Sexuality in Older Couples: Individual and Dyadic Characteristics

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Abstract

This paper examines the sources of coupled sexual activity in older adulthood. We model sexual activity as predicted by features of the marital/cohabitational dyad including relationship satisfaction, conflict, and physical touching, and by the personality, physical health, desire for sex, and the subjective importance of sex of each member of the couple,. We use data from a nationally representative survey of older adults, which includes information on both partners in 940 dyads. We also employ structural equation modeling techniques to capture older adults' propensity to represent themselves positively across Big Five personality traits - a characteristic that we name *Positivity.* We find that husbands' (but not wives') Positivity is positively associated with sexual activity in older adulthood, and that this association is partially mediated by dimensions of relationship quality, but moreso by individual factors such as thinking about sex and believing sex is important.

Keywords: Older adults, sexual activity, personality, dyadic data, survey

Introduction

Sexual activity is a key component of relationship quality for many married couples, and individuals who have frequent sex with their spouse are more likely to report better marital quality (Galinsky & Waite, 2014). In turn, marital quality is a crucial component of overall quality of life and good health, especially at older ages (Kim & Waite, 2014; Warner & Kelley-Moore, 2012). Therefore it is important to understand why some older couples are sexually active, and some are not. Sexual interest and partnered sexual activity persist into older ages among a sizeable share of older women and especially older men, according to recent studies (Lindau, et al., 2007). But even among those with partners, fewer than half of the oldest—those 81 to 85 years old—reported any sexual activity with their partner over the past year. This share was higher for men than for women, and higher for those in excellent or good health than for those whose health was fair or poor (Karraker & DeLamater, 2013; Lindau, et al., 2007).

Although a number of recent studies have greatly expanded our knowledge of sexuality at older ages, there is still much that we do not know. Virtually all the recent research on sexuality at older ages has focused on individuals (Carpenter, Nathanson, & Kim, 2009; Syme, Klonoff, Macera, & Brodine, 2013; Waite, Laumann, Das, & Schumm, 2009); we know little about the characteristics of *couples* that influence sexuality in the last third of life, and virtually nothing about the role of partners in the performance of this joint activity. This paper uses a sample of married and cohabiting dyads from the second wave of the National Social Life, Health and Aging Study to examine sexual behavior in these couples. It uses characteristics of each of the partners and characteristics of the relationship as perceived by each of the partners to predict the couple's frequency of sex.

Background

We define sexuality broadly as the dynamic outcome of physical capacity, motivation, attitudes, opportunity for partnership, and sexual conduct (Bullivant, et al., 2004; Lindau, Laumann, Levinson, & Waite, 2003). This paper will emphasize partnership and partner characteristics as crucially important for continuing sexual activity in older adulthood, since most sex among older people occurs in couples (Galinsky, Waite, & McClintock, In Press), which therefore calls our attention to properties of the dyad, in addition to features of the individual.

We consider this focus on the dyad to be complimentary to existing work that has previously focused on individual factors. For instance, neuroendocrine perspectives on sexuality (Beach, 1976; Kalat, 2007; McClintock, 2009; McClintock & Adler, 1978; Sisk & Foster, 2004) hold that sexuality results from neurological and hormonal mechanisms that underlie motivations toward sex and sex behaviors (Galinsky, McClintock, & Waite, 2014). These neuro-hormonal mechanisms affect individual sexuality, including the ability to perceive and respond to sexual signals, willingness to make oneself attractive to a potential sexual partner, proceptivity (actively seeking sex) and receptivity (saying yes when asked). Drawing on these perspectives, we view physical health and disease as factors that may directly affect a person's capacity for sexual expression. Loss of sexuality is the hallmark of some mental states, such as depression, and in turn satisfying sexual relationships can buffer the effects of everyday stressors. However, within sexual partnerships, mental or physical health deficits in one partner may reduce sexual expression, while the other partner remains in good health. Therefore a fuller account of when and why older adults have sex requires researchers to turn their attention to the dyad. In short, we view sexual activity in older couples as emerging from the resources that both partners bring to their relationship, both physical and psychological, which produces both the motivation and the

practical circumstances necessary for sex. Following previous work, we draw upon the

Interactive Biopsychosocial Model of Health (Lindau, et al., 2003) to elaborate neuroendocrine

perspectives on sex, placing sexual interest and motivation in a nested framework of contexts,

from dyadic relationships, to communities, to cultures. These literatures suggest that sexuality

and enjoyment may be highly influenced by the characterisitcs of the relationship within which it

occurs (Galinsky, et al., 2014). This prompts us to develop a conceptual model of partnered

sexuality that includes these relational components.

