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The Impact of Depression and Health on Sexual Satisfaction for Older Couples

Victoria Celeste Scott
Brigham Young University - Provo

The Impact of Depressive Symptoms and Health on Sexual Satisfaction for Older Couples

Victoria C. Scott

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Jonathan G. Sandberg, Chair
James M. Harper
Richard B. Miller

School of Family Life

Brigham Young University

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ABSTRACT

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Health on Sexual Satisfaction for Older Couples

Victoria Scott
School of Family Life, BYU
Master of Science

This study of 535 older married couples examined the relationship between depression and health and sexual satisfaction directly and when mediated by communication. The sample included 535 older couples who completed a survey questionnaire known as Project Couple Retire. Among the items in the questionnaire were measures of depression, health, perception of sexual intimacy, communication and other demographic information. Results from Structural Equation Modeling indicated that for women, health was a significant predictor of sexual satisfaction. For both genders, the results suggest that depression, when mediated by communication, is a predictor of sexual satisfaction among older couples.

Keywords: sexual satisfaction, health, depression, older adults

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Introduction

Older adults are the fastest growing segment of the population. According to estimates, one out of five individuals will be 65 years or older by 2030 (Himes, 2010). The group known as the oldest-old (85 or older) is the fastest growing group of the older population. People are living longer (Oeppen & Vaupel, 2002), and there is a growing need for more research on the marital relationships of this growing population of older adults (Edwards & Booth, 1994; Laidlaw & Pachana, 2009).

Numerous studies have investigated the benefits of sexual satisfaction. Results have shown that across the life course sexual satisfaction is correlated with higher marital quality, marital stability, sexual well-being, and health (Apt, Hurlbert, Pierce, & White, 1996; Atwood & Dershowithz, 1992; Christopher & Sprecher, 2000; Fields, 1983; Hillman, 2008; Spence, 1997; Young, Denny, Luquis, & Young, 1998). Specifically, sexual satisfaction seems to play a role in building and sustaining a successful marriage in all age groups (Apt et al., 1996; Christopher & Sprecher, 2000; Donnely, 1993; Fields, 1983; Morokoff & Gillilland, 1993; Young, Denny, Luquis, & Young, 1998; Young, Denny, Young, & Luquis, 2000). Further, Laumann, Gagnon, Michael, and Michaels (1994) have noted that sexual health and overall well-being are linked across all ages (e.g., Edwards & Booth, 1994).

Yet, few studies have investigated how marital processes are related to sexual satisfaction in marriage. This oversight is concerning considering that a satisfying sexual life is related to a better marriage. Further, most of the research on marriage has been conducted with younger couples. In response to the relatively little research available about what predicts a satisfying sexual relationship for older adults, the purpose of this study is to identify factors (depression, health, and communication) that predict sexual satisfaction for older couples.

Review of Literature

Sexual Satisfaction for Older Couples

Sexual satisfaction has been defined as "the degree to which an individual is satisfied or happy with the sexual aspect of his or her relationship" (Sprecher & Cate, 2004, p. 236). Among the few existing studies on sexuality and older marriage, results have shown that sexual expression plays a significant part in romantic relationships among older couples. Specifically, research has shown that sexual satisfaction and sexual frequency are closely related and are associated with marital satisfaction among all age groups (Sprecher & Cate, 2004; Young, Denny, Luquis, and Young, 1998).

Sexual satisfaction and frequency are influenced by both gender and age (Waite & Joyner, 2001). As couples grow older, sexual frequency decreases (DeLamater, Hyde & Fong, 2008; Lindau, Schumm, Laumann, Levinson, O'Muircheartaigh, & Waite 2007; Maurice, 1999). However, research suggests older adults still engage in sexual activity (Delamater, Hyde and Fung, 2008) with the majority of individuals 65 years and older expressing sexual interest into their 70s (Delamater & Sill, 2005).

Depression and Sexual Satisfaction for Older Couples

Psychological and emotional health play an important role in sexual functioning in adults (Offman & Matheson, 2005; Nicolosi, Moreira, Villa, & Glasser, 2004). Research has shown that depression, which is a common experience among older adults in the United States (Arean, Perri, Nezu, Schein, & Christopher, 1993; Futterman, Thomspon, Gallagher-Thomson, & Ferris, 1995; Harper & Sandberg, 1999; Molinari, 1991; Parashos, Stamouli, Rogakou, Theodotou, Nikas, & Mougias, 2002), can impact sexual satisfaction. Therefore, it is important to understand how depression impacts the sexual satisfaction of older adults. Among couples of all

age groups, research shows that depression is related to decreased interest in sexual activity (Cyranowski, Bromberge, Youk, Matthews, Kravitz, & Powell, 2004; Nicolosi, Moreira, Villa, & Glasser, 2004; Offman & Matheson, 2005). Further, research suggests that a spouse's depression can be a significant predictor of the partner's own marital and sexual satisfaction among middle-aged and older couples (Garos, Kluck & Aronoff, 2007). And, dissatisfaction with one's sex life is related to psychological distress or depression across the life span (Althof, 2002; Mills, 2004; Neese, Schover, Klein, Zippe, & Kupelian, 2003).

