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Cognitive Determinants of Sexual Expression in Aging Couples

Laura Creti

A Thesis

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ABSTRACT

Cognitive Determinants of Sexual Expression in Aging Couples

Laura Creti

This study was designed to determine the cognitive factors associated with sexual expression in aging couples. The cognitive factors selected for this investigation were sexual efficacy expectations, sexual attitude, sexual knowledge and value of sex. Sexual expression was defined in terms of the following three dimensions: couple sexual frequency, desired sexual frequency and sexual functioning.

Subjects included 32 married couples whose age ranged from 50 to 77 years. Results indicated that this sample of aging couples, contrary to the popular North American stereotype were sexually active and the cognitive variables most highly correlated with all the dimensions of sexual expression were efficacy expectations for the male's sexual performance and individual sexual desire. High sexual efficacy expectations predicted high couple sexual frequency and good male and female sexual functioning. High individual sexual desire predicted high actual and desired couple sexual interaction. In general, it was the male partner's sexual confidence and desire which determined couple sexual expression.

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Cognitive Determinants of Sexual Expression in Aging Couples

Cognitive Factors and Behavior

Historically, social learning theorists have considered mental events, though unobservable, as important determinants of behavior. In J.B. Rotter's (1954, 1972) formulation for example, the concepts of expectancy and reinforcement value constitute predictive mediators of behavior. The probability that a particular behavior will occur depends on the individual's expectancies concerning the outcomes to which his or her behavior will lead and the perceived value of those outcomes. Therefore, a person is more likely to perform a particular behavior, being assertive for instance, if he expects that being assertive will lead to getting approval from a colleague and if getting this approval is important to him.

Expectancies and values remain central topics in more recent social learning theory formulations. Bandura's (1977) self-efficacy theory distinguishes efficacy expectations from outcome expectancies. Outcome expectancies, as in Rotter's formulation, are a person's belief that his or her behavior will lead to a certain outcome. Self-efficacy expectations on the other hand, refer to the person's belief that he or she can perform the behavior required to produce the outcome. Thus, it is not only important for an individual to believe that a behavior can lead to a certain outcome, but also to believe that he is capable of performing that particular behavior.

Although Bandura's emphasis is on efficacy and outcome expectancies he also agrees that values or incentives are important determinants of behavior. This is reflected in his statement, "Given appropriate skills and adequate incentives ... efficacy expectations are a major determinant of people's choice of activities, how much effort they will expend and how long they will sustain effort in dealing with stressful situations." (Bandura, 1977).

Bandura's and Rotter's formulations, taken together suggest that outcome expectancies, self-efficacy expectations and reinforcement value are all important determinants of behavior and a recent theoretical model designed to clarify the relationship of perceived self-efficacy and behavior, has put these three cognitive variables together in a "conceptual map". Salzer (1982) has proposed that outcome expectancies, self-efficacy expectations and reinforcement value are "related multiplicatively because if the individual "imputes a zero belief to any one of these variables the behavior will not be performed." This conceptual formulation implies that these three cognitive factors determine behavioral intention. Behavioral intention, in turn, determines behavior which subsequently leads to the behavioral outcome.

There is no single empirical study to support the overall conceptual framework, however several studies have implicated cognitive variables in the determination of behavior. One study of women beginning a weight control program, has found that high outcome expectancies and high reinforcement values were more likely to determine behavior than low outcome expectancies and low reinforcement values. (Salzer, 1981) Numerous studies have demonstrated that self-efficacy expectations are

important predictors of behavior in a variety of areas including: anxiety (Bandura, Adams & Beyer, 1977), smoking (DiClemente, 1981; Godding & Glasgow, 1985), social skills (Moe & Zeiss, 1982), physical fitness (Rychman, Robbins, Thornton & Cantrell, 1982), career indecision (Taylor & Betz, 1983) and sexuality (Libman, Rothenberg, Fichten & Amsel, 1985).

Cognitive Factors and Sexual Behavior

The effect of covert or mental processes on sexual functioning is highlighted in the sexual dysfunction literature. Lobitz & Lobitz (1978) for instance, mention three categories of inappropriate cognitions which contribute to sexual problems. The first is ignorance about the biology of human sexual response. A couple, for example, may believe that female orgasm during intercourse is produced primarily through deep vaginal stimulation by the penis, rather than by stimulation of the clitoris. In this case, the woman's orgasmic dysfunction may be due to beliefs based on lack of knowledge. The second category of inappropriate cognitions is destructive attitudes that inhibit sexual arousal. If, for example a woman believes that "nice girls aren't interested in sex" she may be sexually unresponsive. The third category is self-defeating thoughts that patients make about their sexual behavior. For instance, males with erectile difficulties may make self-statements like "Oh damn! my penis isn't hard. I can't get it up. I'm such a failure."

Masters and Johnson (1970) hypothesize that anxiety about being able to perform sexually is the most common factor associated with sexual dysfunction. Their formulation assumes that "anxiety" interferes with the arousal response. Beck and Barlow (1984) however, in a review of

current studies on the role of anxiety and distraction in sexual dysfunction, have concluded that it is distraction rather than anxiety which decreases sexual responding. Thus, the dysfunctional individual typically approaches a sexual encounter with concern about how he or she will perform (a distracting thought) rather than enjoying pleasant sensations. A vicious cycle can rapidly develop, with the distracting cognitions contributing to subsequent impaired sexual functioning and the dysfunction leading to distracting cognitions. Related to this conceptual framework, it is noteworthy that a common technique in the treatment of sexual dysfunction is to instruct the client to focus his or her attention to the physical sensations instead of worrying about performance or trying to control orgasms.

Self-efficacy expectations have also been shown to play a role in sexual functioning. The sexual self-efficacy scale for erectile functioning (SSES-E) developed recently and validated in a preliminary way (Libman et al., 1985) indicated that self-efficacy scores clearly discriminated between sexually dysfunctional and sexually well-functioning couples. Another study using this measure with a sample of young male undergraduates demonstrated significantly more negative sexually-related cognitions in males with low SSES-E scores (MacPhee, 1985).

Cognitions have also been implicated as mediators of diminished sexual interest and expression after illness or surgery. Illness may affect the reproductive system and sexual functioning directly but it is usually indirectly responsible for sexual dysfunction in the form of fear that any sexual involvement will exacerbate the illness (Masters &

Johnson, 1970; Thurer & Thurer, 1983).

The nature of the mediating cognitions related to sexual functioning appear to include expectations, attributions, values and beliefs. The cognitive factors which appear to be related to sexual dysfunction include lack of knowledge about human sexual response, destructive attitudes about sexuality, self-defeating and distracting thoughts and low self-efficacy expectations. Little direct investigation of the nature and behavioral implications of these various cognitive factors has been carried out.

Sexuality and Aging

As with most of our physical abilities, sexual capacities and desires change with time. Masters and Johnson (1966, 1970) found that aging brings about some changes in the sexual response cycle. In older males changes include a greater difficulty in achieving an erection, decreased intensity and duration of orgasms, rapid resolution and prolonged refractory period. In older females changes include a longer time to lubricate, decreased amount of lubrication, reduced vaginal elevation and less increase in canal size, decreased duration and intensity of orgasm and a more rapid resolution.

These changes should not limit an older person's ability to function sexually. In fact, as Schlesinger & Mullen (1977) point out, older men and women can be viewed as sexually compatible. Each needs additional time during the excitement phase to prepare for sexual intercourse. In the plateau phase, a less elevated, less extended vagina better accommodates a penis which may become fully erect only after insertion thus causing less pain to a sensitive female. The longer time needed to

achieve orgasm by the male enables the female to achieve orgasm in her own time. Finally, both sexes move quickly to the resolution phase together and, physiologically, neither is able immediately to resume sexual activity.

Although Masters and Johnson's (1967, 1970) findings are based on one study of a small, non-representative sample of older people (39 men aged 50 to 90 years and 34 women 40 to 80 years) they do indicate that changes in the characteristics of the sexual response of aging men and women do not eliminate the ability to function sexually. Other evidence that sexual capacity continues into the older years is the observations of nocturnal penile tumescence (NPT) or nocturnal erections in older men (Karacan, Hursch & Williams, 1972; Karacan, Williams, Thornby & Salis, 1975). The occurrence of NPT, which is highly correlated with REM sleep, has been used to differentiate psychogenic from organic impotence. While NPT occurs in aging men it is worthwhile noting that Karacan et al. (1972; 1975) found a decrease in NPT episodes with increasing age. The significance of this decrease is as yet unknown.

In addition to investigating capacity, research has also been directed towards studying the nature of sexual expression in the aging. This is a relatively new area of investigation and most studies have serious methodological problems. The studies are not directly comparable because of the difference in the composition of the samples, in the age of the participants and in the definition of sexual activity. Most data are derived from interviews and statistical analyses are rarely carried out. A major difficulty is that most studies assessing the effects of aging on sexuality are cross-sectional in nature (comparing sexual

activity in different age groups) so the effects of aging cannot be distinguished from those of cohort or generation.

Despite these limitations, some consistent findings have emerged. These include: 1) Sexual activity and interest persist into old age (Kinsey et al., 1948, 1953; Martin, 1981; Masters and Johnson, 1966, 1970; Nicola and Peruzza, 1974; Pfeiffer and Davis, 1972; White, 1982). 2) A positive correlation exists between early sexual activity (as recalled retrospectively) and a continued sex life in the later years (Kinsey et al., 1948; Martin, 1981; Newman and Nichols, 1960; Pfieffer and Davis, 1972; White, 1982a). 3) When sexual interest or activity cease or decline in the aging female, it is usually reported to be due to declining interest or illness in the male partner (Newman and Nichols, 1960; Pfeiffer, 1968; Pfeiffer, Verwoerdt & Davis, 1972). 4) Males report greater sexual activity and interest than females do. (Freeman, 1961; Nicola and Peruzza, 1974; Wasow and Loeb, 1979). 5) The availability of a socially sanctioned partner is an important factor in the expression of sexuality for females (Christensen and Gagnon, 1965; Masters and Johnson, 1966; Pfeiffer, Verwoerdt & Wang, 1969). 6) Present and past health status is highly predictive of sexual activity (Freeman, 1961; Newman and Nichols, 1960). 7) Older cohorts report lower levels of sexual activity and interest than younger age cohorts (Martin, 1975; Pfeiffer, 1968).

There are two multidisciplinary longitudinal studies of aging investigating the effects of age on sexuality (George & Weiler, 1981; Pfeiffer, Verwoerdt & Wang, 1969). These studies have confirmed the above findings, with one exception. While cross-sectional studies

indicated a fairly direct decline in sexual activity and interest with increasing age, longitudinal studies have demonstrated a varying pattern of change in activity and interest with increasing years. Pfeiffer et al. (1969) found that marital status influenced individual changes in sexual activity (i.e. intercourse) in a sample of subjects aged 60-94 years old. Although the most common pattern for married males and females was a continuously absent or a decreasing rate of sexual activity with increasing age, other patterns such as an increase in sexual activity with time were also noted. Unmarried men had a higher incidence of increasing activity than the married men. Unmarried women had a higher incidence of absent activity than married women. Similar results were found for patterns of changing sexual interest.

In a more recent study of healthy, married males and females aged 46 to 71 years who were tested on four occasions at two year intervals, George and Weiler (1981) found that although various patterns exist, sexual activity and interest remained fairly stable with increasing age. This seems somewhat contradictory to Pfeiffer et al.'s results, however one must note that George and Weiler's study was carried out about 20 years after Pfeiffer et al.'s study. Therefore, even George and Weiler's older group of subjects (aged >65) were a younger age cohort than Pfeiffer's subjects.

In summary, it appears that sexual capacity, activity and interest continues well into old age. Individual differences in the patterns of change (increasing as well as decreasing) and stability have been found. Several factors seem to be associated with the expression of sexuality in an aging sample. These include age, sex, marital status and physical

health. Older age cohorts report a lower frequency of sexual activity and interest and more absent and decreasing patterns of change than younger age cohorts. Males report more sexual activity and interest than females. Unmarried females report less sexual activity and interest than married females (the reverse of this is true for men).

Clearly, sexual expression is not a unitary concept. Many of the studies reviewed imply that there are at least two dimensions - "interest" and "activity". Some, like Martin (1975), acknowledge the multidimensional nature of sexual expression by measuring functioning and a variety of sexual activities. Nevertheless, the majority of studies in the area of sexual expression in the aging, either limit the measurement of the phenomenon to a narrow definition of frequency of sexual intercourse or the use of the unspecified term "sexual activity" which defies accurate measurement.

Cognitions associated with Sexuality in the Aging

The existence of different patterns of change and stability in sexual expression even after controlling for age, sex, marital status and health (George and Weiler, 1981) suggests that there are other factors influencing sexual behavior in aging individuals.

One factor which has been proposed as influential in older persons' lives is a culture that prohibits sexual desire and expression in the elderly. Rubin (1965), for instance, has used cultural prohibition of sexuality in the aged as an explanation for the cessation or reduction in sexual interest and activity in this age group. However, there has been little empirical investigation of this negative societal attitude and how it might affect the expression of sexuality in the aging. A few studies

in this area suggest that attitudes of young and old North Americans (including people who work with the elderly) consist of disbelief that older individuals engage in sexual activity and distaste with the idea that they might do so. For example, Cameron (1970) examined beliefs about sexuality and found that old people considered themselves and were considered by others (younger and middle-aged persons) to be less knowledgeable, less desirous, less skillful, less capable, having less access, making fewer attempts and being less frequently active than either the young or the middle aged persons. In another study, La Torre and Kear (1977) found that students as well as nursing home staff rated sexual stories with aged characters as less credible and less moral than the same stories with young people as main characters.

On the other hand, Damrosch (1982; 1984), using a similar technique to La Torre and Kear, found that nursing students showed a significant bias favoring the sexually active patient who was rated as being more well adjusted, cheerful and mentally alert.

Therefore, although negative attitudes towards sexual expression in older persons do seem to exist, they are apparently not universal, even within the North American culture. Further research directed at clearly identifying positive and negative attitudes about sexuality in the aging and identifying what segements of the population holds these attitudes would be useful.

Given that cultural prohibition of sexuality in the aged does exist it becomes important to determine if and how it affects an aging person's behavior. Again, little research in this area has been done and results of studies are difficult to compare since different measures and

methodologies are employed. In one study, Winn and Newton (1982) present some cross cultural data on societal expectations and the sexual behavior of the elderly in 106 traditional societies. They found that in those societies where aging men continued to be sexually active (70% of the societies studied) there were societal expectations for continued sexual activity in older men. A second study implicates cultural attitudes as determining whether an individual is sexually active or not. In this study White (1982a) assessed attitudes toward sexuality in the aged in nursing home residents with the Aging Sexuality Knowledge and Attitude Scale. He found increased sexual activity to be related to more permissive attitude scores. White also found that sexual interest correlated significantly with sexual activity. The individuals who were not sexually active tended not to express interest in being sexually active (of the 91% who were inactive, only 17% expressed interest in being active). Sexually active individuals all expressed sexual interest.

Martin (1981) also found that interest in sex was highly related to sexual behavior in the aging. He postulates that motivation determines quality and frequency of sexual behavior. In his study of sexual functioning in 60-70 year old married males, he concluded that the impaired potency and reluctance of the least sexually active subjects in his sample to initiate sexual activity were attributable to lack of motivation. This conclusion was based on the finding that two-thirds of this group reported that they were uninterested in a restoration of sexual vigour (even if this were feasible and could be conveniently arranged). They also reported being able to comfortably ignore sex for

long intervals of time, in spite of good health, excellent marital adjustment and favorable attitudes (that is, the belief that sexual activity is important for good health).