　　　We focus on a factor that may be crucial for sexual activity, and yet has often been

conceptualized in individualistic terms in studies of sexuality (Eysenck, 1977; Eysenck &

Wakefield, 1981; Gute & Eshbaugh, 2008; Schmitt & Shackelford, 2008; Zietsch, Verweij,

Bailey, Wright, & Martin, 2010). We refer here to personality, a stable set of traits or ways of

presenting oneself to and interacting with the world. The most commonly used framework for

measuring personality traits is the Big Five (John, Naumann, & Soto, 2008; Malouff,

Thorsteinsson, Schutte, Bhullar, & Rooke, 2010). These dimensions of personality, summarized

in the mnemonic *OCEAN*, are (a) Openness to experience, (b) Conscientiousness, (c)

Extraversion, (d) Agreeableness, and (e) Neuroticism. Others have suggested that there exists a

global disposition to display a high level of positive emotionality across Big Five traits. This

overarching characteristic, called *Positivity,* was found by Iveniuk et al. (2014) to be related to

marital conflict; wives whose husbands were high on Positivity reported lower levels of conflict

than wives whose husbands showed lower levels; wives' Positivity was unrelated to either

spouse's report of conflict. We argue below that the tendency to present oneself to others in a

positive light is associated with both individual and dyadic facets of sexual motivation and

behavior in ways that increase frequency of sexuality in the dyad. Therefore we bring together

perspectives that have previously mostly focused on the individual, such as personality research (Gute & Eshbaugh, 2008; Schmitt & Shackelford, 2008; Zietsch, et al., 2010), and sociological perspectives that theorize the relationship itself (Galinsky & Waite, 2014; Iveniuk, et al., 2014). We elaborate on our conceptual model below. We focus here on partnered sex, which takes place in the sexual dyad. Intimacy describes a quality or condition of a dyadic relationship involving close personal familiarity and feelings of warmth, closeness, and common or shared fate. Sexual activity and functioning within couples are determined by the interaction of each partner's sexual capacity, motivation, conduct, and attitudes and are further shaped by the level of intimacy in the relationship itself and other characteristics of the dyad.

Conceptual model

We propose a conceptual model, shown in Figure 1, to summarize the hypothesized relationship between *Positivity* and frequency of sex among older couples and the mechanisms through which the effect works. Latent factors are in ovals, while measured factors are in rectangular boxes. We hypothesize two pathways through which Positivity may affect frequency of sex at older ages.

First, we posit an *individual facet* of Positivity, which comprises overall positive affect and positive affect experienced in interaction with others. Highly positive persons may experience more rewarding affect in social interaction than do those who are less positive, leading them to think about and seek out sexual interaction as part of their overall disposition to desire mutually-rewarding and pleasurable social contact. In our model, these highly-positive people think about sex more often and rate sex as more important to them than do those lower in Positivity. Therefore we hypothesize that the individual's sex drive and the importance of sex to him or her will mediate the effect of Positivity on frequency of sex in older couples. We argue

that both men and women who often think about sex often and to whom sex is important will have sex with their spouse more frequently than will others.

Second, we posit a *dyadic facet* of Positivity, corresponding to the individual's concept of him- or herself as consistently appreciated by others, including the degree to which the person sees him/herself as liked by and beneficial for his or her spouse. We propose that for such persons, their positivity will lead to better overall relationship quality, including greater satisfaction with the marriage, less conflict or trouble, and more frequent caring physical contact in everyday interaction. We also hypothesize that those high in relationship satisfaction, those who share caring touch frequently, and those in relationships with low conflict will have sex with their spouse more frequently than will those in relationships of poorer quality. Thus Positivity will affect frequency of sex not only through individual psychology, but also through relationship quality and partners' behavior in the relationship.

Finally, our conceptual model sees a key role for gender in the association between Positivity and frequency of sex. In this model, Positivity increases the frequency of sex among older adults through either the individual's characteristic modes of thought (individual facet) or their characteristic modes of behavior in relation to their spouse (dyadic facet). However, gendered marital roles may shape the expression of both these factors. Older men agree to sex more often when their spouse wants to have sex than older women do (Kim & Waite, 2014). To the extent that men want sex, on average, more than women do, women may act as the sexual gatekeepers in many couples, deciding when and how often the couple has sex. Accordingly, we hypothesize that the personality characteristics of the husband will be more consequential than the personality characteristics of the wife, since the husband's role in marital sexual scripts will be to perform actions that indicate to his wife that sex is desirable and appropriate. Therefore we

allow the consequences of Positivity to differ depending on the gender of the person who possesses either high or low Positivity, and we hypothesize that the husband's Positivity will be more consequential for the couple's frequency of sex than will the wife's Positivity. In addition, wives of men who are high in Positivity may agree to sex more often when asked, at least in part because it is a more pleasant encounter. We now proceed to our methods to describe our operationalization of the conceptual model, and how we will test hypotheses emerging from the model.