It is also important to note that poor health can increase depression among older adults (Murrell, Meeks, & Walker, 1991). Conversely, depressive symptoms lead to additional health deterioration in older individuals (Schulz, Martire, Beach, & Scheier, 2000). For example, Mills (2001) found that health-related issues like digestive disorders, respiratory ailments, and heart problems are related to depressive symptoms among community-dwelling older adults. Another study found that older adults with medical conditions such as arthritis, cardiovascular disease, or stroke can experience more depressive symptoms (Creed & Ash, 1992; Spencer, Tompkins, & Schulz, 1997; Timberlake, Klinger, Smith, Venn, Treasure, Harrison, & Newman, 1997). Increased health problems may partially account for why depression is more common among older adults (Arean et al., 1993; Futterman et al., 1995; Molinari, 1991; Parashos et al., 2002). Accordingly, depressive symptoms and health issues can have a negative impact on sexual functioning, and an increase of these symptoms among older couples results in an increased presence of such problems.

Health and Sexual Satisfaction for Older Couples

In general, older people who have poor health have more sexual problems. For example, one study found that when comparing younger individuals with poor health and older individuals

who are healthy, health accounted for most of the sexual decline with aging (Mulligan, Retchin, Chinchilli, & Bettinger, 1988). Sexual well-being appears to be positively associated with self-rated health in younger and middle-aged adults (Laumann, Paik, Glasser, Kang,Wang, Levinson, Moreira, Nicolosi & Gingell, 2006), and poor health is related to sexual dysfunction regardless of age, contributing some support linking health and sexual satisfaction (Davison, Bell, LaChina , Holden, & Davis, 2009)

In addition, sexually active individuals who have poor health seem to be less likely to engage in sexual activity when compared to healthy individuals. For example, in a study of older men and women, Delamater and colleagues (2005) noted that many who reported a decline in sexual activity attributed this shift to illness in marriage.

Specific health problems such as cardiovascular diseases, neurological illness, diabetes, and obesity can impact sexual satisfaction. Cardiovascular diseases include cardiac arrhythmia, heart failure and hypertension (American Heart Association, 2010). Older Individuals who suffer from a heart disease are more likely than the general population to have sexual problems (Camacho & Reyes-Ortiz, 2005). Furthermore, men with heart problems experience a decrease in libido and sexual activity and an increased occurrence of erectile dysfunction in all age groups (Gaskel, 1971; Schwarz & Rodriguez, 2005). Other studies have found that heart disease can gradually decrease sexual arousal among middle-aged and older adults in both genders (Abramov,1987; Vacanti, 2005).

Neurological illnesses such as multiple sclerosis, stroke and Parkinson's disease (Hertlein, Weeks & Sendak, 2009) can also influence sexuality. The neurological disorder can directly affect sexual functioning resulting in a decrease or a complete loss in desire (Kalayjian & Morrell, 2000). Psychogenic, stress from the neurological disease, can affect the sexual

experience. Lastly, symptoms from the disease such as tremors, spasms and rigidity make sexual intimacy complicated (Brown, Jahanshahi, Quinn, & Marsden, 1989). Other sexual problems related to neurological functioning include a decrease in lubrication, libido, vaginal tightness and difficulties reaching orgasm (Boldrini, Basaglia, & Calanca, 1991; Koller, Vetere-Overfield, Williamson, Busenbark, & Parish, 1990; Monga, Lawson, & Inglis, 1986; Wermuth & Stenager, 1995). Lundberg (1981) found that genital sensory symptoms are common among individuals, ages 20-42, with neurological issues and the majority of sexual issues can be resolved over time. However, issues surrounding libido and orgasm were not found to improve.

In general, diabetes has been found to be the major physiological cause of a sexual dysfunction. Research suggests that about 50% of men with diabetes have a hard time achieving an erection among all age groups (Ellenberg, 1980; Krosnick & Podolsky, 1981; Sex and diabetes, 1981). According to Katzin (1990) it is unclear how diabetes affects women. However, one study found among all age groups no affects on sexuality relating to type I diabetes; however, women with type II diabetes report problems with sexual desire, vaginal lubrication and orgasm (Schreiner-Engel, Schiavi, Daniela, Vietorisz, & Smith, 1987). Also, vaginismus is common among women with diabetes across all ages (Bagdade, Root, Bulger, 1974).

The International Obesity Task Force (2004) estimates that 1.1 billion adults are considered overweight. Obesity is connected with more severe health problems such as cardiovascular diseases and diabetes. Obesity in general also effects depression, anxiety and sexual health in women in all age groups (Shah, 2009). Kolotkin, Binks, Crosby, Ostbye, Richard and Adams (2006) found that a higher body mass index (BMI) is connected with greater sexual difficulty across the life span. For older men, individuals who are obese experience

erectile dysfunction more often (Bacon, Mittleman, Kawachi, Giovannucci, Glasser & Rimm, 2003; Derby, Mohr, Goldstein, Feldman, Johannes, & McKinlay, 2000). Also, penile vascular impairment among all ages (Chung, Sohn, & Park, 1999), and sexual dissatisfaction (Adolfsson, Elofsson, Rossner & Unden, 2004). One longitudinal study reported that over a five year span there was a greater decrease in sexual desire in obese adults when compared to healthy weight individuals.

