .001$

* significant using Bonferroni criteria, $p < .006$

** non-significant correlations

The initial analysis yielded two factors with eigenvalues greater than one (refer to Table 22). These two factors accounted for over 82% of the variance. The two factors and their loadings are presented in Table 23. An examination of these factor loadings suggests that the first factor defines a homosexual response dimension whereas the second factor defines a heterosexual response dimension.

What Measure(s) Discriminate Best Between Groups?

A stepwise discriminant analysis (Klecka, 1970) was conducted to assess what measure(s) could best differentiate between the three groups as classified according to self-labels. The discriminating variables included K-1, K-2, SBS-HET, SBS-HOM, HET-AROUSAL, HOM-AROUSAL, as well as all the measures of frequency of fantasy - i.e. EFQ-HET, EFQ-HOM, EROS(D)-HET, EOS(D)-HOM, EROS(FR)-HET and EROS(FR)-HOM) and the weighted frequency scores on each of the two EFQ scales - i.e., W(EFQ)-HET and W(EFQ)-HOM. Discriminant analysis attempts to differentiate between groups by forming one or more linear combination of the discriminating variables. This technique also produces a predicted group membership for each subject. Rao's V, measure of group discrimination, was used to select the variables for entry into the stepwise analysis on the basis of their discriminating power. This technique selects variables on the basis of their ability to contribute the largest increase in V when

TABLE 22

RESULTS OF PRINCIPLE COMPONENT
ANALYSIS ON THE VARIOUS
MEASURES OF SEXUAL ORIENTATION

Factor	Eigenvalue	Pct of Var	Cum Pct
1	7.9	56.4	56.4
2	3.6	25.7	82.1

TABLE 23

VARIMAX ROTATED FACTOR MATRIX

Variable	Factor 1	Factor 2
K-1	.73	-.60
K-2	.73	-.61
SBS-HOM	.85	-.10
HOM-AROUSAL	.96	-.07
EFQ-HOM	.98	-.08
EROS(D)-HOM	.80	-.19
EROS-(FR)-HOM	.88	-.20
W(EFQ)-HOM	.96	-.03
SBS-HET	-.33	.75
HET-AROUSAL	-.12	.95
EFQ-HET	-.08	.96
EROS(D)-HET	-.15	.68
EROS(FR)-HET	-.09	.86
W(EFQ)-HET	-.02	.96

added to the previous variables. This amounts to the greatest overall separation of the groups. A variable is selected only if its partial multivariate F-ratio is larger than a specified value. The partial F-ratio measures the discrimination introduced by a variable after taking into account the discrimination achieved by other selected variables. If the partial F is too small the variable is not considered for inclusion.

An examination of Table 24 reveals that 11 of the original 14 variables were selected before the addition to Rao's V became nonsignificant. The Kinsey rating with respect to "sexual feelings" was found to be the single best discriminating variable. The total heterosexual arousal score was then selected in combination with K-2 as the next best discriminating variable, and so on. K-2 contributes the largest increase in Rao's V, indicating high discriminating power.

When the predicted group membership was compared with actual group membership, it was found that 148 out of 150 individuals, or 98.7%, were classified correctly on the basis of information from 11 variables, Rao's V = 2854, $p < .001$. Table 25 presents the number of respondents classified correctly within each group.

The discriminant analysis yielded two significant canonical discriminant functions. Table 26 shows the changes in Wilk's lambda (and their associated chi-square tests of statistical significance) as the information in

TABLE 24
 SUMMARY OF STEPWISE DISCRIMINANT ANALYSIS

STEP	Variables Entered	Rao's V*	Change in V*
1	K - 2	2058	2058
2	HET-AROUSAL	2258	199
3	K - 1	2424	167
4	EROS(D)-HOM	2534	110
5	EROS(FR)-HOM	2598	64
6	HOM-AROUSAL	2632	33
7	W(EFQ)-HET	2656	24
8	EFQ-HET	2713	58
9	EFQ-HOM	2764	51
10	W(EFQ)-HOM	2841	77
11	SBS-HET	2854	12

*Significant at each step, $p < .001$

TABLE 25

COMPARISON OF ACTUAL GROUP MEMBERSHIP
WITH PREDICTED GROUP MEMBERSHIP

ACTUAL GROUP	PREDICTED GROUP		
	HETEROSEXUAL	HOMOSEXUAL	BISEXUAL
Heterosexual	50	49	0
Homosexual	50	0	49
Bisexual	50	0	0

successive discriminant functions is removed. Before any functions were removed, lambda was .016 indicating that considerable discriminating power existed in the variables being used. After some of this discriminating power was removed by placing it into the first discriminant function, lambda increases, but the chi-square suggests that a statistically significant amount of discriminating information still exists. The canonical discriminant function coefficients (refer to Table 27) represent the relative contributions of the variables to the respective functions. Variables K-2, EFQ-HOM, and W(EFQ)-HOM each provide a large contribution to the first function. Most variables provide an important contribution to the second function. The exceptions include K-1, K-2, SBS-HET, and EROS(FR)-HOM. These results suggest that the first function represents homosexual feelings, fantasy, and arousal while the second function represents both heterosexual and homosexual fantasy and arousal. The group centroids are presented in Table 28. These are the mean discriminating scores for each group on the respective functions. An examination of this table reveals that the first function differentiates between all three sexual orientations. The second function differentiates bisexuals from the other two groups. These results suggest that: (a) a linear combination of variables can discriminate between all three groups and (b) a second

TABLE 26

CANONICAL DISCRIMINANT FUNCTIONS

FUNCTION	EIGENVALUE	% OF VARIANCE	CANONICAL CORRELATION	AFTER FUNCTION	WILKS LAMBDA	χ^2	D.F.
1	17.1	87.39	.97	0	.016	585	24
2	2.5	12.61	.84	1	.29	175	11

* both are significant, $p < .001$

TABLE 27

CANONICAL DISCRIMINANT FUNCTION COEFFICIENTS

Variables	Function 1	Function 2
K-f	.21	.04
K-2	.75	-.16
EFQ-HET	-.35	1.38
EFQ-HOM	.78	.53
HET-AROUSAL	-.01	.62
HOM-AROUSAL	-.08	1.28
EROS(D)-HOM	.06	.38
SBS-HET	.04	.18
EROS-(FR)-HOM	.13	-.21
W(EFQ)-HET	.03	-1.68
W(EFQ)-HOM	-.59	-1.31

TABLE 28

CANONICAL DISCRIMINANT FUNCTIONS EVALUATED AT GROUP CENTROIDS

GROUP	FUNCTION 1	FUNCTION 2
Heterosexual	-5.02	-1.09
Homosexual	5.00	-1.10
Bisexual	0.03	2.20

linear combination of variables can discriminate bisexuals from unisexual individuals.

The Relation Between the "Other" Measures of Sexual Orientation and Self-Labeling

A two-way ANOVA (group X sex) was conducted using the alternative measures of sexual orientation (i.e., K-1, K-2, SBS-HET, SBS-HOM, HET-AROUSAL, HOM-AROUSAL) as dependent variables and self-label as the independent variable. Table 29 presents the means and standard deviations for each group on the alternative measures.

The results of this analysis indicated that while there were no sex-differences on K-1 [$F(1, 144) = 3.5$, $p > .05$] or K-2 ratings, [$F(1, 144) = 3.62$, $p > .05$] the groups differed sharply with respect to both K-1 and K-2. Post-hoc comparisons using Tukey tests revealed that heterosexuals scored lower than bisexuals on K-1, $Q(3, 144) = 20.1$, $p < .001$, bisexuals, in turn, scored lower than homosexuals, $Q(3, 144) = 21.3$, $p < .007$. The K-2 ratings also revealed a similar pattern. Heterosexuals scored lower than bisexuals, $Q(3, 144) = 6.5$, $p < .001$, who in turn scored lower than homosexuals, $Q(3, 144) = 31$, $p < .001$.

Group [$F(2, 144) = 186$, $p < .001$] and sex differences [$F(1, 144) = 6.8$, $p < .01$] are evident on the HET-AROUSAL measure. Post-hoc examinations revealed that heterosexuals scored higher than homosexuals, $Q(3, 144) = 22$, $p < .001$. Bisexuals did not differ from heterosexuals, $Q(3, 144) = 2.67$, $p > .05$. Women had lower scores than

TABLE 29

SELF-ASSIGNED LABELS AND MEANS SCORES ON OTHER
ORIENTATION MEASURES
(N 150)

OTHER MEASURES		HETEROSEXUAL	HOMOSEXUAL	BISEXUAL
K-1	<u>M</u>	0.70	5.55	2.80
	<u>SD</u>	0.29	0.96	1.25
K-2	<u>M</u>	0.34	5.55	3.10
	<u>SD</u>	0.52	0.68	0.50
SBS-HET	<u>M</u>	246.72	11.06	217.42
	<u>SD</u>	119.60	21.80	125.78
SBS-HOM	<u>M</u>	2.48	245.82	209.28
	<u>SD</u>	5.41	144.82	151.06
HET-AROUSAL	<u>M</u>	121.38	19.40	133.70
	<u>SD</u>	30.36	23.14	43.44
HOM-AROUSAL	<u>M</u>	10.82	128.00	130.70
	<u>SD</u>	19.33	31.64	46.65

males. A group effect was obtained on the HOM-AROUSAL measure, $E(2, 144) = 202, p < .001$, but there was no sex-effect, $F(1, 144) = .4, p > .53$. Tukey-test comparisons revealed that homosexuals scored higher than heterosexuals, $Q(3, 144) = 24, p < .01$. There was no difference between homosexuals and bisexuals, $Q(3, 144) = 0.6, p > .05$.

While there were no sex differences on SBS-HET, $E(1, 144) = 0.07, p > .8$, a group effect was observed $E(2, 144) = 80, p < .001$. Post-hoc analyses revealed significantly higher scores for heterosexuals than homosexuals, $Q(3, 144) = 16.4, p < .001$. Bisexuals did not differ from heterosexuals, $Q(3, 144) = 2.0, p > .05$. Finally, SBS-HOM revealed both groups $F(2, 144) = 63.3, p < .001$ and sex-differences, $F(1, 144) = 7.7, p < .01$. Interaction effects were also observed, $E(2, 144) = 3.2, p < .05$. Tests of simple main-effects followed by post-hoc comparisons revealed that homosexuals scored higher than heterosexuals $Q(3, 144) = 15, p < .01$. There was no difference between bisexual and homosexual individuals $Q(3, 144) = 2.2, p > .05$. Homosexual males, however, scored higher than their female counterparts, $Q(2, 144) = 4.98, p < .01$ and higher than bisexual males, $Q(3, 144) = 4.3, p < .05$.

To summarize, the three groups differ sharply with respect to both Kinsey ratings. Heterosexuals and homosexuals place themselves at the opposing extremities of the scale while bisexuals rate themselves in the

middle-range. With reference to the other measures, it appears that while heterosexuals and homosexuals differ sharply in type of sexual encounters and in sexual arousal in response to fantasy themes, bisexuals score high on both heterosexual and homosexual experiences as well as on both homoerotic and heteroerotic arousal.

Discriminant Analysis Controlling the Entry of the Kinsey Ratings.

The above results strongly suggest that information provided by the Kinsey ratings is redundant to that provided by self-labelling in the sense that both methods of classification yield three similarly distinct groups of subjects. Another stepwise, discriminant analysis was thus conducted in which K-1 and K-2 were forced in as the last two variables. All other measures used in the previous analysis were included. Table 30 indicates that eleven measures made a significant contribution towards discrimination, Rao's $V = 1698$, $p < .001$. The entry of the Kinsey ratings raised Rao's V to 2868, $p < .001$. The introduction of K-2 contributed the largest increase in Rao's V . Examination of Table 30 reveals that when K-1 and K-2 are prevented from entering the analysis at an early stage, the total homosexual fantasy score on EROS-D is chosen as the single best discriminating variable. The total heterosexual arousal score was then selected in combination with EROS(D)-HOM as the next best discriminating variable, and so on.

