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**Sexual satisfaction among older Australian heterosexual men and women: Findings  
from the Sex, Age & Me study**

Wendy Heywood <sup>1</sup>

Anthony Lyons <sup>1</sup>

Bianca Fileborn <sup>2</sup>

Sharron Hinchliff <sup>3</sup>

Victor Minichiello <sup>1, 4, 5</sup>

Sue Malta <sup>6, 7, 8</sup>

Catherine Barrett <sup>9</sup>

Briony Dow <sup>6, 7</sup>

<sup>1</sup> Australian Research Centre in Sex, Health and Society; School of Psychology and Public Health; La Trobe University

<sup>2</sup> School of Social Sciences, UNSW

<sup>3</sup> School of Nursing and Midwifery; University of Sheffield

<sup>4</sup> School of Medicine and Public Health; University of Newcastle

<sup>5</sup> School of Justice; Faculty of Law; Queensland University of Technology

<sup>6</sup> National Ageing Research Institute

<sup>7</sup> School of Population and Global Health, University of Melbourne

<sup>8</sup> Faculty of Health, Arts & Design; Swinburne University of Technology

<sup>9</sup> The OPAL Institute

Correspondence:

Dr Wendy Heywood

Australian Research Centre in Sex, Health and Society

School of Psychology and Public Health

La Trobe University

215 Franklin Street, Melbourne, Victoria, 3000, Australia

Phone: +61 3 9478 8747

Email: w.heywood@latrobe.edu.au

## Abstract

This study explored sexual satisfaction in older heterosexual Australians using data from a national sample of 1,583 men and women aged 60+ who hoped or planned to have sex in the future. Data collection took place in 2015; participants were recruited using a variety of online and offline advertisements. Less than half the sample (46%) reported they were very or extremely satisfied with their sexual lives. Those who had sex more often and were more interested in sex were more likely to be satisfied, while those who wanted sex more often in the future were less likely to be satisfied, as were men who had experienced sexual difficulties. Sexual satisfaction was also associated with life satisfaction in men and positive mental health in women. Factors associated with satisfaction in this study will help guide strategies to support older people realise the sexual lives they desire or aspire to.

Sexual satisfaction among older Australian heterosexual men and women: findings from the  
Sex, Age & Me study

Sexual activity is reported to be a positive factor in the lives of many older people (Beckman, Waern, Gustafson, & Skoog, 2008), and has been found to be associated with a variety of psychological and physical health outcomes (DeLamater, 2012; Field et al., 2013; Lindau & Gavrilova, 2010; Lindau et al., 2007).. Studies have consistently shown that many people continue to have sex well into older age and suggest that the current generation of 70 year olds may be more sexually active than previous generations (Beckman et al., 2008). Sexual pleasure and satisfaction are important components of sexual health (World Health Organization, 2006). Yet despite this, the sexual health and well-being needs of older people are often ignored in discussions of health and ageing, sexual health policy and in interactions between healthcare providers and their older patients. Research is therefore needed to guide support for older people who wish to maintain a satisfying sex life.

Studies have consistently found that sexual activity plays an important role in the lives of many older people. For example, the National Social Life, Health and Aging Project surveyed a population-based sample of 3,005 men and women aged 57-85 years in the United States during 2005 and 2006. It found that 84% of men and 62% of women aged 57-64 years reported sexual intercourse in the preceding 12 months, as did 39% of men and 17% of women aged 75-85 years. Moreover, of the 75-85 year olds who were partnered, 47% of men and 42% of women were sexually active (Lindau et al., 2007; Waite, Laumann, Das, & Schumm, 2009). More recently, the third National Survey of Sexual Attitudes and Lifestyles (Natsal-3, conducted 2010-2012) a population-based study in Britain, found that 56% of men and 43% of women aged 55-64 and 40% of men and 23% of women aged 65-74 had been

sexually active at least once in the previous four weeks (defined as vaginal, oral, or anal sex with an opposite sex partner or genital contact with a same sex partner) (Field et al., 2013).

