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Sexual Desire in Later Life

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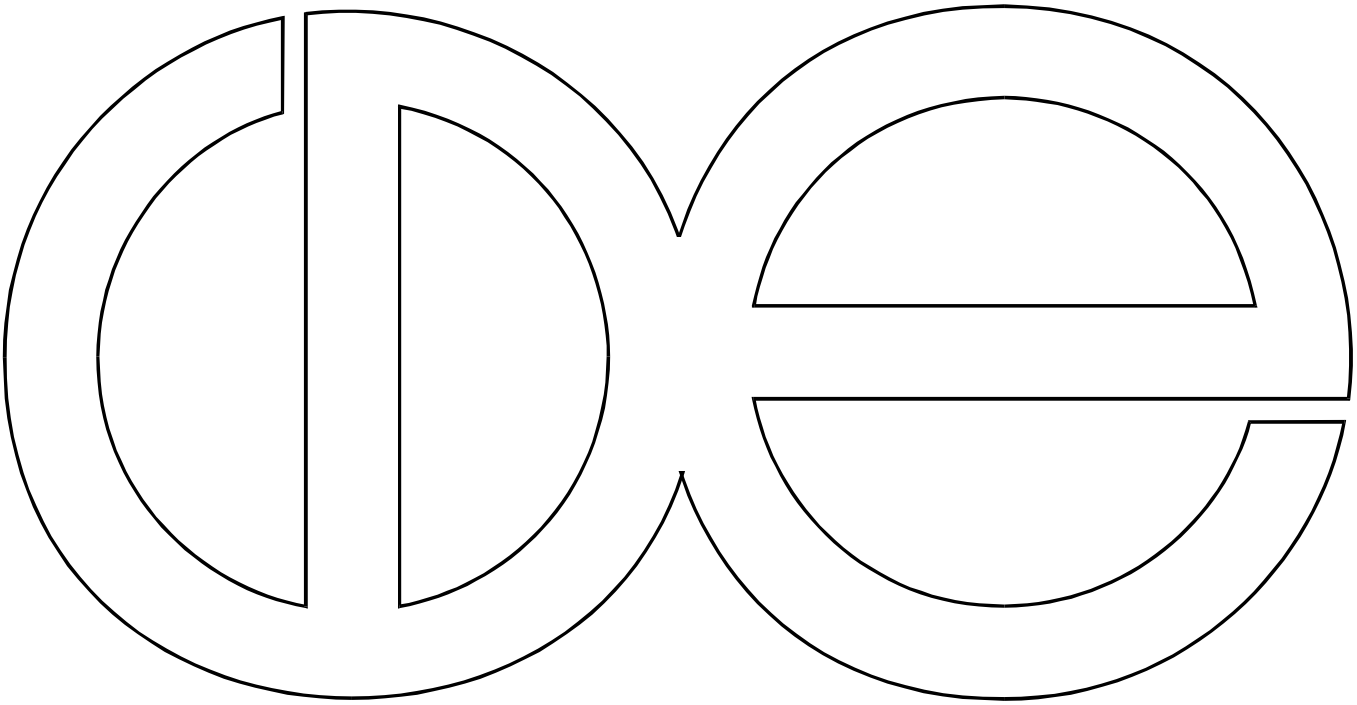

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Introduction

Although human sexuality is generally an understudied area of scientific investigation, researchers have been particularly negligent in the study of sexuality in the aging population. Since the number of elderly persons in the U.S. doubled from nearly 17 million in 1960 to 35 million in 2000, and is projected to reach 53.7 million by 2020 (U.S Bureau of the Census, 2002), this topic takes on particular importance.

Much of the research that has been done reflects a biological or medical perspective on human sexuality. It assumes that as people age, physical or emotional changes or chronic illness reduce or eliminate sexual desire and sexual behavior. This literature reflects the general trend toward the medicalization of human sexual functioning, which has accelerated in the past 20 years. It overlooks psychological and social influences on sexuality.

This paper is based on a biopsychosocial perspective on levels of sexual desire in women and men over the age of 45. A biopsychosocial perspective combines biological, psychological, and socioenvironmental factors (DeLamater, 2002). Any approach to the study of human sexuality that stresses only one dimension, such as biology or sociology, is counterproductive (Rossi, 1994).

The purpose of this study is to examine how levels of sexual desire are associated with biopsychosocial factors. First, we will first briefly discuss the major biological, psychological, and social influences on sexual desire. Next, we will review the limited prior empirical research.

Third, we will present data from a survey of a representative sample of 1,384 persons age 45 or older. The variables in our analyses include: age, illnesses, and medication use; attitudes, expectations, and knowledge; and presence/absence of a sexual partner and household income. In particular, we wanted to determine whether sexual desire declines with age, and, if it does, identify which among these factors are the main influences.

Biological Influences

Age. Kinsey et al. (1949) stated that of the eleven factors that are significant in understanding human sexuality, none seems more important than age. Sexual behavior in women and men declines steadily from adolescence into older age, and to a lesser extent there is diminution in sexual desire (Maurice, 1999).

Some researchers report that older adults continue to be interested in sex as long as poor health does not affect their sexual desire. In particular, aging does not appear to have any effect on female sexual desire (Masters, Johnson, & Kolodny, 1994).

However, Levine (1998) concludes that sexual desire for both women and men changes considerably in older ages. McKinlay and Feldman (1994) reported that in their study of men ages forty to seventy, sexual desire and frequency of sexual thoughts and dreams decreased with age. In Schiavi's study (1999) of healthy men ages 45 to 74 years who were living in stable sexual relationships, sexual desire decreased as age increased. Others have also found that sexual interest declines in aging women (Osborn et al., 1988; Hällström & Samuelsson, 1990). One cause of these conflicting results may be variation

in the measure of sexual desire employed. Another may be the failure to take into account the influence of other relevant factors.

Hormones. A second biological factor is *sex hormones*. Women experience an almost complete cessation of the production of estradiol (principal estrogen) by the ovaries at the time of menopause—before menopause 95% is derived from this source (Sherwin, 1992). In the absence of estrogen, atrophic changes of the vagina occur. Decreased estrogen levels can also result in diminished vaginal lubrication, which, in turn, might be expected to cause discomfort or pain during intercourse (Maurice, 1999). Thus, cessation of sexual activity in older women may reflect the fact that intercourse is painful rather than a decline in sexual desire. Regular vaginal sexual activity can counter vaginal atrophy, suggesting the applicability of the aphorism "use it or lose it."