TABLE 30
SUMMARY OF STEPWISE DISCRIMINANT ANALYSIS

STEP	Variable Entered	Rao's V*	Change in V*
1	EROS(D)-HOM	429	429
2	HET-AROUSAL	804	375
3	HOM-AROUSAL	1325	521
4	EROS(FR)-HET	1371	47
5	EFQ-HOM	1413	41
6	W(EFQ)-HOM	1561	148
7	EROS(FR)-HOM	1580	20
8	EROS(D)-HET	1606	26
9	SBS-HET	1620	14
10	EFQ-HET	1630	9**
11	W(EFQ)-HOM	1698	69
12	K - 2	2787	1089
13	K - 1	2868	81

*significant at each step, $p < .001$

**significant, $p < .01$

As in the previous analysis, two significant discriminant functions were obtained (Wilks' Lambda = 0.016, $\chi^2 = 581$, $p < .001$ and Wilks' Lambda = 0.30, $\chi^2 = 173.5$, $p < .001$). Table 31 presents the discriminant function coefficients for the 13 variables - K-2, EFQ-HOM, and W(EFQ)-HOM make the largest contributions to the first function. Both heterosexual and homosexual fantasy and arousal contribute to the second function. The first function appears to define homosexual feelings; fantasy and arousal while the second function represents heterosexual and homosexual fantasy and arousal. The group centroids are presented in Table 32. These are the mean discriminating scores for each group on the respective functions. As in the first analysis, the first function differentiates between all three sexual orientations while the second function differentiates bisexuals from unisexuals.

The Relation Between Frequency of Fantasy and Sexual Orientation as Assessed by Behavioral Measures

In order to arrive at an assessment of sexual orientation that was independent of participants' self-labels, scores on SBS were considered. As it will be recalled, this instrument sampled the frequency of heterosexual and homosexual contacts over the recent past (i.e., past six months). Respondents were classified as to orientation without any reference to their self-labels or their Kinsey ratings. It was reasoned that a

TABLE 31

CANONICAL DISCRIMINANT FUNCTION COEFFICIENTS

Variable	Function 1	Function 2
EFQ-HET	.39	1.38
EFQ-HOM	-.78	.56
HET-AROUSAL	.06	-.56
HOM-AROUSAL	.09	1.25
EROS(D)-HET	-.06	.03
EROS(D)-HOM	-.08	.39
SBS-HET	-.04	.18
EROS(FR)-HET	.06	-.22
EROS(FR)-HOM	-.12	-.15
W(EFQ)-HET	-.14	-1.48
W(EFQ)-HOM	.58	-1.39
K-1	-.22	.04
K-2	-.75	-.20

TABLE 32
CANONICAL DISCRIMINANT FUNCTIONS
EVALUATED AT GROUP CENTROIDS

GROUP	FUNCTION 1	FUNCTION 2
Heterosexual	5.03	-1.08
Homosexual	-4.99	-1.10
Bisexual	-0.04	2.18

heterosexual individual should have had primarily, if not exclusively, opposite-sex encounters during the past six months while a homosexual should have had primarily, if not exclusively, same-sex experiences. With these approximate guidelines in mind, 90% was arbitrarily chosen as the criterion for inclusion into one of these groups. In other words, to be classified as heterosexual, 90% or more of one's sexual experiences should have entailed opposite-sex contacts (i.e., $SBS-HET/SBS-TOTAL \geq 0.90$). Similarly, to be classified as homosexual, 90% or more of one's sexual experiences during the past six months should have entailed same-sex contacts (i.e., $SBS-HOM/SBS-TOTAL \geq 0.90$). Developing criteria for bisexual participants posed a special problem. While one could argue that over a long period of time bisexuals should have had an approximately equal proportion of heterosexual to homosexual experiences, it seems unlikely that such equality would manifest itself over a relatively short period of time such as six-months. Practical considerations such as availability of partners, romantic involvements, or present living arrangements, could easily distort the balance of heterosexual to homosexual experiences. More flexibility was thus exercised in arriving at criteria for inclusion into this third group. In order to be classified as bisexual, an individual's heterosexual contacts should have comprised 70% or less of his total and his homosexual contacts should also have

comprised 70% or less of his total experiences, (i.e. SBS-HET/SBS-TOTAL \leq 0.70, and SBS-HOM/SBS-TOTAL \leq 0.70). Clearly, the criteria chosen are somewhat arbitrary and one could easily argue for the appropriateness of any other classificatory procedure. Our own approach yielded three groups of subjects: heterosexual (N = 50), homosexual (N = 48) and bisexual (N = 33). In other words, while all heterosexuals met the 90% criterion, 2 homosexuals did not. Furthermore, 17 bisexuals had had either heterosexual or homosexual contacts in excess of 70% over the past six months.

An ANOVA was conducted to examine the relation between frequency of fantasy on each of EFQ, EROS-D and EROS-FR and sexual orientation as assessed by SBS. Table 33 presents the means and standard deviations for each group on all three instruments.

A group-effect was obtained on both the heteroerotic and homoerotic scales of EFQ, $F(2,128) = 88, p < .001$ and $F(2,128) = 174, p < .001$, respectively. Because of the unequal number of subjects in each group, the Scheffe procedure was utilized for post-hoc comparisons. Heterosexuals scored higher than homosexuals on EFQ-HET ($E = 116.2, F(2,128) = 9.58, p < .001$) but lower than bisexuals ($F = 12.7, p < .01$). On EFQ-HOM, homosexuals scored higher than heterosexuals ($F = 252, p < .001$). There was no difference between homosexual and bisexual individuals ($F = 2.5, p > .05$).

TABLE 33

FREQUENCY OF FANTASY IN DIFFERENT ORIENTATION GROUPS
CLASSIFIED ON THE BASIS OF SEXUAL EXPERIENCES

(N = 150)

VARIABLE		Heterosexual	Homosexual	Bisexual
EFQ-HET	M	308	60	390
	SD	104	120	135
EFQ-HOM	M	38	359	391
	SD	80	118	112
EROS(D)-HET	M	7.6	4.7	7.8
	SD	1.1	3.0	0.7
EROS(D)-HOM	M	3.5	7.9	7.8
	SD	3.0	0.5	0.9
EROS(FR)-HET	M	61	18	69
	SD	30	27	28
EROS(FR)-HOM	M	11	87	67
	SD	18	39	28

Group differences were observed on both the heteroerotic and homoerotic scales of EROS-D, $E(2, 127) = 33, p < .001$ and $E(2, 127) = 69, p < .001$, respectively. Post-hoc comparisons revealed higher scores for heterosexuals than homosexuals on opposite-sex fantasy ($F = 130, F(2, 128) = 9.58, p < .001$) and no difference between heterosexuals and bisexuals ($F = .24, p > .05$). Scheffe tests on homoerotic fantasy scores pointed to a higher incidence among homosexuals than heterosexuals ($F = 109, p < .001$) and no difference between homosexuals and bisexuals ($F = 0.10, p > .05$).

Finally, group effects were obtained on both the heteroerotic and homoerotic scales of EROS-FR, $E(2, 127) = 39.5, p < .001$, and $E(2, 128) = 101, p < .001$, respectively. Post-hoc comparisons on heteroerotic fantasy revealed that while heterosexuals scored higher than homosexuals ($F = 59, F(2, 128) = 9.58, p < .001$), they did not differ from bisexuals ($F = 1.5, p > .05$). Homosexuals reported a higher incidence of same-sex fantasy than heterosexuals ($F = 175, p < .001$) and a higher incidence than bisexuals ($F = 12.5, p < .01$).

To summarize, heterosexual respondents reported more opposite-sex fantasy than homosexuals. Bisexuals score differently depending on the fantasy measure used. On EROS-D, they report as much same-sex fantasy as homosexuals and as much opposite-sex fantasy as heterosexuals. On EFQ, they report more opposite-sex

fantasy than heterosexuals and as much same-sex fantasy as homosexuals. Finally, on EROS-FR, they report less same-sex fantasy than homosexuals and as much opposite-sex fantasy as heterosexuals.

Discussion

One of the principle aims of this study was to examine the relationship between frequency of fantasy and sexual orientation in order to shed light on implications for unidimensional vs. bidimensional theories of sexual orientation. As it will be recalled, a unidimensional theory views heterosexual and homosexual tendencies as being interdependent in an oppositional relationship to each other. A bidimensional theory contends that heterosexuality and homosexuality are separate, independent erotic response dimensions.

Examining first the relation between frequency of fantasy (as measured by three different instruments) and sexual orientation (as defined by respondents' self-labels), the results of this study confirmed initial hypotheses with reference to frequency of fantasy in heterosexual and homosexual individuals. On all three measures, EFQ, EROS-D and EROS-FR heterosexuals reported significantly more opposite-sex and significantly less same-sex fantasy than homosexuals. Alternatively, homosexuals reported more homoerotic and less heteroerotic fantasy than heterosexuals. These findings are consistent

with those reported by Storms (1980) and lend support to the general notion that unisexuals of various orientations differ markedly in the content and frequency of their erotic fantasies.

Different patterns emerge for bisexuals depending on the instrument used to assess frequency. On both EFQ and EROS-D bisexuals report as much heteroerotic fantasy as heterosexuals and as much homoerotic fantasy as homosexuals. Bisexuals reported as much opposite-sex fantasy as heterosexuals on EROS-FR and less same-sex fantasy than homosexuals. These results need to be considered in the light of the characteristics of the measuring instruments. Because of its dichotomous scoring procedure (i.e., "never", or "at least once") it can be argued that EROS-D only indicates how common, or widespread, the occurrence of certain themes is among different individuals. It seems reasonable to assume that bisexuals should have experienced, at least once, the same themes as homosexuals as well as those of heterosexuals. EROS-D does not yield a true frequency measure in terms of the cumulative frequency of a variety of fantasies and thus does not provide information on the relative contribution of a bisexual's heteroerotic and homoerotic fantasies to his or her overall erotic response make-up. One needs such information in order to be able to assess the appropriateness of a particular theory of sexual orientation. Both EFQ and EROS-FR provide more accurate

frequency measures in that subjects are asked to indicate how often they have had certain fantasies over a fixed period of time. Both these instruments can yield a cumulative total frequency score of heteroerotic and homoerotic fantasy if one simply sums the individual item frequencies across each of the two scales. EROS-FR has a more extensive upper range (i.e., up to "daily") than EFQ (i.e., up to "more than once per week"). When one uses a measure of fantasy with a more discriminating upper range of frequencies, homosexuals obtain a higher frequency of same-sex fantasies than bisexuals. Bisexuals, however, still report a substantial incidence of same-sex fantasy as they have mean frequency scores ranging from 4 - 13 times per month for each of the eight homoerotic themes on EROS-FR.

It will be recalled that EFQ also solicited ratings of sexual arousal for each of the fantasy themes. Weighted (arousal X frequency) scores were thus obtainable for each of the two scales and their relationship to sexual orientation was examined. A pattern emerged similar to that obtained on the first EFQ analysis. In other words, heterosexuals reported more heteroerotic and less homoerotic fantasy than homosexuals while bisexuals reported as much opposite-sex fantasy as heterosexuals and as much same-sex fantasy as homosexuals.

The unidimensional and bidimensional theories lead to similar predictions about the content and frequency of

erotic fantasies of heterosexual and homosexual individuals. Both models predict that heterosexuals will have more fantasies about the opposite sex and fewer fantasies about their own sex than will homosexuals. The two positions differ most with respect to predictions about the erotic fantasies of bisexuals. Kinsey's theory predicts that bisexuals should report moderate levels of both heteroerotic and homoerotic fantasies. Adopting stringent quantitative criteria, bisexuals should report approximately half the amount of opposite-sex fantasy indicated by heterosexuals and half the amount of same-sex fantasy reported by homosexuals. Storms' position holds that bisexuals should have high degrees of both heteroerotic and homoerotic fantasy. In more precise quantitative terms, bisexuals should report similar frequencies of same-sex fantasy as homosexuals and as many opposite-sex fantasies as heterosexuals. The results of fantasy measures in the present study do not provide unequivocal support for either theory when these quantitative criteria are applied. The EFQ results support the bidimensional position as bisexuals report as much opposite-sex fantasy as heterosexuals and as much same-sex fantasy as homosexuals. The EROS-FR data can be used to argue for, or against, either position as bisexuals report as much heteroerotic fantasy as heterosexuals and less homoerotic fantasy than homosexuals.