METHODS

Sample

The data from this study come from Wave 2 of the National Social Life, Health and Aging Project, a nationally representative survey of older adults (Waite, et al., 2013). NSHAP is designed to collect extensive information on the social, romantic and sexual lives of older respondents, as well as a broad array of assessments of health. The first wave of NSHAP, collected in 2005-2006, comprised 3005 respondents with a response rate of 75.5%. By Wave 2, fielded in 2010-11, 430 became deceased, 139 had health problems that were too severe for them to participate in the interview, 4 were in a nursing home, and an additional 171 could not be contacted. Of those partners who were asked to participate in W2, 84.5% consented and were interviewed, yielding a sample of 955 partners, and thus, 955 marital and cohabitational dyads (proportion cohabiting given in Table 1a below). Spouses and co-resident partners were interviewed using the same protocol as the focal respondents; note that age was not used as a criterion for whether a *partner* would be interviewed, and so respondents added to the sample could be younger than 62. There was one same-sex female couple and one same-sex male couple; since this is too few to make inferences about non-heterosexual pairings, we did not

include these couples in the analysis below, leaving 953 couples. Additionally, thirteen dyads showed noteworthy discrepancies between husbands' and wives' reports (one partner reported weekly sex, and another partner reported no sex in the past year), and were excluded from the sample, leaving 940 persons as our analytic sample. The W2 response rate was 76.9%, including partners (O'Muirchaigtaigh et al 2014).

Measures

Frequency of sex. The dependent variable for this analysis was constructed using both husbands' and wives' reports. Husbands and wives were each asked: "In the last 12 months, about how often did you have sex with [current partner]?" where the partner was named by the respondent in a previous section of the survey. Because our unit of analysis is the couple rather than the individual, we combined their reports to create a single variable describing frequency of sex in the dyad. The result is a five-level ordinal variable describing frequency of sex in the past year within the dyad, ranging from "*None at all"* to "*Once a week or more."*

Personality. The Big Five dimensions of personality and Positivity were measured using the Midlife Development Inventory or MIDI (Lachman & Weaver, 1997). See Iveniuk et al.(2014) for a description of the MIDI in NSHAP. The MIDI is highly consistent across time at older ages (Turiano, et al., 2012), meaning that our personality measure generally described the person as they have been for some time. Loading of the adjectives on the latent OCEAN factors will be described below, along with the method we used to construct the sixth factor, Positivity. We used factor scores as measures of personality, predicted below.

Physical health. Comorbidities were calculated as a weighted count of thirteen chronic conditions, including cancer, arthritis, high blood pressure, diabetes, stroke, and osteoporosis, approximating the Charlson Comorbidity scale (Vassilopoulis et al 2014). Activities of Daily

Living (ADL) difficulties were constructed as a dichotomous variable indicating whether the respondent had any difficulties with any of the following activities: dressing, bathing, toileting, getting in and out of bed, eating.

Mental health. We measured whether the respondent has severe depressive symptoms using NSHAP's version of the Iowa 11-item Centers for Epidemiologic Studies Depression scale (CES-D; alpha = 0.79). The scale ranges from 0 to 22, and was dichotomized at 8 in order to match cut points from the Iowa Scale. Anxiety was measured using NSHAP's version of the 11-item anxiety subscale from the Hospital Anxiety and Depression Scale, (HADS; alpha = 0.73), also dichotomized at 8 (Payne, Hedberg, Kozloski, Dale, & McClintock, 2014).

Sexual function. Erectile dysfunction was measured using a question asked of male respondents about whether they had trouble getting or maintaining an erection. Similarly, female respondents were asked whether they had trouble lubricating (Waite, et al., 2009).

Individual sexuality (individual facet variables). Each spouse was asked to rate the importance of sex in their lives using a scale ranging from "*Extremely important*" to "*Not at all important,"* which we recode into three categories: "*Somewhat to not at all," "Moderately"* and "*Very/Extremely."* Each was also asked how often they think about sex, which we coded into three categories: "*Less than once a month," "Once or a few times a month"* and "*Once a week or more."*

Relationship quality (dyadic facet variables). Each person's evaluation of the marriage was measured by their satisfaction with the relationship, frequency of caring touch with the partner, and levels of conflict in the relationship. Relationship satisfaction was measured using two items combined into a scale: how physically pleasurable the respondent finds their relationship with their partner, and how emotionally satisfying they find their relationship with

their partner (alpha = 0.81). We also measured whether the respondents shared a daily "*caring*

touch, such as a hug, a touch on the arm, or a neck rub" with their partners (Adena M. Galinsky,

2012). Finally, low conflict (spousal trouble), was measured using three items: how often their

partner makes too many demands, how often the partner criticizes them how often the partner

gets on their nerves (alpha = 0.65).

    Additional controls. We also control for the respondents' age and the number of years

they have been living together, as well as the ethnic composition and educational composition of

the dyad. Because ethnicity and education are highly correlated within dyads, we create

dichotomous variables for whether the dyad contains at least one non-Hispanic black, at least one

Hispanic, and at least one partner with a BA or more.