Tramer and Schludermann (1983), in a study of married persons between the ages of 56 and 75, corroborated that importance or value of sex as well as attitude toward sexuality were associated with sexual activity (i.e. intercourse). Specifically, these investigators found three factors associated with continued sexual activity: 1) a continuity/relationship factor which includes sex as being an important part of the relationship, 2) an ego factor which includes items indicating that sex makes the person feel good about himself and 3) an enjoyment factor which includes items indicating sex as being pleasurable. The factors associated with discontinued sexual activity were : 1) a negative attitudinal factor which includes items regarding attitudes towards sex in general and sex in the aging in particular, 2) a lack of desire factor, and 3) a negative spouse factor which includes items about the spouse being ill, not able to function or not wanting sex.

Information about sexuality in the aged is another factor that has been related to sexual behavior in this segment of the population. White (1982a) found that accurate knowledge about sexuality in the aging was related to whether an individual was sexually active or not. Greater knowledge scores were related to higher frequency of sexual activity. Rowland and Hayes (1978) also found that providing an education program (information on sexual functioning in aging people and on methods of improving communication and sexual enjoyment) to 10 married couples aged

51 to 71 years resulted in significant increases in the frequency of a variety of sexual activities and in general sexual satisfaction.

It has not yet been clearly demonstrated that sexual self-efficacy expectations are related to sexual behavior. There is some evidence however, which suggests that older age cohorts have lower self-efficacy beliefs than younger age cohorts. Libman, Fichten, Creti, Amsel and Brender (1986) investigated sexual behavior in a sample of males and females aged 51 to 76 years. They found that the older males (age >65) had lower confidence in their erectile ability (as measured by the Sexual Self-Efficacy Scale, Form E) than the younger males. The older males were also found to perform less well on a general measure of sexual functioning. La Torre and Kear (1977), although not using a sexual self-efficacy measure, have shown that older persons believe themselves to be less sexually capable than young persons. These low self-efficacy expectations about sexual functioning may negatively affect their sexual behavior.

Unresolved Issues

The cognitive factors identified as influencing sexual expression include concepts of value, beliefs or expectations, attitudes and knowledge. However, the concept of sexual expression is multi-dimensional. It consists of, 1) overt behaviors which include a range of both interpersonal (e.g. coital and non-coital sexual interactions) and individual activities (e.g. masturbation, reading or viewing erotica), 2) covert behaviors (e.g. sexual thoughts and fantasies) and 3) motivational aspects of sexual experience (e.g. desire, interest).

Therefore, to evaluate the various aspects of sexual expression it

is necessary to use multidimensional measurements of the concept. To this end, at least three dimensions must be included: a) frequency, b) desired frequency and c) functioning.

Apart from the problem of defining sexual expression, each of the cognitive factors has been looked at individually as to it's relation with sexual expression. Therefore, their relative contribution to each of the sexual dimensions is not known. A systematic investigation of the cognitive determinants of the various dimensions of sexual expression needs to be carried out in order to evaluate the relative contributions of the cognitive variables to each dimension of sexual expression.

The Present Study

The present investigation was designed to study the relation of cognitions to sexual expression in an aging sample. Cognitions seem to influence the sexual behavior of the old and young alike, however older individuals appear particularly vulnerable. They live in a society that prohibits sexual expression in the aging. They also belong to a generation that was denied easy access to sexual information. Since their knowledge of sexual functioning and age related changes is limited they are likely to be more prone to anxiety about sexual performance. They may interpret normal age related changes (like a slower reaction to sexual stimulation) as abnormal. This may subsequently lead to distracting thoughts and loss of confidence (low self-efficacy expectations) in the capacity to perform sexually. The aging individual is also more susceptible to illness, which is known to contribute to sexual dysfunction.

Thus, older persons are faced with many events that may potentially disrupt their sexual functioning. It is important to clarify what the

important factors for good and impaired sexual functioning are in this population in order to: a) better understand normal sexuality in the aging population and to b) identify those older persons who desire sexual activity, but for whom such activity has become problematic.

In this study, cognitions and sexual expression in a particularly vulnerable segment of the population were explored, permitting the highlighting of variables associated with intact and impaired sexual functioning. Subjects consisted of couples in which the male had recently undergone transurethral prostatectomy (a subsample of a larger group of subjects involved in another study). Although this surgical procedure does not constitute an organic basis for erectile disorder, a range of changes in sexual functioning have been reported (Libman & Fichten, 1986). Vast individual differences do exist however, and this study is designed to investigate the cognitions associated with these differences in sexual functioning. The sample was homogeneous in that the individuals were all psychologically "at risk" in the area of sexual functioning. These couples had been exposed not only to the aging process and to the cultural prohibitions placed on the aging but also to a surgical procedure involving the male genitals.

There were three major goals for the present investigation: (1) to determine which cognitive variables are the best predictors of different dimensions of sexual expression, (2) to determine the order of importance of the predictive variables and (3) to establish which spouse's cognitions are most influential in determining the sexual dimensions.

For purposes of this study sexual expression was defined in terms of: a) couple sexual frequency: this is the frequency of sexual

intercourse or activity that the couple engages in, b) desired sexual frequency: this is the frequency of sexual intercourse or activity that each spouse would like to engage in (irrespective of the partner's wishes) and c) sexual functioning: this is the nature and quality of sexual expression in each spouse (i.e. the presence or degree of impairment in any aspect of the sexual response: interest, arousal and orgasmic phases).

The four cognitive variables (value of sex, sexual efficacy expectations, sexual knowledge and attitude) were explored in relation to each of the three dimensions separately, to establish the magnitude and order of their relative contributions to sexual expression.

Once the important cognitive variables in determining each dimension of sexual expression were established a second objective was to investigate which spouse was most influential in the determination of these dimensions. In this area, three specific predictions were made:

1. Couple sexual frequency will be influenced more by the male's cognitions than the female's. Couple sexual activity presumably is influenced by both spouses, however, in an aging population, which is more likely to adhere to traditional social roles, the sexual role stereotype will be expressed in couple behavior conforming to the male partner's predilection.

2. Individual desired sexual frequency will be less influenced by the spouse's cognitions. Although couple activity may be determined by the male, the female's desired sexual activity will be less influenced by her male partner.

3. Quality and nature of sexual functioning will be influenced by

the male or female partner's own cognitions since this, like desired sexual frequency is a more individual measure than couple sexual activity.

METHOD

Subjects

Subjects for the present study consisted of thirty-two couples, in which the male had undergone transurethral prostate surgery during the 12 months prior to testing.

The subject selection criteria were as follows:

1) at least one spouse between the ages of 50 and 79,
2) currently married,
3) good command of the language in which the interviews were carried out and measures administered (i.e., English),
4) minimum grade school education level (or equivalent), to ensure adequate comprehension and ability to fill out questionnaire measures and
5) both partners willing to participate.

The subjects were excluded on the basis of:

1) severe physical illness in the male or female and conditions associated with organically based erectile dysfunction (e.g., diagnosis of prostate cancer, congestive heart failure, diabetes mellitus, Hypothalamic-pituitary- gonadal dysfunction). Kaplan's (1974) tables on the effects of illness and drugs on sexuality were consulted. Cases where the male was experiencing erectile failure and also was suffering from a disorder or is taking a medication which clearly has been implicated in impairment of sexual response,

were excluded from the sample. (The physical status of the male and female was evaluated by the Physical Symptoms Checklist and during the telephone screening),

2) severe psychological disturbance (defined as having sought psychotherapy during the last two years or indicating significant psychological problems during the interview or telephone screening) and

3) pronounced marital difficulties (i.e. scores below 70 on the Locke-Wallace Marital Adjustment Scale for both spouses).

Demographic characteristics for males and females of the sample are detailed in Tables 1 and 2 respectively. Male subjects had a mean age of 65 (range 52 to 77) and their female spouses had a mean age of 61 (range 50 to 75). They were married for an average of 32 years (range 2 to 44) and were in good physical health. Education level averaged to 13 years of schooling and the average combined annual income was $35,000. Descriptive characteristics of marital adjustment and psychological disturbance of males and females are presented in Tables A-1 and A-2. The couples were in a satisfactory marital relationship (mean Locke-Wallace Marital Adjustment score for males was 121 and for females 116) and were in good psychological health (mean Global Severity Index Score on the BSI was .25 for males and .35 for females; only one male and one female scored below two standard deviations from the mean of the normative sample. The male subject was excluded from analyses involving male desired sexual frequency and male functioning since his scores on these variables were outliers.).

Table 1

Demographic Data for Male Subjects (n=32)

Variable	Mean	Standard Deviation	Range
Age	65.25	5.62	52-77
Years of Education	12.53	3.64	7-21
Income[a]	35.71	18.23	10-70
Years Married	32.20	11.58	2-44

[a] This is an estimate of the husband's and wife's combined income. n=31 since one couple did not answer this question. 10 scores are based on the average of the 2 spouses' responses since these were not equal.

Table 2

Demographic Data for Female Subjects (n=32)

Variable	Mean	Standard Deviation	Range
Age	60.72	6.65	50-75
Years of Education	12.84	3.04	6-20
Income[a]	35.71	18.23	10-70
Years Married	32.20	11.58	2-44

[a] This is an estimate of the husband's and wife's combined income. n=31 since one couple did not answer this question.

10 scores are based on the average of the 2 spouses' responses since these were not equal.

Measures

The measures consisted of eight paper and pencil self-report instruments adapted, when necessary, to enable both spouses to complete them. Areas of investigation and their associated measures included the following:

I. Socio-economic status, personal and demographic variables

Background Information Form

The Background Information Form asks for various personal and demographic information such as age, religion, years of education, years married, family income, etc. (see Appendix B). It should be noted that family income was calculated as being the mid-point of the category (e.g., 1,000-10,000; 10,000-20,000, etc.) indicated by the respondent.

II. Physical and Psychological Status

Physical Symptoms Checklist

The Physical Symptoms Checklist evaluates general physical health including past and present illness and current medication used (see Appendix C).

Brief Symptom Inventory (BSI; Derogatis, Rickels & Rock, 1976)

The BSI is a psychological symptom inventory designed primarily to reflect the psychological symptom pattern of psychiatric and medical patients. Subjects indicate on a five-point scale the extent to which they are distressed by each of 53 psychological and psychosomatic symptoms (see Appendix D). This measure is a brief version of the SCL-90 (Derogatis, 1977) which is a frequently used instrument with acceptable reliability and validity. Validation data on the BSI indicate that the correlations between the nine symptom dimensions of the BSI, the SCL-90

and the three global indices of the two scales ranged from .92 to .98 (Derogatis, 1977). The Global Severity Index, one of the three global indices, was used as the measure for psychological disturbance.

III. Marital Functioning

Locke-Wallace Marital Adjustment Scale (MAS; Kimmel and Van der Veen, 1974)

The Locke-Wallace MAS was used to evaluate marital satisfaction and is a highly reliable and well validated measure (Schiavi, Derogatis, Kurianski, O'Connor and Sharpe, 1979). This version contains 23 of the most significant items with scores weighted to reflect current sex differences in patterns of responding (see Appendix E).

IV. Sexual Functioning

General Information Form (GIF; Nowinski and LoPiccolo, 1979)

The GIF, (see Appendix F) is a 28 item sexual history measure designed to assess a couple's sexual functioning. It utilizes a fixed alternative format and is adapted from the measure used in the evaluation procedure of LoPiccolo and his colleagues at Stony Brook. Some normative data for non-elderly samples is available (LoPiccolo, Heiman, Hogan & Roberts, 1985; Nowinski and LoPiccolo, 1979).

Current use of this form involves scoring each item individually, resulting in 28 variables. Since this scoring method is impractical and no other test of sexual behavior exists in the literature (except Martin's (1975) sexual functioning score consisting of the sum of the frequencies of only five behaviors), a global measure of sexual functioning (which includes frequency, arousal and orgasmic capacity) for the male and female was developed for the present study in the following

way: Items 1-28 were converted to z-scores. Two scales were then generated from the 28 items of the GIF. Items 1, 2, 5, 12, 13, 14, 16, 17, 22, 23, 26 and 27 were summed to obtain a global measure of male sexual functioning. Items 1, 2, 5, 12, 13, 14, 18, 19, 20, 24, 26 and 27 were summed to obtain a measure of female sexual functioning.[1] For both scales low scores indicate better functioning than higher scores.

The following items on the GIF were used as general measures of couple sexual frequency and individual desired sexual frequency.

Responses to Question 1 of the GIF: How frequently do you and your mate have sexual intercourse or activity?, was used as the measure for couple sexual frequency. Since the husbands' and wives' responses were not always in agreement[2], the responses to this question were averaged for each couple in order to obtain one couple frequency score. (The higher the score the lower the frequency.)

Responses to Question 2 of the GIF: How frequently would you like to have sexual intercourse or activity?, was used, as the measure for individual desired sexual frequency. (The higher the score the lower the desired frequency.)

Sexual Self-Efficacy Scale, Form E (SSES-E, Libman, Rothenberg and Fichten, 1985)

The SSES-E is a modification of Bandura's (1977) measure. Male and

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[1]For items 12, 13, 14, 18, and 19 all responses equalling 6 were replaced by the mean of the sample.

[2]Total agreement between the spouses was only 53% (r=59). Most disagreement differed by only one or two points. Three couples, disagreeing by more than two points were excluded from analyses on this dependent variable. The exclusion of these three couples indicated the simple correlation to be .89 ($p < .001$)

female subjects are provided with a list of 25 male sexual performance tasks and instructed to designate those they judge the male partner could perform. For each of these designated items subjects rate the strength of their confidence on a 100-point scale, ranging from "quite uncertain to certain" (see Appendix G). The tasks include all 15 items from the Goals for Sex Therapy Questionnaire (Lobitz and Baker, 1979) as well as additional items relevant to erectile functioning. Two scores are derived from this measure: magnitude of efficacy expectations (the number of tasks that the male is judged capable of performing) and strength of efficacy expectations (the mean of the summed confidence ratings). The latter score was used in this study. (High scores indicate greater efficacy expectations than low scores.) The scale has demonstrated adequate reliability and validity (Libman et al., 1985).

V. Sexual Knowledge and Attitude

Aging Sexual Knowledge and Attitude Scale (ASKAS, White, 1982b)

The ASKAS is designed to measure knowledge about age related changes in sexuality and attitude towards sexuality in the aging (see Appendix H). Thirty-four items in a "true-false" or don't know response format, measure knowledge. Scores may range from 36-104, with low scores indicating high knowledge. The 26 items measuring attitude are responded to on a seven-point Likert Scale. Anchor points are labelled "strongly disagree" at 1 and "agree" at 7. The possible range of scores is 34-102, low scores indicating more permissive attitudes. The ASKAS has been shown to be reliable (White, 1982a; 1982b) and has been validated in terms of differentiating the sexually active from non-active elderly individuals as well as those who have participated in a sex education

program from those who did not.

VI. Sexual Defensiveness

Sexual Defensiveness Scale (SDS; Jemail & LoPiccolo, 1982)

The SDS, is a true/false measure (with 16 items for males and 15 for females) which evaluates the extent to which people are defensive about disclosing the real nature of their sexual relationship (see Appendix I). It measures the extent to which people endorse socially desirable items which are unlikely to occur and deny socially undesirable items which characterize most individuals. Jemail and LoPiccolo (1982) report norms and reasonable psychometric characteristics for the test.

VII. Value of Sex

Three additional questions were designed for the present study to assess the value of sex in the couple's life. These were added to the GIF. One item, question 32, simply asks the respondent to rate on a seven-point scale how important sex is in his/her marriage. The remaining two questions, 33 and 34, are seven-point scale modifications of questions found by Martin (1977) to discriminate between sexually active and inactive elderly males (see Appendix F). The scoring was such that high scores on all three questions indicated greater value of sex (The scoring of question 33 was reversed such that responses 1 = 7, 2 = 6, 3 = 5, 5 = 3, 6 = 2, 7 = 1.)