Using theoretical, as opposed to strict quantitative criteria, the results on fantasy measures are most consistent with predictions of a bidimensional model. Bisexuals report similar frequencies of opposite-sex fantasy as heterosexuals on both EFQ and EROS-FR and, on one of these measures, as much same-sex fantasy as homosexuals. On the one measure (EROS-FR) where they report a lower incidence of same-sex fantasy than homosexuals they still display a prominent homoerotic response capacity. The findings on EFQ and EROS-FR lend further support to a bidimensional position as individuals' heteroerotic vs. homoerotic scores do not seem to be interdependent in oppositional relationship to each other. Stated alternatively, knowing a bisexual's heteroerotic score does not necessarily reveal their exact homoerotic score. If one defines bidimensionality by the presence of a substantial capacity to fantasize erotic experiences with either gender, then the results of the present study provide support for Storms' theory even though on some measures bisexuals obtain statistically lower scores than unisexuals.

Part of the difficulty in attempting to account for the present findings in terms of either of the two theoretical positions undoubtedly reflects some of the inadequacies in the present state of development of these theories. Both the unidimensional and bidimensional models can be regarded as limited with respect to the

domains of sexual responsivity sampled and in attempts to quantify these domains. Storms developed his model based on a consideration of a narrow range of erotic fantasies in individuals of different sexual orientations using a measure characterized by a severely restricted range of frequencies. While Kinsey and his colleagues considered both psychosexual (i.e., sexual feelings and fantasy) and overt behavioral measures in developing their model, they did not specify criteria for evaluating the relative contribution of each component to an individual's overall orientation. The question of what criteria define bidimensionality, as opposed to unidimensionality, in human sexual preference has not been adequately worked out.

In examining the unidimensional-bidimensional controversy, the focus has been on the relations between frequency of fantasy and sexual orientation as previous research has used this relation to argue for the appropriateness of a bidimensional theory (Storms, 1980). The present study included multiple measures of sexual orientation each of which tapped somewhat different aspects of human sexual functioning thus enabling one to assess the broader applicability of these two models.

An interesting finding which emerged from the correlations amongst these multiple measures was that homosexual arousal was not correlated with heterosexual arousal. Furthermore, heterosexual arousal was not

correlated with frequency of same-sex fantasy nor was homosexual arousal correlated with frequency of opposite-sex fantasy. A unidimensional theory would predict a high negative correlation between heterosexual and homosexual arousal since it assumes that heterosexuality and homosexuality are situated at opposing extremities of a continuum. The above findings suggest that sexual arousal, in response to imaginal sexual activity, could be well described by assuming separate, independent heteroerotic and homoerotic arousal-response dimensions.

Analysis of the relationship between total arousal scores on each of the two EFQ scales and sexual orientation (as defined by self-labels) lends further support to a bidimensional model. While heterosexuals reported significantly higher HET-AROUSAL scores and significantly lower HOM-AROUSAL scores than homosexuals, bisexuals reported as much heteroerotic arousal as heterosexual respondents and as much homoerotic arousal as homosexual respondents.

The relationship between each of the two SBS scales and sexual orientation (as defined by self-labels) also conforms to predictions of a bidimensional model. While homosexuals reported significantly more same-sex experiences and significantly less opposite-sex experiences than heterosexuals, bisexuals reported as many heterosexual experiences as heterosexuals and as many same-sex contacts as homosexuals. As the SBS frequency

scales have a ceiling problem, caution needs to be exercised in concluding that a bidimensional theory is appropriate in accounting for reported sexual behavior of people of different orientations. The arousal scales of EFQ however, are free of such ceiling problems and it is thus more warranted to conclude that these measures favour a bidimensional model of sexual arousal.

As already noted, there is not at present much information as to what constitutes the most reliable and valid way of assessing sexual orientation. While this study suggests that the method used to measure frequency of fantasy can have some bearing on the patterns that emerge, it seems reasonable to assume that the procedure followed to assess sexual orientation could also have important implications when examining the relation between erotic fantasies and sexual orientation. The question of what best discriminates between people of various orientations thus merits closer examination.

Most of the alternative measures of sexual orientation (i.e., K-1, K-2, SBS-HET, SBS-HOM, HET-AROUSAL, HOM-AROUSAL) were significantly correlated with each other. Thus individuals who rate themselves in the low end of K-1 (i.e., the heterosexual experiences range) are likely to also rate themselves low on K-2 (i.e., the heterosexual-feelings range), to report having had extensive heterosexual contacts (high SBS-HET score) and obtain high scores on heterosexual arousal (HET-AROUSAL).

Furthermore, they are likely to report having few, if any, homosexual contacts (low SBS-HOM score) and they obtain low scores on homosexual arousal (HOM-AROUSAL).

An examination of the relationship between the two Kinsey ratings and participants' self-labels reveals that all three classification methods yield three very distinct groups of individuals - i.e., heterosexuals, homosexuals and bisexuals. Heterosexuals and homosexuals placed themselves at opposing extremities of the Kinsey scales while bisexuals placed themselves in the middle range. There thus exists a high correspondence between respondents' self-labelling and their ratings on the Kinsey scale with respect to "sexual behavior" and also on the Kinsey scale with respect to "sexual feelings".

Discriminant analyses were conducted to assess what measure(s) could best differentiate between the three groups as classified according to self-labels. The discriminating variables included all the alternative measures of sexual orientations as well as all the measures of frequency of fantasy. The results of these analyses strongly suggest that one can best differentiate between the three orientation groups based on a consideration of their sexual feelings, their frequency of homoerotic fantasy, or a combination of one of the above with their heteroerotic arousal score. Sexual feelings, fantasy, and arousal belong to the class of responses which Kinsey and his co-workers have identified as an

individual's psychosexual response tendencies. The implications of the finding will be elaborated on at a later point in this thesis.

The discriminant analyses gave rise to two similar discriminant functions. Examination of the discriminant function coefficients, which represent the relative contributions of the variables to the respective functions, suggests that the first function represents homosexual feelings, fantasy, and arousal. The second function represents heterosexual and homosexual fantasy as well as heterosexual and homosexual arousal. The first function discriminates between all three groups while the second function discriminates bisexuals from unisexals.

The finding that a linear combination of variables can accurately discriminate between all three groups lends some support to a unidimensional conceptualization of sexual orientation such as that proposed by Kinsey and associates (1948, 1953). A single function distinctly separates the three groups along a continuum. Heterosexuals and homosexuals are furthest apart on this continuum while bisexuals are in the middle. The emergence of the second function does not necessarily lend further support to a unidimensional position as both unidimensional and bidimensional theories predict that bisexuals are quite distinct from unisexals. While the discriminant analysis results cannot be used to argue against the appropriateness of a bidimensional theory,

they do suggest that a unidimensional conceptualization may be useful in describing some facet of sexual orientation pertaining to homoerotic fantasy and arousal.

As already mentioned, the results of the discriminant analyses point to psychosexual response measures as providing the most accurate differentiation between individuals of various orientations. The idea that one can best discriminate between heterosexual, homosexual and bisexual individuals by focussing on their sexual feelings, erotic fantasies, and/or sexual arousal is not new. Kinsey and his co-workers (1948) employed these criteria when attempting to classify individuals as to orientation. However, it is an idea that has not been the focus of much research attention. More recently, theorists have gone a step further to speculate that an individual's awareness of his or her own erotic fantasies, or actual erotic responses, is a major determinant of one's self-defined sexual orientation (Storms, 1981; Gagnon and Simon, 1973). Weinberg and Williams (1974) further maintain that, any other characteristics associated with orientation, other than actual erotic responses, such as sex-role identity and behavior simply reflect the secondary effects of social labelling. While the results of this study cannot shed light on the causative connections between erotic fantasy and sexual orientation, they are consistent with the viewpoint that one's psychosexual responses may comprise

part of the basis on which individuals label themselves as gay, straight or bisexual.

The suggestion that content and/or frequency of erotic fantasy may be one of the factors influencing how people label themselves has some implications for studies attempting to examine the relationship between frequency of fantasy and sexual orientation. How does one obtain an assessment of sexual orientation that is, to a large extent, independent of erotic fantasy? This question cannot be easily answered at present as not much is known about factors influencing the development of sexual orientation identity. In the present study, an attempt was made to deal with this problem by also classifying people on the basis of reports of their actual sexual behaviors without reference to their self-labels or Kinsey ratings and examining the relations between fantasy and experimenter defined orientation. The results of this analysis confirmed previous findings that heterosexuals report predominantly opposite-sex fantasies while homosexuals report predominantly same-sex fantasies. Using the previously defined quantitative criteria, these results do not provide unequivocal support for either a unidimensional or bidimensional theory as homosexuals reported more same-sex fantasy than bisexuals on EROS-FR and bisexuals reported more opposite-sex fantasy than heterosexuals on EFQ. However, examination of Table 33 (refer to page 101), reveals that bisexuals report

substantial frequencies of both heteroerotic and homoerotic fantasy on all fantasy measures.

Summarizing what has been discussed thus far, evidence for a bidimensional theory lies in the demonstration that there exists a segment of the adult population (i.e., bisexuals) who display prominent subjective and objective indications of a psychosexual response capacity to individuals of either gender. Both unidimensional and bidimensional theories need to be further developed and refined before one can definitely assess the appropriateness of each model in accounting for human sexual preference. The results of the present study emphasize the need to sample several domains of sexual responsivity. As it will be recalled, respondents' heteroerotic and homoerotic arousal scores conformed to predictions of a bidimensional model. There is some suggestion that individuals' actual sexual experiences also conform to predictions of this model. The present findings also point to the importance of paying careful consideration to the method(s) chosen to quantify the particular domain sampled. Furthermore, there is a need to develop criteria to facilitate the translation of the quantitative differences into meaningful psychosexual response categories. Given our present state of knowledge, one needs to exercise caution in positing global theories of sexual orientation which attempt to encompass all facets of human sexual functioning - i.e.,

sexual feelings, erotic fantasies, arousal, sexual behaviors, etc. One needs to carefully examine the relation of each of the above components to sexual orientation before positing such global theories.

Before turning to a discussion of some of the normative data, a word on the characteristics of the sample is in order. While there were no group differences in age, years of education, primary language, marital status, combined parental income and scores on the social desirability measure, there was a sex-difference in age. The mean age of women was lower than that of males. Brown and Hart (1977) and DeMartino (1974) report that age is associated with quantity of erotic fantasy in females. In their samples the frequency of fantasy increased with age from the late teens until the early-to-mid twenties at which point it leveled off and remained constant until the mid-thirties. Although comparative data in the relation between age and frequency of fantasy in males is lacking, the above findings suggest that while there is a statistically significant difference (one year) between the male and female samples, this should not have any major implications for the frequency of fantasy reported.

The three groups differed with respect to present living arrangements. Heterosexuals were more likely to be living at home while bisexuals were more likely to be living with a friend or lover. Most homosexuals were living on their own. While one's living arrangements

might be expected to influence some aspects of sexual functioning such as the opportunity to engage in intimate sexual activity, it does not seem likely that this variable could have much direct influence on the frequency of erotic fantasies.

One of the other aims of this study was to obtain some normative data on the content and frequency of erotic fantasies of people of various sexual orientations so as to shed light on existing controversies in the literature. Examination of the five most frequent fantasies of males and females, of heterosexual, homosexual, and bisexual orientation suggests that, other than gender preference, there are not too many major content differences. Subjects of all orientations report fantasies focussing on touching and carressing of naked bodies and touching and caressing of genitals. A high frequency theme of all male participants was receiving and/or giving oral/genital stimulation. Romantic themes surface among the five most frequent fantasies of both heterosexual and homosexual women. These included themes of having a sexual experience with a loved one and engaging in passionate kissing. While previous researchers report that romantic themes are common among heterosexual women (McCauley and Swan, 1978), the evidence here suggests that they are common of homosexual women as well.

Masters and Johnson (1979) found that their ambisexual (or bisexual) subjects reported fantasies that

were qualitatively distinct in that their themes rarely involved men or women but consisted of detailed recollections of past stimulating sexual experiences. The findings from this study do not support such a conclusion. First of all, the high-incidence fantasies of bisexuals are quite similar to those of heterosexuals and homosexuals in content. Furthermore, a romantic theme appears in the high-incidence list of male and female bisexuals. Women report the theme of engaging in passionate kissing while males report having a sexual experience with a loved one. The latter fantasy was not as common among heterosexual and homosexual males.