Statistical Analyses

    Constructing Positivity. The first stage of our analysis used Confirmatory Factor Analysis

(CFA) to extract the Big Five dimensions of personality, as well as the additional Positivity

factor. It is not uncommon in CFAs to include an additional factor capturing variance which is

due to person-specific patterns of scale use across subscales (Chang, Connelly, & Geeza, 2012;

DiStephano & Motl, 2009). This sort of CFA is called a *bifactor model* and it can be described as

follows. Consider the responses of individual *i* to a set of personality adjectives *j*. An *m*-

dimensional factor model for y_{ij} takes the form:

$$y_{ij} = \mu_j + \Lambda_j'\gamma_i + e_{ij}$$

Where μ denotes the intercept for item *j*, Λ is the vector of factor loadings for that item, γ is the

factor score estimated in the CFA, and *e* is the error term. Under conventional specifications of

the Big Five, *m* is five, and so Λ will have five possible entries, each assigned to an item *j*. To

model positivity, we fit a sixth factor which was allowed to predict respondents' scores on all items, meaning the model became:

$$y_{ij} = \mu_j + \Lambda'_j \gamma_i + \Omega'_j \omega_i + e_{ij}$$

where the new terms Ω and ω are vectors containing the sixth factor loading, and the sixth factor score respectively. Thus every Big Five factor score was interpretable as a latent trait, net of the sixth factor. This changed the interpretation of the other five factors, as we point out in the discussion. Since the response categories are ordinal, we employed an ordered probit link for y_{ij}, and so all factor loadings were in standard deviation units on a standard normal distribution, with a mean of 0; as such, factor scores could be negative.

Regression analysis. Regressions were carried out using ordinal probit analyses, fit with Full Information Maximum Likelihood (FIML) in order to assuage problems with missing data. Unlike imputation, FIML does not create simulated values, but rather makes use of all information that exists for any of the variables included in the model by computing a casewise likelihood function (Enders, 2001; Enders & Bandalos, 2001). In simulation studies, FIML has been shown to give more consistent and efficient estimates of model parameters than complete case analysis, or single value imputation (Enders & Bandalos, 2001). We first predict our outcome without potential mediators, and then fit a second model that includes these mediators. In each model, we use Wald tests to examine whether coefficients associated with husbands' characteristics have a different association with frequency of sex than wives' characteristics. All continuous variables (personality, comorbidities, spousal satisfaction, spousal trouble, years living together) were standardized before being inputted into the model, in order to facilitate comparisons within and across models.

Mediation analysis. Following our regression analyses, we tested to see how much of the association between husbands' Positivity and frequency of sex was mediated by the factors that we hypothesized would be important (the variables listed above under 'Individual sexuality' and 'relationship quality'). For each mediation analysis, we fit two equations, one predicting our outcome using husbands' Positivity, our mediator, and our 'additional controls,' and then a second equation predicting our mediator using husbands' Positivity and the 'additional controls.' We predicted our outcome using an ordinal probit, and our mediator using a probit if it was dichotomous (daily caring touch), an ordinal probit if it was ordinal (importance of sex, thinking about sex), and an identity link if it was continuous (spousal satisfaction, spousal trouble). We calculated indirect effects using the product method, and calculated standard errors with bootstrap methods, using 1000 draws (Baron & Kenny, 1986).

Results

Our hypotheses may be restated as follows: We hypothesized that better relationship quality, thinking about sex, believing that sex is important, being in good health, and having an overall Positive personality would be associated with greater sexual activity in older couples. Moreover, within the same dyad, the Positivity of the male partner would be more important than that of the female.

Figure 2 shows the results of the Positivity model. Previous to fitting this model, we attempted several alternative specifications, comparing models by three measures: the chi-squared test of model fit, the Confirmatory Fit Index (CFI), and the Root Mean Squared Error of Approximation (RMSEA). Smaller chi-squared values, higher CFI and lower RMSEA indicate better model fit (Ullman & Bentler, 2003). First, we fit a model with five latent factors corresponding to OCEAN, estimating all covariances between latent factors (χ^2 4919.67; CFI

.85; RMSEA .10). Second, we fit a model using the General Factor of Personality (Erdle &

Rushton, 2011; Van der Linden, Scholte, Cillessen, te Neijenhuis, & Segers, 2010), which is a

common second-order trait in the personality literature (χ^2 5083.59; CFI .84; RMSEA .10).

Finally, we fit the model as shown in Figure One, which added a sixth factor, and left all factors

constrained to have covariances of zero (χ^2 2078.66; CFI .94; RMSEA .07); allowing additional

paths meant the model was no longer identified. The chi-squared test was always significant

$p<.001$, but the chi-squared test is rarely insignificant in large surveys because it is sensitive to

sample size (Ullman & Bentler, 2003). This final, six-factor model had the best fit. Variances of

latent factors were constrained to one, and means set to zero, again to ensure the model was

identified.