Studies suggest that testosterone is associated with increased levels of sexual desire and enjoyment of sex in some post-menopausal women (Sherwin, Gelfand, & Brender, 1985; Sarrell, 1999; Sarrel et al., 1998). According to Masters, Johnson, and Kolodny (1994), sexual desire in women is, in biological terms, more dependent on androgen levels than on estrogen levels. In women androgens are made primarily in the adrenal glands and by peripheral conversion, the transformation of estrogen to androgen by non-specific enzymes throughout the body, with only a small amount being produced by the ovaries during the reproductive years. The cessation of ovarian function that accompanies menopause does not significantly reduce the levels of androgens reaching the brain (Masters, Johnson, & Kolodny, 1994). In men, testosterone levels decline

gradually from age 40 to age 70; the total decline in free testosterone is typically 30 percent (Schiavi, 1999).

Illness. Chronic disorders, such as cardiovascular disease, diabetes, arthritis, and cancer may have negative effects on sexual functioning and response (Maurice, 1999; Schiavi, 1999). These diseases impair sexual function both directly—by acting on physiological mechanisms (by interfering with the endocrine, neural, and vascular processes that mediate sexual response) and reproductive structures—and indirectly—by limiting total body function.

Cardiovascular diseases, such as angina pectoris, myocardial infarction, hypertension, and peripheral vascular insufficiency (atherosclerosis), are commonly associated with sexual response problems (Schiavi, 1999). Many studies have reported a loss of sexual drive in as few as 10% to as many as 70% of patients after myocardial infarction (Papadopoulos, 1989). Studies on sexual behavior after a stroke report decreased levels in sexual desire (Boldrini, Basaglia, & Calanca, 1991; Angeleri et al., 1993). However, there are methodological issues to be considered in evaluating the results of these studies, including the lack of consideration of 1) age effects and 2) the level of sexual function and desire prior to infarction.

Hypertension is prevalent among older adults, and it is also associated with peripheral vascular disease, myocardial infarction, and stroke (Schiavi, 1999). While there are numerous studies on the sexual consequences of anti-hypertension treatment, there are few on sexual functioning in persons with these illnesses who are not receiving treatment (Schiavi, 1999).

Diabetes mellitus, which has vascular effects on blood vessels, is one of the most frequent systemic disorders associated with sexual problems in aging adults (Masters, Johnson, & Kolodny, 1994; Schiavi, 1999). Schiavi et al. (1993) found that diabetic men, screened for nondiabetic pathology, show decreased levels of sexual desire compared to age-matched healthy controls. The duration of the disease (insulin-dependent or noninsulin-dependent diabetes) and type of treatment do not appear to be significantly related to the occurrence of sexual problems (Schiavi, 1999). On the other hand, Masters, Johnson, & Kolodny (1994) contend that men with diabetes do not have decreased levels of sexual desire.

Sexual functioning and response in diabetic women has been studied less extensively. However, it has been found that diabetic neuropathy, a condition that affects the nerve supply to the pelvis, is capable of causing impaired sexual desire in women (Masters, Johnson, & Kolodny, 1994). Unfortunately, there are few controlled studies of the psychology of sexual dysfunction in those with diabetes (Bancroft & Gutierrez, 1996).

Arthritis in aging adults is a major cause of discomfort and disability. It has often been assumed that those with arthritis have sexual difficulties, but this has seldom been systematically investigated (Schiavi, 1999). One study of males (mean age 58) reported that there were decreased levels of sexual desire in the arthritic patients in comparison to the control group of non-arthritic men (Blake et al, 1988).

Prostate disease occurs frequently in aging men. It is the second most prevalent cancer, present in almost 90% of men ages 80 and older, and the second most common cause of death from cancer (Schiavi, 1999; Masters, Johnson, & Kolodny, 1994). Sexual

dysfunction is a common complication of this disease (Jacobsson, Loven, & Hallberg, 2001). Fortunately, nerve-sparing prostatectomy has been proven to have positive effects on the sexual functioning of patients (Gralnek, et al., 2000). Even though nerve-sparing operations can often provide preservation or recovery of sexual functioning, recovery also depends on the age of the patient (Cataloa & Basler, 1993; Miya et al., 2001) Moreover, conclusions are limited by insufficient information about sexual response and functioning prior to surgery, other diseases, and medications (Schiavi, 1999).

Medications. Numerous prescription drugs have adverse effects on sexual functioning, including antidepressant and anti-hypertension medications. Moreover, adverse drug effects have been reported much more frequently in the aging population than in the general population (Wade & Bowling, 1986). Gender differences should also be examined. The use of prescribed medications and the rate of adverse effects to drug therapy are consistently higher in female than male elderly populations (Schiavi, 1999).

Many prescription drugs cause sexual side effects. However, knowledge is limited by inadequate information on the specificity of drug action, how it is distributed, metabolized, excreted, and targeted in older persons, especially women. Medications may influence sexual responses, which include desire, by nonspecific effects on general well-being, energy level, and mood (Schiavi, 1999).

Drugs for the treatment of high blood pressure represent the single largest medication group responsible for sexual side effects. These drugs include alpha-blockers, diuretics, and calcium 2 channel blockers (Masters, Johnson, & Kolodny, 1994). Previous studies have shown that the incidence of drug induced sexual dysfunction

increases the more men take increasing amounts of anti-hypertensive drug treatments (Levine, 1998).

Drugs used to treat psychiatric disorders can also cause sexual side effects. Antipsychotic medications, tricyclic antidepressants, monoamino-oxidase (MAO) inhibitors, and sedative drugs may contribute to decreasing levels of sexual desire (Schiavi, 1999; Segraves, 1989). However, among drugs used to treat psychiatric illnesses, the SSRIs are perhaps the major culprit with regard to diminished sexual desire. The effets of SSRIs on sexual functioning seem strongly dose-related and also connected to the tendency for SSRIs to accumulate over time (Rosen, Lane, & Menza, 1999).

Psychological Influences

Psychological factors are major determinants of the intensity of sexual desire as well. Yura & Walsh (1983) state that *attitudes*, knowledge, and expectations of one's self and one's sexual partner impact personal behavior. Sexual attitudes and knowledge are closely interwoven with sexual desire. Negative attitudes toward sex among older women and men are common. In part, these attitudes reflect America's youth-oriented culture. American popular culture equates "sex appeal" with the characteristics of a youthful body, such as a firm body and smooth skin. Another contributor is the emphasis on reproduction. In groups where the primary purpose of sexual intimacy is seen as reproduction, it is considered inappropriate for a post-menopausal woman to continue to be sexually active.