Similar trends have been reported in Australia. Analysis of the Australian subsample of the Global Study of Sexual Attitudes and Behaviours, conducted in 2001 and 2002, found 83% of men and 74% of women aged 40-80 years reported having sexual intercourse in the past year (defined as penile-vaginal/anal intercourse, oral contact with nipples/breasts/genitals or touching genitals) (Moreira Jr et al., 2008). This study, however, had a response rate of only 16.9%. In a sample of older community-dwelling men living in Perth, Western Australia (aged 75 to 96, conducted 2008 to 2009) 31% of participants reported a sexual encounter in the past year (defined as sexual contact regardless of whether orgasm or intercourse occurred; and included both male and female partners); and 49% of participants reported that sex was at least somewhat important in their lives (Hyde et al., 2010). An earlier study also found that many older Australians believed sexual activity was a lifelong need and it could have psychological and physical benefits (Minichiello, Plummer, & Loxton, 2000). Such studies provide insight into the sexual lives of older people; however, to the best of our knowledge, no large-scale Australia-wide study of sexual activity of men and women aged 60 and older has been conducted.

With some exceptions, quantitative studies of sexuality in older age have tended to focus on documenting declines in sexual activity, the sexual difficulties encountered by older people, and the effects of (poor) health on sexual activity (for example see Hyde et al., 2012; Laumann et al., 2005; Lindau & Gavrilova, 2010; Nicolosi et al., 2004). Less is known about sexual satisfaction in older populations. Sexual satisfaction is commonly defined as ‘an affective response arising from one’s subjective evaluations of the positive and negative dimensions associated with one’s sexual relationship’ (Lawrance & Byers, 1995, p. 268).

Having knowledge about sexual satisfaction in older populations is important to academics, clinicians and service providers because sexual satisfaction has been linked to a variety of health and other benefits among older people, such as psychological well-being (Addis et al., 2006; Davison, Bell, LaChina, Holden, & Davis, 2009) and relationship stability and longevity (Karney & Bradbury, 1995; Sprecher & Cate, 2004; Yeh, Lorenz, Wickrama, Conger, & Elder Jr, 2006). Whether sexual satisfaction decreases in older age is currently contested (del Mar Sánchez-Fuentes, Santos-Iglesias, & Sierra, 2014; Træen et al., 2017). Research in Sweden, for instance, found more recent cohorts of 70 year olds (2000-1) were more sexually satisfied than previous cohorts (1971-2) (Beckman et al., 2008). However, some studies conducted in midlife and older populations have found gender differences in that older women are less satisfied than older men (Carpenter, Nathanson, & Kim, 2009; Laumann et al., 2006; Syme, Klonoff, Macera, & Brodine, 2013), while others have found no differences (del Mar Sánchez-Fuentes et al., 2014). Analysis of a study of men aged 40 to 70 years and their long-term female partners in Brazil, Germany, Japan, Spain and the United States found sexual satisfaction was higher among men at earlier stages of a relationship but higher among women in relationships of 30 or more years (Heiman et al., 2011).

Factors associated with sexual satisfaction may vary between men and women. For example, a US study of 1,035 heterosexual adults aged 40-59 years found satisfaction (physical pleasure and emotional satisfaction) was more closely and consistently related to frequency and duration of sexual encounters for women, but was related to relational factors for men (Carpenter et al., 2009).

Despite evidence that sexual relationships and sexual experiences continue throughout later life for some people, the sexual health and well-being needs of older men and women have largely been ignored within policy and clinical practice. For example, a review of Australian

sexual health policy conducted in 2013 found no policies specifically related to midlife and older adult sexual health. Policies tended to focus on [STI risk and](#) reproductive health, and primarily among those aged 30 years and younger (Kirkman, Kenny, & Fox, 2013), and ignored other aspects of sexual health, including sexual relationships. The authors noted there is a similar lack of policy within the UK, USA, and Canada. A review of studies examining help-seeking for sexual concerns also found healthcare professionals tended to be reluctant to talk to their patients about sexual health-related matters, while many older people also reported not seeking help for such matters (Fileborn, Lyons, et al., 2017; Gott, Hinchliff, & Galena, 2004; Hinchliff & Gott, 2011).

Further research, particularly focusing on sexual satisfaction, is needed to inform the development of policies, programs and resources to support and improve the sexual health and lives of older people. The findings from our survey on the sexual lives of Australian men and women aged 60 years and older will go some way to address this gap. In this article, we present data on sexual satisfaction among heterosexual participants who reported they hoped or planned to have sex in the future. Specifically, we had two main aims for this paper: 1) to provide an overview of satisfaction in a national sample of older heterosexual Australian men and women, and 2) to identify demographic and psychosexual factors associated with sexual satisfaction. This second aim was assessed separately for men and women to further determine the degree to which demographic and psychosexual factors associated with sexual satisfaction were the same or different between these two groups.