Table 1 shows descriptive statistics for our measures. Note that husbands are significantly

less positive than their wives, and also less Agreeable and Neurotic. Husbands are also typically

in worse physical health, but better mental health. Husbands also are more likely to report both

higher spousal satisfaction and spousal trouble, and typically describe sex as being more

important compared to their wives. They also think about sex more often than their wives, as

expected.

Table 2 gives the results for our three ordinal probit regressions, predicting frequency of

sex in the NSHAP sample of older adults. Husbands' and wives' coefficients are compared within

models. Looking at Model 1, which does not control for hypothesized mediators, we can see that

husbands' who are high in Positivity also have sex with their wife more frequently (b=0.31,

$p<.001$), but there no association with wives' positivity (b=0.05, n.s.). Furthermore, couples in

which the husband (b=-0.19, $p<.05$) or wife (b=-0.17, $p<.05$) is high on Extraversion or the

husband is high on Agreeableness (b=-0.23, $p<.01$) have sex less frequently than others. Recall

that we have removed the general positive component of both these traits, meaning that the trait 'E' is closer now to a measure of surgency (Soto et al. 2009; Iveniuk et al. 2014), and Agreeableness may be closer to a measure of cooperativeness or a tendency to acquiesce to demands (Graziano & Tobin, 2002). The association between husbands' Positivity and the couple's frequency of sex is larger than the association between wives' Positivity and frequency of sex, at $p<.05$. Among the controls we can see that the age of both partners is negatively associated with frequency of sex (husbands' age: b=-0.35, $p<.001$; wives' age: b=-0.31, $p<.001$), and that frequency of sex is negatively associated both with husbands' comorbidities (b=-0.15, $p<.05$) and erectile dysfunction (b=-0.69, $p<.01$). Wives' comorbidities or lubrication difficulties are not associated with frequency of sex. Hispanic couples are also more likely than others to have sex frequently (b=0.50, $p<.05$).

Model 2 introduces measures of individual sexuality and relationship quality. Both men and women who reported that sex was very/extremely important to them also reported significantly more frequent sex with their partner than those who said sex was less important to them (husbands b=1.16, $p<.001$) (wives b=1.01, $p<.001$). Also, those who thought about sex once a week or more were also more likely to have sex more frequently (husbands: b=1.37, $p<.001$) (wives: b=1.36, $p<.001$). The addition of these mediators reduces the coefficient for husbands' Positivity to insignificance (b=0.12, n.s.). Including these measures of key attitudes of each spouse reduced the association between husbands' Positivity and frequency of sex to insignificance even when relationship quality was not controlled. Note as well that wives' age is also not associated with frequency of sex in this model (b=-0.14, n.s.). These models do not allow us to examine which factors mediate the association between husbands' Positivity and frequency of sex. We now turn to our mediation analysis in order to examine this question.

Table 3 shows the results of this mediation analysis. The total effect of husbands' Positivity on frequency of sex was 0.16 (p<.001). We decompose this association into the indirect effect (the portion of that association that works through the mediating variable), and the direct effect (the portion of that association that does not work through the mediating variable). We can see that among the dyadic factors, the husband's reports of spousal satisfaction, spousal trouble, and daily caring touch all partially mediate the association between husband's Positivity and frequency of sex, although only a very small part of the association is mediated by spousal trouble (Ind. Eff. = 0.01, p<.05). The association between husband's Positivity and frequency of sex is also partially mediated by wives' reports of spousal satisfaction and daily caring touch. Among the individual facet factors, we can see that the association between husbands' Positivity and frequency of sex is not mediated by how often he thinks about sex, but is completely mediated by how important he says sex is to him. In other words, a husband who is highly Positive, but whose Positivity does not translate into rating sex as important will not be as likely to have frequent sex with his spouse, compared to a husband whose Positivity does translate into thinking about sex more frequently. Part of the association between husband's Positivity and frequency of sex also appears to be mediated by how often his wife thinks about sex, and how important she believes sex to be. There was no mediating, indirect effect through how often the *husband* thinks about sex.

DISCUSSION

In this paper, we investigated partnered sexual activity at older ages, positing that sexual activity in this group arose from a confluence of characteristics of the two individuals, including their psychological and physical health, and characteristics of the relationship. Our analyses showed that among older adults, the Positivity of the husband was more consequential for the

couple's sexual activity than the Positivity of the wife. Based on the pattern of mediation observed in our model, it would appear that the association between husbands' Positivity and sexual activity is the result of more Positive husbands being more likely to think of sex as highly important. Some of the association between husbands' Positivity and frequency of sex also seems to be accounted for by the fact that if husbands are more positive, their wives are also more likely to value sex highly, and to think about sex more often. Therefore the process leading from husbands' Positivity to sexual activity is complex. In part, husbands who are more positive may transfer their overall upbeat personality into a greater valuation of sex as important to them, because sex could be perceived as an aspect of their positive social relations with their spouse, or perhaps an affirmation of those positive social relations. Therefore, sex would be more important to such a man, because it would represent that he is appreciated and desired by his partner - something that he seeks out as part of his general preference for positive social relations. His positive expression may also lead his wife to consider sex as more desirable and normatively appropriate, since he is a more appealing partner.