In brief, these are the scores that were used to measure the variables under investigation:

1) GIF Question 1 (average of husband's and wife's responses) - measures couple sexual frequency,
2) GIF Question 2 - measures desired sexual frequency for males and

females,

3) Functioning Scale Scores of the GIF - measure sexual functioning in males and females,

4) Strength Score of the SSES-E - measures male and female sexual efficacy expectations for male sexual performance,

5) Knowledge Score of the ASKAS - measures sexual knowledge for males and females,

6) Attitude Score of the ASKAS - measures sexual attitude for males and females,

7) GIF Questions 32, 33, and 34 - measure the value of sex for males and females.

Procedure

All urologists on staff at the Sir Mortimer B. Davis-Jewish General and Royal Victoria Hospitals were contacted and the project was explained to them. After obtaining the physicians' complete approval and cooperation, a non-coercive means of recruiting subjects was implemented. Subjects (i.e., the male prostatectomy patients) were sent a letter requesting permission to be contacted by the experimenter. Patients replied to the urologists' secretaries who then transmitted to a research team member the names of those who agreed to be contacted. The study was then described to the patient by telephone and permission was obtained from the patient to contact the spouse. After verifying that subjects fit the experimental criteria, an appointment was set with one of the interviewers to meet with the couple at the Jewish General Hospital to administer the test battery. (If couples did not fit the criteria, they were offered an optional counselling session.)

The couple first received a standardized introduction (see Appendix J) and subsequently were asked to provide written consent to participate in the study (see Appendix K). Since this was part of a larger study, the measures which were used in the present study were only part of those administered in the testing session. The entire test battery was administered over three sessions lasting between one and one and a half hour each. All measures were completed by both spouses without consulting each other, and in the presence of the experimenter. The questionnaires were coded to ensure participants confidentiality.

After the completion of the measures, the experimenter elicited any questions or concerns the subjects had about the study or issues related to the study. Couples who indicated that they wanted to discuss marital or sexual concerns were offered a consultation session with one of the senior psychologists associated with the project.

Results

This study was designed to determine the extent to which the four cognitive variables predict sexual expression. The cognitive predictor variables were: sexual efficacy expectations, sexual knowledge, sexual attitude and the value of sex (i.e. 3 measures). The sexual expression, criterion variables selected for this investigation were: couple sexual frequency, male desired sexual frequency, female desired sexual frequency, male sexual functioning and female sexual functioning. Since the variables being explored were intercorrelated and the data consisted of both male and female responses to the same measure, various statistical techniques were employed in order to thoroughly investigate the relationship between the cognitive and sexual expression variables.

The following statistical procedures were carried out:

1) Since sexuality is a very sensitive and personal area of investigation, the first step, prior to determining the cognitive predictors of sexual expression, was to establish if sexual defensiveness (responding to questions in a socially desirable way) affected the responses to the questions measuring sexual expression. Subjects were grouped according to their scores on the Sexual Defensiveness Scale which classified them according to whether they responded in a sexually defensive manner or not. Scores on all sexual expression measures for these two groups were then compared by T-tests. No significant differences were found on any of these scores between the groups of subjects (see Appendix L), indicating that subjects' performance on the sexual expression measures were not associated with sexual defensiveness.

2) The first analysis investigating the relationship between the cognitive predictor variables and the sexual expression criterion variables was a canonical correlation between these variables using SPSS MANOVA. This statistical technique tests the global relationship between the two sets of variables.

As a reference, the correlations among the variables are presented in Tables M-1 to M-5, with significance at the .001, .01 and .05 levels indicated. Bartlett's test (making use of the chi-square statistic) was used to determine the number of canonical variables necessary to express the relationship between the two sets of variables. With all five canonical correlations included, $\underline{X}^2$ (30) = 105.21, $\underline{p}$ <.001 and with the first canonical correlation removed, $\underline{X}^2$ (20) = 33.27, $\underline{p}$ <.05. Subsequent chi-square tests were not statistically significant. The first two

canonical correlations therefore account for significant linkages between the two sets of variables. The first canonical correlation was .88 (77% of variance); the second was .60 (36% of variance).

Results of the analyses of the two pairs of variates that accompany the first two canonical correlations appear in Table 3. Shown in the table are the correlations between the variables and the canonical variates, standardized canonical variate coefficients and the canonical correlation.

With a cutoff correlation of .3 for interpretation, the variables relevant to the first canonical variate in the criterion set, in order of magnitude, were: couple sexual frequency, female sexual functioning, male sexual functioning, female desired sexual frequency, and male desired sexual frequency. Cognitive predictor variables relevant to the canonical variate were: sexual efficacy expectations, value of sex: GIF33 and value of sex: GIF32. Taken as a pair the first canonical variates indicate that those individuals with low sexual efficacy expectations for the male (correlation between this variable and the first canonical variate =.80) and low value of sex: GIF33 (.72) and GIF32 (.59) also have low couple sexual frequency (-.87),poorer sexual functioning in the female (-.85) and male (-.82) partner, and low desired sexual frequency in the male (-.61) and female (-.62) partner.

The second canonical variate in the criterion set was composed of female sexual functioning, male sexual functioning and couple sexual frequency while the corresponding canonical variate from the cognitive predictor set was composed of sexual efficacy expectations and value of sex: GIF33. Taken as a pair the variates suggest that low couple sexual

Table 3

Canonical Analysis of Behavioral and Cognitive Variables

	First Canonical Variate		Second Canonical Variate	
	Correlation	Coefficient	Correlation	Coefficient
Behavioral Variables				
Couple Sexual Frequency	-.87	-.32	-.28	-.89
Male Desired Sexual frequency	-.61	.07	-.05	.16
Female Desired Sexual Frequency	-.62	.13	-.49	-.81
Male Sexual Functioning	-.82	-.36	.31	1.12
Female Sexual Functioning	-.85	-.47	.07	.30
Cognitive Variables:				
Sexual Efficacy Expectations	.80	.57	-.44	-.49
Sexual Knowledge	-.02	.02	.17	-.09
Sexual Attitudes	-.25	.06	.52	.27
Value of Sex: GIF32	.59	.29	-.37	-.28
Value of Sex: GIF33	.72	.53	.64	.86
Value of Sex: GIF34	-.04	-.20	.06	.002
Canonical Correlation	.88		.60	

frequency (-.32), poor male (-.36) and female (-.47) sexual functioning are related to low sexual efficacy expectations (.57) and low value of sex: GIF33 (.53).

A significant relationship was established between the criterion and predictor variables. Frequency and functioning scores played a significant role in the canonical relationships between the cognitive and sexual expression variables. Subsequently, each dependent variable was examined separately. Since the possibility of redundant variance exists due to the intercorrelations of the dependent variables conservative interpretation of the results is required.

A number of significant correlations between predictor and criterion variables emerged from the zero-order correlational analysis (Table M-3). Direct interpretation of these correlations, however, is problematic since correlations among the independent variables exist (Table M-2).

3) The correlational analysis was, therefore, followed by a series of two-step staged multiple regression analyses. Initially, eight two-step staged multiple regression analyses, one for each criterion variable, were performed. For each analysis, age (as a continuous variable), sex (as a "dummy" variable[3]) and the cognitive variables were forced into each of the eight regression equations on "step 1", in order to assess the main effects of these variables. The interactions of sex with each of the cognitive variables and age were entered together on "step 2".

This statistical strategy was deemed appropriate since there was no

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[3]Dummy coding is a way of handling dichotomous variables in order to use them in regression analysis.

firm theoretical basis from which to consider the relative importance of the cognitive variables. Therefore, the SPSS "New Regression" program was used to determine the order of the entry of these variables into the regression equations, empirically, according to the predictive power of the variables (Tabachnik & Fidell, 1983). With this procedure all the independent variables in the set are entered into the equation at the same time and therefore the additive effects of these variables on the dependent variable are tested to determine the size of the overall relationship. This is termed the multiple correlation coefficient (R). The shared variance between the set of independent variables and the dependent variable is indicated by the multiple correlation squared (R^2). Standard multiple regression also allows an evaluation of each independent variable in terms of its unique contribution to the prediction of the criterion variable. This unique amount of variance is indicated by the semipartial correlation squared (Sr^2).

4) To determine the most parsimonious explanation of the dependent variables influencing sexual behavior, the significant predictors which emerged from the initial multiple regressions were used in subsequent staged multiple regression analyses.

5) Finally, separate multiple regressions were performed with the significant independent variables separated by sex. This was done in order to determine which spouse's cognitions, the male's or the female's, were more predictive of each dimension of sexual expression.

Descriptive Statistics

Sexual Behavior Variables Descriptive statistics for the total sample on the criterion variables are shown in Table 4. The mean couple

Table 4

Descriptive Statistics of Dependent Variables for Males and Females

Variable	N	Mean	Standard Deviation	Range
Couples Sexual Frequency	29	5.57	1.68	2.5 - 9
Male Desired Sexual Frequency	32	4.42	1.56	1 - 9
Female Desired Sexual Frequency	31	5.10	1.26	2 - 8

sexual frequency score of 5.57 indicates that on the average couples engaged in sexual intercourse or activity between once a week and once every two weeks; males desired sexual intercourse or activity between once a week and twice a week (mean score = 4.42); females desired sexual intercourse or activity once a week (mean score = 5.10); sexual functioning for both males and females was, in general, non problematic.

Cognitive Variables Table 5 includes the descriptive statistics for the male and female subjects on the independent variables. The mean score on sexual efficacy for males was 59 while the mean score for females' expectations of their husbands' sexual efficacy was 55 indicating that their confidence in the male being able to perform various sexual tasks is, on the average, slightly above 50%. The mean score on sexual knowledge was 57 for men and 56 for women indicating their knowledge about sexuality in the elderly to be in the fairly high range. The mean score on sexual attitudes was 61 for men and 55 for women indicating that they, on the average, hold permissive attitudes toward sex in the elderly. Both males and females had an average score of 5 on value of sex: GIF32 , indicating the importance of sex in their marriage to be on the fairly high positive end. Males and females had a mean score of 4 on value of sex: GIF33, indicating that, on the average, they could go without sex for 2-4 weeks. Males had an average score of 5 on value of sex: GIF34, indicating that they would seek restoration of sexual interest while females had a mean of 3, indicating that they would not seek restoration of sexual interest.

Table 5

Descriptive Statistics of Independent Variables for Males and Females (n=32)

Variable	Sex	Mean	Standard Deviation	Range
Sexual Efficacy Expectations	Male	59.48	21.95	15.2 - 97.6
	Female	55.38	21.85	10.8 - 94.4
Sexual Knowledge	Male	56.56	11.87	38 - 78
	Female	55.88	9.91	37 - 88
Sexual Attitude	Male	60.50	26.05	27 - 113
	Female	54.78	23.56	30 - 127
Value of Sex: GIF32	Male	5.28	1.44	2 - 7
	Female	5.00	1.41	2 - 7
Value of Sex: GIF33	Male	4.17	1.14	1 - 6
	Female	3.71	1.44	1 - 6
Value of Sex: GIF34	Male	5.36	1.86	1 - 7
	Female	3.39	2.12	1 - 7
Age	Male	65.25	5.62	52 - 77
	Female	60.72	6.64	50 - 75

Multiple Regression Analyses

Couple Sexual Frequency

A two-step staged multiple regression was performed with couple sexual frequency as the dependent variable and age, sex and the cognitive variables entered on the first step, and the interaction variables entered on the second step. Analysis was performed using SPSS NEW REGRESSION. Table N-1 displays the zero-order correlations between the criterion and independent variables, the standardized regression coefficients (Beta), the semipartial correlations (Sr^2), R and R^2. Results indicated that age, sex and the cognitive variables, when forced in on the first "step", accounted for a significant proportion of the variance (R^2 = .57, F (8,49) = 8.14, p <.001). Three variables contributed significantly to explaining this variance: (a) sexual efficacy expectations (Sr^2 = .08, p <.01), (b) value of sex: GIF33 (Sr^2 = .19, p <.001) and (c) sexual knowledge (Sr^2 = .04, p <.05).

It should be noted that although the variable value of sex: GIF32 did not contribute significantly to the regression equation (Sr^2 = .026), its zero-order correlation with couple sexual frequency was significantly different from zero (r = -.36, p <.05). Examination of the intercorrelations between the independent variables (Table M-2) indicates value of sex: GIF32 to be significantly correlated with both sexual efficacy expectations and GIF33. Thus, the relationship between GIF32 and couple sexual frequency appears to be an indirect result of the relationship between efficacy expectations, GIF33 and GIF32. Value of sex: GIF32 probably did not significantly predict couple sexual frequency because of the shared variance between the independent

variables.

The interaction variables were entered into the equation on step 2. This set of predictors did not add significantly to the prediction equation (R^2 change = .08, F change = 1.74, p, = .13).

The three significant variables along with age were subsequently entered in another two-step staged multiple regression with couple sexual frequency as the dependent variable. Age, entered on the first "step", was not a significant predictor of couple sexual frequency (R^2 = .03, F (1,56) = 1.97, p = .17). On the second "step", sexual efficacy expectation, sexual knowledge and value of sex: GIF33 were entered as a block and together accounted for a significant amount of additional variance in the criterion variable: (R^2 change = .51, F change = 17.21, p <.001). All three variables contributed a significant amount of unique predictive power: (a) sexual efficacy expectations, Sr^2 = .123, p <.001, (b) sexual knowledge, Sr^2 = .044, p <.05, (c) sexual value GIF33, Sr^2 = .194, p <.001 (see Table 6).

In order to determine whether the male or the female contributed most to the prediction of couple sexual frequency, age and the three significant predictors that emerged from the previous regression analysis were entered in another two-step staged regression analysis with the independent variables entered separately for males and females. On the first "step" male age and female age were entered as a block. These did not account for a significant amount of variance in the criterion (R^2 = .03, F (2,26) = .46, p = .63). On the second "step", male and female sexual knowledge, sexual efficacy expectations and value of sex: GIF33 were entered as a block. Together, they accounted for a significant

Table 6

Multiple Regression Coefficients for Couple Sexual Frequency

Significant Variables Only (n=58)

Variable	Beta	Sr^2	r
Age	-.014	.0001	.18
Sexual Efficacy Expectations	-.402***	.123	-.51***
Sexual Knowledge	-.213*	.044	-.18
Value of Sex: GIF33	-.463***	.194	-.59***

Note: $R = .71$, $R^2 = 51$, $F(4,53) = 13.83$, $p < .001$

*** $p < .001$
** $p < .01$
* $p < .05$

amount of additional variance in the criterion variable, (R^2 change = .66, F change = 7.03, $p < .001$). The two cognitive variables which contributed significantly to the prediction of couple sexual frequency were: (a) Male value of sex: GIF33 (Sr^2 = .07, $p < .05$) and (b) Male sexual efficacy expectations (Sr^2 = .08, $p < .05$; see Table 7).

Although the females' value of sex: GIF33 and the females' sexual efficacy expectations as well as the females' sexual knowledge were not significant predictors (Sr^2 = .003, Sr^2 = .004. Sr^2 = .053, respectively) they were significantly correlated with couple sexual frequency (r = -.64, r = .34, r = -.37, respectively). This relationship with the criterion variable is probably due to the significantly high correlations among the independent variables (see Table M-4).

In brief then, the series of multiple regression analyses indicated that the significant predictors of couple sexual frequency were sexual efficacy expectations, value of sex: GIF33 and sexual knowledge. When these significant cognitive variables were separated by sex, the males' sexual efficacy expectations and value of sex: GIF33 were the most significant predictors.