## **Method**

### **Participants**

A total of 2,137 Australian men and women aged 60 years and older completed a cross-sectional survey of sex, relationships, and sexual health between July and December 2015.

## **Procedure**

A detailed description of the study's methodology and the sample characteristics is provided elsewhere (Lyons et al., 2017). Briefly, the survey was available both online and as a paper questionnaire. A wide range of recruitment advertising was used both online and offline, including media interviews, websites and newsletters of ageing organisations, advertisements at sexual health clinics, local government councils, senior citizens and services clubs, and targeted advertising on Facebook. All advertisements stated that anyone aged 60 years or older and currently living in Australia was invited to participate in the study and contained a hyperlink to the online survey. The advertisements also gave potential participants the option of telephoning or emailing the research team to request a reply-paid paper version of the survey to be sent out to them. Paper questionnaires, along with reply-paid envelopes, were also placed at physical sites for people to collect (such as national conferences targeting older people, a senior's festival, and libraries). Upon starting the survey, participants were made aware their survey responses were anonymous. There were no rewards or incentives offered for participating in the study. The La Trobe University Human Ethics Committee granted ethical approval to the study.

## **Measures**

The survey included the following items:

**Sexual satisfaction.** Participants were asked how satisfying their sexual life had been over the past 12 months. Response options were 'not at all satisfying', 'somewhat satisfying', 'very satisfying', and 'extremely satisfying'. In this study, 'sex' and 'sexual satisfaction' were self-defined.



**Psychosexual measures.** As part of the survey, participants were asked a variety of questions about their sexual interests and experiences, such as if they hoped or planned to have sex in the future, their current interest in sex (response options ranged from ‘not at all interested’ to ‘extremely interested’) and their ideal frequency of sex in the future (response options ‘more frequently in the future’, ‘less frequently in the future’ or ‘about the same frequency as today’). Participants also reported how often they had sex in the past four weeks (for this question sex was defined as any contact the participant felt was sexual, not just intercourse). In some cases, categories were combined for statistical purposes.

A series of questions were next used to assess sexual difficulties. These measures were adapted from previous research (Richters, Grulich, Visser, Smith, & Rissel, 2003).

Participants were asked to report if they experienced any of the following: took too long to orgasm, unable to orgasm, orgasmed too quickly, trouble with vaginal dryness/trouble with keeping an erection, did not find sex pleasurable, felt anxious about ability to perform sexually, and/or experienced physical pain during intercourse. For this study, participants who answered ‘yes’ to one or more of these sexual difficulties were categorised as having a sexual difficulty.

**Health measures.** Two mental health and well-being measures were assessed: positive mental health and life satisfaction. Positive mental health was measured using the Warwick Edinburgh Mental Wellbeing scale (WEMWBS) (Tennant et al., 2007). The WEMWBS is a 14-item scale that measures both functioning and feeling aspects of mental well-being over the previous two weeks. Each of the items (for example, ‘I’ve been feeling optimistic about the future’) was assessed using a five-point scale with response options ranging from 1 “none of the time” to 5 “all of the time”. Item scores were summed (ranging from 14 to 70) with higher scores indicating greater experiences of positive mental health. The internal consistency reliability for the WEMWBS in this sample was 0.94.

Global satisfaction with life was measured using the Satisfaction with Life scale (Diener, Emmons, Larsen, & Griffin, 1985). Participants used a seven-point scale ranging from 1 ‘strongly disagree’ to 7 ‘strongly agree’ to rate their agreement with five items (for example ‘In most ways my life is close to ideal’). Item scores were summed (ranging from 5 to 35) with higher scores indicating greater life satisfaction. The internal consistency reliability for the Satisfaction with Life scale in this sample was 0.90.

Participants also provided a self-rated assessment of their general health (‘In general, would you say your health is:’ response options ‘Excellent’, ‘Very good’, ‘Good’, ‘Fair’, or ‘Poor’?).

**Demographic measures.** Participants reported their age, employment status, pre-tax annual household income (in Australian dollars), country of birth, residential location (inner city, suburban, rural/regional), and relationship status (married, single, widowed, in a relationship and living together, in a relationship but not living together, other). Participants who reported having a regular partner were also asked how long they had been in this relationship (‘If in a relationship, how long have you been in this relationship?’). Relationship status and length of relationship were combined to create one variable (coded ‘married, relationship more than 10 years’, ‘married, relationship less than 10 years’, ‘in a relationship but not married, relationship more than 10 years’, ‘in a relationship but not married, relationship less than 10 years’, ‘single’, ‘widow’, ‘other’). Participants were also asked about their gender identity (response options included ‘man’, ‘woman’, ‘transgender – identify as man’, ‘transgender – identify as woman’, ‘my preferred gender identity is not listed here’) and sexual orientation (response options included ‘heterosexual’, ‘lesbian’, ‘gay’, ‘bisexual’, ‘queer’, ‘pansexual’ and ‘my preferred sexual orientation is not listed here’).