In addition to health problems, medication impacts sexual functioning among older adults (DeLamater & Sill, 2005). For example, medication such as selective serotonin reuptake inhibitors (treatment for depression), benzodiazepines (treatment for anxiety), and antihypertensive (treatment for high blood pressure) affect the overall sexual experience in all age groups (Balon, Ramesh, & Pohl, 1989; Carey, 2006; Khandelwal, 1988; Uhde, Tancer, & Shea, 1988). Other medications associated with sexual dysfunction include opiates, amphetamines, and antipsychotics (Ashton, 2007; Brown, Balousek, Mudnt, & Fleming, 2005; Peugh, 2001). Older adults metabolize medication at a slower rate and they are more likely to experience side effects (Barrett, 2005). Because of health problems older adults take an average of four prescriptions a month, (Barrett, 2005); therefore, it is important to consider the impact of health problems and subsequent use of medication when addressing for sexual satisfaction (Cavanaugh & Blanchard-Fields, 2010).

Communication and Sexual Satisfaction for Older Couples

Positive marital experiences have been related to better health and longer life (Lillard & Panis, 1996; Litzinger, & Gordon, 2005; Murray, 2000). Positive communication is associated with increased marital satisfaction (Litzinger & Gordon, 2005; Purnine & Carey, 1997) and sexual satisfaction in long-term marriages (Byers, 2005). Conflict within a marriage appears to

be a risk factor for sexual problems in relationships across ages (Coie, Watt, West, Hawkins, Asarnow, Markman, Renick, Floyd, Stanley, & Clements, 1993). According to Hertlein, Weeks, & Sendak (2009) communication plays an important role in sexuality among all age groups. In a longitudinal study of The Premarital Relationship Enhancement Program (PREP), results showed that effective communication was linked with increases in sexual satisfaction in younger couples, a finding replicated in several other studies across the life span (Byers, 2005; Litzinger & Gordon, 2005; Markman, Renick, Floyd, Stanley, & Clements, 1993). Traeen and Skogerbo (2009) found that women were most likely to have reduced sexual desire due to marital distress, a problem often attributed to poor marital communication.

Because older couples share more positive affective communication than middle-aged couples, are less physiologically aroused during conflict and display fewer contempt behaviors, older couples may be better able to communicate openly and effectively about sexual issues (Carstensen, Gottman, & Levenson, 1995). However, avoiding potentially conflictual discussions, including those related to sexual distress, could influence the sexual satisfaction of couples (Metz and Epstein, 2002). It appears that younger and middle aged couples with better communication patterns tend to report higher marital satisfaction, which is related to sexual satisfaction (Waite & Joyner, 2001). However, little is known about how this relationship between communication and sexual satisfaction carries over in older marriages.

Gender differences

Women

Sexual satisfaction is important for health-related quality of life for both males and females, although there are gender-specific experiences. For example, menopause is experienced by all women, (Cavanaugh & Blanchard-Fields, 2010) and is usually completed between the

ages of 50-55 (National Women's Health Information Center, 2008). The biological changes that accompany menopause affect sexual satisfaction and functioning (National Women's Health Information Center, 2008). For example, The National Women's Health Information (2008) reports that menopausal symptoms can include vaginal dryness and a decreased interest in sex. Also, menopause can contribute to a decrease in thickness of the walls in the vagina and a decrease in lubrication, both of which affect sexual intercourse (Aldwin and Gilmer, 2004). Additionally, one study compared pre-menopausal and post-menopausal women and found that pre-menopausal women had a higher number of days of sexual activity (Davison, Bell, LaChina, Holden, & Davis, 2008)

Men

Men encounter fewer psychological adjustments as they age and maintain sexual activity well into later life (Cavanaugh & Blanchard-Fields, 2010). However, older men do require a longer amount of time to become erect (Saxon & Etten, 1994). Older men also report an increased failure to attain orgasm and report less perceived pressure to ejaculate (AARP, 1999a; Jacoby, 2005). In addition, testosterone levels decrease for men as they age which may be related to desire (Seidman, 2003). This hormonal decrease can affect sexual functioning as men grow older. However, no research exists comparing the interpersonal and personal factors contributing to sexual satisfaction for both older women and men who are married to each other.

In summary, sexual satisfaction contributes to higher marital quality, sexual well-being, and physical, psychological and emotional health in younger couples. There is a gap in the marital therapy literature relating to predictors of sexual satisfaction for older couples. Because older adults represent a large segment of the population, more research is needed to identify and describe specific predictors of sexual satisfaction for older couples. There is a need for further

research to offer a foundation for therapy for mature couples who present with sexual dissatisfaction.

The purpose of this study is to identify factors (depression, health, and communication) that predict sexual satisfaction for older couples.

Hypotheses

Four hypotheses were tested in this study:

1. There will be a significant positive relationship between health and sexual satisfaction for both female and male older adults.
2. There will be a significant negative relationship between depression and sexual satisfaction for both female and male older adults.
3. There will be a significant negative relationship between communication problems and sexual satisfaction for both female and male older adults.
4. Communication problems will significantly mediate the relationship between key predictor variables (health and depression) and the outcome variable (sexual satisfaction) for both men and women. Specifically, communication problems in marriage will mediate the negative relationship between health, depression and sexual satisfaction.

Method

Sample

Questionnaires were sent to 9328 addresses that had been purchased from the Donnelley Corporation, a major marketing firm. The Donnelley Corporation guaranteed that each of these

addresses represented a married couple with at least one partner between the ages of 55-75. Each couple was selected at random from a sample of couples from each state in the United States. The purpose of the purchase of the addresses was to use the names in *Project Couple Retire*, a longitudinal research project aimed at following couples through retirement. This longitudinal study focused on changes induced by retirement and their impact on physical and mental health over time. Only Wave 1 was used in this study.