Male Desired Sexual Frequency

The initial two-step staged multiple regression for male desired sexual frequency included sex, age and the cognitive variables entered as a block on "step 1", with the interaction variables entered on "step 2". The set of independent variables entered on the first step accounted for a significant proportion of variance in the criterion variable (R^2 = .27, $F(8,52) = 2.44$, $p < .05$.) Only one variable, value of sex: GIF33, contributed significantly to this regression equation. (Sr^2 = .084, p

Table 7

Multiple Regression Coefficients for Couple Sexual Frequency

Significant Variables Only for Males and Females (n=29)

Variable	Sex	Beta	Sr^2	r
Age	Male	.014	.0001	.12
	Female	.052	.002	.18
Sexual Knowledge	Male	-.168	.026	-.03
	Female	-.247	.053	-.37*
Sexual Efficacy Expectations	Male	-.387*	.084	-.59***
	Female	-.086	.004	-.34*
Value of Sex: GIF33	Male	-.322*	.068	-.53**
	Female	-.241	.003	-.64***

Note: $R = .83$, $R^2 = 69$, $F(8,20) = 5.55$, $p < .001$

*** $p < .001$
** $p < .01$
* $p < .05$

<.05; see Table N-2). Sexual efficacy expectations and age correlated significantly with male desired sexual frequency (r = -.34, r = .31 respectively) although neither made significant unique variance contributions to the regression equation ($\underline{Sr}^2$ = .006, $\underline{Sr}^2$ = .018 respectively). Thus the relationship between age and efficacy expectations appears to be an indirect result of the interrelationships between independent variables (see Table M-2). On "step 2" the set of interaction variables entered did not add significantly to the prediction equation: ($\underline{R^2 \text{ change}}$ = .05, $\underline{F \text{ change}}$ = .53, $\underline{p}$ = .79).

Another two-step staged multiple regression was performed with male desired sexual frequency as the dependent variable and a reduced number of cognitive independent variables. Age, entered on the first step, accounted for a significant amount of variance in the criterion variable ($\underline{R}^2$ = .09, $\underline{F}$ (1,59) = 6.1, $\underline{p}$ <.05). Value of sex: GIF33 (which emerged as significant in the previous regression) was entered on step 2. It accounted for a significant amount of additional variance in the prediction equation ($\underline{R^2 \text{ change}}$ = .12, $\underline{F \text{ change}}$ = 9.18, $\underline{p}$ <.01). In the final regression equation only value of sex: GIF33 contributed significantly to the prediction of male desired sexual frequency ($\underline{Sr}^2$ = .123, $\underline{p}$ <.05; see Table 8).

To determine whether the male or female partner contributed most to the prediction of male desired sexual frequency, age and value of sex: GIF33 were separated by sex and entered in another two-step staged multiple regression analysis. On the first step male age and female age were entered at the same time. These did not account for a significant amount of variance in the criterion variable ($\underline{R}^2$ = .19, $\underline{F}$ (2,28) = 3.31,

Table 8

Multiple Regression Coefficients for Male Desired Sexual Frequency Significant Variables Only (n=61)

Variable	Beta	Sr^2	r
Value of Sex: GIF33	-.362**	.123	-.41***
Age	.223	.048	.31**

Note: $R = .47$, $R^2 = .22$, $F(2,58) = 8.07$, $p < .001$

*** $p \leq .001$
** $p \leq .01$
* $p < .05$

p = .05). On the second step, male value of sex: GIF33 and female value of sex: GIF33 were entered as a block. These variables accounted for a significant amount of additional variance in the criterion variable (R^2 change = .27, F change = 6.37, p <.01). The final regression equation indicated female value of sex: GIF33 (Sr^2 = .21, p <.01) and male age (Sr^2 = .19), p <.01 to be the significant contributors of variance to the criterion (see Table 9). Although female age and male value of sex were moderately correlated to male desired sexual frequency (r = .23, r = -.32 respectively) they did not account for a significant amount of variance in the prediction equation, probably due to the intercorrelations among the independent variables (see Table M-2).

In summary, the series of multiple regression analyses indicated that value of sex: GIF33 was the cognitive variable most predictive of male desired sexual frequency. When age and value of sex: GIF33 were separated by sex the male's age and value of sex: GIF33 were the most predictive variables.

Female Desired Sexual Frequency

A two-step staged multiple regression analysis was performed with female desired sexual frequency as the dependent variable. Age, sex and the cognitive variables entered on the first step accounted for a significant proportion of variance in the criterion variable (R^2 = .42, F (8,53) = 4.74, p <.001). The interaction variables, which were entered as a block on the second step, did not add significantly to prediction of the criterion variable (R^2 change = .048, F change = .70, p = .65). The independent variable that significantly explained the variance in the criterion variable was value of sex: GIF33 (SR^2 = .24, p <.001; see

Table 9

Multiple Regression Coefficients for Males Desired Sexual Frequency Significant Variables Only for Males and Females (n=31)

Variable	Sex	Beta	Sr^2	r
Age	Male	.589*	.193	.43*
	Female	-.356	.063	.23
Value of Sex: GIF33	Male	-.048*	.002	-.32*
	Female	-.532	.205	-.50*

Note: $R = .68$, $R^2 = 46$, $F(4,26) = 5.48$, $p < .01$

* $p < .01$

Table N-3).

Although age and sexual efficacy expectations were significantly correlated with female desired sexual frequency ($r = .35$, $r = -.31$ respectively), their unique variance ($Sr^2 = .044$, $Sr^2 = .003$, respectively) did not account for significant variance in the criterion variable. The relationship of age and efficacy expectations with female desired sexual frequency appears to be an indirect result of the intercorrelations of the independent variables (see Table M-2).

Another two-step staged multiple regression with female desired sexual frequency as the dependent variable was performed. Age was entered into the regression equation on step 1. It accounted for a significant amount of variance in the criterion ($R^2 = .13$, F (1,60) = 8.61, $p < .01$). Value of sex: GIF33 (which emerged as significant in the previous regression) was entered on step 2. This variable accounted for a significant amount of additional variance in the criterion variable (R^2 change = .27, F change = 25.76, $p < .001$). In the final regression equation, with both age and value of sex: GIF33 entered, age accounted for 6% ($p < .05$) of unique variance and value of sex: GIF33 accounted for 27% ($p < .001$) of unique variance (see Table 10).

These two significant independent variables were separated by sex and entered into another staged multiple regression analysis with female desired sexual frequency as the dependent variable. This was done to assess the relative contribution of male and female subjects to the prediction of the criterion variable. Female age and male age, entered on the first step, accounted for a significant amount of variance ($R^2 = .45$, F (2,28) = 3.51, $p < .05$). On the second step, male value of sex:

Table 10

Multiple Regression Coefficients for Female Desired Sexual Frequency: Significant Variables Only (n=62)

Variable	Beta	Sr^2	r
Age	.254*	.063	.35**
Value of Sex: GIF33	-.525***	.270	-.57***

Note: $R = .63$, $R^2 = .39$, $F(2,59) = 18.96$, $p < .001$

*** $p < .001$
** $p < .01$
* $p < .05$

GIF33 and female value of sex: GIF33 were entered as a block. This set accounted for a significant amount of additional variance in the criterion variable: (R^2 change = .39, F change = 12.61, p <.001). In the final regression equation, where all four variables were entered, male age and female value of sex: GIF33 emerged as the significant contributors to the criterion variable: for male age Sr^2 = .12 (p <.05), and for female value of sex: GIF33 Sr^2 = .20 (p <.01; see Table 11). Female age (r = .32) and male value of Sex (r = -.54) were significantly correlated to female desired sexual frequency. They, however, did not account for any significant variance in the criterion variable (Sr^2 = .02, Sr^2 = .05, respectively), which is probably due to the intercorrelations among the independent variables (see Table M-4).

In brief, the series of multiple regression analyses indicated that age and value of sex: GIF33 were significant predictors of female sexual frequency. When these variables were separated by sex, male age and female value of sex: GIF33 emerged as the most predictive variables.

Male Sexual Functioning

A two-step staged multiple regression analysis with male sexual satisfaction as the dependent variable was performed. Age, sex and the cognitive variables were entered as a block on the first step and the interaction variables were entered on the second step. The set of independent variables entered on step 1 accounted for a significant amount of variance in the criterion variable (R^2 = .49, F (8,53) = 6.44, p <.001). The variables that were significant contributors to this variance were (a) sexual efficacy expectations (Sr^2 = .14, p <.001) and (b) value of sex: GIF32, (Sr^2 = .05; see Table N-4). Other independent

Table 11

Multiple Regression Coefficients for Female Desired Sexual Frequency Significant Variables Only for Males and Females (n=31)

Variable	Sex	Beta	Sr^2	r
Age	Male	.45*	.116	.45**
	Female	-.21	.023	.32*
Value of Sex: GIF33	Male	-.26	.048	-.54***
	Female	-.51***	.197	-.63***

Note: $R = .77$, $R^2 = 59$, $F(4,26) = 9.52$, $p < .001$

*** $p < .001$
** $p < .01$
* $p < .05$

variables were highly correlated with the criterion variable, however their unique variance did not contribute significantly to the prediction equation: value of sex: GIF33 ($r = -.39$, $Sr^2 = .035$), sexual attitude ($r = .28$, $Sr^2 = .035$), and age ($r = .26$, $Sr^2 = .0001$). The interaction variables, entered on step 2, did not account for a significant amount of additional variance in the criterion variable (R^2 change = .07, F change = 1.17, $p = .34$ (see Table M-4).

Age and the significant predictors that emerged from this analysis were entered in another two-step staged multiple regression analysis with male sexual functioning as the dependent variable. Age, entered on step 1, accounted for a significant amount of variance in the criterion variable ($R^2 = .07$, F (1,60) = 4.33, $p < .05$). Value of Sex: GIF32 and sexual efficacy expectations, entered as a block on step 2, accounted for a significant amount of variance in the criterion variable (R^2 change = .36, F change = 18.55, $p<.001$). In the final regression equation sexual efficacy expectations ($Sr^2 = .20$, $p < .001$) and value of sex: GIF32 ($Sr^2 = .05$, $p < .05$) were significant contributors to the criterion variable (see Table 12).

These significant predictors of male sexual functioning were separated by sex and entered in another staged multiple regression with the same criterion variable. On the first step female age and male age were entered. These did not account for any significant variance ($R^2 = .09$, F (2,28) = 1.42, $p = .26$). Male and female sexual efficacy expectations and value of sex: GIF32 were entered on the second step. This set accounted for significant additional variance in the criterion variable (R^2 change = .49, F change = 7.05, $p < .001$). In the final

Table 12

Multiple Regression Coefficients for Male Sexual Functioning

Significant Variables Only (n=62)

Variable	Beta	Sr^2	r
Age	-.011	.0001	.26*
Sexual Efficacy Expectations	-.531**	.203	-.61**
Value of Sex: GIF32	-.248*	.053	-.44**

Note: $R = .66$, $R^2 = .43$, $F(3,58) = 14.65$, $p < .001$

** $p < .001$
* $p < .05$

regression equation, male sexual efficacy expectations emerged as the independent variable accounting for the variance in the criterion ($\underline{Sr}^2$ = .15, $\underline{p}$ <.01; see Table 13). Although the remainder of the cognitive variables did not contribute significant unique variance to the prediction equation, their zero-order correlations with male sexual functioning were significant. Their insignificant contribution to the regression equation is probably due to the intercorrelations among the independent variables.

In brief, the series of multiple regression analyses indicated that sexual efficacy expectation, and value of sex: GIF32 were significantly predictive of male sexual functioning. When these cognitive variables were separated by sex, male sexual efficacy expectations emerged as the most predictive of the criterion variable.

Female Sexual Functioning

Female sexual functioning served as the dependent variable for an initial two-step staged multiple regression where age, sex and the cognitive variables were entered at the same time in step 1 and the interaction variables were entered in step 2. The set of independent variables entered on step 1 accounted for a significant amount of variance in female sexual functioning ($\underline{R}^2$ = .52, $\underline{F}$ (8,53) = 7.15, $\underline{p}$ <.001). The variables that significantly accounted for this variance were: (a) sexual efficacy expectations ($\underline{Sr}^2$ = .11, $\underline{p}$ <.01), (b) Value of sex: GIF32 ($\underline{Sr}^2$ = .04, $\underline{p}$ <.05) and (c) value of sex: GIF33 ($\underline{Sr}^2$ = .10, $\underline{p}$ <.01). The set of interaction variables, entered on step 2, did not account for any significant additional variance in the criterion variable ($\underline{R^2\ change}$ = .05, $\underline{F\ change}$ = .89, $\underline{p}$ = .51; see Table N-5).

Table 13

Multiple Regression Coefficients for Males Sexual Functioning

Significant Variables Only for Males and Females (n=31)

Variable	Sex	Beta	Sr^2	r
Age	Male	.081	.003	.27
	Female	-.209	.017	.28
Value of Sex: GIF32	Male	-.104	.006	-.39*
	Female	-.107	.006	-.49**
Sexual Efficacy Expectations	Male	-.586**	.152	-.739***
	Female	-.191	.017	-.496**

Note: $R = .76$, $R^2 = 58$, $F(6,24) = 5.58$, $p < .001$

*** $p < .001$
** $p < .01$
* $p < .05$

Age and the significant variables that emerged in the previous regression were entered into another two-step staged multiple regression with female sexual functioning as the dependent variable. Age, entered on the first step, did not contribute any significant amount of variance to the prediction equation ($\underline{R}^2$ = .05, $\underline{F}$ (1,60) = 3.29, $\underline{p}$ = .07). The inclusion of sexual efficacy expectations, value of sex: GIF32 and value of sex: GIF33, as a set in step 2, accounted for significant additional variance in the criterion variable ($\underline{R^2 \text{ change}}$ = .44, $\underline{F \text{ change}}$ = 16.51, $\underline{p}$ <.001). In the final regression equation, with all independent variables entered, the three significant predictors were: (a) sexual efficacy expectations ($\underline{Sr}^2$ = .10, $\underline{p}$ <.01), (b) value of sex: GIF33 ($\underline{Sr}^2$ = .09, $\underline{p}$ <.01) and (c) value of sex: GIF32 ($\underline{Sr}^2$ = .04, $\underline{p}$ <.05; see Table 14).

A final two-step staged multiple regression analysis was performed with female sexual functioning as the dependent variable. The independent variables were age and the cognitive variables which were found to be significant predictors in the previous analysis. This time, however, male and female responses were considered separately for each variable. On the first step, female age and male age were entered. These accounted for a significant amount of variance in the criterion variable ($\underline{R}^2$ = .21, $\underline{F}$ (2,29) = 3.94, $\underline{p}$ <.05). The variables entered on step 2 (male and female value of sex: GIF32 and GIF33, and male and female sexual efficacy expectations) accounted for a significant amount of additional variance in the criterion ($\underline{R^2 \text{ change}}$ = .47, $\underline{F \text{ change}}$ = 5.75, $\underline{p}$ <.001). In the final regression equation, the variables that significantly contributed to the prediction of female sexual functioning were: (a) female sexual efficacy expectations ($\underline{Sr}^2$ = .13, $\underline{p}$ <.01) and (b)

Table 14

Multiple Regression Coefficients for Female Sexual Functioning

Significant Variables Only (n=62)

Variable	Beta	Sr^2	r
Age	-.023	.0004	.23*
Value of Sex: GIF32	-.231*	.044	-.46***
Value of Sex: GIF33	-.323**	.09	-.51***
Sexual Efficacy Expectations	-.391**	.10	-.58***

Note: $R = .70$, $R^2 = .49$, $F(4,57) = 13.84$, $p < .001$

*** $p < .001$
** $p < .01$
* $p < .05$

male value of sex: GIF32 (Sr^2 = .10, p <.05; see Table 15). The remainder of the independent variables all correlated significantly with the criterion, however they added little unique variance to it, which is probably due to the intercorrelations among the independent variables.

In brief, the series of multiple regression analyses indicated that sexual efficacy expectation, value of sex: GIF32 and value of sex: GIF33 were significant cognitive predictors of female sexual functioning. When these variables were separated by sex, female sexual efficacy expectations and male value of sex: GIF32 were the most predictive of female sexual functioning.

A summary table of the results of the multiple regression analyses for all dependent variables is presented in Appendix O.