However, there does not appear to be a corresponding process connecting wives' Positivity to greater frequency of sex, and the reasons for this remain unclear. Note that even though wives' Positivity was not associated with greater frequency of sex with their partner, wives who thought about sex more often, and who said sex was important to them, were more likely to have frequent sex, net of their husbands' levels of sexual ideation and rating of sex as important or not. Given that older men are more likely to desire sex more frequently than older women do, it could be the case that older men channel this trait through these desires into behavior and attitudes that are more attractive to their wives. Positive older men may be more charming and flirtatious because their role in sexual expression is often one of initiator, and these

gender-typical marital roles may convert their Positivity into greater sexual frequency within the dyad. In other words, the gendered roles within the marital dyad shape how personality leads to more or less sexual activity - something that our data was particularly useful for discovering, since it includes measures on both husbands' and wives' traits within the same dyad.

Among our mediating variables, several factors emerged as independently important for continuing sexual activity, net of personality characteristics. Satisfaction with the marriage was important for continuing sexual activity, regardless of whether it was the husband's report, or the wife's. Interestingly, while marital conflict as reported by the husband was associated with decreased frequency of sex, martial conflict as reported by the wife was associated with *increased* frequency of sex. Recall that the items that make up this battery include one that asks about 'too many demands' and 'getting on nerves.' It may be that husbands who are making too many demands of their spouse are also demanding sex, and that even if the wife acquiesces to these demands, she still finds the husband's behavior to be burdensome.

Also net of these measures of relationship quality, the importance of sex to each of the partners and the frequency with which each thinks about sex emerged as powerful predictors of frequency of sexual activity. There was one gender difference between men and women, in that husbands who rated sex as 'moderately' important were likely to be having more frequent sex compared to wives who also reported that sex was 'moderately' important to them. However, other than this difference, the importance of sex, and thinking about sex was independently and comparably important for men and women in older couples. Although our study has described older husbands as being more often in the role of initiator, due to gender-based expectations in behavior, this should not be taken to mean that women in older couples are passive or unimportant in determining the frequency of sex. Based on these findings, even if a husband has

a low sex drive compared to his wife, our results suggest that this couple will have sex more frequently than a couple where both partners have subdued sex drives.

Several findings among the controls also deserve interpretation, including other personality variables in this study. Older couples were less likely to be having frequent sex if the husband was more Agreeable. Interpreting this finding net of Positivity is difficult, since Agreeableness typically comprises an altruistic and beneficent orientation towards others (see the adjectives that make up this item in the CFA). Removing the socially-positive component may leave behind an acquiescence factor, meaning husbands may be more likely to reduce their demands for sex. Extraversion net of Positivity may reduce frequency of sex for different reasons, namely that without Positivity Extraversion becomes a 'surgency' factor, proxying energy and vitality, but without necessarily expressing that energy in a way that is pleasant for their partner. In line with this interpretation, previous work using the Positivity factor showed that net of Positivity, Extraversion was associated with more marital conflict (Iveniuk, et al., 2014).

Turning now to health, surprisingly few health factors were associated with differences in frequency of sex. Among these, erectile dysfunction showed the strongest negative association with frequency of sex. Lubrication problems did not have any association with frequency of sex, and in line with previous studies, it would appear that husbands' inability to have an erection is a challenging problem for continuing sexual activity (Laumann & Waite, 2008; Lindau, et al., 2007). Lubrication problems may be more easily addressed with artificial lubricants, whereas erectile dysfunction typically requires pharmacological interventions. Among the other health factors, only the husband's comorbidity burden was associated with differences in frequency of sex, and this association was reduced to non-significance by the addition of controls. Therefore

while the husband's health may be important for continuing sexual activity, for individuals who think about sex more frequently and see it as very important, sexual expression of some kind may continue. Note that our outcome does not necessarily mean 'intercourse,' and so even for individuals with serious health problems, there may be opportunities for different kinds of sexual activity.

Conclusions

The analyses in this paper bring together dyadic data on older couples, examining the gender specific contributions of personality to continuing sexual activity in late life. We hope that the findings in this paper will spur researchers on in future studies to investigate the dyadic properties of older couples, including sexual frequency. Marriage is a key component of overall quality of life in older adults, and the strength of one's relationship with one's spouse is consequential for numerous outcomes. Focusing on the dyad helps to draw attention to the social and relational properties of the marriage, in addition to those individuals who compose it.