### **Statistical analysis**

Descriptive statistics, including numbers and percentages, were computed for all variables. Correlates of sexual satisfaction were then assessed using logistic regression models, conducted separately for men and women. For these models, the relationships between each factor and sexual satisfaction were first examined in separate univariable models. Factors associated with sexual satisfaction at  $p < 0.25$  (Hosmer Jr, Lemeshow, & Sturdivant, 2013) were entered into a multivariable regression model to examine the effect of each variable after adjusting for differences in the other factors. Estimated effects are reported as odds ratios (OR) with 95% confidence intervals (CI). Wald tests were used to examine the overall effect of each variable. Listwise deletion was used where there were missing data. All associations were treated as statistically significant at  $p < 0.05$  and all analyses were conducted using Stata Version 14.0 (StataCorp, College Station, TX).

## **Results**

### **Sample characteristics**

The survey was completed by 2,137 Australians aged 60 years and older. Participants who were transgender, did not report their gender or stated their preferred gender identity was not listed in the questionnaire were excluded from the analyses for this paper due to small numbers ( $n=18$ ). For the purposes of this paper, participants who reported sexual orientations other than heterosexual ( $n=192$ ) were also excluded. We decided to focus solely on heterosexual participants to make our findings comparable with previous studies (Carpenter et al., 2009; Heiman et al., 2011). Participants who had never had sex ( $n=7$ ), reported that they did not hope or plan to have sex in the future or were unsure ( $n=326$ ) or did not answer the sexual satisfaction question ( $n=11$ ) were also excluded. We decided to exclude those who did not hope or plan to have sex in the future, as implications from this article could be potentially less relevant to these participants.

Table 1 displays demographic data for the 1,583 heterosexual men and women who hoped or planned to have sex in the future. The majority of participants were in their 60s (77%), lived in suburban (45%) or rural (41%) locations and were born in Australia (67%). Fifty-nine per cent of male participants and 44% of female participants were currently married, while 24% of participants were in a relationship but were not married.

More than three-quarters of men and women (79%) reported their sexual lives were at least 'somewhat satisfying' in the past 12 months, including 46% of men and 44% of women who reported their sexual lives were 'very' or 'extremely' satisfying. There were no significant gender differences in the prevalence of sexual satisfaction in this sample [ $\chi^2$  (3, n=1,583) = 2.01,  $p = 0.571$ ].

### **Demographic and psychosexual associations with sexual satisfaction**

Next, we examined demographic and psychosexual associations of having a satisfying sexual life over the past 12 months, separately for men and women. For these analyses, those who reported 'very' or 'extremely satisfying' sexual lives were coded as being satisfied while those who said they were 'not at all' satisfied or had 'somewhat satisfying' sexual lives were coded as not being satisfied in the past 12 months. We also conducted a multinomial regression analysis comparing 'not at all satisfied' to 'somewhat satisfied' and 'very or extremely satisfied'. These analyses did not yield any meaningful differences between 'not at all satisfied' and 'somewhat satisfied' and created issues with low cell sizes so we decided to present the findings from very or extremely satisfied compared with not at all or somewhat satisfied.

Table 2 shows the correlates of sexual satisfaction for older men. In univariable analyses, factors associated with sexual satisfaction for men included relationship status, self-rated health, positive mental health, life satisfaction, frequency of sex in the past four weeks,

sexual interest, ideal frequency of sex in the future, and the experience of at least one sexual difficulty. After adjusting for other variables associated with satisfaction at  $p < 0.25$  in a multivariable regression, the factors independently associated with sexual satisfaction were life satisfaction, frequency of sex in the past four weeks, sexual interest, ideal frequency of sex in the future and having at least one sexual difficulty. Relationship status, self-rated health, and positive mental health were no longer independently associated with sexual satisfaction over the past 12 months. Specifically, greater life satisfaction (OR 1.07, 95% CI 1.03-1.11) and being very or extremely interested in sex (OR 3.34, 95% CI 1.95-5.73) were associated with higher odds of sexual satisfaction. Higher frequencies of sex in the past four weeks were also associated with higher odds of satisfaction (6+ times vs. 3-5 times, OR 2.67, 95% CI 1.79-3.98), while men who had not had sex in the past four weeks (OR 0.12 95% CI 0.06-0.23) or had only had sex once (OR 0.31, 95% CI 0.15-0.64) were less likely to be satisfied. Men who reported wanting sex more frequently in the future were less likely to be satisfied (OR 0.15, 95% CI 0.10-0.22), as were men who experienced at least one sexual difficulty (OR 0.69, 95% CI 0.48-0.97).