Of the 9328 mailed questionnaires, a total of 1611 questionnaires were completed and returned by at least one spouse. Five hundred and ninety-one were returned because of bad addresses. Adjusting for bad addresses, the overall response rate was 18%. Because of the requirement of complete data from both spouses in a dyad, an additional 997 responses were excluded because only one partner responded or because of missing data. This left 535 couples (535 husbands and 535 wives) that had complete data for the measures in this study.

We compared couples included in this study to 1) those that were not included because their spouses did not complete the questionnaire, 2) non-respondents, and 3) 2000 U.S. Census information in order to test for selection bias in the sample. Using ANOVA and Chi Square tests, we compared the characteristics of these three groups with the characteristics of the participants in the study and found that the couple sample and the one-partner-only respondents both exhibited some selection bias in regards to race but not in terms of age, length of marriage, number of children, income, employment, and religious preference as they did not significantly differ from the other three groups on these variables.

Sample Characteristics

The average age in this sample was 64.98 (4.38) years for the husbands, and 62.40 (5.50) years for the wives. The average length of marriage for these couples was 36 years. The

majority of the respondents, both male and female, described themselves as Caucasian (98%). The average level of education was quite similar for both men and women, 13.6 and 13.4 years respectively. The median individual yearly income for the male respondents was $20,000 to $29,999; whereas the female respondent's median score was lower, $10,000-$19,999. And finally, 65% of the husbands and 70% of the wives were not employed outside of the home at the time of response (see Table 1).

Procedure

Each couple was sent a packet with instructions and a questionnaire. If only one individual in the couple completed the questionnaire, the data was not used in this study. Among the items included in the questionnaire were the Center for Epidemiological Studies Depression Scale (CES-D), a health questionnaire, the Personal Assessment of Intimacy in Relationships Scale (PAIR) and the Marital Satisfaction-Revised (MSI-R). Once the couple finished their individual questionnaires, they were then instructed to return their completed questionnaires in separate self-addressed envelopes (Dillman, 2007).

Measures

The CES-D has consistently demonstrated itself to be a reliable (split-halves correlation and Cronbach alpha coefficient ranging from 0.85 to 0.92) and valid (criterion and discriminant) measure of depressive symptomatology (Clement Fray, Paycin, Leger, Therme, & Dumont, 1999; Radloff & Teri, 1986). The CES-D, along with several shortened versions, has been used in numerous studies where the sample involved older adults. The CES-D and its sub-forms have displayed suitable psychometric properties (Andreson, Malmgren, Carter, & Patrick, 1994; Kohout, Berkman, Evans, & Cornoni-Huntley, 1993; Santor, Zuroff, Ramsay, Cervantes, & Palacios, 1995). The version in this study includes 14 questions, each scored on a seven-point

Likert scale. The questions asked a person how many times s/he has experienced an issue in the past two weeks: 1=Rarely or none of the time (less than 1 day or <1), 2=Some or a little or the time (1-2 days) 3=Occasionally or a moderate amount of time (3-4 days), 4=Most of or all of the time (5-7 days). Possible scores ranged from 14-56, with higher scores indicating increased levels of depression. Questions addressed emotions, appetite, and behaviors (sample item: "I had trouble keeping my mind on what I was doing").

The health questionnaire included one self-report question about overall health. The question asked how satisfied the respondent is with overall health, scored on a seven-point Likert scale: 1=Extremely dissatisfied, 2=Very dissatisfied, 3-Somewhat dissatisfied, 4=Mixed somewhat, 5= Satisfied, 6=Very satisfied, and 7=Extremely satisfied. Possible scores ranged from 1-7, with higher scores indicating more satisfaction with overall health. It is important to note that previous research has demonstrated that self-reported health corresponds highly with objective measures of respondent health status (Ferraro & Famer, 1999; Idler & Benyamini, 1997).

The sexual satisfaction latent variable consists of two variables: the subscales from the PAIR and subscales from the MSI-R. The PAIR (Personal Assessment of Intimacy in Relationships) was designed to measure a couple's perception of their intimacy. The test evaluates five areas of intimacy: emotional, social, sexual, intellectual, and recreational. Split-half reliability for the scales was above .70. The PAIR scores were highly correlated with the Locke-Wallace Marital Adjustment Test scores which indicated good concurrent validity for the measure (Olson & Schaefer, 1981). The test includes a total of 36 questions each scored on a five-point Likert scale: 0=Strongly disagree, 1=Somewhat disagree, 2=Neutral, 3=Somewhat agree, and 4=Strongly agree. Potential scores ranged from 0-480 points, with higher scores

indicating more closeness in one's relationship. Only the sexual intimacy subscale was used in this study. It consists of six questions also scored on a five-item Likert scale. Total possible scores ranged from 0-96 points, with higher scores indicating higher levels of sexual intimacy. Questions address sexual intimacy in the relationship, sexual behaviors, and sexual assertiveness (sample item: "My partner seems disinterested in sex").