Table 15

Multiple Regression Coefficients for Female Sexual Functioning

Significant Variables Only for Males and Females (n=32)

Variable	Sex	Beta	Sr^2	r
Age	Male	-.256	.029	.004
	Female	.075	.003	.45**
Value of Sex: GIF32	Male	-.402*	.102	-.50**
	Female	.267	.04	-.41*
Value of Sex: GIF33	Male	-.181	.023	-.42**
	Female	-.188	.023	-.59***
Sexual Efficacy Expectations	Male	-.053	.001	-.49**
	Female	-.519**	.13	-.69***

Note: $R = .83$, $R^2 = 69$, $F(8,23) = 6.26$, $p < .001$

*** $p < .001$
** $p < .01$
* $p < .05$

DISCUSSION

To examine the relation of cognitive factors to sexual expression in an aging sample four cognitive variables were selected on the basis of their identification as important determinants of sexual behavior in previous studies. The four cognitive measures were sexual efficacy expectations for males, sexual knowledge and attitudes and value placed on sex by each spouse. In order to tap the multidimensional nature of sexual expression, the measures included were couple sexual frequency, desired sexual frequency (which might be construed as each individual's potential frequency of sexual interaction without the influence of his or her partner's preferences) and quality of male and female sexual functioning. There were three main goals in this study: the first was to determine the cognitive predictors of each sexual dimension, the second, to determine the order of importance of each predictor variable and the third, to establish which spouse's cognitions were most influential as predictors of each dimension of sexual expression.

The results of this study were correlational in nature, therefore causality cannot be inferred. Prior to interpreting these correlational analyses used to examine the relation between cognitions and sexual expression, it must be noted that the dependent measures of sexual expression were significantly intercorrelated. This is not surprising since the measures evaluate various aspects of the same multidimensional concept - sexual expression. Nevertheless, such intercorrelations among dependent variables demand that results be interpreted in a conservative manner. Many of the cognitive, independent variables were also found to

be significantly correlated. As a consequence of their shared variance, fewer variables than expected emerged as predictive of each dimension.

Some difficulty was encountered with respect to interpretation of the three measures used to assess the value of sex in an individual's life. The items included were selected from the few references in the literature which addressed this issue, however they were found to have little correlation with each other, indicating that they were probably not measuring the same concept. One of the three measures - interest in the restoration of sexual interest - was found to be neither predictive of nor correlated with any of the dependent variables. This finding was not in accord with Martin's (1981) observation of a positive response on this item related to increased sexual activity. The discrepancy might be explained partially by the difference in wording of the actual question, specifically the present study's use of the word "interest" as compared with "vigour" in the Martin study. Nevertheless the question of whether this item actually evaluated the concept of value or importance of sex in an aging couple's relationship remains to be resolved and the significance of a positive or negative response is still to be determined.

The value of sex item dealing with the amount of time a person can go without sex emerged as a consistent important predictor. This variable was predictive of or highly correlated with all dimensions of sexual expression, particularly, couple sexual frequency and desired sexual frequency. Although Martin (1981) interpreted this measure (along with the previously discussed value of sex measure) as assessing the importance of sex, the content of the actual question posed might equally well function as a measure of sexual desire or drive.

This measure was a particularly strong predictor of how frequently a couple engages in sexual activity and how often an individual would potentially seek interpersonal sexual contact on the basis of his or her own preferences alone. It may be that the more accurate interpretation of this finding is that it is individual sexual drive (rather than perceived value of sex in the relationship) which underlies the expression of sexuality.

Sexual efficacy expectations for the male, although related to all dimensions of sexual expression was predictive only of actual sexual behaviors: couple sexual frequency and sexual functioning. This finding is consistent with Bandura's (1977) self-efficacy theory and other findings in the literature (Bandura, 1977; Libman et al., 1985). High self-efficacy expectations have been theorized to predict performance and high sexual self-efficacy has been shown to predict good sexual functioning. Self-efficacy has never been related to desired or potential frequency of a behavior.

Sexual attitudes did not predict any of the dimensions of sexual expression although the measure was significantly correlated with sexual functioning (the more permissive the attitudes the better the functioning). This finding only partially supports the results of White (1982a) in that attitudes are related to quality and nature of sexual functioning but not to couple sexual frequency. Since the sexual attitude measure correlated with all other cognitive measures which were also related to sexual functioning, the predictive power of sexual attitude to sexual functioning was lost.

Sexual knowledge only predicted couple sexual frequency. The

relationship between sexual knowledge (specifically, the female partner's level of knowledge) and couple sexual frequency was inverse - the greater the knowledge the lower the frequency - which is both counter intuitive and contrary to other findings in the literature (Rowland & Hayes, 1978; White, 1982a). A possible expanation is that individuals who have a problem in a particular area may seek information in that area.

Turning now to the dimensions of sexual expression in the aging and the pattern of their cognitive predictors the present findings indicate the following:

Couple Sexual Frequency

Couple sexual frequency was predicted by, in order of magnitude, how long each spouse could go without sex, sexual efficacy expectations for the male and sexual knowledge. Thus, being able to go without sex for long periods of time, having low efficacy expectations about the male's sexual performance, and the female partner having accurate sexual information were predictive of low frequency of couple sexual interaction. Greater individual sexual desire or interest and both spouses' belief that the male partner could perform well sexually was related to a higher frequency of couple sexual encounters.

Examining which spouse's cognitions influenced couple sexual frequency the most revealed the male partner to be the most influential. It was the male's high sexual self-efficacy expectations and his inability to go without sex for long periods of time (desire) which determined higher couple sexual interaction. Therefore, as was predicted, these aging couples seem to be conforming to traditional social roles where the male has most of the decision making power.

It is noteworthy that reported frequency of sexual contact differed for the males and their female partners. Males tended to report higher frequencies than females, which is consistent with the findings of other studies where the subjects were couples (Pfeiffer, 1969; Rowland & Hayes, 1978) and non-couples (Nicola and Peruzza, 1974; Wasew and Loeb, 1979). This discrepancy in reported sexual frequency is an interesting finding that recurs in studies but one which is as yet to be explained. The present study has demonstrated that the discrepancy does not appear to be due to answering sexual questions in a socially desirable way. Since marital adjustment scores were generally high, marital discord does not seem implicated in this discrepancy in perception of a joint experience. Possibly, the discrepancy is an artifact of the fixed response format which subjects had to use. Perhaps, an open ended question would produce less discrepancy between the spouses. This is an area which needs investigation both for its research and clinical implications.

Male Desired Sexual Frequency

The best predictor of male desired sexual frequency was the value of sex item measuring the comfortable interval of sexual abstinence. Since this measure really seems to be assessing individual sexual drive rather than value of sex in the couple relationship, the predictive relation with how often the couple interacts sexually is readily understandable.

An examination of which spouse's "drive" is most predictive of how often the male would like sexual contact with his wife revealed male "drive" to be more influential. The male's age was also predictive of how often he desired sexual interaction with his wife. This latter finding is consistent with the studies reporting decreased sexual

interest with increasing age (Nicola and Peruzza, 1974; Wasow and Loeb, 1979), however it is intriguing that age apparently does not influence actual couple sexual behavior to the same extent. It seems that reported sexual desire conforms more closely to the stereotype of the sexless aging than does the aging couple's actual behavior.

Female Desired Sexual Frequency

As in male desired sexual frequency, the individual "drive" measure was most predictive of female sexual desire. Again age was also a predictor. In examining the influence of males and females, female individual "drive" was the most influential in determining female desired sexual frequency, as one might expect, but interestingly, it was male age which was the other significant predictor. Therefore, the prediction that female desired sexual frequency would be less influenced by the male and more by her own sexual interest was supported but her partner's age appears to constrain her involvement in couple sexual interaction. Perhaps this is a response to his perceived decreasing desire with increasing age. It may be adaptive for her to decrease her desire as well, in order to maintain harmony in the relationship.

Male Functioning

As previously noted, sexual efficacy expectations was the best predictor of male functioning. The value of sex item measuring the importance of sex in the marital relationship also predicted this dimension of sexual expression. This particular cognitive variable appears to be measuring actual value of sex - at least according to its face validity. Therefore, it appears that the male's belief that his sexual performance is unimpaired together with perceived high importance

of sex in the marriage predicts non-problematic functioning in the interest, arousal and orgasmic phases of the male's sexual response. This is consistent with theoretical formulations of Bandura (1977), Rotter (1954) and Salzer(1979) that both value and efficacy expectations are important determinants of behavior.

The value of sex item measuring the comfortable interval of sexual abstinence, sexual attitudes and age were significantly correlated with male functioning but were not predictive. This finding supports the previously identified relation between sexual attitudes, values, and sexual activity (Martin, 1981; White, 1982a). When the other cognitive factors are considered at the same time, however, their predictive power is overshadowed.

Male sexual efficacy expectations were highly correlated with the female's cognitions regarding her partner's sexual capacity. This finding, along with that of male self-efficacy expectations as the best predictor of male functioning lends additional validity to the relatively newly devised Sexual Self-Efficacy Scale for males (SSES-E; Libman et al., 1985).

Female Sexual Functioning

What predicts the quality and nature of female sexual functioning, interestingly, was found to be the same as those for male functioning with one added predictor: the value item measuring the comfortable interval of sexual abstinence. Thus, good female functioning is related to the female's perception of high sexual efficacy in her male partner, high value of sex in the marriage and high individual "drive". Since many of the sexual activities evaluated for female sexual functioning

involve a partner, perhaps it is not surprising that her evaluation of his capacities influence her response. (Unfortunately, efficacy expectations for female sexual performance was not evaluated since an appropriate measure does not exist. The importance of sexual efficacy expectations for the male in predicting sexual functioning and couple sexual frequency could be better evaluated if also compared with the contribution of sexual efficacy expectations for the female.) Somewhat more unexpected is the finding that it is the male's perception of the importance of sex which is the more influential and significantly predictive of how well the female functions sexually.

The present study has been limited to the behavioral aspects of sexual expression: the actual and potential frequency with which the aging couple engages in sex and the intact or impaired quality of the aging individuals' sexual response. The intention was to address specifically North American culturally imposed censure of sexuality in the aging and the stereotypic belief in the sexless older years. This represents a first step in the attempt to explore what actually happens sexually in couples exposed not only to the psychophysiological effects of aging but also to a surgical procedure with direct psychosexual implications.

The present investigation has demonstrated that this sample of aging couples, contrary to the popular North American stereotype, manifests sexual desires and behaviors. The frequency with which they actually or potentially interact sexually can generally be predicted by each partner's level of sexual desire and their confidence in the male's sexual ability. Age was not a predictive factor in actual sexual behavior (as some research has suggested) but it was predictive of

individual sexual desire. Similar to North American social role norms, the male partner's sexual preferences and confidence are an important influence on individual and couple sexual expression.

The relevence of the results of this study to the general aging population may be limited since this particular sample of individuals was characterized by having volunteered to participate in the study and in that the male had undergone prostate surgery. For this specific group it would be important to explore the individuals' expectations about the consequences of surgery and how these relate to sexual expression after surgery. Since it is difficult to define a "typical" sample of aging individuals (due to the high frequency of physical disorders of one kind or another) future research should study homogeneous samples of couples who have had other illnesses or surgeries or samples of couples who are very healthy. Studying various subgroups of the population will ultimately allow us to understand sexual expresson in the aging in general.

The behavioral aspects of sexual expression have just begun to be explored. More research in this area is needed, particularly in developing and validating measures of sexual expression, in order to improve our understanding of sexuality in an aging population. Another aspect of sexuality that needs exploration is the subjective experience of sex in the aging.

How much does each of these individuals enjoy his or her sexuality. How satisfied are they with their sexual relationship? Is the physical exchange of affection in the older couple's repertoire related to the overall sexual experience? If so, in what way? In the larger context, how does the sexual experience relate to an aging couple's well-being?

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Appendix A

Descriptive Tables of Marital Adjustment and Psychological Disturbance

Table A-1

Marital Adjustment and Psychological Disturbance of Male Subjects (n=32)

Variable	Mean	Standard Deviation	Range
Marital Adjustment[a]	120.94	10.04	97-137
Psychological Disturbance[b]	0.25	0.29	0-1.38

[a] The marital adjustment score was derived from the Locke-Wallace Marital Adjustment Scale. Lower numbers indicate poor adjustment; higher numbers indicate good adjustment.

[b] The degree of psychological disturbance is the Global Severity Index (GSI) derived from the Brief Symptom Inventory. The higher the score the greater the psychological distress.

Table A-2

Marital Adjustment and Psychological Disturbance of Female Subjects (n=32)

Variable	Mean	Standard Deviation	Range
Marital Adjustment[a]	115.59	14.98	67-136
Psychological Disturbance[b]	0.35	0.37	0-1.89

[a] The marital adjustment score was derived from the Locke-Wallace Marital Adjustment Scale. Lower numbers indicate poor adjustment; higher numbers indicate good adjustment.

[b] The degree of psychological disturbance is the Global Severity Index (GSI) derived from the Brief Symptom Inventory. The higher the score the greater the psychological distress.

Appendix B

Background Information Form

Background Information Form

Name: _____

Address: _____

_____

_____ Postal Code _____

Telephone: Home: _____ Office: _____

Age: _____

Sex: Male: _____ Female: _____

Marital Status: (Mark one X only)

_____ Now married (excluding separated)

_____ Separated

_____ Divorced

_____ Widowed

_____ Never married (single)

Where were you born? _____

What is your citizenship? Canadian ☐ Other: _____
please specify

What is your religion? (Mark one X only)

_____ Protestant

_____ Catholic

_____ Jewish

_____ Other: _____
please specify

Please circle the number of years of schooling you have completed. Include years of schooling at university, secondary (high) or elementary school, community colleges, institutes of technology, CEGEP's (general and professional), private trade schools or private business colleges, diploma schools of nursing,

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

What degrees, certificates or diplomas have you ever obtained? Mark as many boxes as apply:

_____ None

_____ Secondary (high) school graduation certificate

_____ Trades certificate or diploma

_____ Other non-university certificate or diploma (obtained at community college, CEGEP, institute of technology, etc.)

_____ University certificate or diploma below bachelor level

_____ Bachelor's degree(s) (e.g. B.A., B.Sc., B.A.Sc., LL.B.)

_____ University certificate or diploma above bachelor level

_____ Master's degree(s) (e.g. M.A., M.Sc., M.Ed.)

_____ Degree in medicine, dentistry, veterinary medicine or optometry (M.D., D.D.S., D.M.D., D.V.M., O.D.)

_____ Earned Doctorate (e.g. Ph.D., D.Sc., D.Ed.)

How long have you been married to your present partner? _____

How many children do you have? _____

What is your occupation? _____
(Please be specific. For example, accounting clerk, sales representative, civil engineer, secondary school teacher, chief electrician, metal worker, homemaker...)

If retired, what was your occupation before retirement? _____

In your occupation, what are/were your most important activities or duties?

_____
(For example, verifying invoices, selling electrical tools, managing the research department, teaching mathematics, supervising construction electricians, operating lathe (If in the Armed Forces, give rank.)

What was your combined annual income last year? Please circle one:

$1,000-$10,000	$10,000-$20,000	$20,000-30,000	$30,000-$40,000
$40,000-$50,000	$50,000-$60,000	$60,000-70,000	more than $70,000

Have either you or your spouse ever received professional help for an emotional, marital, sexual or fertility problem? If yes, describe for what, when and for how long:

_____

_____

_____

_____

_____

Appendix C

Physical Symptoms Checklist

PHYSICAL SYMPTOMS CHECKLIST

To the best of your knowledge do you have, or have you had in the past year, or in the past year been treated for:

(In each category, circle the specific responses that apply to you. For example: if you suffer from disorders of the eyes and ears, but not nose and throat, circle eyes and ears. If you have had the condition in the past year and currently have it, check both columns).