Correlates of sexual satisfaction for women are shown in Table 3. Before adjustments, factors associated with sexual satisfaction for women included relationship status, self-rated health, positive mental health, life satisfaction, frequency of sex in the past four weeks, sexual interest, ideal frequency of sex in the future, and experience of at least one sexual difficulty. After adjustments, the factors associated with sexual satisfaction for women were positive mental health, frequency of sex in the past four weeks, sexual interest, and ideal frequency of sex in the future. Relationship status, self-rated health, life satisfaction, and the experience of sexual difficulties were no longer independently associated with sexual satisfaction. Specifically, women with greater levels of positive mental health had higher odds of being sexually satisfied (OR 1.06, 95% CI 1.01-1.11), as did women who were very or extremely

interested in sex (OR 13.16, 95% CI 6.27-27.61). Similar to men, those who had not had sex in the past four weeks reported lower odds of being satisfied (OR 0.20, 95% CI 0.08-0.50) as did those who ideally wanted sex more frequently in the future (OR 0.17, 95% CI 0.08-0.33).

## Discussion

These findings add to a growing body of literature that reports on the sexual lives of older heterosexual men and women. To the best of our knowledge, no other studies have been conducted to examine sexual satisfaction in a large sample of older Australians. In addition to the previously mentioned health and relationship benefits of sexual satisfaction, a better understanding of satisfaction among older Australians is needed to help inform programs and policies that take a broader and more positive approach to sexuality and sexual health in later life instead of solely focusing on sexual difficulties and declining levels of sexual activity.

Less than half the participants in this sample who hoped or planned to have sex in the future were satisfied with their sexual lives over the past 12 months. Men and women reported similar levels of sexual satisfaction (46% vs. 44%). Previous studies examining gender differences in sexual satisfaction reported mixed findings. While a number of studies found men to be more satisfied than women (Carpenter et al., 2009; Laumann et al., 2006; Syme et al., 2013), a systematic review of sexual satisfaction found those reporting no differences were more common (del Mar Sánchez-Fuentes et al., 2014). Early research on sexual satisfaction suggested the wording of the question might affect the findings, with men rating satisfaction higher if the item included physical aspects and women rating satisfaction higher if it included relational or interpersonal aspects (del Mar Sánchez-Fuentes et al., 2014; Lawrence & Byers, 1995). However, our measure of sexual satisfaction was worded broadly and therefore defined by participants themselves, so we do not know what criteria

participants drew on in their understandings of satisfaction. Previous Australian qualitative research found both older men and women have a variety of understandings and experiences of satisfaction, pleasure and desire (Fileborn, Hinchliff, et al., 2017; Fileborn et al., 2015). In any case, a significant proportion of participants in our sample reported being satisfied with their sex lives but both men and women also indicated there was much room for improvement. A need therefore exists for healthcare providers to have information about factors linked to sexual satisfaction to help guide support strategies aimed at older people wishing to maintain a satisfying sex life.

Our study found satisfaction to be closely linked to a number of psychosexual and mental health indicators and, in some cases, these factors were different for men and women. Among older men and women, sexual satisfaction was associated with frequency of sex, sexual interest, and ideal frequency of sex in the future. Satisfaction was higher with greater frequency of sex in the past four weeks and greater current interest in sex. These associations persisted even after adjustments for self-rated general physical and mental health, and replicate those reported in previous studies of the general population as well as older populations (Badcock et al., 2014; del Mar Sánchez-Fuentes et al., 2014; DeLamater, Hyde, & Fong, 2008; Field et al., 2013; Kim & Jeon, 2013; Thomas, Hess, & Thurston, 2015). It is perhaps not surprising that those who were more interested in sex and had sex more often were more satisfied, although it could equally be that those who had satisfying sexual lives were more interested in sex or motivated to have sex more often. Either way, sexual satisfaction appears to be greater among older men and women who have a more active and engaged sexual life.