The Marital Satisfaction Inventory-Revised (MSI-R) is a multi-dimensional instrument used to measure marital interaction (Scheer & Snyder, 1984; Snyder, 1979, 1997). The MSI-R includes a sexual satisfaction scale and nine additional scales measuring marital satisfaction. The measures have demonstrated reliability (test-retest at 6 weeks, 0.89) and validity (both criterion and discriminant) in multiple studies (Burnett, 1987; Harper & Sandberg, 1999; Snyder & Regts, 1990). For this study, the sexual intimacy satisfaction scale (SEX) and the couple communication scales were used to measure sexual satisfaction and couple communication. The sexual intimacy scale (SEX) consists of 13 items, scored true or false, with higher scores (0-13) indicating more sexual dissatisfaction. Questions included perceptions relating to sexual satisfaction, frequency, communication patterns when addressing sex, and feelings towards having an affair (sample item: "I would like my partner to express a little more tenderness during intercourse").

The communication latent variable consisted of two observed variables: affective (AFC) and problem-solving communication (PSC). The Cronbach Alpha for the AFC, and PSC research version was 0.85 and 0.89 respectively (Snyder, 1997). The AFC subscale included 13 items, scored true or false, with higher scores (0-13) indicating poorer affective communication patterns. Questions address the partner's communication behaviors in response to the spouse and emotional expressiveness (sample item: "Sometimes I wonder if my partner really loves me").

The PSC subscale includes 19 items, also scored true or false, with higher scores (0-19) indicating poorer problem-solving patterns. Questions addressed problem-solving communication patterns such as how active one is in solving a problem, the ending result when an argument occurs, and communication behaviors in response to the spouse (sample item: "Even when angry with me, my partner is able to appreciate my viewpoints").

Analysis

Basic statistical methods were utilized to provide mean and standard deviation scores on all key variables (See Table 2). A bivariate correlational analysis was conducted to assure an absence of multicollinearity concerns (see Table 3). The multivariate correlation procedure, Structural Equation Modeling (SEM), was used to examine the relationship among depression, health, communication (mediator) and sexual satisfaction using AMOS 17 (Arbuckle, 2006). SEM was used because it provides a method for testing both direct and indirect relationships among several different variables as well as controlling for measurement error (Kline, 2005; Byrne 2001). The model was tested for goodness of fit. Mediation of the relationship between predictor and outcome variables was also tested. Significance of indirect relationships was examined using the Sobel test (Preacher & Leonardelli, 2006). In this model, I hypothesized that 1) there would be a significant positive relationship between health and sexual satisfaction for both female and male older adults, 2) there would be a significant negative relationship between depression and sexual satisfaction for both female and male older adults, 3) there would be a significant negative relationship between communication problems and sexual satisfaction for both female and male older adults, and 4) communication problems would significantly mediate the relationship between health and sexual satisfaction and depression and sexual satisfaction. Specifically, communication problems in marriage would mediate the negative relationship

between health, depression and sexual satisfaction. Multiple Group Analysis procedure in AMOS was used to test for gender differences

Results

Models

The CFI for the female model was 1.0, the TLI was .99, and the RMSEA was .036, with a chi-square χ^2 (5, N = 535) = 8.4, *p*=.134). The results from the female model indicated that the model was a good fit for the data. CFI and TLI values of above .95 (Byrne, 2001) and an RMSEA value of below .05 (Arbuckle, 2006) indicate good model fit. The CFI for the male model was 1.0, the TLI was 1.0, and the RMSEA was .00, with a chi-square χ^2 (5, N = 535) = 4.4, *p* = .497). The overall variance (R square) explained in the model for the females was 39% and for the males was 49%

Direct Paths

A model was tested to examine direct effects of predictor variables (depression and health) on the outcome variable sexual satisfaction. For the women, depression was not significantly associated with sexual satisfaction, hypothesis two was rejected for wives (all Betas reported are standardized, (β = 01, *p* =.821). However, health was significantly related to sexual satisfaction (β = 131, *p* = .004), meaning better health was associated with higher sexual satisfaction for women. Hypothesis one was accepted for the wives. Unlike the female model, neither depression (β =.05, *p* =.305) nor health (β = 01, *p* =.889) were significantly related to sexual satisfaction for men, hypotheses one and two were rejected for the husbands.

Indirect Paths

A model was tested to examine the impact of predictor variables (depression and health) when mediated by communication on the outcome variable sexual satisfaction. Depression was found to be significantly associated with sexual satisfaction through the mediator communication problems (sobel = -6.43, $p < .001$). The path from depression to communication was statistically significant ($\beta = .43$, $p < .001$), as was the path from communication to sexual satisfaction ($\beta = -.59$, $p < .001$). Hypothesis four, depression when mediated by communication problems is a predictor of sexual satisfaction, was accepted for both wives and husbands. The results suggest that as depression increases, communication problems increase as well, and as communication problems increase, sexual satisfaction decreases. Therefore, depression negatively influences sexual satisfaction through communication. However, health was not significantly associated with sexual satisfaction through the mediator communication (sobel = -1.29; $p = .198$) because health was not a significant predictor of communication problems for women. Hypothesis four, health when mediated by communication problems is a predictor of sexual satisfaction, was rejected for both wives and husbands.

For husbands, similar to the female model, depression was significantly associated with sexual satisfaction through the mediating variable communication problems (sobel= -6.58, $p < .001$). The path from depression to communication was significant ($\beta = .36$, $p < .001$), as was the path from communication to sexual satisfaction ($\beta = 72$, $p < .001$). Similar to the wife model, husbands' depression was significantly related to sexual satisfaction through communication problems; this hypothesis was accepted. Like the female model, health was not significantly related to sexual satisfaction through the mediating variable (sobel = 1.12; $p = -.259$)

communication problems; this hypothesis was rejected. Sobel tests (Preacher & Leonardelli, 2006) indicated significant mediation in both the female and male models.