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Figure 1. Conceptual model of positive personality traits and frequency of sex at older ages

Individual facet

Sex drive
(thinking about sex)

Importance of sex

Positivity

Gender

Frequency
of sex

Relationship
satisfaction

Caring touch
between partners
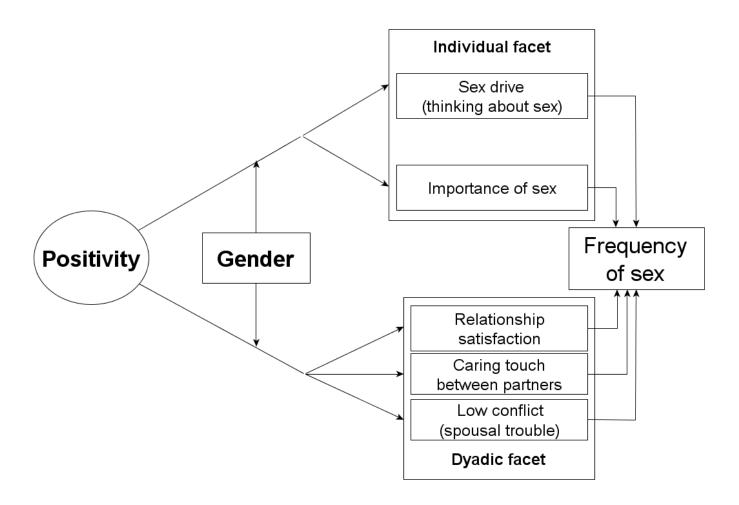
Low conflict
(spousal trouble)

Dyadic facet

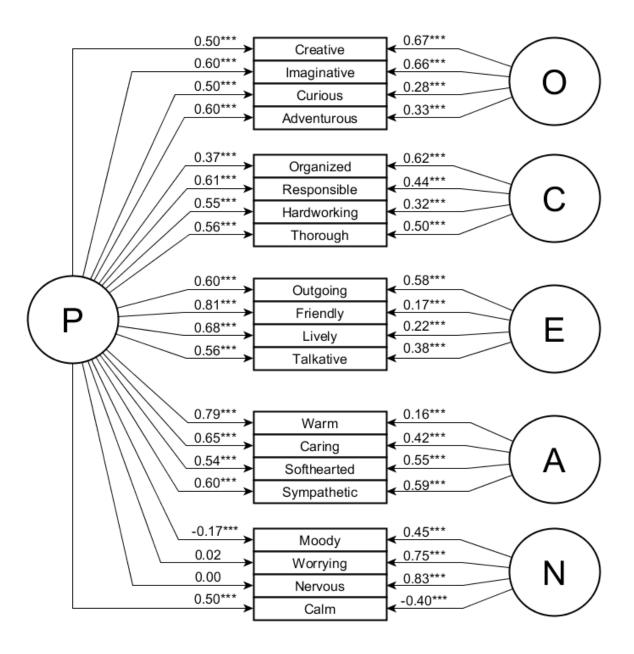**Figure 2.** Positivity in a Confirmatory Factor Analysis of the Big Five

Table 1 Sample characteristics; means and standard deviations, frequencies and percents (N=955 couples)

Individual Characteristics

	Husbands Mean (SD) / Num. (%)	Gender Difference	Wives Mean (SD) / Num. (%)	Within-Couple Correlation
Personality *(range -4.0 to 2.4)*				
Positivity	-0.20 (0.88)	§§§	0.15 (0.79)	.09**
Openness	0.09 (0.75)	§§	-0.04 (0.77)	.06
Conscientiousness	-0.03 (0.70)	§	0.03 (0.82)	-.01
Extraversion	-0.02 (0.63)	§	0.05 (0.63)	.04
Agreeableness	-0.19 (0.66)	§§§	0.12 (0.58)	.07*
Neuroticism	-0.08 (0.85)	§§§	0.20 (0.79)	.07*
Comorbidities	2.64 (2.18)	§§§	2.30 (1.87)	.11**
(range 0 to 12)				
ADL difficulties	193 (20.6%)		181 (19.3%)	.23***
(range 0 to 1)				
Depressive symptoms	135 (14.1%)	§§§	198 (20.9%)	.27***
(range 0 or 1)				
Anxiety symptoms	177 (22.4%)	§	205 (26.3%)	.24***
(0 or 1)				
Erectile dysfunction	376 (45.4%)	N/A	N/A	N/A
(range 0 or 1)				
Difficulties with lubrication	N/A	N/A	276 (34.6%)	N/A
(range 0 or 1)				
Age	72.28 (7.35)	§§§	68.80 (8.05)	.70***
(range 36 to 99)				
Spousal satisfaction	4.12 (.89)	§§§	3.79 (.98)	.38***
(range 1 to 5)				
Spousal trouble	2.33 (0.65)	§§	2.26 (0.67)	.30***
(range 1 to 3)				
Daily caring touch	453 (55.1%)		468 (57.8%)	.57***
(range 0 or1)				
Importance of sex *(range 1 to 3)*		§§§		.37***
Somewhat to not at all (1)	316 (38.0%)		441 (53.9%)	
Moderately (2)	231 (27.8%)		215 (26.3%)	
Very/Extremely (3)	285 (34.3%)		162 (19.8%)	
How often thinks about sex *(range 1 to 3)*		§§§		.31***
Less than once a month (1)	144 (15.9%)		370 (40.7%)	
Once or a few times a month (2)	250 (27.5%)		297 (32.7%)	