Sexuality is socially and culturally constructed (Irvine, 1990; Masters, Johnson, &

Kolodny, 1994; Stock, 1984; Tiefer, 1991, 1995). Culture provides a set of expectations, beliefs, and attitudes about sexuality, and women and men draw on these to attach meaning to their experiences. In the U.S., aging women and men's sexuality is influenced by a cultural environment that is fraught with both ageism and sexism (Abu-Laban, 1981; Sanford, 1998; Shaw 1994). Sociocultural factors work to minimize or deny the existence or value of sexuality for older persons. Cole (1988) describes her sample of menopausal-aged women as having a sense of "despair about their lives [because they were] holding an image—perhaps a male image, or a youthful image—of how sex is supposed to be."

The images available in U.S. society about sexuality and the aged are negative. Sex is seen as unseemly, even unnatural in the old. One elderly gentleman contended "We're supposed to be asexual, and those who refuse to be so are branded dirty old men (Stock, 1999: 51)." The media bombards us with a plethora of sexual images, mainly those of the young, energetic people. The sexuality of older women and men is rarely portrayed in a positive light. These images influence many older people's beliefs, leading to the conclusion that sex is only for the young and beautiful. These stereotypes and myths set in motion a self-fulfilling prophecy. Older people may withdraw from any form of sexual expression, and ignore or suppress sexual desire because it is "sick", "unsuitable", or "wrong". According to Sloane (1993), many older women and men do feel asexual.

Doctors may contribute to the silence surrounding sexuality in aging by not talking with their aging and elderly patients about sexuality issues. A few doctors do talk

to their older patients about sexuality. In fact, some prescribe sexual education classes as a form of sex therapy. In a study by White and Catania (1982), the experimental groups (ages 60 to 83 years) showed significant increases in sexually permissive attitudes after attending educational classes that included information on physical, social, and psychological aspects of sexuality and aging.

Aging women and men, with inadequate knowledge of sex and sexuality, may be vulnerable to *faulty expectations* and concerns about performance. There is a widespread assumption that vaginal intercourse is the only "real sex"; therefore, if the person, by reason of dysfunction or disease, is unable to have intercourse, s/he may lose interest in sex. To meet the challenge of maintaining sexual activity during the aging process, couples have to make love with what they have. Hands and mouths are reliable, penises and vaginas are not. However, it is common for couples to end their sexual lives together because one or both partners believe that an erection is necessary to "get the job done" or see noncoital sex as immoral or perverse (Cogen & Steinman, 1990; Levine, 1998).

Social Influences

The *presence or absence of a sexual partner* is an extremely important factor in understanding differing levels of sexual desire and activity among aging women and men. Many people consider sexual intimacy to be only or most appropriate in marriage. Many older persons are not married or no longer live with a spouse. There are 14.4 million men and 20.6 million women over 65; 73 percent of the men and only 41 percent of the

women are married and living with a spouse (U.S. Bureau of the Census, 1995). This gap in the living situation of men and women increases with age.

Marriage is the most common social arrangement within which normative sexual activity takes place (Rossi, 1994; Schiavi, 1999). Thus, when there is a death of a spouse it usually leads to the cessation of sexual behavior. Women tend to marry older men, which is a main reason why women are more likely to be widowed. Women outlive their mates, often by a decade or more (Sanford, 1998). As a result; 40% of older women live alone, compared with 16% of older men (AARP, 1996).

According to Masters, Johnson, and Kolodny (1994), many older women who are without a sexual partner for an extended amount of time drift into a state of sexual disinterest. "This is often a way of coping psychologically with their circumstances: by turning off their interest in something they don't have and see little likelihood of getting, they prevent themselves from becoming frustrated or depressed (Masters, Johnson, & Kolodny, 1994: 479)."

For those who do have a sexual partner, *monotony in sexual relationships*, such as predictability of sexual activities and over-familiarity with the partner, may also contribute to a loss in sexual desire (Levy, 1994). As the length of the marital relationship increases, habituation to sex with one's partner increases and frequency of sexual activities declines. Norms that limit sexual activities to marriage, combined with the habituation effect, may cause early diminution of sexual desire (Call, Sprecher, & Schwartz, 1995). One study on the relationship between women's marital status and sexual desire found that married women ages 45 to 55 had lower sexual desire (Avis et

al., 2000: 303). Past research also found that married women who reported lower levels of desire were more likely to agree that interest in sex declines with age, and were more likely to say that they were less aroused now than when they were in their 40s (Avis et al., 2000: 304.)

On the other hand, the results of the Duke studies (Verwoerdt, Pfeiffer, & Wang, 1969; Pfeiffer, Verwoerdt, & Davis, 1972) show that marital status has little effect on sexual interest. In data from the Consumers Union survey on sex and aging, involving 4,246 men and women over the age of 50, the great majority of happily married women and men rated sex as important in marriage, while 54 percent of unhappily married wives rated sex as being "of little importance" (Brecher and Editors, 1984). These results suggest that *satisfaction with the relationship* may be an important influence on desire; results such as those reported by Avis may reflect marital unhappiness rather than loss of desire.

Sex is important for many unmarried older adults, too (Masters, Johnson, & Kolodny, 1994: 474). Some fulfill their desire for sexual intimacy within a long-term committed relationship. We have little information about the sexual activity of older persons who live alone.

Household income is potentially an important social factor. Other things equal, an individual or couple with a higher income has access to health care and activities that may maintain general physical and mental health. Better health in turn is likely to be associated with sexual desire. The problem of decreased to almost non-existent sexual desire is significantly more common in lower social class women (Garde & Lunde, 1980;

Hällström, 1973; Hawton et al., 1994; Osborn et al., 1988). It may be due to a lack of sex education, due to either age or social class, or to negative attitudes held by the women and their partners.

Method

Study Population and Procedure

The American Association of Retired Persons *Modern Maturity* Sexuality Survey was a mail survey completed by 1,384 women and men ages 45 and older. The survey was designed by the editorial staff of *Modern Maturity* and the AARP Research Group, with the assistance of Dr. John McKinlay of the New England Research Institute and NFO Research.

The survey was distributed and collected during March 1999 by NFO Research Inc. NFO drew a representative sample of 3,450 persons ages 45 and older, and contacted them by telephone to inform them about the survey and to secure their participation. Surveys were mailed to those who agreed to complete it. Each questionnaire was sent with a $1 cash incentive to encourage completion and return of the questionnaire.