While several investigators report a higher-incidence of passivity in fantasies of heterosexual women (Wilson, 1980; Sue, 1979; McCauley and Swan, 1978), comparative data on passivity vs. activity in fantasy themes of different orientations is lacking. In the present study, heterosexuals do not differ from bisexuals in the incidence of passive or active heteroerotic themes. Homosexuals report more homoerotic active themes than bisexuals. They do not differ with respect to incidence of passive themes. While heterosexual women report a lower incidence of active themes than their male counterparts, this is not the case with either homosexual or bisexual women with respect to preferred-partner fantasy. Findings of this study also suggest that homosexual males are more activity-oriented in homoerotic

fantasy than bisexual males.

Masters and Johnson (1979) report that cross-preference fantasies were very common among their homosexual and heterosexual respondents. As these authors do not provide us with any quantitative data on frequency of fantasy, it is difficult to assess what is meant by "common". Cross-preference fantasies were reported only infrequently on the EFQ. In fact, they tend to occur with a frequency of less than once per month for all homosexual participants and for heterosexual women. Heterosexual males report mean frequencies of less than 0.6 for a six-month period. Homosexuals, however, report experiencing opposite-sex fantasies more frequently than heterosexuals report experiencing same-sex fantasies. This is consistent with Storms' (1980) findings on the incidence of cross-preference fantasy and casts further doubt on the contention that homosexuals fear and reject sexual feelings towards members of the opposite sex (Bieber et al., 1962). While there are no sex-differences among homosexuals, heterosexual women do report a higher incidence of cross-preference fantasy than heterosexual males. Similar patterns emerged when measuring cross-preference fantasies using EROS-FR except that homosexual males report more cross-preference fantasy than homosexual females.

Sex-differences in frequency of fantasy were found both on EFQ and EROS-FR but did not appear on EROS-D.

Because of its dichotomous scoring procedure (i.e., "never", "at least once"), one can argue that EROS-D does not yield a true frequency measure. Rather, it can best be regarded as assessing how common, or widespread, the occurrence of certain themes is amongst various individuals. One can thus conclude that men and women report similar heteroerotic and homoerotic themes. True frequency measures are provided by EFQ and EROS-FR in that both provide the opportunity for respondents to indicate how many times they have had certain fantasies over a fixed period of time. The EFQ revealed that women reported a lower mean frequency of heteroerotic fantasy than their males counterparts. On EROS-FR, which appears to be free of a ceiling-effect, males reported a higher incidence of fantasy than their female counterparts on both scales. As mentioned earlier, there exists much controversy in the literature as to sex-differences in frequency of fantasy (Wilson, 1980; Masters & Johnson, 1979; Sue, 1979; Hesselund, 1976; Kinsey *et al.*, 1953). Undoubtedly, much of this confusion can be attributed to the method used to assess "frequency". In some of these studies, participants were simply asked to report their sexual fantasies and quantitative comparisons were then made on the basis of how many themes different individuals reported (Wilson, 1980; Masters & Johnson, 1979; Hesselund, 1976). While such an approach may tap the diversity of respondents' themes and point to similarities

and differences in content between groups, it does not necessarily tap actual frequency of fantasizing. Furthermore this procedure does not adequately control for individual differences in ability to recall fantasies or willingness to divulge their content. A second method of assessment has entailed presenting participants with a list of fantasies and asking them to indicate how often they have experienced each one using categories like frequently, sometimes, or never (Sue, 1979). One of the problems with this procedure is not being sure of what meaning subjects attach to each of these frequency categories. Stated alternatively, what one individual may describe as "frequent" (e.g., once a week), another may describe as "sometimes". Furthermore, this procedure also has limited discriminative ability in that it does not differentiate between individuals within a category. The results of the present study strongly suggest that when such discriminative ability is present, as was the case with EROS-FR, sex-differences emerge within all orientation groups.

The results of this study further suggest that even after controlling for differences in erotophobic-erotophilic disposition of the three orientation groups, there are differences in frequency of fantasy. Interestingly enough, sex-differences disappeared after controlling for variation due to SOS scores. This implies that the higher incidence of frequency reported by males

may be accounted for by their more erotophilic disposition. It should be pointed out that this study relied on the use of pre-existing groups of subjects (i.e., people of different sexual orientations). Thus even if ANCOVA procedures were used to remove the effects of covariates, one cannot be certain that some variable that has been overlooked will not bias the evaluation of findings like the one reported above. More research thus needs to be directed at examining the relation between sex-differences in frequency of fantasy and respondents' erotophobic-erotophilic disposition before concluding that this construct is useful in explaining sex differences. Other factors, such as cultural practices, socialization, and parental attitudes towards sexuality, undoubtedly influence the development of one's sexual attitudes and the contribution of these variables should be considered when examining sex-differences.

Although the present study included multiple measures of sexual orientation that could facilitate identification of asexual individuals, there was no opportunity to examine this issue as only one asexual individual responded to our advertisements for volunteers. Future research needs to be conducted to verify whether the number of asexuals is negligible among college males and females.

The results of this study suggest numerous avenues future research may follow. More attention needs to be

focussed on what constitutes an appropriate measure of frequency of fantasy especially if the relation between frequency of fantasy and sexual orientation is to be used to assess the value of a particular theoretical framework. Both EFQ and EROS-FR provide cumulative frequency scores of heteroerotic and homoerotic fantasy but tend to yield discrepant results. A possible explanation for these discrepancies is the inability of EFQ to discriminate between high frequency scores due to its restricted upper range. A worthwhile research endeavor might entail adjusting the EFQ scales to make them more sensitive to high scores and then to proceed to compare these EFQ results with EROS-FR.

Future research should focus on specific facets of sexual orientation and assess the appropriateness of a particular model for each component. Sexual arousal appears to be one such facet which merits closer examination. This study relied on respondents' retrospective ratings of arousal in response to imaginal sexual activity. It would be interesting to compare arousal ratings of people of different orientations with respect to both covert and overt stimuli. Multi-modal measures of arousal should be compared and thus laboratory studies relying on physiological monitoring of sexual arousal in response to various stimuli are also needed.

Human sexuality is a multi-faceted, multi-determined component of the human condition and a more molecular

approach to theory building coupled with the delineation of criteria defining unidimensionality and bidimensionality might better enable us to unravel some of the complexities of human sexual preference.

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2. engaging in passionate kissing with a man

0 1-3 4-6 7-9 10-12 13-15 16-18 19-21 22-24 25-27 28 or more
never about every 2 weeks more than once per week

How sexually arousing were these thoughts?

1 2 3 4 5 6 7 8 9
not at all arousing quite arousing extremely arousing

3. touching and caressing a woman's breasts

0 1-3 4-6 7-9 10-12 13-15 16-18 19-21 22-24 25-27 28 or more
never about every 2 weeks more than once per week

How sexually arousing were these thoughts?

1 2 3 4 5 6 7 8 9
not at all arousing quite arousing extremely arousing

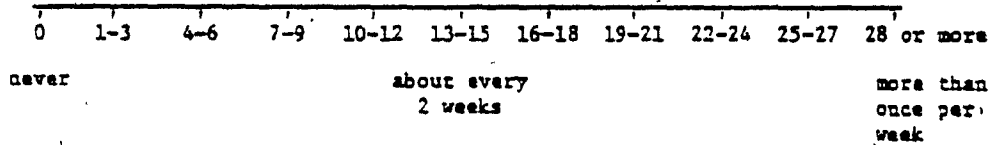
4. touching and caressing a man's chest

0 1-3 4-6 7-9 10-12 13-15 16-18 19-21 22-24 25-27 28 or more
never about every 2 weeks more than once per week

4. How sexually arousing were these thoughts?



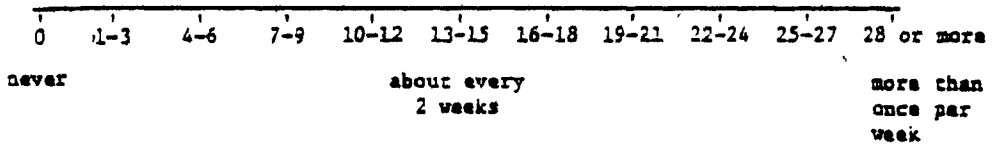
5. touching and caressing a woman's genitals



How sexually arousing were these thoughts?



6. touching and caressing a man's genitals



How sexually arousing were these thoughts?



7. touching and caressing the body of a naked man

0 1-3 4-6 7-9 10-12 13-15 16-18 19-21 22-24 25-27 28 or more
never about every 2 weeks more than once per week

How sexually arousing were these thoughts?

1 2 3 4 5 6 7 8 9
not at all arousing quite arousing extremely arousing

8. touching and caressing the body of a naked woman

0 1-3 4-6 7-9 10-12 13-15 16-18 19-21 22-24 25-27 28 or more
never about every 2 weeks more than once per week

How sexually arousing were these thoughts?

1 2 3 4 5 6 7 8 9
not at all arousing quite arousing extremely arousing

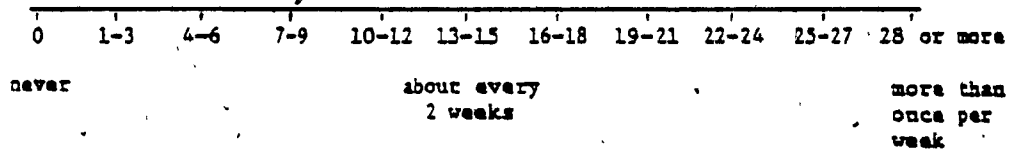
9. engaging in oral stimulation of a man's genitals

0 1-3 4-6 7-9 10-12 13-15 16-18 19-21 22-24 25-27 28 or more
never about every 2 weeks more than once per week

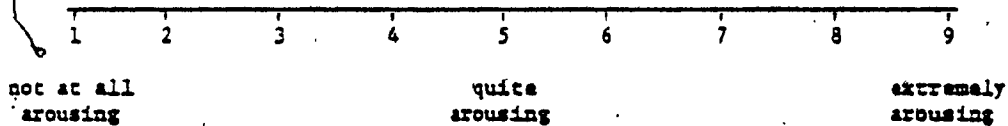
9. How sexually arousing were these thoughts?



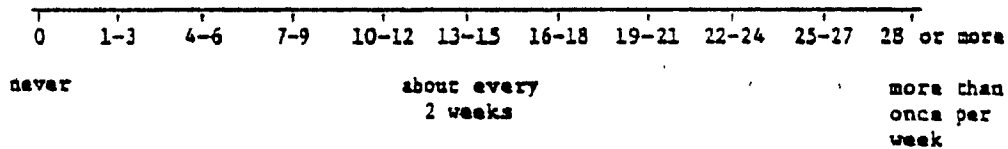
10. engaging in oral stimulation of a woman's genitals



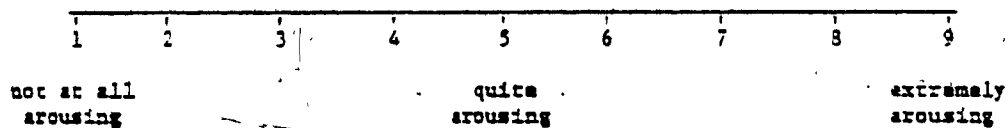
How sexually arousing were these thoughts?



11. forcing a woman to have a sexual encounter with you



How sexually arousing were these thoughts?



12. forcing a man to have a sexual encounter with you

0 1-3 4-6 7-9 10-12 13-15 16-18 19-21 22-24 25-27 28 or more
never about every 2 weeks more than once per week

How sexually arousing were these thoughts?

1 2 3 4 5 6 7 8 9
not at all arousing quite arousing extremely arousing

Part II

How often have you fantasized, or had thoughts of, the following experiences?:

1. A woman touching and caressing your breasts (chest)

0 1-3 4-6 7-9 10-12 13-15 16-18 19-21 22-24 25-27 28 or more
never about every 2 weeks more than once per week

How sexually arousing were these thoughts?