	Had in the past year	Currently have
Disorder of eyes, ears, nose or throat?	____	____
Dizziness, fainting, convulsions, frequent headaches, speech defect, pararlysis or stroke?	____	____
Mental or nervous disorder?	____	____
Shortness of breath, persistent hoarseness or cough, blood spitting, bronchitis, pleurisy, asthma, emphysema or other disorder of the respiratory system?	____	____
Tuberculosis?	____	____
High blood pressure?	____	____
Chest pain, palpitation, rheumatic fever, murmur?	____	____
Disorder of the heart or blood vessels?	____	____
Heart attack?	____	____
Recurrent indigestion, jaundice, intestinal bleeding, ulcer, appendicitis, colitis, diverticultitis, hemorrhoids, or other disorder of the stomach, intestines, or gallbladder?	____	____
Hernia?	____	____
Sugar, albumin, blood or pus in urine, stone or other disorder of kidney, bladder?	____	____
Disease or disorder of reproductive organs?	____	____
Diabetes, thyroid or other hormonal or glandular disorder?	____	____
Neuritis, sciatica, rheumatism, arthritis, gout, or disorder of the muscles or bones, including the spine, back or joints?	____	____
Deformity, lameness, amputation or impairment of function in arms or legs?	____	____
Cancer?	____	____
Allergies?	____	____
Anemia or other disorder of the blood?	____	____
Any other mental or physical disorder not listed above?	____	____

Appendix D

Brief Symptom Inventory

Name _____ Patient No. _____ Technician _____

Location _____ Visit No _____ Mode S R _____ Nar

Age _____ Sex M ___ F ___ Date _____ Remarks _____

INSTRUCTIONS

Below is a list of problems and complaints that people sometimes have Read each one carefully, and select one of the numbered descriptors that best describes HOW MUCH DISCOMFORT THAT PROBLEM HAS CAUSED YOU DURING THE PAST WEEK INCLUDING TODAY Place that number in the open block to the right of the problem Do not skip any items, and print your number clearly If you change your mind, erase your first number completely Read the example below before beginning, and if you have any questions please ask the technician

EXAMPLE

HOW MUCH WERE YOU DISTRESSED BY	Answer	Descriptors
EX Body Aches	Ex ☐	0 Not at all 1 A little bit 2 Moderately 3 Quite a bit 4 Extremely

HOW MUCH WERE YOU DISTRESSED BY

1	Nervousness of shakiness inside	☐
2	Faintness or dizziness	☐
3	The idea that someone else can control your thoughts	☐
4	Feeling others are to blame for most of your troubles	☐
5	Trouble remembering things	☐
6	Feeling easily annoyed or irritated	☐
7	Pains in heart or chest	☐
8	Feeling afraid in open spaces	☐
9	Thoughts of ending your life	☐
10	Feeling that most people cannot be trusted	☐
11	Poor appetite	☐
12	Suddenly scared for no reason	☐
13	Temper outbursts that you could not control	☐
14	Feeling lonely even when you are with people	☐
15	Feeling blocked in getting things done	☐
16	Feeling lonely	☐
17	Feeling blue	☐
18	Feeling no interest in things	☐
19	Feeling fearful	☐
20	Your feelings being easily hurt	☐
21	Feeling that people are unfriendly or dislike you	☐
22	Feeling inferior to others	☐
23	Nausea or upset stomach	☐
24	Feeling that you are watched or talked about by others	☐
25	Trouble falling asleep	☐
26	Having to check and doublecheck what you do	☐
27	Difficulty making decisions	☐

HOW MUCH WERE YOU DISTRESSED BY

Descriptors
0 Not at all
1 A little bit
2 Moderately
3 Quite a bit
4 Extremely

28	Feeling afraid to travel on buses subways or trains	☐
29	Trouble getting your breath	☐
30	Hot or cold spells	☐
31	Having to avoid certain things places, or activities because they frighten you	☐
32	Your mind going blank	☐
33	Numbness or tingling in parts of your body	☐
34	The idea that you should be punished for your sins	☐
35	Feeling hopeless about the future	☐
36	Trouble concentrating	☐
37	Feeling weak in parts of your body	☐
38	Feeling tense or keyed up	☐
39	Thoughts of death or dying	☐
40	Having urges to beat, injure, or harm someone	☐
41	Having urges to break or smash things	☐
42	Feeling very self-conscious with others	☐
43	Feeling uneasy in crowds	☐
44	Never feeling close to another person	☐
45	Spells of terror or panic	☐
46	Getting into frequent arguments	☐
47	Feeling nervous when you are left alone	☐
48	Others not giving you proper credit for your achievements	☐
49	Feeling so restless you couldn't sit still	☐
50	Feelings of worthlessness	☐
51	Feeling that people will take advantage of you if you let them	☐
52	Feelings of guilt	☐
53	The idea that something is wrong with your mind	☐

Appendix E

Locke-Wallace

Marital Adjustment Scale

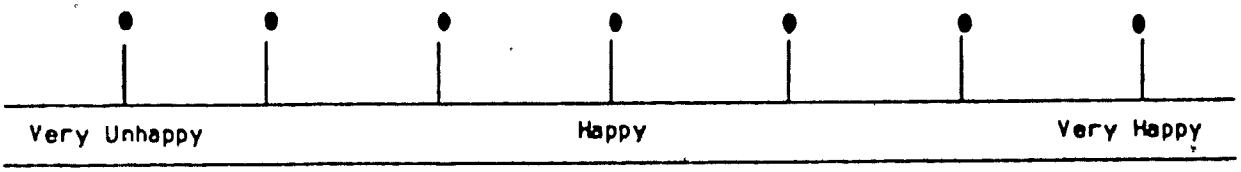
Reply to each question by CIRCLING the appropriate answer. If you cannot give an exact answer to a question, answer the best you can.

1. Have you ever wished you had not married?
   a. Frequently
   b. Occasionally
   c. Rarely
2. If you had your life to live over again, would you:
   a. Marry the same person
   b. Marry a different person
   c. Not marry at all
3. How many outside activities do husband and wife engage in together?
   a. All of them
   b. Some of them
   c. few of them
   d. none of them
4. In leisure time, which situation do you prefer?
   a. Both husband and wife to stay at home
   b. Both to be on the go
   c. One to be on the go and other to stay home
5. Do you and your mate talk things over together?
   a. Never
   b. Now and then
   c. Almost always
   d. Always
6. How often do you kiss your mate?
   a. Every day
   b. Now and then
   c. Almost never
7. Check any of the following items which you think have caused serious difficulties in your marriage.
   Mate's attempt to control my spending money
   Other difficulties over money
   Religious differences
   Different amusement interests
   Lack of mutual friends
   Constant bickering
   Interference of in-laws
   Lack of mutual affection
   Unsatisfying sex relations
   Selfishness and lack of cooperation
   Adultery
   Desire to have children
   Sterility of husband or wife
   Venereal diseases
   Mate became familiar with another person
   Desertion
   Nonsupport
   Drunkenness
   Gambling
   Ill health
   Mate sent to jail
   Other reasons
8. How many things truly satisfy you about your marriage?
   a. Nothing
   b. One thing
   c. Two things
   d. three or more
9. When disagreements arise, they generally result in :
   a. Husband giving in
   b. Wife giving in
   c. Neither giving in
   d. Agreement by mutual give and take
10. What is the total number of times you left mate or mate left you because of conflict?
    a. No times
    b. One or more times
11. How frequently do you and your mate get on each other's nerves around the house?
    a. Never
    b. Occasionally
    c. Frequently
    d. Almost always
    e. Always
12. What are your feelings on sex relations between you and your mate?
    a. Very enjoyable
    b. Enjoyable
    c. Tolerable
    d. Disgusting
    e. Very Disgusting
13. What are your mate's feelings on sex relations with you?
    a. Very enjoyable
    b. Enjoyable
    c. Tolerable
    d. Disgusting
    e. Very disgusting

Indicate approximate extent of agreement between husband and wife.

CHECK one column for each item below.	Always agree	Almost always agree	Occasionally disagree	Frequently disagree	Almost always disagree	Always disagree
14. Handling family finances						
15. Matters of recreation (Ex. going to dance)						
16. Demonstration of affection (Ex. kissing frequency)						
17. Friends (Ex. dislike of mate's friends)						
18. Intimate relations						
19. Ways of dealing with in-laws						
20. Amount of time that should be spent together						
21. Conventionality (Ex. right, good, or proper conduct)						
22. Aims, goals and things believed to be important						

23. CIRCLE the dot which you feel best represents the degree of happiness in your marriage.



Appendix F

General Information Form

(Please circle the most appropriate response for each question.)

1. How frequently do you and your mate have sexual intercouse or activity?

   1) more than once a day
   2) once a day
   3) 3 or 4 times a week
   4) twice a week
   5) once a week
   6) once every two weeks
   7) once a month
   8) less than once a month
   9) not at all

2. How frequently would you like to have sexual intercourse or activity?

   1) more than once a day
   2) once a day
   3) 3 or 4 times a week
   4) twice a week
   5) once a week
   6) once every two weeks
   7) once a month
   8) less than once a month
   9) not at all

3. Who usually initiates having sexual intercourse or activity?

   1) I always do
   2) I usually do
   3) my mate and I each initiate about equally often
   4) my mate usually does
   5) my mate always does

4. Who would you like have initiate sexual intercourse or activity?

   1) myself, always
   2) myself, usually
   3) my mate and I equally often
   4) my mate, usually
   5) my mate, always

5. How often do you masterbate?

   1) more than once a day
   2) once a day
   3) 3 or 4 times a week
   4) twice a week
   5) once a week
   6) once every two weeks
   7) once a month
   8) less than once a month
   9) not at all

6. For how many years have you and your mate been having sexual intercourse?

1) less than 6 months
2) less than 1 year
3) 1 to 3 years
4) 4 to 6 years
5) 7 to 10 years
6) more than 10 years

7. For how long do you and your mate usually engage in sexual foreplay (kissing, petting, etc.) before having intercourse?

1) less than one minute
2) 1 to 3 minutes
3) 4 to 6 minutes
4) 7 to 10 minutes
5) 11 to 15 minutes
6) 16 to 30 minutes
7) 30 minutes to 1 hour

8. How long does intercourse usually last, from entry of the penis until the male reaches orgasm (climax)?

1) less than 1 minute
2) 1 to 2 minutes
3) 2 to 4 minutes
4) 4 to 7 minutes
5) 7 to 10 minutes
6) 11 to 15 minutes
7) 15 to 20 minutes
8) 20 to 30 minutes
9) more than 30 minutes

9. Overall, how satisfactory to you is your sexual relationship with your mate?

1) extremely unsatisfactory
2) moderately unsatisfactory
3) slightly unsatisfactory
4) slightly satisfactory
5) moderately satisfactory
6) extremely satisfactory

10. Overall, how satisfactory do you think your sexual relationship is to your mate?

1) extremely unsatisfactory
2) moderately unsatisfactory
3) slightly unsatisfactory
4) slightly satisfactory
5) moderately satisfactory
6) extremely satisfactory

11. When your mate makes sexual advances, how do you usually respond?

1) usually accept with pleasure
2) accept reluctantly
3) often refuse
4) usually refuse

12. If you try, is it possible for you to reach orgasm through masturbation?

1) nearly always, over 90% of the time
2) usually, about 75% of the time
3) sometimes, about 50% of the time
4) seldom, about 25% of the time
5) never
6) have never tried to

13. If you try, is it possible for you to reach orgasm through having your genitals caressed by your mate?

1) nearly always, over 90% of the time
2) usually, about 75% of the time
3) sometimes, about 50% of the time
4) seldom, about 25% of the time
5) never
6) have never tried to

14. If you try is it possible for you to reach orgasm through intercourse?

1) nearly always, over 90% of the time
2) usually, about 75% of the time
3) sometimes, about 50% of the time
4) seldom, about 25% of the time
5) never
6) have never tried to

15. What is your usual reaction to erotic or pornographic materials (pictures, movies, books)?

1) greatly aroused
2) somewhat aroused
3) not aroused
4) negative -- disgusted repulsed, etc.

16. Does the male have any trouble in getting an erection, before intercourse begins?

1) never
2) rarely, less than 10% of the time
3) seldom, less than 25% of the time
4) sometimes, 50% of the time
5) usually, 75% of the time
6) nearly always, over 90% of the time

17. Does the male have any trouble keeping an erection, once intercourse has begun?

1) never
2) rarely, less than 10% of the time
3) seldom, less than 25% of the time
4) sometimes, 50% of the time
5) usually, 75% of the time
6) nearly always, over 90% of the time

18. (WOMEN ONLY) Can you reach orgasm through stimulation of your genitals by an electric vibrator or any other means such as running water, rubbing with some object, etc.?

1) nearly always, over 90% of the time
2) usually, about 75% of the time
3) sometimes, about 50% of the time
4) seldom, about 25% of the time
5) never
6) have never tried to

19. (WOMEN ONLY) Can you reach orgasm during sexual intercourse if at the same time your genitals are being caressed (by yourself or your mate or with a vibrator, etc.).

1) nearly always, over 90% of the time
2) usually, about 75% of the time
3) sometimes, about 50% of the time
4) seldom, about 25% of the time
5) never
6) have never tried to

20. (WOMEN ONLY) When you have sex with your mate, including foreplay and intercourse, do you notice some of these things happening: your breathing and pulse speeding up, wetness in your vagina, pleasurable sensations in your breasts and genitals?

1) nearly always, over 90% of the time
2) usually, about 75% of the time
3) sometimes, about 50% of the time
4) seldom, about 25% of the time
5) never

21. (MEN ONLY) Do you ever ejaculate (climax) without any pleasurable sensation in your penis?

1) never
2) rarely, less than 10% of the time
3) seldom, less than 25% of the time
4) sometimes, 50% of the time
5) usually, 75% of the time
6) nearly always, over 90% of the time

ALL THE REMAINING QUESTIONS ARE TO BE ANSWERED BY BOTH MEN AND WOMEN

22. Does the male ejaculate (climax) without having a full, hard erection?

1) never
2) rarely, less than 10% of the time
3) seldom, less than 25% of the time
4) sometimes, 50% of the time
5) usually, 75% of the time
6) nearly always, over 90% of the time

23. Does the male ever reach orgasm while he is trying to enter the women's vagina with his penis?

1) never
2) rarely, less than 10% of the time
3) seldom, less than 25% of the time
4) sometimes, 50% of the time
5) usually, 75% of the time
6) nearly always, over 90% of the time

24. Is the female's vagina so "dry" or "tight" that intercourse cannot occur?

1) never
2) rarely, less than 10% of the time
3) seldom, less than 25% of the time
4) sometimes, 50% of the time
5) usually, 75% of the time
6) nearly always, over 90% of the time

25. Do you feel pain in your genitals during sexual intercourse?

1) never
2) rarely, less than 10% of the time
3) seldom, less than 25% of the time
4) sometimes, 50% of the time
5) usually, 75% of the time
6) nearly always, over 90% of the time

26. How frequently do you feel sexual <u>desire</u>? This may include wanting to have sex, planning to have sex, feeling frustrated due to lack of sex, etc...

1) more than once a day
2) once a day
3) 3 or 4 times a week
4) twice a week
5) once a week
6) once every two weeks
7) once a month
8) less than once a month
9) not at all

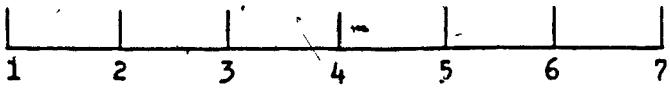
27. When you have sex with your mate, do you feel sexually aroused (i.e. feeling "turned on", pleasure, excitement)?