A total of 1,709 women and men agreed to participate, and 1,384 (81%) had returned completed surveys. The final data were weighted to reflect Census estimates for age and gender of the over-45 population. The margin of potential sampling error for the final sample of 1,384 women and men is +/-2.6%.

The following research questions were addressed in this study:

1. What influences are related to low sexual desire in older women and men?

2. What biopsychosocial factors are the primary influences related to decreasing sexual desire?

Measures

Level of sexual desire was measured by two questions: (Q. 22) "How frequently do you feel sexual desire? This feeling includes wanting to have sexual experiences, planning to have sex, and feeling frustrated due to lack of sex." (Q. 23) "How frequently do you have sexual thoughts, fantasies, or erotic dreams?" Each question was answered using a 7-point scale (1=*More than once a day*, 2=*Once a day*, 3=*Two or three times per week*, 4=*Once a week*, 5= *Two or three times per month*, 6=*Once a month*, 7=*Less than once per month*, 0=*Not at all*). We created an index of desire by adding the responses to these two items.

Illnesses were measured in the survey by presenting a list to the respondent and asking him or her to "Indicate which of the conditions you have been diagnosed with." Four of the illnesses listed were chosen by 10% or more of the sample from the list of 8 illnesses. Diabetes, high blood pressure, and arthritis met the 10% criterion for both women and men. The fourth illness to be included for women was depression, and the fourth illness included for men was an enlarged prostate. We constructed a summary measure of the number of these four illnesses reported by the respondent. *Medications* were selected from a list comprised of 11 items. The questionnaire asked the respondent, "In the past two weeks, have you taken any of the following prescription drugs?" Respondent reports of taking the medication were correlated with desire; six medications

were correlated significantly ($p<.01$) for women and 2 medications were significant for men.

Attitudes toward sex were measured with a series of eight attitude items. The items are listed on Table 1. Potential responses for each item were *Strongly agree, agree, neither agree nor disagree, disagree, or strongly disagree*. We conducted factor analyses of the responses to these eight items; we performed separate analyses for women and for men. The results are shown in Table 1, separately for men and women. In each case, two factors emerged based on the criterion of the number of eigenvalues greater than 1.0. These two factors explained 44% of the variance in the analysis for men and 48% in the analysis for women.

Insert Table 1 about here

Household income was reported by each respondent. The resulting distributions for men and women were divided into quartiles. The distributions of reported income differed for women and men. For women the household income categories are distributed as follows: 1=$7,500-$19,999; 2=$20,000-$37,499; 3=$37,500-$74,999; 4=$75,000-$175,000+. For men the household income categories are distributed as follows: 1=$7,500-$14,999; 2=$15,000-$29,999; 3=$30,000-$59,999; 4=$60,000-$175,000+.

Results

Demographic Characteristics

Table 2 displays basic demographic characteristics of the sample. Note that men are more likely to be employed than women, and that about two-thirds of the men and women are married and living with a partner.

Insert Table 2 about here

In order to assess the representativeness of the sample, we compared the age and relationship status distribution for the (weighted) sample with that of the United States population ages 45 and older (U.S. Census Bureau, 2002). Two differences were noted. Men ages 45 to 54 in the sample were less likely to be married and more likely to be widowed, while women over 75 were less likely to be married and more likely to be widowed. Differences in the other cells were generally less than four percent.

Sexual desire

Responses to the two items that were used to measure sexual desire, 1) frequency of sexual desire, and 2) frequency of sexual thoughts, fantasies or erotic dreams, were highly correlated. For women, the correlation was .766, $p < .01$ (n= 745). For men, the correlation was .757, $p < .01$ (n=639). Accordingly, we created a two-item index of desire by adding the number associated with each response (1 = more than once a day up to 7 =

less than once a month). Figure 1 displays the frequency distribution of scores on the index.

Insert Figure 1 about here

Note that men report substantially higher levels of desire than women. For subsequent analyses, we created a 4-point scale for sexual desire (1=*Low desire*, 2=*Low to medium* desire, 3=*Medium to high desire*, 4=*High desire*). The distribution of scores on this scale are displayed in Figure 2.

Insert Figure 2 about here

Age

The results show that there is a strong negative relationship between increasing age and low levels of sexual desire for both women and men. These results are displayed in Table 3. Chi-square analyses indicate that this relationship is highly significant; for women, *C-S* = 38 to 145, $p<.000$, df =3, N = 697; for men *C-S* = 38 to 128, $p<.000$, df=3, N = 617.

Insert Table 3 about here

Illness

High blood pressure is significantly related to low levels of sexual desire for both women and men before and after receiving treatment. Nearly the majority of women and men who have high blood pressure have a very low level of desire. There was a slight decrease in the percentage of women and men with a very low level of desire after treatment. The correlation between hypertension and desire was -.123 among men ($p<.01$), and -.145 among women ($p<.01$).

Among men, we found that an enlarged prostate was related to low levels of desire before and after treatment ($r = -.152$, $p<.01$).

Diabetes, arthritis, and depression were not significantly related to low levels of sexual desire for either women or men.

For use in the regression analyses, we created a summary measure of the impact of illness using the total number of illnesses the respondent reported being diagnosed with.

Medications

Regular use of medications is related to low levels of sexual desire in women. These prescription medications include: anticoagulants, cardiovascular medications, medications to control elevated cholesterol, medications for hypertension, thyroid supplements, and psychoactive medications such as tranquilizers and antidepressants.

Only anticoagulants and medications for hypertension are related to low levels of sexual desire in men.

Attitudes toward sex

The correlations of the two attitude indices with sexual desire are shown in Tables 4 and 5, for women and men. Looking first at the results for women, the index composed of items a, b, and c is negatively and significantly correlated with desire; women who strongly agree that sexual activity is important to their quality of life and relationships attain higher scores on desire (r = -.322, p<.000.) With regard to the second index, women who strongly agree that they do not enjoy sex, and that they would be happy never having sex again have lower scores on the desire index (r = .547, p<.000.) The results are the same for men.

Insert Tables 4 and 5 about here

Cross tabulation between level of sexual desire and two attitude statements. Sixty percent of women who have a very low level of desire disagree or strongly disagree that "Sexual activity is important to my overall quality of life", whereas less than 2% of women with a very low level of desire agree or strongly agree with this statement. Seventy percent of women with a very high level of desire agree or strongly agree that "Sexual activity is important to my overall quality of life", whereas a little more than 7% of women with a very high level of desire disagree or strongly disagree with this statement.