1 2 3 4 5 6 7 8 9
not at all arousing quite arousing extremely arousing

2. A man touching and caressing your breasts (chest)

0 1-3 4-6 7-9 10-12 13-15 16-18 19-21 22-24 25-27 28 or more

never about every 2 weeks more than once per week

How sexually arousing were these thoughts?

1 2 3 4 5 6 7 8 9

not at all arousing quite arousing extremely arousing

3. A woman touching and caressing your genitals

0 1-3 4-6 7-9 10-12 13-15 16-18 19-21 22-24 25-27 28 or more

never about every 2 weeks more than once per week

How sexually arousing were these thoughts?

1 2 3 4 5 6 7 8 9

not at all arousing quite arousing extremely arousing

4. A man touching and caressing your genitals

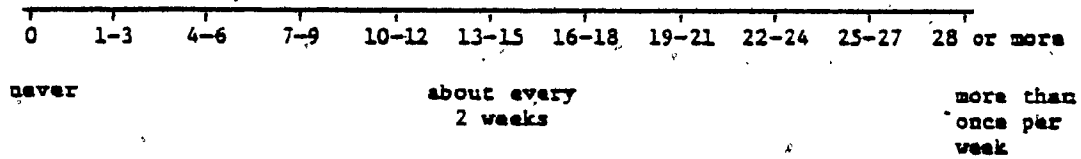
0 1-3 4-6 7-9 10-12 13-15 16-18 19-21 22-24 25-27 28 or more

never about every 2 weeks more than once per week

4. How sexually arousing were these thoughts?



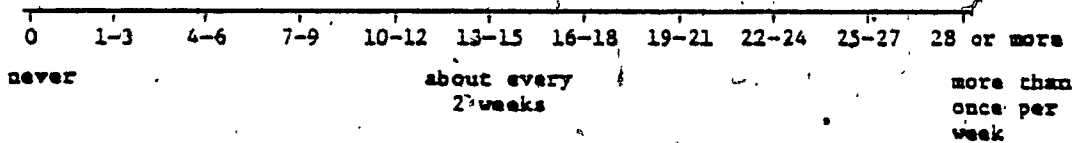
5. A woman touching and caressing your naked body



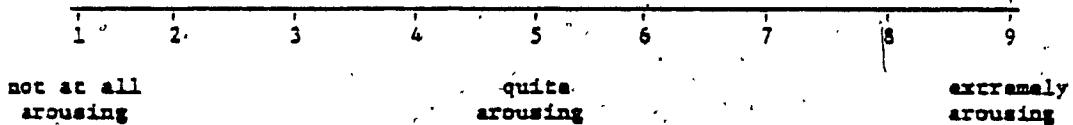
How sexually arousing were these thoughts?



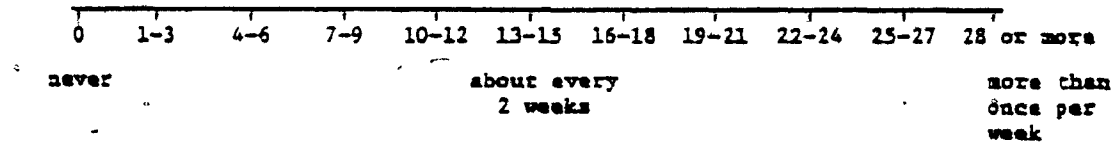
6. A man touching and caressing your naked body



How sexually arousing were these thoughts?



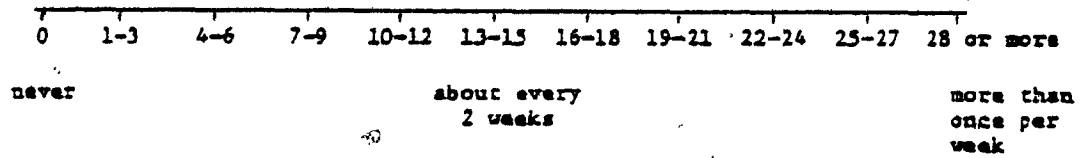
7. Receiving oral-genital stimulation from a man



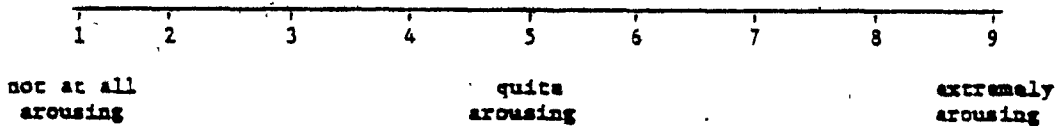
How sexually arousing were these thoughts?



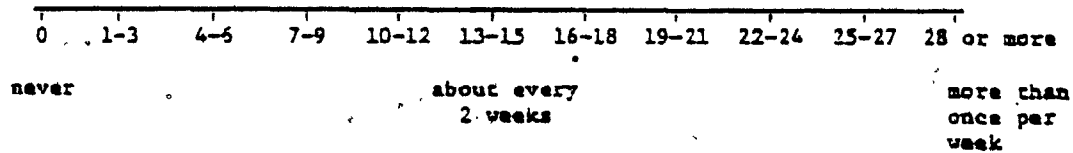
8. Receiving oral-genital stimulation from a woman



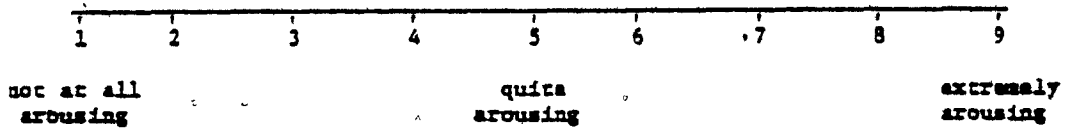
How sexually arousing were these thoughts?



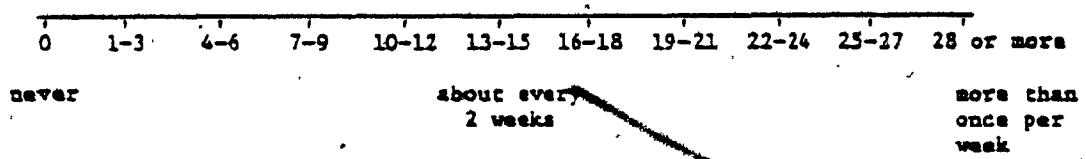
9. Being forced by a woman to have a sexual experience with her



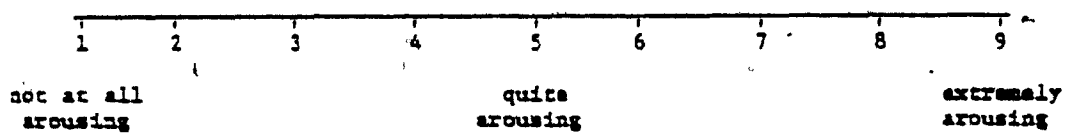
9. How sexually arousing were these thoughts?



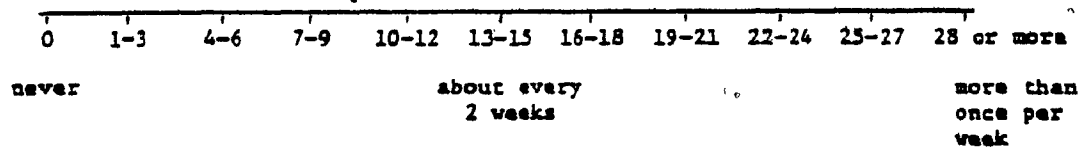
10. Being forced by a man to have a sexual experience with him



How sexually arousing were these thoughts?



11. Being made love to by several women at the same time



How sexually arousing were these thoughts?



11. Being made love to by several men at the same time

0 1-3 4-6 7-9 10-12 13-15 16-18 19-21 22-24 25-27 28 or more

never

about every
2 weeks

more than
once per
week

How sexually arousing were these thoughts?

1 2 3 4 5 6 7 8 9

not at all
arousing

quite
arousing

extremely
arousing

Part III

How often have you fantasized, or had thoughts of, the following experiences?:

1. Watching a woman while she undresses

0 1-3 4-6 7-9 10-12 13-15 16-18 19-21 22-24 25-27 28 or more

never

about every
2 weeks

more than
once per
week

How sexually arousing were these thoughts?

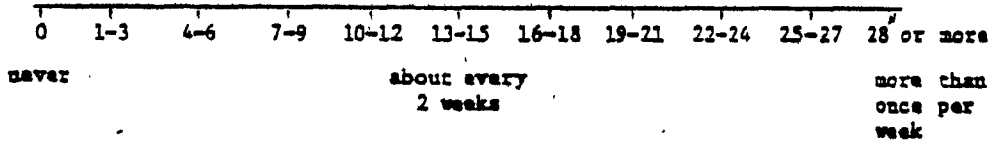
1 2 3 4 5 6 7 8 9

not at all
arousing

quite
arousing

extremely
arousing

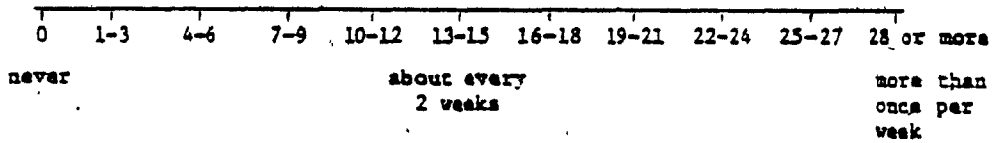
2. Watching a man while he undresses



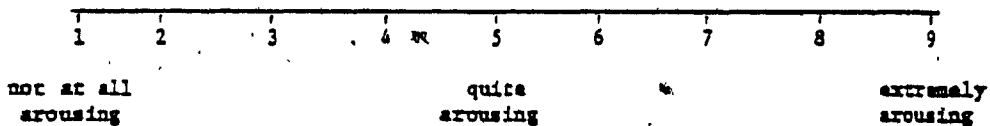
How sexually arousing were these thoughts?



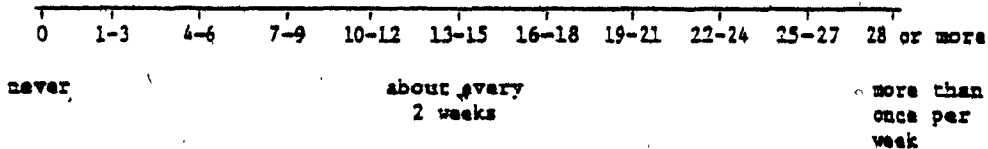
3. Having a sexual encounter with a physically attractive woman seen at a distance



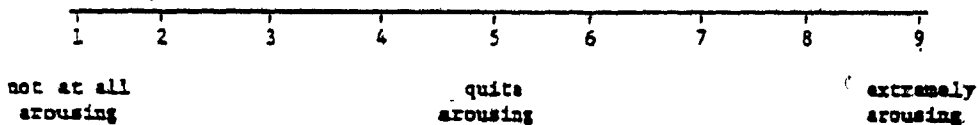
How sexually arousing were these thoughts?



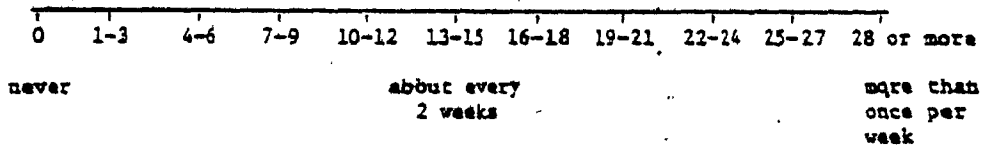
4. Having a sexual encounter with a physically attractive man seen at a distance



4. How sexually arousing were these thoughts?



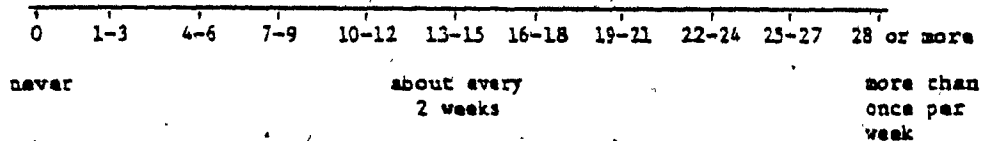
5. Engaging in mutual touching and caressing with a woman while you are both naked



How sexually arousing were these thoughts?



6. Engaging in mutual touching and caressing with a man while you are both naked



How sexually arousing were these thoughts?