1) nearly always, over 90% of the time
2) usually, about 50% of the time
3) sometimes, about 50% of the time
4) seldom, about 25% of the time
5) never

28. When you have sex with your mate, do you have negative emotional reactions, such as fear, disgust, shame or guilt?

1) never
2) rarely, less than 10% of the time
3) seldom, less than 25% of the time
4) sometimes, 50% of the time
5) usually, 75% of the time
6) nearly always, over 90% of the time

32. Please rate on a scale from 1 to 7 how important sex is in your marriage.



Totally Unimportant — Extremely Important

33. How long can you comfortably go without sexual activity of any kind?

1) 1 day
2) 2 to 6 days
3) 1 week
4) 2 to 4 weeks
5) 1 to 5 months
6) 6 to 12 months
7) more than 1 year

34. If there were some easy and inexpensive treatment which could restore your sexual interest to the way it was at age 20, what is the likelihood that you would seek that treatment?

Definitely would not — Definitely would

Appendix G

Sexual Self-Efficacy Scale, Form E

INSTRUCTIONS FOR MALES

Name_____

Date_____

Sexual Self Efficacy Scale

The attached form lists sexual activities that men engage in.

Under column I, (Can Do), check (✓) the activities you think you could do if you were asked to do them today.

For only those activities you checked in column I, rate your degree of confidence that you could do them by selecting a number from 10 to 100 using the scale given below. Write this number in column II (Confidence).

10	20	30	40	50	60	70	80	90	100
quite uncertain				moderately certain					certain

If you cannot do a particular activity, leave columns I and II blank for that activity.

INSTRUCTIONS FOR FEMALES

Name _____

Date _____

Sexual Self Efficacy Scale

The attached form lists sexual activities that men engage in.

Under column I, (Can Do), check (✓) the activities you think your partner could do if he were asked to do them today.

For only those activities you checked in column I, rate your degree of confidence that your male partner could do them by selecting a number from 10 to 100 using the scale given below. Write this number in column II (Confidence).

10	20	30	40	50	60	70	80	90	100
quite uncertain				moderately certain					certain

If you think your partner is not able to do a particular activity, leave columns I and II blank for that activity.

Confidence Scale 10 20 30 40 50 60 70 80 90 100 quite uncertain — moderately certain — certain	Put a (✓) if you Can Do	Rate your Confidence
Anticipate (think about) having intercourse without fear or anxiety.		
Get an erection by masturbating when alone.		
Get an erection during foreplay when both partners are clothed.		
Get an erection during foreplay while both partners are nude		
Regain an erection if it is lost during foreplay.		
Get an erection sufficient to begin intercourse.		
Keep an erection during intercourse until orgasm is reached.		
Regain an erection if it is lost during intercourse.		
Get an erection sufficient for intercourse within a reasonable period of time		
Engage in intercourse for as long as desired without ejaculating.		
Stimulate the female partner to orgasm by means other than intercourse.		
Feel sexually desirable to the female partner.		
Feel comfortable about one's sexuality.		
Enjoy a sexual encounter with the female partner without having intercourse.		
Anticipate a sexual encounter without feeling obliged to have intercourse.		
Be interested in sex.		
Initiate sexual activities.		
Refuse a sexual advance by the female partner.		
Ask the female partner to provide the type and amount of sexual stimulation needed.		
Get at least a partial erection when with the partner.		
Get a firm erection when with the partner.		
Have an orgasm while the female partner is stimulating the penis with her hands or mouth.		
Have an orgasm during intercourse (whether there is a firm erection or not).		
Have an orgasm by masturbating when alone (whether there is a firm erection or not).		
Get a morning erection.		

Appendix H

Aging Sexual Knowledge and Attitude Scale

ASKAS

Please answer the following 34 questions by circling either "T" for True, "F" for False or "DK" for Don't Know.

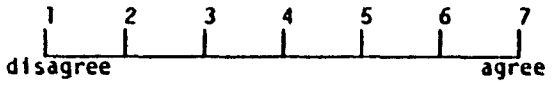
		True	False	Don't Know
1.	Sexual activity in aged persons is often dangerous to their health	T	F	DK
2.	Males of the age of 65 typically take longer to attain an erection of their penis than do younger males	T	F	DK
3.	Males over the age of 65 usually experience a reduction in intensity of orgasm relative to younger males	T	F	DK
4.	The firmness of erection in aged males is often less than that of younger persons	T	F	DK
5.	The older female (65 + years of age) has reduced vaginal lubrication secretion relative to younger females	T	F	DK
6.	The aged female takes longer to achieve adequate vaginal lubrication relative to younger females	T	F	DK
7.	The older female may experience painful intercourse due to reduced elasticity of the vagina and reduced vaginal lubrication	T	F	DK
8.	Sexuality is typically a life-long need	T	F	DK
9.	Sexual behavior in older people (65 +) increases the risk of heart attack	T	F	DK
10.	Most males over the age of 65 are unable to engage in sexual intercourse	T	F	DK
11.	The relatively most sexually active younger people tend to become the relatively most sexually active older people	T	F	DK
12.	There is evidence that sexual activity in older persons has beneficial physical effects on the participants	T	F	DK
13.	Sexual activity may be psychologically beneficial to older persons	T	F	DK
14.	Most older females are sexually unresponsive	T	F	DK
15.	The sex urge typically increases with age in males over 65	T	F	DK

		True	False	Don't know
16.	Prescription drugs may alter a person's sex drive	T	F	DK
17.	Females after menopause, have a physiologically induced need for sexual activity	T	F	DK
18.	Basically, changes with advanced age (65+) in sexuality involve a slowing of response time rather than a reduction of interest in sex	T	F	DK
19.	Older males typically experience a reduced need to ejaculate and hence may maintain an erection of the penis for a longer time than younger males	T	F	DK
20.	Older males and females cannot act as sex partners as both need younger partners for stimulation	T	F	DK
21.	The most common determinant of the frequency of sexual activity in older couples is the interest or lack of interest of the husband in a sexual relationship with his wife	T	F	DK
22.	Barbiturates, tranquilizers, and alcohol may lower the sexual arousal levels of aged persons and interfere with sexual responsiveness	T	F	DK
23.	Sexual disinterest in aged persons may be a reflection of a psychological state of depression	T	F	DK
24.	There is a decrease in frequency of sexual activity with older age in males	T	F	DK
25.	There is a greater decrease in male sexuality with age than there is in female sexuality	T	F	DK
26.	Heavy consumption of cigarettes may diminish sexual desire	T	F	DK
27.	An important factor in the maintenance of sexual responsiveness in the aging male is the consistency of sexual activity throughout his life	T	F	DK
28.	Fear of the inability to perform sexually may bring about an inability to perform sexually in older males	T	F	DK
29.	The ending of sexual activity in old age is not likely and primarily due to social and psychological causes rather than biological and physical causes	T	F	DK
30.	Excessive masturbation may bring about an early onset of mental confusion and dementia in the aged	T	F	DK

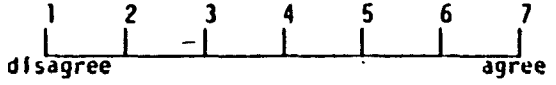
		True	False	Don't know
31.	There is an inevitable loss of sexual satisfaction in postmenopausal women	T	F	DK
32.	Secondary impotence (nonphysiologically caused) increases in males over the age of 60 relative to younger males	T	F	DK
33.	Impotence in aged males may literally be effectively treated and cured in many instances.	T	F	DK
34.	In the absence of severe physical disability, males and females may maintain sexual interest and activity well into their 80's and 90's	T	F	DK
35.	Masturbation in older males and females has beneficial effects on the maintenance of sexual responsiveness	T	F	DK

According to what you think please rate the following 25 statements by circling one number on the scale from 1 to 7.

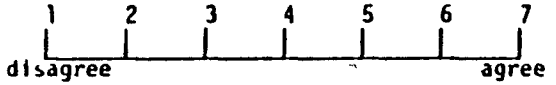
36. Aged people have little interest in sexuality (aged=65+ years of age).



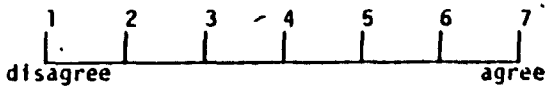
37. An aged person who shows sexual interest brings disgrace to himself/herself.



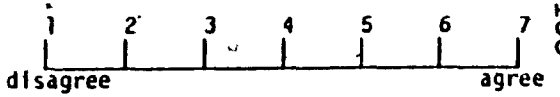
38. Institutions such as nursing homes ought not to encourage or support sexual activity of any sort in its residents.



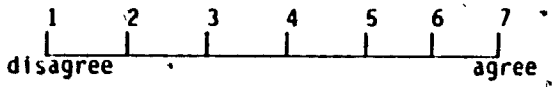
39. Male and female residents of nursing homes ought to live on separate floors in separate wings of the nursing home.



40. Nursing homes have no obligation to provide adequate privacy for residents who desire to be alone, either by themselves or as a couple.

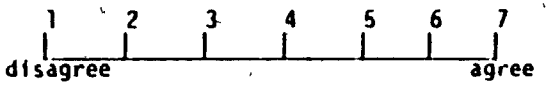


41. As one becomes older (say past 65) interest in sexuality inevitably disappears.

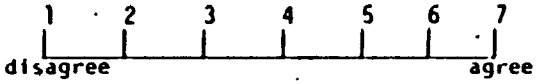


For items 42, 43, and 44:
If a relative of mine, living in a nursing home, was to have a sexual relationship with another resident I would:

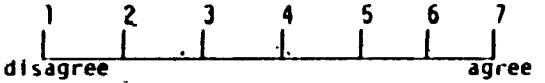
42. Complain to the management.



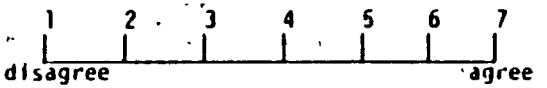
43. Move my relative from this institution.



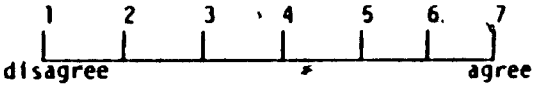
44. Stay out of it as it is not my concern.



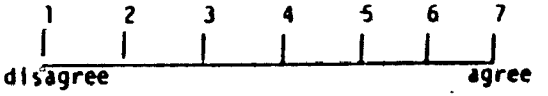
45. If I knew that a particular nursing home permitted and supported sexual activity in residents who desired such, I would not place a relative in that nursing home.



46. It is immoral for older persons to engage in recreational sex.

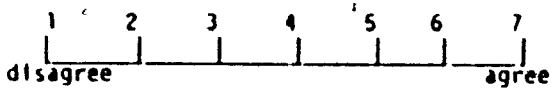


47. I would like to know more about the changes in sexual functioning ~~in older~~ years.

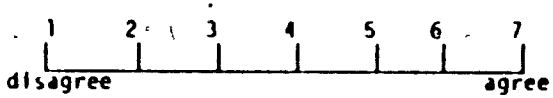


48. I feel I know all I need to know about sexuality in the aged.

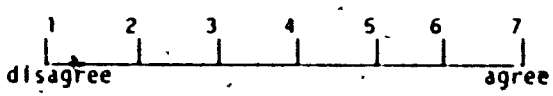
49. I would complain to the management if I knew of sexual activity between any residents of a nursing home.



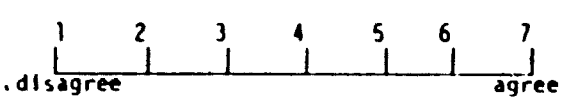
50. I would support sex education courses for aged residents of nursing homes.



51. I would support sex education courses for the staff of nursing homes.

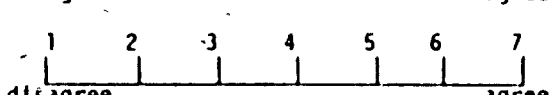


52. Masturbation is an acceptable sexual activity for older males.

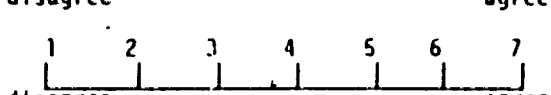


53. Masturbation is an acceptable sexual activity for older females.

54. Institutions such as nursing homes, ought to provide large enough beds for couples who desire such to sleep together.



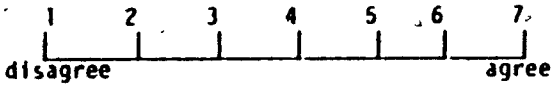
55. Staff of nursing homes ought to be trained or educated with regard to sexuality in the aged and/or disabled.



56. Residents of nursing homes ought not to engage in sexual activity of any sort.

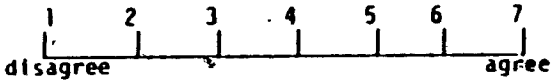
57. Institutions such as nursing homes should provide opportunities for the social interaction of men and women.

58. Masturbation is harmful and ought to be avoided.

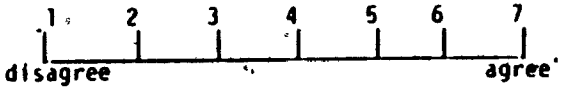


59. Institutions such as nursing homes should provide privacy so as to allow residents to engage in sexual behavior without fear of intrusion or observation.

60. If family members object to a widowed relative engaging in sexual relations with another resident of a nursing home, it is the obligation of the management and staff to make certain that such sexual activity is prevented.



61. Sexual relations outside the context of marriage are always wrong.



Appendix I

Sexual Defensiveness Scale

Initials_____ Date_____

Age_____

Sex_____

Client Couple #_____

How many years have you been married?_____

INSTRUCTIONS

This questionnaire asks about your marriage and sexual relationship. All your answers will be kept confidential, and will be seen only by the clinic staff. Your answers should give an accurate picture of your relationship. Please answer truthfully.

Answer each question by completely crossing out the answer "True" or "False", which ever best applies to you at the time.

Example:

Sometimes when I am tired I am short tempered with my mate. T F

If you feel this statement is mostly "True" about you, cross out "T" like this..... X F

If you feel this statement is mostly "False" about you, cross out "F" like this..... T X

Please answer every question, either T or F.

Males

		True	False
1.	I think I am much sexier than most people	T	F
2.	My spouse and I never feel unhappy about how often we have sex together	T	F
3.	I sometimes push my mate to have sex more than he/she wants to	T	F
4.	I never feel resentful when my spouse turns me down for sex	T	F
5.	I do not always initiate sex when I would like to	T	F
6.	My spouse always knows exactly what I would like him/her to do when we are making love	T	F
7.	My spouse always does the things I like during sex	T	F
8.	Our sex life seems a little routine and dull to me at times	T	F
9.	I always satisfy my spouse sexually	T	F
10.	I have always been satisfied with how often my spouse and I have sex	T	F
11.	I must admit that sometimes I am not considerate of my mate when we make love	T	F
12.	I have never felt that my spouse lacks anything as a lover	T	F
13.	Sex always lasts as long as I would like it to	T	F
14.	My spouse and I are never too busy to have sex	T	F
15.	Every now and then my mate does not please me sexually	T	F
16.	Intercourse is always more enjoyable for me than other sexual activities	T	F

Females

		True	False
1.	Sometimes I dislike my body	T	F
2.	Occasionally I feel sexual intercourse is tedious	T	F
3.	My spouse and I never feel unhappy about how often we have sex together	T	F
4.	I do not always initiate sex when I would like to	T	F
5.	My spouse always knows exactly what I would like him/her to do when we are making love	T	F
6.	My spouse always does the things I like during sex	T	F
7.	Our sex life seems a little routine and dull to me at times	T	F
8.	I have always been satisfied with how often my spouse and I have sex	T	F
9.	I never turn my spouse down for sex because I am angry with him/her	T	F
10.	Sometimes I just can't seem to get turned on sexually	T	F
11.	I must admit that sometimes I am not considerate of my mate when we make love	T	F
12.	Sex always lasts as long as I would like it to	T	F
13.	My spouse and I are never too busy to have sex	T	F
14.	I have never made an excuse to get out of having sex	T	F
15.	Every now and then my mate does not please me sexually	T	F

Appendix J

Standardized Introduction

1. We appreciate your coming and participating.....

2. Let me tell you a little more about the study and what we'll be be asking you to do.

3. This is a study on what happens to people after prostate surgery--what the experience is like for most couples--

4. How the surgery affects your feelings, sexuality and your marriage in general--

5. We want to know what sort of information each of you were given about what would happen--before, during and after surgery.