This trend is similar for men. Most men with a low level of desire are more likely to disagree that "Sexual activity is important to my overall quality of life", while most

men who have a high level of desire are more likely to agree with this statement.

Nearly 98% of women with a high level of desire disagree or strongly disagree that “Sex is only for younger people”. Surprisingly, 42% of women with a very low level of desire disagree or strongly disagree that “Sex is only for younger people”. Nearly 97% of men who have a high level of desire disagree or strongly disagree that “Sex is only for younger people”. More than 75% of the men with a very low level of sexual desire also disagree or strongly disagree that “Sex is only for younger people”.

Marital Status/Partner Presence

The data presented in Table 6 show that there is a marked difference in the percentage of aging men and women who have a sexual partner.

Insert Table 6 about here

Having a sexual partner is highly related to the level of sexual desire for women. Of those women with a low level of sexual desire, 78% do not have a sexual partner. Of those women with a high level of sexual desire, 83% have a partner. As for the men, those with a high level of sexual desire 84% have a sexual partner. Surprisingly, of those men who have a low level of sexual desire 71% have a sexual partner. This large percentage of men with a low level of sexual desire while having a sexual partner is most likely due to other factors.

Household Income

Correlations were used to assess the relationship between income and sexual desire. The data show that household income is negatively related to sexual desire in both women (-.352, p>.000) and in men (-.277, p>.000).

Regression analyses

The bivariate results indicate that, among women, age, high blood pressure, taking several prescription medications, negative attitudes toward sexuality, absence of a sexual partner, and income are all related to sexual desire. Thus, both medical/biological and psychosocial factors are related to desire. We conducted regression analyses with sexual desire as the outcome variable and all of the variables listed above as predictors. We used two-stage models, entering the medical factors in step 1 and entering attitudes in step 2. The results are displayed in Table 7.

Insert Table 7 about here

Among women, the following predictors were significantly (p <.000) associated with desire in step 1: presence of a sexual partner, education, age, number of medications taken regularly, and number of diagnosed illnesses. The adjusted R squared for Model 1 is .357. When the two attitude indices are added, the variables that were significant in step 1 remain significant, and the attitude indices are also highly significant. The

adjusted R squared for Model 2 is .525, indicating that inclusion of attitudes substantially increases the variance explained.

The bivariate results indicate that, among men, age, high blood pressure, an enlarged prostate, taking anticoagulants and medications for hypertension, negative attitudes toward sexual activity, and income are all negatively related to reported sexual desire. In step 1 of the regression analysis, the following predictors were significantly (p <.000) associated with desire: education and age. Neither number of medications or number of reported illnesses is associated with desire. The adjusted R squared is .278. In Model 2, both attitude indices are associated with desire (p <.000), and the adjusted R squared increases to .401. The results are displayed in Table 8.

Insert table 8 about here

Discussion

This study explored biopsychosocial factors that included age, illness, medication use; attitudes, and marital status, presence/absence of a sexual partner, and household income in relation to sexual desire in a representative sample of women and men over the age of 45.

Age. The results indicate that age is significantly associated with desire, net of the effect of other variables. The relationship is stronger among men (standardized beta = -.380) than women (standardized beta = -.270). These results are consistent with previous

findings (Hällström & Samuelsson, 1990; Levine, 1998; Maurice, 1999; McKinlay & Feldman, 1994; Osborn et al., 1988; Schiavi, 1999). Sexual desire decreases as women and men age. However, sexual desire does not decrease as fast as popular belief dictates. In our study, it is not until 75 years of age or older that the majority of women and almost a majority of men have a low level of sexual desire.

Illnesses and medications. Although some of the illnesses and taking of medications to lower cholesterol were negatively correlated with desire, these predictors were not significant in the regression analyses for men or women.

Attitudes toward sex. Negative attitudes toward sex are correlated with low sexual desire; in the regression analyses, rating sex as important in one's life was associated positively and substantially with desire, regardless of age.

Presence of partner. Even though sexual desire still remains intact in most reasonably healthy older persons, it is extremely important to understand that they need a partner, especially an interested partner, in order to continue sexual activities, and for some to continue having sexual desire. The absence of a partner or an interested partner can be an obstacle for many. In our study more than 78% of the women who have a low level of sexual desire are without a sexual partner. More than 83% of the women with a high level of sexual desire have a partner. Eighty-four percent of the men with a high level of desire have a partner. What is surprising is that the majority of men with a low level of desire have a partner.

These results provide some order to the scattered findings of past research. Across this sample of persons 45 and older, the principal influences on sexual desire are age, the

importance of sex to the person, and the presence of a partner. These results suggest that stereotypes of older persons as not interested in sexual intimacy are wrong. They also suggest that negative stereotypes such as this and other negative attitudes about sexual activity among older persons need to be challenged, so that future cohorts are not influenced by such attitudes. Finally, we should scrutinize economic and residential arrangements for the elderly and structure them to facilitate rather than hinder intimate relationships.

More generally, the results provide little support for a medical model of sexuality among the aging. In our results, the significant influences are psychological -- attitudes -- and social -- the presence of a partner.

Further Research

Our literature review identified several influences on the sexual desire and functioning of older persons. The one set of influences for which we do not have measures is hormones. Ideally, future research should not only collect comprehensive survey data of the type reported here, but also measure levels of estrogen and testosterone on at least a subsample of participants.

Another area for further research is the study of pre-existing sexual difficulties and earlier sexual experiences Understanding a subject's sexual history will give researchers a strong predictor of current sexual functioning, which will help weave together a more complete picture.

An important limitation is the nature of the sample. Our data does not provide enough non-Caucasian participants to investigate links between race and sexual desire. Even though race is usually strongly correlated with socio-economic and education status, we believe that it is low socio-economic and education status and *not* race that may play a culpable role in low sexual desire. Within different races are different cultures. Cultures provide different ideologies, categories, definitions, and labels for framing sexual experiences and functioning. This is also an area of research that needs to be expanded.

As important as quantitative research is, it offers only limited insights into the complex world of psychological, social, and cultural meanings of sexual functioning. Qualitative research methods need to be used to complement quantitative methods in order to learn how older people think about sexuality. In addition, qualitative research needs to be done on the differences and similarities of sexual desire in men and women. Is sexual desire the same for women as for men?