7. Engaging in mutual oral-genital stimulation with a man

0 1-3 4-6 7-9 10-12 13-15 16-18 19-21 22-24 25-27 28 or more

never about every 2 weeks more than once per week

How sexually arousing were these thoughts?

1 2 3 4 5 6 7 8 9

not at all arousing quite arousing extremely arousing

8. Engaging in mutual oral-genital stimulation with a woman

0 1-3 4-6 7-9 10-12 13-15 16-18 19-21 22-24 25-27 28 or more

never about every 2 weeks more than once per week

How sexually arousing were these thoughts?

1 2 3 4 5 6 7 8 9

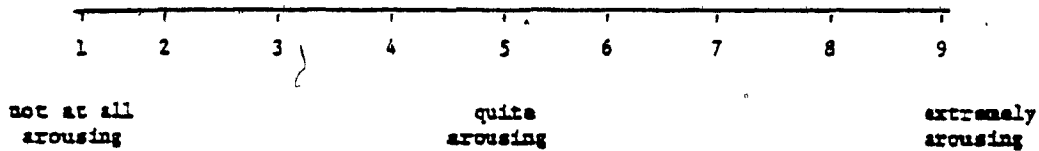
not at all arousing quite arousing extremely arousing

9. Observing a group of women making love to each other

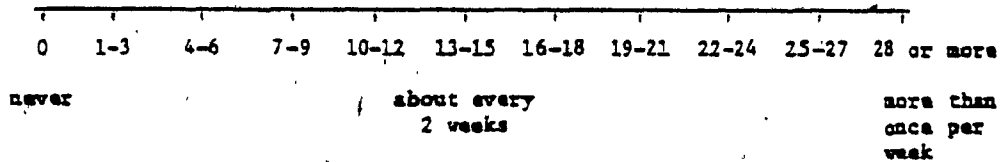
0 1-3 4-6 7-9 10-12 13-15 16-18 19-21 22-24 25-27 28 or more

never about every 2 weeks more than once per week

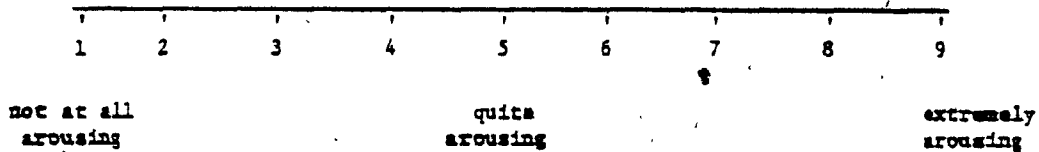
9. How sexually arousing were these thoughts?



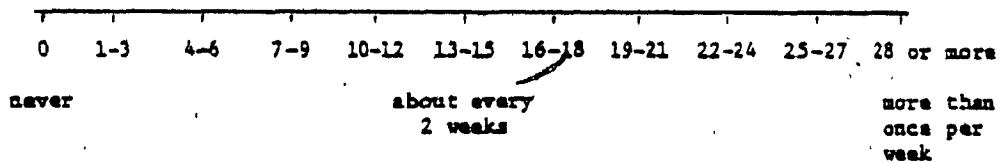
10. Having a sexual encounter with a popular, physically attractive male personality



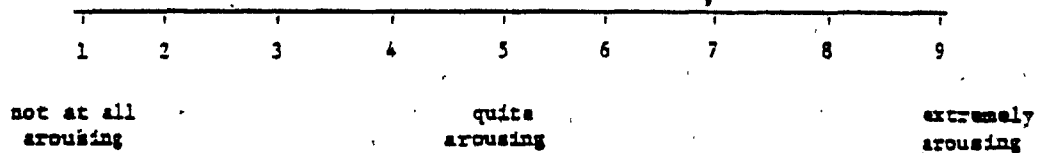
How sexually arousing were these thoughts?



11. Having a sexual encounter with a popular, physically attractive female personality



How sexually arousing were these thoughts?



12. Observing a group of men making love to each other

0 1-3 4-6 7-9 10-12 13-15 16-18 19-21 22-24 25-27 28 or more

never about every 2 weeks more than once per week

How sexually arousing were these thoughts?

1 2 3 4 5 6 7 8 9

not at all arousing quite arousing extremely arousing

13. Having a sexual experience with a particular woman you love

0 1-3 4-6 7-9 10-12 13-15 16-18 19-21 22-24 25-27 28 or more

never about every 2 weeks more than once per week

How sexually arousing were these thoughts?

1 2 3 4 5 6 7 8 9

not at all arousing quite arousing extremely arousing

14. Having a sexual experience with a particular man you love

0 1-3 4-6 7-9 10-12 13-15 16-18 19-21 22-24 25-27 28 or more

never about every 2 weeks more than once per week

14. How sexually arousing were these thoughts?

—————								
1	2	3	4	5	6	7	8	9
not at all arousing			quite arousing			extremely arousing		

15. Having a sexual experience with a close female friend or associate

—————										
0	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28 or more
never			about every 2 weeks				more than once per week			

How sexually arousing were these thoughts?

—————								
1	2	3	4	5	6	7	8	9
not at all arousing			quite arousing			extremely arousing		

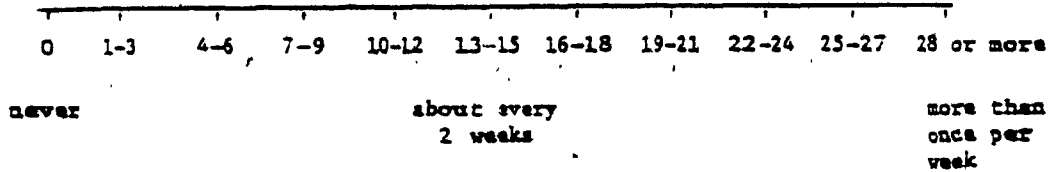
16. Having a sexual experience with a close male friend or associate

—————										
0	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28 or more
never			about every 2 weeks				more than once per week			

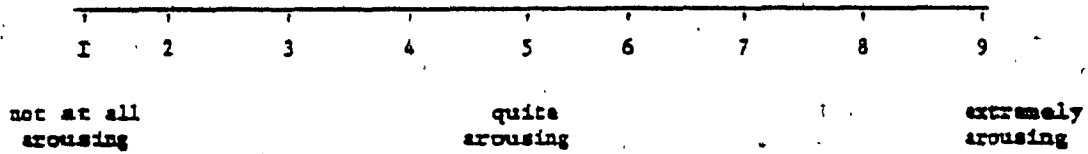
How sexually arousing were these thoughts?

—————								
1	2	3	4	5	6	7	8	9
not at all arousing			quite arousing			extremely arousing		

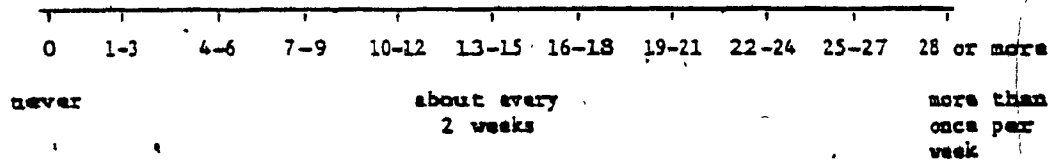
17. Having a sexual experience with a group of women



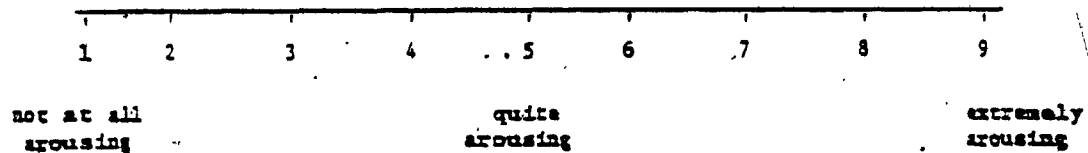
How sexually arousing were these thoughts?



18. Having a sexual experience with a group of men



How sexually arousing were these thoughts?



Appendix B

The Erotic Response and Orientation Scale

The following questions ask about your sexual experiences and feelings toward men and women over the past 12 months. Please read each question carefully and indicate whether you have had the experience or feeling being asked about — never (0), only once or twice (1-2), three to six times (3-6), seven to twelve times (7-12), an average of once or twice a month (monthly), or an average of once or twice a week (weekly), or almost daily or more (daily), during the past 12 months. Please circle your answers.

	<u>Number of Times During the Past 12 Months</u>						
	0	1-2	3-6	7-12	monthly	weekly	daily
1. How often have you noticed that a man you've seen or met for the first time is physically attractive to you?	0	1-2	3-6	7-12	monthly	weekly	daily
2. How often have you noticed that a woman you've seen or met for the first time is physically attractive to you?	0	1-2	3-6	7-12	monthly	weekly	daily
3. How often have you had any sexual feelings (even the slightest) while looking at a man?	0	1-2	3-6	7-12	monthly	weekly	daily
4. How often have you had any sexual feelings (even the slightest) while looking at a woman?	0	1-2	3-6	7-12	monthly	weekly	daily
5. How often have you felt some sexual arousal from touching or being touched by a man?	0	1-2	3-6	7-12	monthly	weekly	daily
6. How often have you felt some sexual arousal from touching or being touched by a woman?	0	1-2	3-6	7-12	monthly	weekly	daily
7. How often have you thought about what it would be like to have a sexual experience with a man?	0	1-2	3-6	7-12	monthly	weekly	daily
8. How often have you thought about what it would be like to have a sexual experience with a woman?	0	1-2	3-6	7-12	monthly	weekly	daily

	<u>Number of Times During the Past 12 Months</u>						
9. How often have you felt a desire to have a sexual experience with a particular man you know?	0	1-2	3-6	7-12	monthly	weekly	daily
10. How often have you felt a desire to have a sexual experience with a particular woman you know?	0	1-2	3-6	7-12	monthly	weekly	daily
11. How often have you daydreamed about having a sexual experience with a man?	0	1-2	3-6	7-12	monthly	weekly	daily
12. How often have you daydreamed about having a sexual experience with a woman?	0	1-2	3-6	7-12	monthly	weekly	daily
13. How often have you dreamed at night about having a sexual experience with a man?	0	1-2	3-6	7-12	monthly	weekly	daily
14. How often have you dreamed at night about having a sexual experience with a woman?	0	1-2	3-6	7-12	monthly	weekly	daily
15. How often have you masturbated while fantasizing a sexual experience with a man?	0	1-2	3-6	7-12	monthly	weekly	daily
16. How often have you masturbated while fantasizing a sexual experience with a woman?	0	1-2	3-6	7-12	monthly	weekly	daily

Appendix C
The Sexual Opinion Survey

Please respond to each item as honestly as you can. Place an in the space that best corresponds to your own opinion. There are no right or wrong answers and your answers are completely anonymous.