6. We are gathering information about the kinds of problems some people had related to prostate surgery, and the extent of these problems, so that we can design a program to deal with these, or, hopefully, prevent them.

7. We are going to ask you to complete some questionnaires--and there are a fair number of them...We will ask you to complete these without comparing answers with each other--

8. We will not be showing your answers to your spouse/doctor either--Of course, all of the information on these forms is strictly confidential.

9. These questionnaires will be done in three (3) seperate sessions. At the end we'll have a chance to discuss any questions you might have or any concerns you might have.

10. Now, you will notice that many of these tests have questions about sexuality. That's because we have little information about this area, and it is something we are particularly interested in.

    You will have a

    If you have any questions so far, please feel free to ask.

    (Give consent form.)

Appendix K

Consent Form

CONSENT FORM

1. I am informed that this study is an attempt to evaluate some aspects of my and my spouse's physical and psychological state related to my spouse's recent (or forthcoming) surgery.

2. I am willing to take the psychological tests and questionnaires, either at one time period or at two separate time periods. These tests are designed to assess my and my spouse's overall psychological functioning, and my and my spouse's marital and sexual adjustment.

3. I understand that my partner will also be requested to complete the evaluation procedures.

4. I understand that I am free to ask any question concerning the procedure used in this study at any time. If, for any reason, I experience discomfort or concern during participation in this project, I understand I am free to discuss this with the project coordinator and request appropriate recommendations or referrals and the option of terminating my participation.

5. I understand that if results of this study are published, my part in the study will be completely anonymous and my privacy will be completely protected.

6. On the basis of this information, I _____ willingly consent to participate as a subject in this study conducted at the Jewish General Hospital.

Date: _____ Participant: _____

Project Coordinator: _____

Witness: _____

Appendix L

T-tests Comparing the Sexual Expression Scores of Sexually Defensive and Non-defensive Subjects.

T-tests Comparing the Sexual Expression Scores of Sexually Defensive and Non-defensive Subjects

Variable	Group[a]	N	Mean	T Value	df	2-Tail Probability
Male Sexual Frequency[b]	1	12	5.7	.69	27	.50
	2	17	5.2			
Female Sexual Frequency[b]	1	14	6.3	1.24	22	.23
	2	10	5.4			
Male Desired Sexual Frequency	1	12	4.5	.73	27	.47
	2	17	4.5			
Female Desired Sexual Frequency	1	14	5.0	.18	22	.86
	2	10	4.9			
Male Functioning	1	12	.02	.13	27	.89
	2	17	-.03			
Female Functioning	1	14	.32	1.77	22	.09
	2	10	-.27			

[a] Group 1 responded in a non-defensive way.
Group 2 responded in a defensive way.

[b] Responses to Question 1 of the GIF.

Appendix M

Tables of Correlations among all Variables

Table M-1

Zero-order Correlations among all Dependent Variables

Variable	(1)	(2)	(3)	(4)	(5)
Couple Sexual Frequency (1)	-	.60***	.54**	.68***	.59***
Male Desired Sexual Frequency (2)			.51*	.59***	.19
Female Desired Sexual Frequency (3)				.44*	.37*
Male Sexual Functioning (4)					.38*
Female Sexual Functioning (5)					-

*** $p < .001$
** $p < .01$
* $p < .05$

Table M-2

Zero-order Correlations among All Independent Variables

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Sexual Efficacy Expectations (1)	-	-.09	-.47***	.38***	.33**	.02	-.42***
Sexual Knowledge (2)			.31**	-.14	-.06	-.22*	.10
Sexual Attitude (3)				-.24*	-.05	-.03	.36**
Value of Sex: GIF32 (4)					.24*	.11	-.09
Value of Sex: GIF33 (5)						.14	-.19
Value of Sex: GIF34 (6)							.11
Age (7)							-

*** p <.001
** p <.01
* p <.05

Table M-3

Zero-order Correlations between Dependent and Independent Variables

Variables	Couple Sexual Frequency	Male Desired Sexual Frequency	Female Desired Sexual Frequency	Male Sexual Functioning	Female Sexual Functioning
Sexual Efficacy Expectations	-.51***	-.34**	-.31**	-.61***	-.58***
Sexual Knowledge	-.18	-.13	.07	-.07	.08
Sexual Attitudes	.11	.21	.13	.28*	.22*
Value of Sex: GIF32	-.36**	-.12	-.15	-.44***	-.46***
Value of Sex: GIF33	-.59***	-.41***	-.57***	-.39***	-.51***
Value of Sex: GIF34	.05	.04	.06	.06	.04
Age	.18	.31**	.35**	.26*	.23*

*** $p < .001$
** $p < .01$
* $p < .05$

Table M-4

Zero-order Correlations among all Independent Variables for Males and Females

Variables	1	2	3	4	5	6	7	8
Male Sexual Efficacy Expectations (1)		.60**	-.05	.003	-.45**	-.43**	.43**	.58***
Female Sexual Efficacy Expectations (2)			-.002	-.13	-.46**	-.54***	.33*	.32*
Male Sexual Knowledge (3)				-.03	.31*	-.10	-.29	-.14
Female Sexual Knowledge (4)					.16	.32*	.23	.03
Male Sexual Attitude (5)						.65***	-.17	-.31*
Female Sexual Attitude (6)							-.02	-.31*
Male Value of Sex: GIF32 (7)								.51**
Female Value of Sex: GIF32 (8)								

Table M-4 (continued)

Zero-order Correlations among all Independent Variables for Males and Females

Variables	Male Sexual Value: GIF33	Female Sexual Value: GIF33	Male Sexual Value: GIF34	Female Sexual Value: GIF34	Male Age	Female Age
Male Sexual Efficacy Expectations (1)	.32*	.47**	-.12	.01	-.39*	-.39*
Female Sexual Efficacy Expectations (2)	.20	.33*	-.22	.06	-.37*	-.57***
Male Sexual Knowledge (3)	-.04	-.14	-.06	-.25	.07	.12
Female Sexual Knowledge (4)	.22	.03	.05	-.46**	.13	.11
Male Sexual Attitude (5)	-.04	-.31*	-.22	.10	.40*	.24
Female Sexual Attitude (6)	.05	-.36*	.06	.02	.30*	.30*
Male Sexual Value: GIF32 (7)	.08	.22	.04	.15	-.005	-.26
Female Sexual Value: GIF32 (8)	.22	.35*	.18	.11	-.12	-.25

Table M-4 (continued)

Zero-order Correlations among all Independent Variables for Males and Females

Variables	9	10	11	12	13	14
Male Value of Sex: GIF33 (9)	-	.46**	.07	-.18	-.24*	-.33
Female Value of Sex: GIF33 (10)			-.08	.17	-.11	-.29
Male Value of Sex: GIF34 (11)				.03	.12	.12
Female Value of Sex: GIF34 (12)					.09	-.18
Male Age (13)						.65**
Female Age (14)						-

*** p <.001
** p <.01
* p <.05

Table M-5

Zero-order Correlations between Dependent and Independent Variables for Males and Females

Variables	Couple Sexual Frequency	Male Desired Sexual Frequency	Female Desired Sexual Frequency	Male Sexual Functioning	Female Sexual Functioning
Male Sexual Efficacy Expectations	-.59***	-.39**	-.37*	-.74***	-.49**
Female Sexual Efficacy Expectations	-.34*	-.28	-.24	-.50**	-.69***
Male Sexual Knowledge	-.03	.15	.25	-.11	.21
Female Sexual Knowledge	-.37*	-.11	-.15	-.02	-.09
Male Sexual Attitude	.15	.09	.12	.11	.22
Female Sexual Attitude	.10	.34*	.14	.47**	.21
Male Value of Sex: GIF32	-.54**	-.07	-.03	-.39*	-.50**
Female Value of Sex: GIF32	-.30	-.18	-.27	-.49**	-.41*

Table M-5 (continued)

Zero-order Correlations between Dependent and Independent Variables for Males and Females

Variables	Couple Sexual Frequency	Male Desired Sexual Frequency	Female Desired Sexual Frequency	Male Sexual Functioning	Female Sexual Functioning
Male Value of Sex: GIF33	-.53**	-.32*	-.54***	-.23	-.42**
Female Value of Sex: GIF33	-.64***	-.50**	-.63***	-.53***	-.59***
Male Value of Sex: GIF34	-.05	.12	.21	.22	.15
Female Value of Sex: GIF34	.18	-.01	-.06	-.07	-.05
Male Age	.12	.43**	.45**	.27	.004
Female Age	.18	.23	.32*	.28	.45**

Appendix N

Tables of Coefficients of Initial Multiple Regression Analyses for all Criterion Variables

Table N-1

Multiple Regression Coefficients for Couple Sexual Frequency (n=58)

Variable	Beta	Sr^2	r
Sexual Efficacy Expectations	-.38**	.084	-.51***
Sexual Knowledge	-.21*	.036	-.18
Sexual Attitude	-.03	.0004	.11
Value of Sex: GIF32	-.18	.026	-.36**
Value of Sex: GIF33	-.49***	.194	-.59***
Value of Sex: GIF34	.09	.006	.05
Age	-.07	.003	.18
Sex	.15	.012	00

*** p <.001
** p <.01
* p <.05

Table N-1 (continued)

Multiple Regression Coefficients for Couple Sexual Frequency (n=58)

Variable	Beta	Sr^2
Interactions:		
Sexual Efficacy Exp. x Sex	-.351	.006
Sexual Knowledge x Sex	.051	.0001
Sexual Attitude x Sex	-.085	.0004
Sexual Value: GIF32 x Sex	-.791	.029
Sexual Value: GIF33 x Sex	-.304	.005
Sexual Value: GIF34 x Sex	-.366	.01
Age x Sex		

Note: $R = .81$, $R^2 = .65$, $F(14,43) = 5.82$, $p < .001$

Table N-2

Multiple Regression Coefficients

for Male Desired Sexual Frequency (n=61)

Variable	Beta	Sr^2	r
Sexual Efficacy Expectations	-.111	.006	-.34**
Sexual Knowledge	-.157	.023	-.13
Sexual Attitude	.126	.010	.21
Value of Sex: GIF32	.006	.00003	-.12
Value of Sex: GIF33	-.322*	.084	-.41***
Value of Sex: GIF34	.076	.004	.04
Age	.172	.018	.31**
Sex	-.054	.002	.002

*** p <.001
** p <.01
* p <.05

Table N-2 (continued)

Multiple Regression Coefficients for

Males Desired Sexual Frequency (n=61)

Variable	Beta	Sr^2
Interactions:		
Sexual Efficacy Exp. x Sex	-.69	.026
Sexual Knowledge x Sex	.18	.001
Sexual Attitude x Sex	-.75	.036
Sexual Value: GIF32 x Sex	-.32	.005
Sexual Value: GIF33 x Sex	.32	.006
Sexual Value: GIF34 x Sex	.03	.0001

Note: $R = .57$, $R^2 = .32$, $F(14,46) = 1.54$, $p = .13$

Table N-3

Multiple Regression Coefficients

for Female Desired Sexual Frequency (n=58)

Variable	Beta	Sr^2	r
Sexual Efficacy Expectations	-.024	.0003	-.31*
Sexual Knowledge	.126	.012	.07
Sexual Attitude	-.029	.0006	.13
Value of Sex: GIF32	.016	.0002	-.15
Value of Sex: GIF33	-.543**	.238	-.57**
Value of Sex: GIF34	.121	.018	.06
Age	.244	.044	.35*
Sex	-.061	.003	000

** p <.001
* p <.01

Table N-3 (continued)

Multiple Regression Coefficients for

Female Desired Sexual Frequency (n=58)

Variable	Beta	Sr^2
Interactions:		
Sexual Efficacy Exp. x Sex	-.67	.026
Sexual Knowledge x Sex	1.04	.023
Sexual Attitude x Sex	-.39	.099
Sexual Value: GIF32 x Sex	.45	.008
Sexual Value: GIF33 x Sex	.13	.001
Sexual Value: GIF34 x Sex	.11	.001

Note: $R = .68$, $R^2 = .46$, $F(14,47) = 2.91$, $p < .01$

C

Table N-4

Multiple Regression Coefficients

for Male Sexual Functioning (n=62)

Variable	Beta	Sr^2	F
Sexual Efficacy Expectations	-.513**	.144	-.61**
Sexual Knowledge	-.106	.01	-.07
Sexual Attitude	.011	.0001	.28*
Value of Sex: GIF32	-.248*	.053	-.44**
Value of Sex: GIF33	-.208	.035	-.39**
Value of Sex: GIF34	.053	.003	.06
Age	-.087	.005	.26*
Sex	.111	.002	000

*** p <.001
** p <.05

Table N-4 (continued)

Multiple Regression Coefficients for Male Sexual Functioning (n=62)

Variable	Beta	Sr^2
Interactions:		
Sexual Efficacy Exp. x Sex	-.838	.04
Sexual Knowledge x Sex	.064	.001
Sexual Attitude x Sex	-.558	.02
Sexual Value: GIF32 x Sex	.213	.016
Sexual Value: GIF33 x Sex	.600	.023
Sexual Value: GIF34 x Sex	.190	.003

Note: $R = .75$, $R^2 = .56$, $F(14,47) = 4.25$, $p < .001$

Table N-5

Multiple Regression Coefficients for Female Sexual Functioning (n=62)

Variable	Beta	Sr^2	r
Sexual Efficacy Expectations	-.447**	.11	-.58***
Sexual Knowledge	.07	.004	.08
Sexual Attitude	-.07	.004	.22*
Value of Sex: GIF32	-.227*	.04	-.46***
Value of Sex: GIF33	-.355**	.102	-.51***
Value of Sex: GIF34	.084	.005	.04
Age	-.083	.005	.23*
Sex	.116	.008	000

*** p <.001
** p <.01
* p <.05

Table N-5 (continued)

Multiple Regression Coefficients for

Female Sexual Functioning (n=62)

Variable	Beta	Sr^2
Interactions:		
Sexual Efficacy Exp. x Sex	.81	.04
Sexual Knowledge x Sex	.14	.004
Sexual Attitude x Sex	..53	.02
Sexual Value: GIF32 x Sex	.43	.008
Sexual Value: GIF33 x Sex	-.10	.001
Sexual Value: GIF34 x Sex	.17	.002

Note: $R = .75$, $R^2 = .57$, $F(14,47) = 4.42$, $p < .001$

Appendix O

Summary of Results of Reduced Multiple Regression Analyses

Summary of Results of Reduced

Multiple Regression Analyses

Criterion Variable	Significant Predictor Variables	
	Males and Females Together	Males and Females Separate
Couple Sexual Frequency	Value of Sex: GIF33*** Sexual Efficacy Expectations*** Sexual Knowledge*	Male Value of Sex: GIF:33* Male Sexual Efficacy Expectations*
Male Desired Sexual Frequency	Value of Sex: GIF33**	Male Value of Sex: GIF33* Male Age*
Female Desired Sexual Frequency	Value of Sex: GIF33*** Age*	Female Value of Sex: GIF33*** Male Age*
Male Sexual Functioning	Sexual Efficacy Expectations** Value of Sex: GIF32*	Male Sexual Efficacy Expectations**
Female Sexual Functioning	Sexual Efficacy Expectations** Value of Sex: GIF33** Value of Sex: GIF32*	Female Sexual Efficacy Expectations** Male Value of Sex: GIF32*

*** $p < .001$
** $p < .01$
* $p < .05$