Gender Differences

Multiple Group Analysis comparison in AMOS was utilized to compare wives and husbands (n=535) in the sample. Multiple group analysis comparisons use a fully constrained model where path coefficients for both genders were constrained to be equal with a fuller unconstrained model where all paths vary freely. A chi-square difference statistic was completed by comparing the difference between the two models. If the newly calculated chi-square is significant, the structural models of the two groups are not considered equivalent (Arbuckle, 2006). The difference between the chi-square values for the constrained and unconstrained models comparing husbands and wives with 11 degrees of freedom was significant χ^2 (11, N = 535) = 140.498, p<.001). In order to determine which associations among variables were significantly different, the relationships were examined. Only one was found to be significantly different for husbands and wives. The relationship between communication problems and sexual satisfaction was significantly different for husbands.

Discussion

Direct Effects (first and second hypotheses)

According to the first hypothesis, healthier older individuals enjoy more sexual satisfaction. The direct path in the model between health and sexual satisfaction tested this hypothesis; however, this relationship was only significant for women. There is some support in the literature linking health and sexual satisfaction (Davision et al., 2009; Laumann et al., 2006; Mulligan, 1988). These studies suggest that healthy individuals, regardless of marital status,

have more sexual encounters and have less sexual problems when compared to less healthy individuals. For older women, however, sexual frequency may not be the best indicator of sexual satisfaction, as research suggests women may continue to engage in intercourse even when they are sexually dissatisfied (Laumann, Paik & Rosen, 1999). Also, healthy individuals may have more energy to engage in sexual activity and because of their health status they avoid health related consequences that may lead to sexual dysfunction.

In contrast, the findings of this study suggest that there is not a direct association between health and sexual satisfaction for older men. No direct positive association was found. These results disagree with previous research that suggests that illness has a negative impact on sexual functioning among individuals who are ill (Cardin, 1987; Lamb & Woods, 1981; Metcalfe & Fischman, 1985; Northhouse & Swain, 1987; Poorman, 1988). The lack of significance in the current study may be explained by the overall good health of the men in our sample (see Table 2). It may be that health is related to sexual satisfaction for older men only in the presence of more significant health problems, as suggested in the previous references. Although the women in our sample report overall good health as well, it may be that women are more in tune with their health concerns than men and that minor health concerns are more related to sexual satisfaction for them *(*Berman, Wood & Hartmann, 2008). Women from an early age must be aware of a monthly menstrual cycle and other health issues related to women's sexual/emotional functioning. Older women may simply be more aware of health-related sexual concerns.

The second hypothesis stated that older individuals who are depressed will be less satisfied sexually. Findings suggested that depression was not directly associated with sexual satisfaction for both genders. These results are not consistent with previous studies on how psychological and emotional health affect sexual functioning (Offman & Matheson, 2005;

Nicolosi, Moreira, Villa, & Glasser, 2004), and, specifically, women who experience depressive symptoms and are diagnosed with depression (North American Menopause Society, 2005; Dunn, Croft & Hackett, 1999; Laumann, Paik & Rosen, 1999).

However, it should be noted that depression is significantly related to communication problems, and that communication problems was significantly associated with decreased sexual satisfaction for both men and women. Therefore, it appears that communication problems may actually be the pathway through which depression impacts sexual satisfaction. This indirect path is supported in the literature which reports that depression negatively influences communication for older couples (Harper & Sandberg, 2009) and poor communication is linked to sexual dissatisfaction (Byers, 2005). One potential explanation for the lack of a direct association between depressive symptoms and sexual satisfaction in our study is the participants' low scores on the depression measure. Future research with a more depressed sample may show that depression is indeed directly related to sexual satisfaction for older couples.

Indirect Effects (third and fourth hypotheses)

The third hypothesis stated that older couples that report fewer communication problems also report more sexual satisfaction. Communication problems were significantly positively associated with sexual dissatisfaction for both females and males. This relationship was particularly strong for men. Few studies have researched communication and sexual satisfaction directly and the findings are mixed. The existing studies have used varied communication assessments, which perhaps accounts for some of the mixed findings (Metz & Dwyer, 1993; Perlam & Abramson, 1982). Rosen and Leiblum (1988) stated that understanding each other's sexual scripts involves sexual communication. Without evidence of similar findings in other studies, it is difficult to explain what accounts for the significant relationship between

communication problems and sexual satisfaction. Research on relationships in general notes that improved communication between partners helps many areas of couple functioning (Markman, Renick, Floyd, Stanley & Clements, 1993). The results of the current study suggest that improved communication may have a beneficial impact on sexual satisfaction, particularly for older couples.

The fourth hypothesis was not supported. Health did not significantly predict sexual satisfaction through the mediator communication problems. The lack of a mediating influence may be explained by the relative lack of health problems in this sample.

In contrast to health, depression was significantly associated with sexual satisfaction through the mediating variable communication problems; this finding was true for both genders. Research shows that depression was negatively associated with communication in general for older couples (Harper & Sandberg, 2009). More specifically, the results of this study indicate that the increased levels of depression are related to increased problems in affective and problem-solving communication.