1. I think it would be very entertaining to look at hard-core pornography.

I Strongly Agree : _ : _ : _ : _ : _ : _ : _ : I Strongly Disagree

2. Pornography is obviously filthy and people should not try to describe it as anything else.

I Strongly Agree : _ : _ : _ : _ : _ : _ : _ : I Strongly Disagree

3. Swimming in the nude with a member of the opposite sex would be an exciting experience.

I Strongly Agree : _ : _ : _ : _ : _ : _ : _ : I Strongly Disagree

4. Masturbation can be an exciting experience.

I Strongly Agree : _ : _ : _ : _ : _ : _ : _ : I Strongly Disagree

5. If I found out that a close friend of mine was a homosexual it would annoy me.

I Strongly Agree : _ : _ : _ : _ : _ : _ : _ : I Strongly Disagree

6. If people thought I was interested in oral sex, I would be embarrassed.

I Strongly Agree : _ : _ : _ : _ : _ : _ : _ : I Strongly Disagree

7. Engaging in group sex is an entertaining idea.

I Strongly Agree : _ : _ : _ : _ : _ : _ : _ : I Strongly Disagree

8. I personally find that thinking about engaging in sexual intercourse is arousing.

I Strongly Agree : _ : _ : _ : _ : _ : _ : _ : I Strongly Disagree

9. Seeing a pornographic movie would be sexually arousing to me.

I Strongly Agree : _____ : I Strongly Disagree

10. Thoughts that I may have homosexual tendencies would not worry me at all.

I Strongly Agree : _____ : I Strongly Disagree

11. The idea of my being physically attracted to members of the same sex is not depressing.

I Strongly Agree : _____ : I Strongly Disagree

12. Almost all pornographic material is nauseating.

I Strongly Agree : _____ : I Strongly Disagree

13. It would be emotionally upsetting to me to see someone exposing themselves publicly.

I Strongly Agree : _____ : I Strongly Disagree

14. Watching a go-go dancer of the opposite sex would not be very exciting.

I Strongly Agree : _____ : I Strongly Disagree

15. I would not enjoy seeing a pornographic movie.

I Strongly Agree : _____ : I Strongly Disagree

16. When I think about seeing pictures showing someone of the same sex as myself masturbating it nauseates me.

I Strongly Agree : _____ : I Strongly Disagree

17. The thought of engaging in unusual sex practices is highly arousing.

I Strongly Agree : _____ : I Strongly Disagree

18. Manipulating my genitals would probably be an arousing experience.

I Strongly Agree : _____ : I Strongly Disagree

19. I do not enjoy daydreaming about sexual matters.

I Strongly Agree : ____ : ____ : ____ : ____ : ____ : ____ : I Strongly Disagree

20. I am not curious about explicit pornography.

I Strongly Agree : ____ : ____ : ____ : ____ : ____ : ____ : I Strongly Disagree

21. The thought of having long-term sexual relations with more than one sex partner is not disgusting to me.

I Strongly Agree : ____ : ____ : ____ : ____ : ____ : ____ : I Strongly Disagree

Appendix D

Sexual Behaviour Survey

This survey contains 40 items, each describing a particular sexual activity. Use the scale below each item to indicate how often you have engaged in that particular sexual activity during the past 6 months. The scale ranges from 0 (never) to 28 or more times. Please circle the interval on the scale which best corresponds to how often you have engaged in that activity during the past 6 months. Please answer all 40 items.

1. passionate kissing with a man

0	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28 or more
never					about every 2 weeks					more than once per week

2. passionate kissing with a woman

0	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28 or more
never					about every 2 weeks					more than once per week

3. touching and caressing a man's chest

0	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28 or more
never					about every 2 weeks					more than once per week

4. touching and caressing a woman's breasts

0	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28 or more
never					about every 2 weeks					more than once per week

5. touching and caressing a man's genitals

0	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28 or more
never					about every 2 weeks					more than once per week

6. touching and caressing a woman's genitals.

0	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28 or more
never					about every 2 weeks					more than once per week

7. touching and caressing the body of a naked woman

0	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28 or more
never					about every 2 weeks					more than once per week

8. touching and caressing the body of a naked man

0	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28 or more
never					about every 2 weeks					more than once per week

9. oral stimulation of a man's genitals

0	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28 or more
never					about every 2 weeks					more than once per week

10. oral stimulation of a woman's genitals

0	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28 or more
never					about every 2 weeks					more than once per week

11. some type of sexual intercourse with a man

0	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28 or more
never					about every 2 weeks					more than once per week

12. some type of sexual intercourse with a woman

0	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28 or more
never					about every 2 weeks					more than once per week

13. masturbating while thinking of a sexual encounter with a man

0	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28 or more
never					about every 2 weeks					more than once per week

14. masturbating while thinking of a sexual encounter with a woman

0	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28 or more
never					about every 2 weeks					more than once per week

15. mutual touching and caressing of genitals with a woman

0	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28 or more
never					about every 2 weeks					more than once per week

16. mutual touching and caressing of genitals with a man

0	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28 or more
never					about every 2 weeks					more than once per week

17. mutual body touching and caressing with a man while you are both naked

0	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28 or more
never					about every 2 weeks					more than once per week

18. mutual body touching and caressing with a woman while you are both naked

0	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28 or more
never					about every 2 weeks					more than once per week

19. mutual oral-genital stimulation with a woman

0	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28 or more
never					about every 2 weeks					more than once per week

20. mutual oral-genital stimulation with a man

0	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28 or more
never					about every 2 weeks					more than once per week

21. being made love to by several men at the same time

0	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28 or more
never					about every 2 weeks					more than once per week

22. being made love to by several women at the same time

0	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28 or more
never					about every 2 weeks					more than once per week

23. being forced by a man to have a sexual encounter with him

0	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28 or more
never					about every 2 weeks					more than once per week

24. being forced by a woman to have a sexual encounter with her

0	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28 or more
never	1				about every 2 weeks					more than once per week

25. having a sexual encounter with a man you love

0	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28 or more
never					about every 2 weeks					more than once per week

26. making love with a group of men

0	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28 or more
never					about every 2 weeks					more than once per week

27. a man touching and caressing your genitals

0	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28 or more
never					about every 2 weeks					more than once per week

28. a woman touching and caressing your genitals

0	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28 or more
never					about every 2 weeks					more than once per week

29. attending a female strip-show

0	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28 or more
never					about every 2 weeks					more than once per week

30. making love with a group of women

0 1-3 4-6 7-9 10-12 13-15 16-18 19-21 22-24 25-27 28 or more
never about every 2 weeks more than once per week

31. watching a heterosexual pornographic or erotic film

0 1-3 4-6 7-9 10-12 13-15 16-18 19-21 22-24 25-27 28 or more
never about every 2 weeks more than once per week

32. attending a male strip-show

0 1-3 4-6 7-9 10-12 13-15 16-18 19-21 22-24 25-27 28 or more
never about every 2 weeks more than once per week

33. having a sexual encounter with a woman you love

0 1-3 4-6 7-9 10-12 13-15 16-18 19-21 22-24 25-27 28 or more
never about every 2 weeks more than once per week

34. a man touching and caressing your naked body

0 1-3 4-6 7-9 10-12 13-15 16-18 19-21 22-24 25-27 28 or more
never about every 2 weeks more than once per week

35. a woman touching and caressing your naked body

0	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28 or more
never					about every					more than
					2 weeks					once per
										week

36. watching a homosexual pornographic or erotic film

0	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28 or more
never					about every					more than
					2 weeks					once per
										week

37. receiving oral-genital stimulation from a man

0	1-3	4-6	7-9	10-12	12-15	16-18	19-21	22-24	25-27	28 or more
never					about every					more than
					2 weeks					once per
										week

38. receiving oral-genital stimulation from a woman

0	1-3	4-6	7-9	10-12	12-15	16-18	19-21	22-24	25-27	28 or more
never					about every					more than
					2 weeks					once per
										week

39. having a sexual experience with a close male friend or associate

0	1-3	4-6	7-9	10-12	12-15	16-18	19-21	22-24	25-27	28 or more
never					about every					more than
					2 weeks					once per
										week

40. having a sexual experience with a close female friend or associate

0	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28 or more
never						about every 2 weeks				more than once per week

Appendix E

Demographic Information Sheet

In order to meaningfully compare the results of this study across subjects we need to have some background information (e.g. age, sex, marital status, etc.) on all our participants. Please indicate a response to each of the questions below.

I. Background Information

- Sex _____ Date of birth _____
- Country of birth _____
- If not Canada, how long have you resided here? _____
- What is your primary language? _____
- How many years of formal education do you have? _____
- Are you currently employed? _____ yes _____ no
- If yes, how would you describe your job?
 - _____ summer only
 - _____ permanent part-time
 - _____ permanent full-time
- What is your present marital status?
 - _____ single
 - _____ living common-law
 - _____ married
 - _____ separated
 - _____ divorced
- If not married, are you currently involved in a romantic relationship? _____ yes _____ no

I. Background Information (continued)

- What are your present living arrangements?

_____ live with parents

_____ live with spouse

_____ live with a friend

_____ live alone

- Are you currently practicing a religion? _____ yes _____ no

- If yes, how would you describe your religious observance?

_____ regular _____ infrequent

II. Family Background

- Are your parents living?

father: ___ yes ___ no

mother: ___ yes ___ no

- How old are your parents?

father: _____

mother: _____

- What is (or was) your parents' occupation?

father: _____

mother: _____

- What is (or was) your parents' annual income (prior to retirement)?

_____ under 5,000

_____ 5,000 - 10,000

_____ 10,000 - 15,000

_____ 15,000 - 20,000

_____ 20,000 - 30,000

_____ 30,000 - 40,000

_____ 40,000 - 50,000

_____ over 50,000

- How many brothers and sisters do you have?

_____ brothers _____ sisters

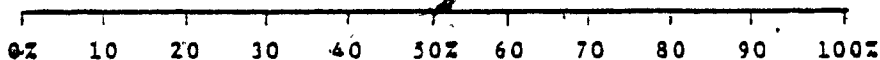
- What are their ages?

brothers: _____ _____ _____ _____

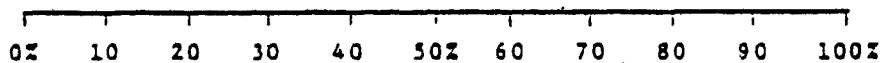
sisters: _____ _____ _____ _____

III. Sexual Experience

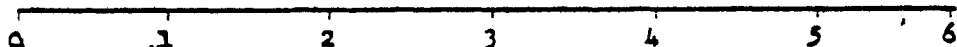
1. - What percentage of your sexual encounters during the past six months have been with male partners?
(circle the appropriate percentage on the scale below)



2. - What percentage of your sexual encounters during the past six months have been with female partners?

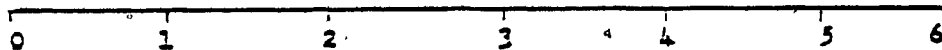


3. - How would you describe your sexual orientation on the basis of the sexual encounters you've had?
(place an X on this scale at a point which best corresponds to your orientation)



exclusively heterosexual	more heterosexual than homosexual	equally heterosexual & homosexual	more homosexual than heterosexual	exclusively homosexual
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4. - How would you describe your sexual orientation on the basis of your sexual feelings?



exclusively heterosexual	more heterosexual than homosexual	equally heterosexual & homosexual	more homosexual than heterosexual	exclusively homosexual
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5. Which of the following terms best describes your sexual orientation?

_____ straight _____ gay _____ bisexual _____ nonsexual

6. At what age do you remember first having sexual fantasies?

_____ (indicate age)

Did these early fantasies involve male or female partners, or both?

7. Have you ever had sexual relations with an individual of the same sex?

_____ yes _____ no

8. If yes, how frequently have you engaged in such relations?

_____ only once or twice
Indicate your age at the time(s): _____

_____ about 3-6 times
Indicate your age at the time: _____

_____ on a regular basis for a period of time
Indicate your age at the time: _____

_____ on a regular basis for the past several years
Indicate from what age: _____

Appendix F

Marlowe-Crowne Social Desirability Scale

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is true or false as it pertains to you personally. Circle "T" if statement is true and "F" if it is false.