Table 1

Factor analysis of sexual attitude items

Item	Gender: Men 1	Men 2	Women 1	Women 2
a. Sexual activity is important to my overall quality of life.	-.267	.811	-.167	.756
b. Sexual activity is a critical part of a good relationship.	-.104	.898	-.014	.869
c. Sexual activity is a duty to one's spouse/partner.	.069	.560	.255	.551
d. Sexual activity is a pleasurable, but not necessary, part of a good relationship.	.218	-.042	.349	.326
e. Sex becomes less important to people as they age.	.361	.025	.558	.132
f. I do not particularly enjoy sex.	.789	-.116	.804	-.018
g. I would be quite happy never having sex again	.845	-.174	.825	-.136
h. Sex is only for younger people	.693	-.108	.733	-.029
i. People should not have a sexual relationship if they are not married.	.276	-.029	.359	.152

Analyses using SPSS 9.0, maximum likelihood extraction, verimax rotation.

Table 2

Demographic characteristics of the sample

		%Women	%Men
Employment Status	Full time	28.4	45.7
	Part-time	13.6	8.4
	Retired	40.0	41.7
	Not employed	18.0	4.1
Race	White	87.4	88.9
	Black	10.9	8.9
	Asian	1.2	1.9
Relationship Status	Married/living w/ partner	58.5	77.7
	Separated	1.9	1.0
	Divorced	13.5	8.2
	Widowed	21.7	5.6
	Never Married	4.4	7.6

Table 3

The Relationship between Age and Sexual Desire, by Gender

Age	Women		Men	
	Low desire	High desire	Low desire	High desire
45-49 years	2.7%	51.3%	4.7%	48.1%
50-54 years	8.9%	44.6%	6.5%	36.4%
55-59 years	11.5%	28.7%	15.3%	35.7%
60-64 years	23.5%	16.5%	23.2%	20.7%
65-69 years	27.3%	14.3%	28.6%	11.4%
70-74 years	45.5%	11.7%	45.8%	8.3%
75+ years	56.1%	5.6%	48.8%	4.9%

Table 4. Correlations between health measures, sexual attitudes, and sexual desire – Women

Correlations

		DESIRE_I	AQ17ABC	AQ17FGH	Q14A Diabetes (High blood sugar)	Q14A High blood pressure	Q14A Arthritis or Rheumatism	Q14A Depression	Q13 V1&2. Pills or other medicines	Q13 V1&2. Anything for your heart or he	Q13 V1&2. Any medications for cholester	Q13 V1&2. Blood pressure pills	Q13 V1&2. thyroid pills	Q13 V1&2. Medications for a nervous con	Q24V1/Q28V2 Have a sexual partner
DESIRE_I	Pearson Correlation	1	-.322**	.547**	-.025	-.145**	-.082*	.017	-.174**	-.213**	-.122**	-.168**	-.101**	-.024	-.464**
	Sig. (2-tailed)	.	.000	.000	.516	.000	.031	.656	.000	.000	.001	.000	.008	.521	.000
	N	697	697	697	697	697	697	697	697	697	697	697	697	697	697
AQ17ABC	Pearson Correlation	-.322**	1	.063	.036	-.016	-.031	.020	.005	.024	.013	-.018	.011	.002	.153**
	Sig. (2-tailed)	.000	.	.084	.321	.671	.401	.583	.886	.520	.715	.633	.761	.950	.000
	N	697	745	745	745	745	745	745	745	745	745	745	745	745	745
AQ17FGH	Pearson Correlation	.547**	.063	1	.004	-.125**	-.055	.036	-.123**	-.123**	-.089*	-.121**	-.094*	-.028	-.248**
	Sig. (2-tailed)	.000	.084	.	.921	.001	.132	.332	.001	.001	.015	.001	.010	.447	.000
	N	697	745	745	745	745	745	745	745	745	745	745	745	745	745
Q14A Diabetes (high blood sugar)	Pearson Correlation	-.025	.036	.004	1	.211**	.108**	.022	.179**	.149**	.174**	.204**	.039	.006	.085*
	Sig. (2-tailed)	.516	.321	.921	.	.000	.003	.544	.000	.000	.000	.000	.291	.875	.021
	N	697	745	745	745	745	745	745	745	745	745	745	745	745	745
Q14A High blood pressure	Pearson Correlation	-.145**	-.016	-.125**	.211**	1	.177**	-.043	.193**	.174**	.270**	.912**	.092*	.032	.184**
	Sig. (2-tailed)	.000	.671	.001	.000	.	.000	.240	.000	.000	.000	.000	.012	.380	.000
	N	697	745	745	745	745	745	745	745	745	745	745	745	745	745
Q14A Arthritis or Rheumatism	Pearson Correlation	-.082*	-.031	-.055	.108**	.177**	1	.180**	.096**	.110**	.086*	.154**	.115**	.140**	.142**
	Sig. (2-tailed)	.031	.401	.132	.003	.000	.	.000	.009	.003	.019	.000	.002	.000	.000
	N	697	745	745	745	745	745	745	745	745	745	745	745	745	745
Q14A Depression	Pearson Correlation	.017	.020	.036	.022	-.043	.180**	1	-.002	-.032	-.051	-.047	-.023	.703**	.028
	Sig. (2-tailed)	.656	.583	.332	.544	.240	.000	.	.957	.379	.161	.198	.536	.000	.450
	N	697	745	745	745	745	745	745	745	745	745	745	745	745	745
Q13 V1&2. Pills or other medicines	Pearson Correlation	-.174**	.005	-.123**	.179**	.193**	.096**	-.002	1	.454**	.240**	.219**	.014	.044	.120**
	Sig. (2-tailed)	.000	.886	.001	.000	.000	.009	.957	.	.000	.000	.000	.696	.227	.001
	N	697	745	745	745	745	745	745	745	745	745	745	745	745	745
Q13 V1&2. Anything for your heart or he	Pearson Correlation	-.213**	.024	-.123**	.149**	.174**	.110**	-.032	.454**	1	.219**	.223**	.033	.033	.128**
	Sig. (2-tailed)	.000	.520	.001	.000	.000	.003	.379	.000	.	.000	.000	.367	.370	.000
	N	697	745	745	745	745	745	745	745	745	745	745	745	745	745
Q13 V1&2. Any medications for cholester	Pearson Correlation	-.122**	.013	-.089*	.174**	.270**	.086*	-.051	.240**	.219**	1	.282**	.158**	.023	.037
	Sig. (2-tailed)	.001	.715	.015	.000	.000	.019	.161	.000	.000	.	.000	.000	.527	.318
	N	697	745	745	745	745	745	745	745	745	745	745	745	745	745
Q13 V1&2. Blood pressure pills	Pearson Correlation	-.168**	-.018	-.121**	.204**	.912**	.154**	-.047	.219**	.223**	.282**	1	.093*	.035	.168**
	Sig. (2-tailed)	.000	.633	.001	.000	.000	.000	.198	.000	.000	.000	.	.011	.346	.000
	N	697	745	745	745	745	745	745	745	745	745	745	745	745	745
Q13 V1&2. thyroid pills	Pearson Correlation	-.101**	.011	-.094*	.039	.092*	.115**	-.023	.014	.033	.158**	.093*	1	-.038	.022
	Sig. (2-tailed)	.008	.761	.010	.291	.012	.002	.536	.696	.367	.000	.011	.	.299	.544
	N	697	745	745	745	745	745	745	745	745	745	745	745	745	745
Q13 V1&2. Medications for a nervous con	Pearson Correlation	-.024	.002	-.028	.006	.032	.140**	.703**	.044	.033	.023	.035	-.038	1	.007
	Sig. (2-tailed)	.521	.950	.447	.875	.380	.000	.000	.227	.370	.527	.346	.299	.	.850
	N	697	745	745	745	745	745	745	745	745	745	745	745	745	745
Q24V1/Q28V2 Have a sexual partner	Pearson Correlation	-.464**	.153**	-.248**	.085*	.084**	.142**	.028	.120**	.128**	.037	.168**	.022	.007	1
	Sig. (2-tailed)	.000	.000	.000	.021	.000	.000	.450	.001	.000	.318	.000	.544	.850	.
	N	697	745	745	745	745	745	745	745	745	745	745	745	745	745