Implications for Clinicians

The results from the study indicate that health is a significant predictor of sexual satisfaction for older women. Therefore, of female clients' clinicians may recognize that fostering self-care may be an important part of therapy sessions. This may include medical referrals, specifically to gynecologists, when specific problems related to menopause and other female health-specific issues. Therapists must be comfortable addressing how specific health problems can be directly or indirectly related to sexual issues. Cases with a clear biological and relational interface would be appropriate for collaborative care between medical and mental health professionals.

The results from the study also indicate that depression and communication problems were significantly associated with sexual satisfaction. When an older individual or a couple presents issues relating to communication, the clinician may wish to administrate a depression assessment as well. In such cases, in addition to empirically supported treatment options for working with individuals who suffer from depression (Beck, 1967; Beck, 1972; Beck, 1976; Dobson, 1989; Burns, 1999), clinicians may wish to consider established marital treatments for depression which may help address communication problems as well (Harper & Sandberg, 2009).

Because of the research gap regarding communication and sexual satisfaction in older couples, it is difficult to know which clinical approaches would be most helpful. However, clinicians could start by assessing for sexual satisfaction when older couples present with communication or depression issues. According to Hertlein, Weeks, & Sendak (2009) communication plays an important role in sexuality. One study stated that communication about sexual scripts is a form of communication (Rosen & Leiblum, 1988). With this in mind, focused couple's sex therapy could include teaching couples how to communicate while addressing sexual needs (Hertlein, Weeks, & Sendak, 2009). Research has shown that fostering positive enactments between couples are a way of promoting responsibility for couples who have communication problems (Butler & Gardner, 2003; Davis & Butler, 2004; Johnson, 2004).

Limitations and Directions for Future Research

This research had a number of limitations that could be addressed with future research. Specifically, a majority of the participants were in their first marriage and were commonly privileged. Also, the sample was predominantly Caucasian and Protestant. As a result, these findings do not help us understand the experience of economically disadvantaged or remarried

older couples, or those who have experienced oppression as a member of a minority group. In addition, individuals dealing with extremely poor health or literacy issues were unlikely to complete the measure. However, it is important to note that the sample in this study was truly representative of older adults across the U.S in terms of age, length of marriage, number of children, income, employment, and religious preference, as they did not significantly differ from the other three groups on these variables.

Another limitation is that a relatively small percentage of the community sample reported experiences of severe depression; therefore, the results did not shed light on the relationship between severe depression and sexual satisfaction for couples in clinical settings. Because of the cross-sectional nature of the data collection, we are not able to consider the direction or causal nature of the relationships among health, depression, communication and sexual satisfaction in older couples. The current study did explain a large percentage of the variance in sexual satisfaction for both older women and men. Our study invites further investigation in these several areas, as well as research regarding the role that communication plays in sexual satisfaction for older adults.

The current research has prompted additional questions for future research. For example, could positive affective and problem-solving communication help to buffer the negative effects of other common strains in later life marriages (e.g., retirement, empty nest)? How would the relationship among health, communication, and sexual satisfaction differ for couples with more severe depression or health problems? And, which aspects of communication (verbal and non-verbal behaviors) help to promote sexual satisfaction?

Conclusion

The purpose of this study was to contribute to the understanding of the relationship among depression, health and sexual satisfaction for older couples as well as the role of communication problems as a mediating variable. These study findings are congruent with previous research on how depression directly affects couples' communication, which in turn has a significant impact on sexual satisfaction. The findings were also congruent with the research on how personal health plays a vital role in female sexual satisfaction. Additional research is needed to examine sexuality among older couples in order to further provide practical findings that help clinicians know how to provide the largest segment of the population with competent care concerning sexual satisfaction.

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Table 1

Demographic Characteristics of Sample

	Female (n=535)	Male (n=535)
Mean Age (SD)	**62.40 (5.50)**	**64.98 (4.38)**
Range of Age	40-76	49-79
Mean Length of Relationship (SD)	**36.17 (11.45)**	**36.24 (11.48)**
Range of Length of Relationship	2-56	2-52
Mean Children in Immediate Family	**3.07 (1.98)**	**2.98 (1.96)**
Mean Education	**13.41 (2.62)**	**13.67 (3.26)**
Race/Ethnic Origin	**%**	
White	98.5	97.4
Black	0.4	0.4
Asian	0.2	0.0
Hispanic	0.6	0.6
Other	0.4	0.9
Missing	0.0	0.7
Religious Affiliation		
Catholic	20.4	20.6
Protestant	65.6	63.7
Judaism	4.1	3.4
LDS	1.1	0.7
Other	7.9	10.5
Missing	0.9	1.1
Income		
Less than 9,999	26.5	6.5
10,000-29,999	24.5	23.9
30,000-39,999	11.4	22.4
30,000-39,999	6.4	14.0
40,000-49,999	3.0	8.4
50,000-more	6.2	17.3
Missing	21.9	7.5

Table 2

Means, SDs, and Ranges for key variables

	Male				Female		
	Min - Max	**Range**	**Mean**	**SD**	**Range**	**Mean**	**SD**
Depression	14 – 56	34	5.80	6.03	39	6.11	6.74
Health	1 – 7	6	5.26	1.36	6	5.24	1.43
Aff Comm.	0 – 13	13	2.32	2.87	13	3.42	3.75
Problem-Solving	0 – 19	18	4.84	4.12	19	5.40	4.57
MSI	14-56	9	19.83	2.18	10	20.59	1.80
PAIR	0-96	92	62.64	21.81	96	65.29	21.56