Once a week or more	(3)	514 (56.6%)	241 (26.5%)

Couple Characteristics

		Mean (SD) / Num (%)
Frequency of sex *(range 1 to 5)*		
None at all	(1)	339 (37.3%)
Between none and 2,3 times a month	(2)	86 (9.46%)
2,3 times a month	(3)	273 (30.0%)
Between 2,3 times a month and once a week	(4)	110 (12.1%)
Once a week or more	(5)	101 (11.1%)
At least one Hispanic		135 (14.1%)
(range 0 or 1)		
At least one non-Hispanic black		109 (11.4%)
(range 0 or 1)		
At least one BA or more		355 (37.1%)
(range 0 or 1)		
Years living together		39.1 (15.79)
(range 1 to 71)		

* p < .05; ** p < .01; *** p < .001
Gender Difference (two-tailed t-test): § p < .05; §§ p < .01; §§§ p < .001
Note: Spearman correlation if ordinal; tetrachoric correlation if dichotomous; Pearson correlation if continuous. Mean and standard deviation given if variable is continuous, number and percent if dichotomous or ordinal.

Table 2 Ordinal probit regressions predicting frequency of sex, using husbands' and wives' self-reported characteristics (n=940)

	Model 1			Model 2		
	Individual characteristics			*Individual characteristics*		
	Husbands' self-reports		*Wives' self-reports*	*Husbands' self-reports*		*Wives' self-reports*
Personality						
Positivity	0.31***	§	0.05	0.12		-0.06
Openness	-0.06		-0.04	-0.07		-0.11
Conscientiousness	-0.06		0.04	-0.12		0.14
Extraversion	-0.19*		-0.17*	-0.26**		-0.15
Agreeableness	-0.23**		-0.09	-0.25**		-0.12
Neuroticism	0.00		0.03	0.03		0.06
Comorbidities	-0.15*		-0.03	-0.09		-0.03
ADL problems	-0.34		-0.18	-0.37		-0.15
Depressive symptoms	-0.31		-0.06	-0.40		-0.21
Anxiety symptoms	-0.25		-0.13	0.01		-0.07
Erectile dysfunction	-0.69**			-0.56*		
Lubrication difficulties			0.33			0.38
Age	-0.35***		-0.31**	-0.21*		-0.14
Spousal satisfaction				0.26**		0.30**
Spousal trouble				-0.17*	§§	0.20*
Daily caring touch				-0.05		0.30
Importance of sex						
Somewhat, not at all (ref.)						
Moderately				1.14***	§	0.41*
Very/Extremely				1.16***		1.01***
How often thinks about sex						
< once a month (ref.)						
Once, few times a month				1.10***		0.97***
≥ once a week				1.37***		1.36***
	Couple characteristics			*Couple characteristics*		
Hispanic	0.50*			1.05***		
Black, non-Hispanic	-0.11			0.41		
BA or more	0.14			-0.12		
Years living together	-0.09			-0.01		

Intercepts		
Threshold 1	-0.97***	1.95***
Threshold 2	-0.48*	2.67***
Threshold 3	1.15***	4.97***
Threshold 4	2.15***	6.23***

* p < .05; ** p < .01; *** p < .001; § husbands' and wives' coefficients different at p < .05, §§ husbands' and wives' coefficients different at p < .01

Note: All continuous coefficients standardized to facilitate comparisons of association size (age, traits).

Table 3 Mediators of the association between husbands' Positivity and frequency of sex in older couples.

	Husbands' mediating characteristics		Wives' mediating characteristics	
	Direct Effect of Husbands' Positivity	*Indirect Effect of Husbands' Positivity*	*Direct Effect of Husbands' Positivity*	*Indirect Effect of Husbands' Positivity*
Mediating variable:				
Spousal satisfaction	0.12**	0.04**	0.13**	0.03**
Spousal trouble	0.15***	0.01*	0.15***	0.01
Daily caring touch	0.11**	0.05**	0.13**	0.03*
Importance of sex	0.05	0.11***	0.09*	0.07**
How often thinks about sex	0.12**	0.04	0.11**	0.05*

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

Note: Direct and indirect effects always sum to a total effect of 0.16, significant at p<.001.Mediation analyses decompose this total effect into direct and indirect effects. Thus each pair of direct and indirect effects sums to 0.16.