- | | | |
|---|---|---|
| 1. Before voting I thoroughly investigate the qualifications of all the candidates..... | T | F |
| 2. I never hesitate to go out of my way to help someone in trouble | T | F |
| 3. It is sometimes hard for me to go on with my work if I am not encouraged | T | F |
| 4. I have never intensely disliked anyone | T | F |
| 5. On occasion I have had doubts about my ability to succeed in life | T | F |
| 6. I sometimes feel resentful when I don't get my way | T | F |
| 7. I am always careful about my manner of dress | T | F |
| 8. My table manners at home are as good as when I eat out in a restaurant | T | F |
| 9. If I could get into a movie without paying, and be sure I was not seen I would probably do it | T | F |
| 10. On a few occasions, I have given up doing something because I thought too little of my ability | T | F |
| 11. I like gossip at times | T | F |
| 12. There have been times when I felt like rebelling against people in authority even though I knew they were right | T | F |
| 13. No matter who I'm talking to, I'm always a good listener.... | T | F |
| 14. I can remember "playing sick" to get out of something | T | F |
| 15. There have been occasions when I took advantage of someone | T | F |
| 16. I'm always willing to admit it when I make a mistake | T | F |
| 17. I always try to practice what I preach | T | F |

- | | | | |
|-----|---|---|---|
| 18. | I don't find it particularly difficult to get along with loud mouthed, obnoxious people | T | F |
| 19. | I sometimes try to get even rather than forgive and forget.. | T | F |
| 20. | When I don't know something I don't at all mind admitting it | T | F |
| 21. | I am always courteous, even to people who are disagreeable.. | T | F |
| 22. | At times I have really insisted on having things my own way..... | T | F |
| 23. | There have been occasions when I felt like smashing things | T | F |
| 24. | I would never think of letting someone else be punished for my wrongdoings | T | F |
| 25. | I never resent being asked to return a favor..... | T | F |
| 26. | I have never been irked when people expressed ideas very different from my own | T | F |
| 27. | I never make a long trip without checking the safety of my car | T | F |
| 28. | There have been times when I was quite jealous of the good fortune of others | T | F |
| 29. | I have almost never felt the urge to tell someone off | T | F |
| 30. | I am sometimes irritated by people who ask favors of me..... | T | F |
| 31. | I have never felt that I was punished without cause..... | T | F |
| 32. | I sometimes think when people have a misfortune they only got what they deserved..... | T | F |
| 33. | I have never deliberately said something that hurt someone's feelings | T | F |

Appendix G

Introductory Letter

TO SUBJECTS

You are invited to participate in an anonymous questionnaire study surveying the sexual fantasies and behaviors of adult males and females. Your conscientious participation would be appreciated whether you consider yourself heterosexual, homosexual, bisexual, uncertain or nonsexual. Sexual thoughts, feelings, and behavior tend to be important in people's lives. But aside from frequent attention in the popular press this subject matter has not received extensive research attention from psychologists. The materials require about 40 minutes to complete. This package contains questions on (1) your background, (2) attitudes to sexual conduct, (3) the frequency with which you fantasize about and engage in a wide range of sexual acts involving male and female partners and (4) the degree of sexual arousal you have experienced in relation to these sexual thoughts and behaviors. If you are comfortable with and/or curious about your sexuality you may find participating an interesting learning experience. The subject matter about which you will be questioned is definitely personal. You may, however, withdraw at any point should you feel it necessary.

Please note the names and phone numbers below for further information about the study and results.

Dr. W. Brender, Department of Psychology, 879-8072
Dennis Kalogeropoulos, Department of Psychology, 879-8069

APPENDIX B

MOST FREQUENT HETEROEROTIC AND HOMOEROTIC FANTASIES
 IN STRAIGHT MALES AND CORRESPONDING
 AROUSAL SCORES
 (N = 25)

VARIABLE		FREQUENCY	AROUSAL	N*
<u>Heteroerotic Fantasies</u>				
1. Touching and caressing the body of a naked woman	<u>M</u>	24.5	7.9	25
	<u>SD</u>	5.2	1.2	
2. Receiving oral-genital stimulation from a woman	<u>M</u>	23.3	7.8	25
	<u>SD</u>	6.6	1.3	
3. Touching and caressing a woman's genitals	<u>M</u>	22.6	7.6	24
	<u>SD</u>	7.2	1.1	
4. Engaging in mutual touching and caressing with a woman while you are both naked	<u>M</u>	21.5	7.4	25
	<u>SD</u>	7.2	1.5	
5. A woman touching and caressing your genitals	<u>M</u>	21.4	7.1	24
	<u>SD</u>	8.4	1.6	
<u>Homoerotic Fantasies</u>				
1. Mutual oral-genital stimulation with a man	<u>M</u>	0.6	3.0	3
	<u>SD</u>	2.2	1.7	
2. Receiving oral-genital stimulation from a man	<u>M</u>	0.5	3.2	4
	<u>SD</u>	1.2	2.4	
3. Having sex with a close male friend or associate	<u>M</u>	0.4	2.8	4
	<u>SD</u>	1.2	1.7	

* N refers to the number of respondents in this group who report having had the fantasy at some point during the past six months.

APPENDIX I

MOST FREQUENT HETEROEROTIC AND HOMOEROTIC FANTASIES
OF GAY MALES AND CORRESPONDING AROUSAL SCORES
(N = 25)

VARIABLE		FREQUENCY	AROUSAL	N*
<u>Heteroerotic Fantasy</u>				
1. Touching and caressing a woman's genitals	<u>M</u>	3.7	3.8	9
	<u>SD</u>	7.5	3.2	
2. Oral stimulation of a woman's genitals	<u>M</u>	3.4	4.9	7
	<u>SD</u>	7.5	3.9	
3. Mutual oral-genital stim- ulation with a woman	<u>M</u>	3.2	5.8	6
	<u>SD</u>	7.6	5.5	
<u>Homoerotic Fantasy</u>				
1. Touching and caressing the body of a naked man	<u>M</u>	25.6	8.0	25
	<u>SD</u>	4.7	1.8	
2. Giving oral-genital stim- ulation to a man	<u>M</u>	24.3	7.7	25
	<u>SD</u>	6.3	2.1	
3. Touching and caressing a man's genitals	<u>M</u>	23.8	7.5	25
	<u>SD</u>	6.9	2.3	
4. Mutual body-touching and caressing with a man while you are both naked	<u>M</u>	23.4	7.7	25
	<u>SD</u>	7.1	2.1	
5. Mutual oral-genital stimulation with a man	<u>M</u>	23.2	7.5	25
	<u>SD</u>	7.4	2.1	

* N refers to the number of respondents in this group who report having had the fantasy at some point during the past six months.

APPENDIX J

MOST FREQUENT HETEROEROTIC AND HOMOEROTIC FANTASIES
OF BISEXUAL MALES AND CORRESPONDING
AROUSAL SCORES
(N = 25)

VARIABLE		FREQUENCY	AROUSAL	N*
<u>Heteroerotic Fantasy</u>				
1. Touching and caressing the body of a naked woman	<u>M</u> <u>SD</u>	20.2 8.2	7.0 2.1	25
2. Mutual body-touching and caressing with a woman	<u>M</u> <u>SD</u>	20.1 8.5	7.1 2.0	25
3. Having sex with a woman you love	<u>M</u> <u>SD</u>	19.3 8.3	7.5 2.1	25
4. Sex with a close female friend or associate	<u>M</u> <u>SD</u>	19.2 7.9	7.4 2.0	25
5. Oral stimulation of a woman's genitals	<u>M</u> <u>SD</u>	18.9 8.7	7.0 2.1	24
<u>Homoerotic Fantasy</u>				
1. Touching and caressing a man's genitals	<u>M</u> <u>SD</u>	19.4 9.9	7.0 2.2	24
2. Giving oral-genital stimulation to a man	<u>M</u> <u>SD</u>	19.0 9.9	6.8 2.4	24
3. A man touching and caressing your genitals	<u>M</u> <u>SD</u>	18.8 9.7	7.0 2.0	25
4. Touching and caressing the body of a naked man	<u>M</u> <u>SD</u>	18.6 10.0	6.9 2.1	25
5. Mutual body-touching and caressing with a man	<u>M</u> <u>SD</u>	18.5 9.3	7.2 2.1	24

* N refers to the number of respondents in this group who report having had the fantasy at some point during the past six months.

APPENDIX K

MOST FREQUENT HETEROEROTIC AND HOMOEROTIC FANTASIES
OF STRAIGHT FEMALES AND CORRESPONDING SEXUAL
AROUSAL SCORES
(N = 25)

VARIABLES		FREQUENCY	AROUSAL	N*
<u>Heteroerotic Fantasy</u>				
1. Having sex with a man you love	<u>M</u> <u>SD</u>	25.2 5.8	7.71 2.0	25
2. Passionate kissing with a man	<u>M</u> <u>SD</u>	20.5 8.6	6.3 2.1	24
3. A man touching and caress- ing your naked body	<u>M</u> <u>SD</u>	20.4 8.5	7.0 2.3	25
4. A man touching and caress- ing your genitals	<u>M</u> <u>SD</u>	20.2 8.5	7.2 2.1	25
5. Touching and caressing the body of a naked man	<u>M</u> <u>SD</u>	19.5 8.9	7.0 2.0	25
<u>Homoerotic Fantasy</u>				
1. Receiving oral-genital stimulation from a woman	<u>M</u> <u>SD</u>	3.6 7.7	5.1 1.8	6
2. A woman touching and car- essing your genitals	<u>M</u> <u>SD</u>	3.2 5.7	5.0 1.9	9
3. A woman touching and car- essing your breasts	<u>M</u> <u>SD</u>	2.7 5.1	4.4 2.0	8

* N refers to the number of respondents in this group who report having had the fantasy at some point during the past six months.

APPENDIX L

MOST FREQUENT HETEROEROTIC AND HOMOEROTIC FANTASIES
OF GAY FEMALES AND CORRESPONDING AROUSAL
SCORES
(N = 25)

VARIABLE		FREQUENCY	AROUSAL	N*
<u>Heteroerotic Fantasy</u>				
1. A man touching and caressing your genitals	<u>M</u>	4.4	3.3	12
	<u>SD</u>	7.5	2.4	
2. Receiving oral-genital stimulation from a man	<u>M</u>	3.2	3.2	11
	<u>SD</u>	6.7	2.1	
3. A man touching and caressing your genitals	<u>M</u>	2.6	2.9	14
	<u>SD</u>	3.7	1.6	
<u>Homoerotic Fantasy</u>				
1. Having sex with a woman you love	<u>M</u>	24.5	8.2	25
	<u>SD</u>	5.1	0.9	
2. Passionate kissing with a woman	<u>M</u>	22.4	6.6	25
	<u>SD</u>	8.1	2.0	
3. Touching and caressing the body of a naked woman	<u>M</u>	22.0	7.6	25
	<u>SD</u>	6.9	1.3	
4. A woman touching and caressing your naked body	<u>M</u>	20.7	7.2	25
	<u>SD</u>	6.8	1.5	
5. Touching and caressing a woman's genitals	<u>M</u>	20.6	7.2	25
	<u>SD</u>	6.3	1.5	

* N refers to the number of respondents in this group who report having had the fantasy at some point during the past six months.

APPENDIX M

MOST FREQUENT HETEROEROTIC AND HOMOEROTIC FANTASIES
OF BISEXUAL FEMALES AND CORRESPONDING AROUSAL
SCORES
(N = 25)

VARIABLE		FREQUENCY	AROUSAL	N*
<u>Heteroerotic Fantasy</u>				
1. A man touching and car- essing your naked body	<u>M</u>	20.5	7.3	25
	<u>SD</u>	7.6	2.1	
2. Touching and caressing the body of a naked man	<u>M</u>	20.1	7.1	24
	<u>SD</u>	9.1	2.0	
3. A man touching and car- essing your genitals	<u>M</u>	20.0	7.5	24
	<u>SD</u>	8.6	2.0	
4. Touching and caressing a man's genitals	<u>M</u>	19.8	6.9	23
	<u>SD</u>	10.3	2.3	
5. Passionate kissing with a man	<u>M</u>	19.6	6.6	23
	<u>SD</u>	9.4	2.3	
<u>Homoerotic Fantasy</u>				
1. Touching and carressing the body of a naked woman	<u>M</u>	19.5	6.8	25
	<u>SD</u>	8.6	2.1	
2. A woman touching and car- essing your naked body	<u>M</u>	19.4	7.4	25
	<u>SD</u>	8.2	1.7	
3. A woman touching and car- essing your genitals	<u>M</u>	18.4	7.1	25
	<u>SD</u>	9.7	1.9	
4. Touching and caressing a woman's breasts	<u>M</u>	18.2	6.7	25
	<u>SD</u>	10.1	2.2	
5. A woman touching and car- essing your breasts	<u>M</u>	18.1	7.2	25
	<u>SD</u>	8.7	1.8	

* N refers to the number of respondents in this group who report having had the fantasy at some point during the past six months.

APPENDIX N

ACTIVE vs. PASSIVE FANTASY THEMES ON EFQ

A. ACTIVE

1. Touching and caressing a woman's breasts/man's chest
2. Touching and caressing a woman's/man's genitals
3. Touching and caressing the body of a naked woman/man
4. Engaging in oral stimulation of a woman's/man's genitals
5. Forcing a woman/man to have a sexual encounter with you

B. PASSIVE

1. A woman/man touching and caressing your breasts (or chest)
2. A woman/man touching and caressing your genitals
3. A woman/man touching and caressing your naked body
4. Receiving oral-genital stimulation from a woman/man
5. Being forced by a woman/man to have a sexual encounter with him.
6. Being made love to by several men/women at the same time.