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Table 3

Females- Bivariate Correlations for variables in SEM model

	1	2	3	4	5	6
1. Depression	–					
2. Health	.228**	–				
3. Affective Communication	.371**	-.018	–			
4. Problem-Solving Communication	. 358**	.031	.777**	–		
5. PAIR Sexual Satisfaction	-.271**	-.018	-.479**	-.420**	–	
6. MSI Sexual Satisfaction	-.171**	.002	-.448**	-.276**	.607**	–

Notes: $p \leq .05$,* $p \leq .01$, **

Table 4

Males- Bivariate Correlations for variables in SEM model.

	1	2	3	4	5	6
1. Depression	–					
2. Health	.224**	–				
3. Affective Communication	.342**	.027	–			
4. Problem-Solving Communication	.343**	017	.776**	–		
5. PAIR Sexual Satisfaction	-.197**	.020	-.535**	-.459**	–	
6. MSI Sexual Satisfaction	-.131**	.044	-.272**	-.442**	.309**	–

Notes: $p \leq .05$,* $p \leq .01$, **

Empirical Results From a Structural Equation Model

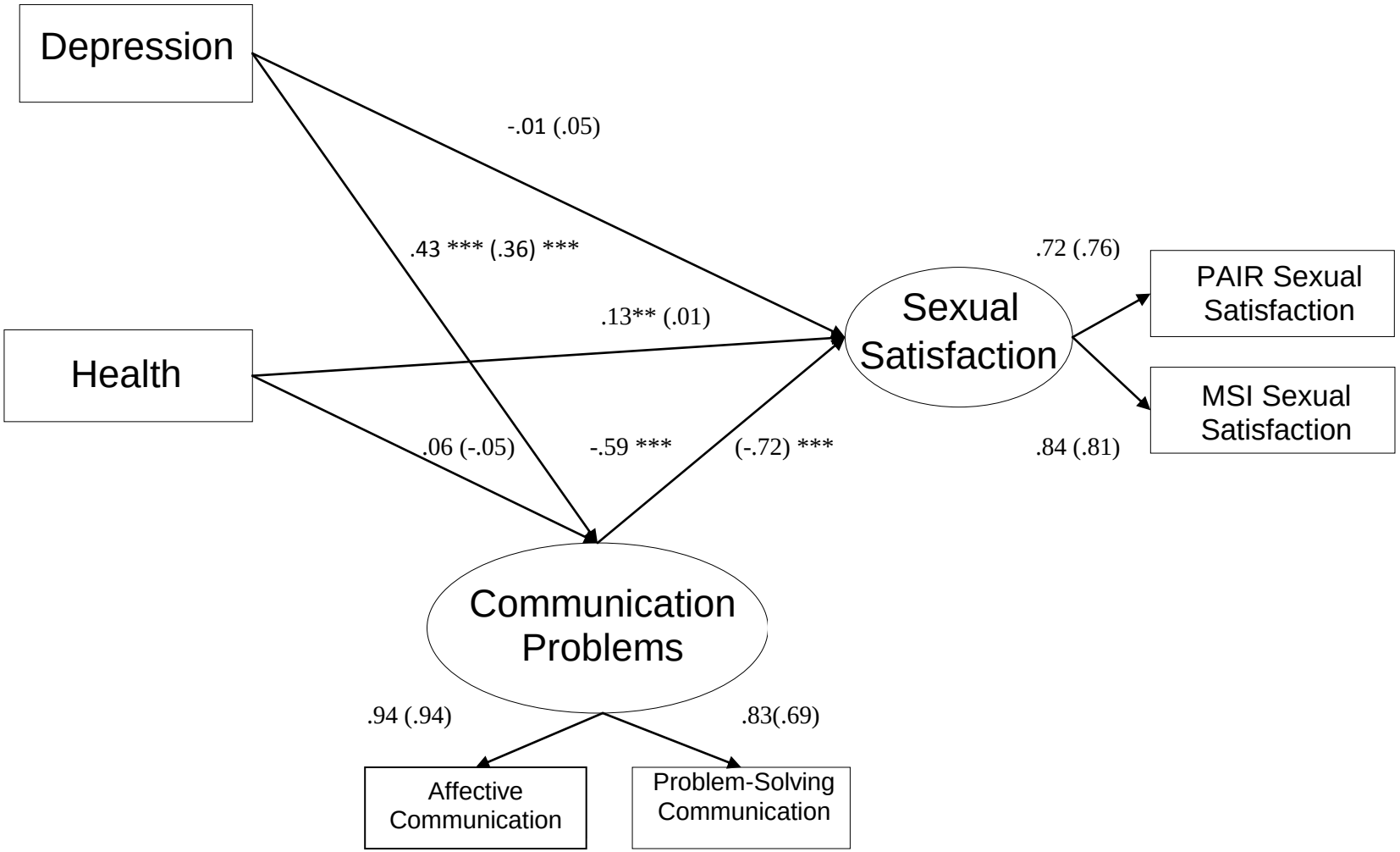

***Figure 1*. SEM and Results for female and male Models. Notes: Female (male in parentheses) * p ≤ .05, ** p ≤ .01, *** p ≤ .001**