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Table 5. Correlations between health measures, sexual attitudes, and sexual desire – Men

Correlations

		DESIRE_I	AQ17ABC	AQ17FGH	Q14A Diabetes (High blood sugar)	Q14A High blood pressure	Q14A Arthritis or Rheumatism	Q14A Enlarged or swollen prostate (V1)	Q13 V1&2. Pills or other medicines to t	Q13 V1&2. Blood pressure pills	Q24V1/Q28V2 Have a sexual partner
DESIRE_I	Pearson Correlation	1	-.401**	.365**	-.017	-.123**	-.099*	-.152**	-.160**	-.143**	-.130**
	Sig. (2-tailed)	.	.000	.000	.673	.002	.014	.000	.000	.000	.001
	N	618	618	618	618	618	618	618	618	618	618
AQ17ABC	Pearson Correlation	-.401**	1	-.063	.001	-.001	-.010	.025	.041	.043	.169**
	Sig. (2-tailed)	.000	.	.110	.976	.988	.798	.520	.298	.281	.000
	N	618	639	639	639	639	639	639	639	639	639
AQ17FGH	Pearson Correlation	.365**	-.063	1	-.051	-.104**	-.108**	-.074	-.098*	-.121**	-.206**
	Sig. (2-tailed)	.000	.110	.	.198	.009	.006	.062	.013	.002	.000
	N	618	639	639	639	639	639	639	639	639	639
Q14A Diabetes (High blood sugar)	Pearson Correlation	-.017	.001	-.051	1	.194**	.085*	.041	.104**	.150**	.061
	Sig. (2-tailed)	.673	.976	.198	.	.000	.032	.302	.009	.000	.124
	N	618	639	639	639	639	639	639	639	639	639
Q14A High blood pressure	Pearson Correlation	-.123**	-.001	-.104**	.194**	1	.165**	.088*	.282**	.860**	-.089*
	Sig. (2-tailed)	.002	.988	.009	.000	.	.000	.026	.000	.000	.024
	N	618	639	639	639	639	639	639	639	639	639
Q14A Arthritis or Rheumatism	Pearson Correlation	-.099*	-.010	-.108**	.085*	.165**	1	.127**	.205**	.160**	.047
	Sig. (2-tailed)	.014	.798	.006	.032	.000	.	.001	.000	.000	.231
	N	618	639	639	639	639	639	639	639	639	639
Q14A Enlarged or swollen prostate (V1)	Pearson Correlation	-.152**	.025	-.074	.041	.088*	.127**	1	.239**	.086*	.096*
	Sig. (2-tailed)	.000	.520	.062	.302	.026	.001	.	.000	.030	.015
	N	618	639	639	639	639	639	639	639	639	639
Q13 V1&2. Pills or other medicines to t	Pearson Correlation	-.160**	.041	-.098*	.104**	.282**	.205**	.239**	1	.339**	.032
	Sig. (2-tailed)	.000	.298	.013	.009	.000	.000	.000	.	.000	.417
	N	618	639	639	639	639	639	639	639	639	639
Q13 V1&2. Blood pressure pills	Pearson Correlation	-.143**	.043	-.121**	.150**	.860**	.160**	.086*	.339**	1	-.070
	Sig. (2-tailed)	.000	.281	.002	.000	.000	.000	.030	.000	.	.077
	N	618	639	639	639	639	639	639	639	639	639
Q24V1/Q28V2 Have a sexual partner	Pearson Correlation	-.130**	.169**	-.206**	.061	-.089*	.047**	.096*	.032	-.070	1
	Sig. (2-tailed)	.001	.000	.000	.124	.024	.231	.015	.417	.077	.
	N	618	639	639	639	639	639	639	639	639	639

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 6

Presence of a sexual partner, by Gender

Percentage with a sexual partner	Women	Men
50-54 years old	76.7%	82.1%
55-59 years old	71.1%	88.2%
60-64 years old	65.9%	87.8%
65-69 years old	50.6%	73.6%
70-74 years old	40.5%	74.5%
75+ years old	21.2%	57.3%

Table 7

Regression analysis of significant variables on desire, Women

Model	Variables	Standardized Coefficients	Sig
1	(Constant)		
	Have a sexual partner?	-.307	.000
	Current marital status	-.018	.592
	Menopause status	.008	.819
	Household income	.008	.821
	Respondent Education	.102	.002
	Age	-.365	.000
	Number of medications taken	-.105	.005
	Number of illnesses reported	.104	.006
2	(Constant)		
	Have a sexual partner?	-.212	.000
	Current marital status	-.037	.194
	Menopause status	.025	.399
	Household income	.005	.857
	Respondent Education	.069	.013
	Age	-.270	.000
	Number of medications taken	-.073	.024
	Number of illnesses reported	.085	.009
	Attitude index 1	-.201	.000
	Attitude index 2	.370	.000

Table 8

Regression analysis of significant variables on desire, Men

Model	Variables	Standardized Coefficients	Sig
1	(Constant)		
	Have a sexual partner?	-.052	.135
	Current marital status	-.024	.516
	Household income	.018	.616
	Respondent Education	.192	.000
	Age	-.466	.000
	Number of medications taken	.028	.519
	Number of illnesses reported	.021	.634
2	(Constant)		
	Have a sexual partner?	.030	.356
	Current marital status	-.023	.485
	Household income	.004	.896
	Respondent Education	.171	.000
	Age	-.380	.000
	Number of medications taken	-.040	.325
	Number of illnesses reported	.003	.948
	Attitude index 1	-.281	.000
	Attitude index 2	.194	.000

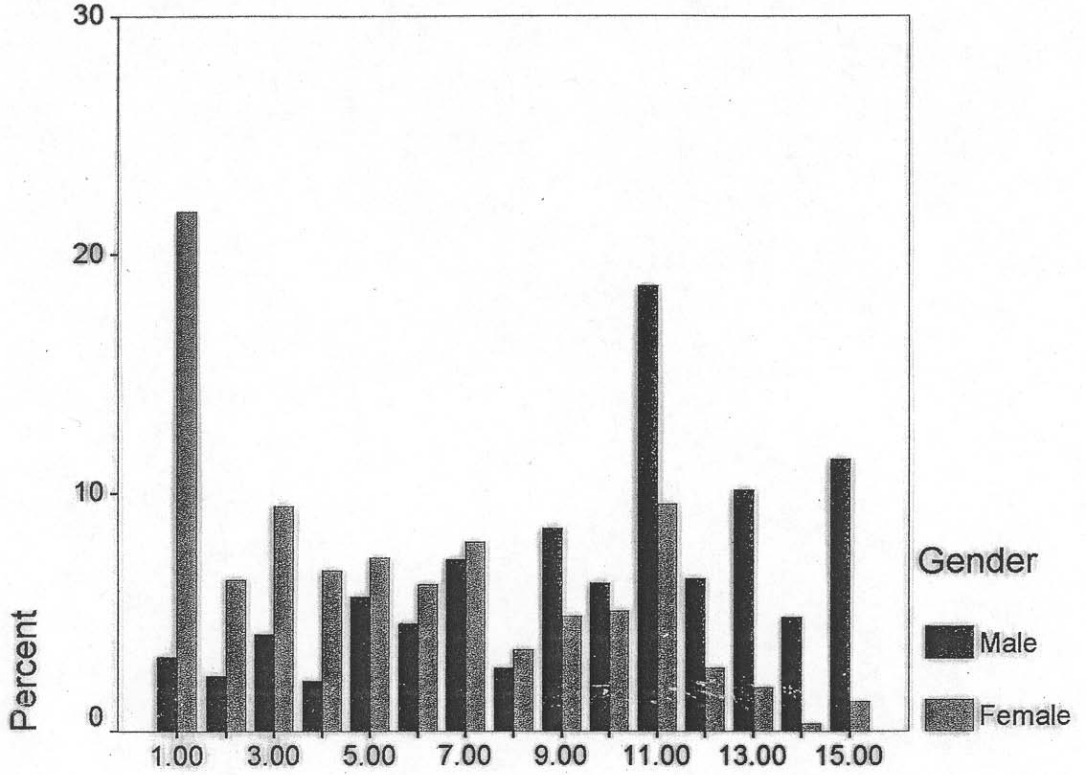

Figure 1: Scores on two-item desire measure, by gender

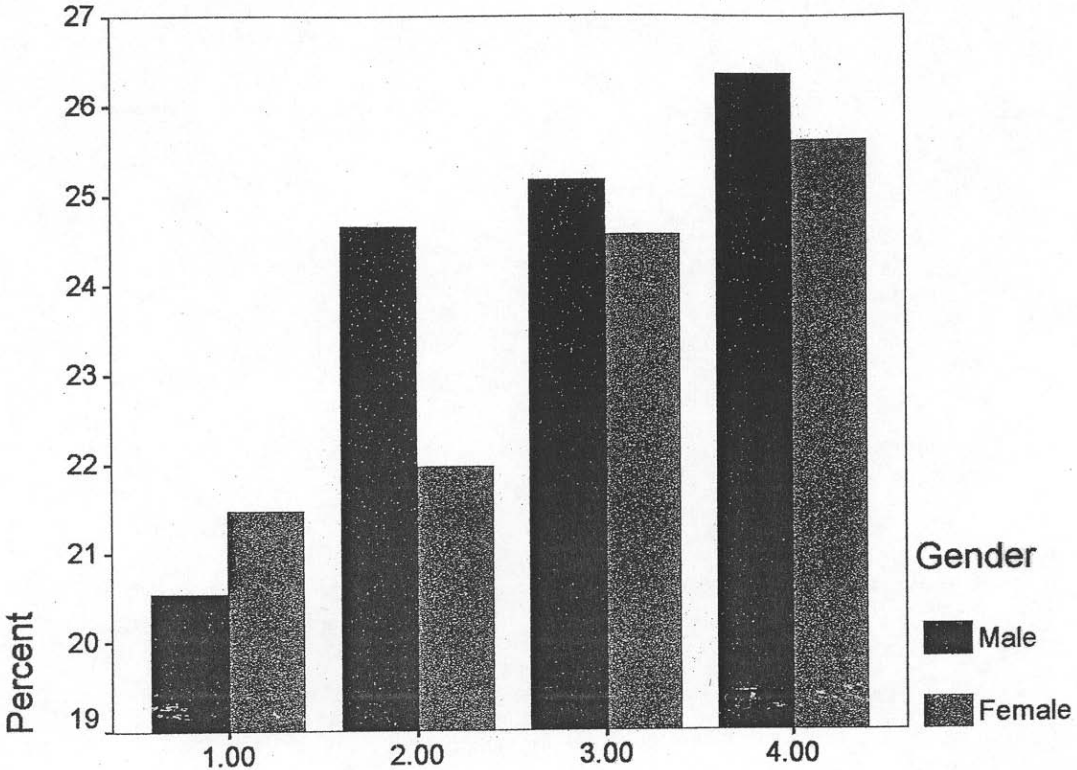

Figure 2: Scores on four-category desire index, by gender

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