Those who ideally wanted sex more frequently in the future were, however, less likely to be satisfied with their sexual lives. There are many reasons why older men and women may not be having sex as often as they would ideally like. Qualitative interviews with older Australian

women found factors such as life stage, attitudes and behaviours of partners, as well as health, well-being and medications all influenced their desire for and experiences of sex (Fileborn et al., 2015). Healthcare providers should therefore be aware that some older men and women would like to have sex more often in the future, and should tailor their support appropriately. The support provided, however, must be nuanced and not create the normative expectation that sex should occur in later life, as there are also older Australians (not included in this analysis) who do not wish to have sex in the future. Additionally, it is imperative for healthcare providers and older individuals to be attentive to the need for partnered sexual encounters to be consensual, wanted, and pleasurable for all parties involved.

One factor that was differentially associated with sexual satisfaction for men and women was the experience of sexual difficulties. Those who experienced sexual difficulties were less likely to be sexually satisfied. This relationship, however, was attenuated and non-significant among women when other factors were taken into account. One reason for this might be that those who reported higher levels of interest in sex perhaps sought ways of overcoming any sexual difficulties they were encountering. For example, women who experience vaginal dryness (the most common difficulty in this sample) might use lubricants or incorporate different sexual practices into their sexual encounters. Our findings therefore suggest that the experience of sexual difficulties may not always preclude the experience of a satisfying sexual life in later life, particularly for women. For men, however, the experience of sexual difficulties was associated with lower levels of sexual satisfaction. It may be that these men found it harder to adjust to their limitations. For example, there is often a strong focus on erectile function and some men may find it challenging to engage in sex with these difficulties. This is likely related to the different ways men define and understand sex (Fileborn, Hinchliff, et al., 2017). It might therefore be important for healthcare providers to talk to their older patients, both men and women, to see if they are experiencing any sexual



difficulties and discuss options for those who are interested in overcoming these difficulties. It is important to note, however, that the experience of sexual difficulties may not always be associated with distress (Howard, O'Neill, & Travers, 2006) or the desire for treatment, so healthcare providers need to also take this into account. Future research may wish to examine distress-associated sexual difficulties and whether this factor influences sexual satisfaction.

Sexual satisfaction has previously been associated with a variety of mental health outcomes. We therefore decided to explore these associations in our sample of older heterosexual Australian men and women. We examined positive mental health and life satisfaction. The WEMWBS specifically taps into the likelihood of flourishing, or experiencing high levels of well-being. Life satisfaction is a broader evaluation about the degree to which elements of one's life reaches personal expectations. Interestingly, for women, sexual satisfaction was linked to flourishing, or having a sense of thriving. This, however, was not the case for men. Rather, for men, greater sexual satisfaction was significantly associated with greater life satisfaction. It may be that a satisfying sex life simply has a more direct impact on women's well-being, perhaps if this is also linked to a greater sense of social support, social embeddedness or stronger relationship (Diener, Ng, Harter, & Arora, 2010; Siedlecki, Salthouse, Oishi, & Jeswani, 2014). For men, however, a satisfying sex life may be tied more strongly to their sense of what is important in life, and therefore life satisfaction. In any case, these are possible explanations and future research is needed to examine the mechanisms linking these well-being factors and sexual satisfaction. Additionally, the cross-sectional nature of our study means we cannot know for certain the direction of causality underlying the links between these variables (for example, whether increases in life satisfaction lead to greater sexual satisfaction or vice versa). Thus, longitudinal research is required which tracks changes in sexual satisfaction over time in relation to positive mental health and life satisfaction.

Interestingly, self-rated general health was not significantly associated with sexual satisfaction for either men or women in the multivariable models. While health generally maybe linked to other factors, such as mental health, sexual difficulties, and sexual frequency, our findings suggest these and other factors included in the analyses are more directly linked to sexual satisfaction. While improving overall health may potentially help improve sexual satisfaction (del Mar Sánchez-Fuentes et al., 2014; Scott, Sandberg, Harper, & Miller, 2012), focusing on specific issues such as sexual frequency or sexual difficulties (especially among men) may be more critical when supporting older people to attain sexual satisfaction. It is important to remember, however, that we measured self-rated health and did not use an objective health indicator.

The findings presented in this paper should be interpreted in light of several strengths and limitations. A strength is that this is one of the largest community-based studies to focus exclusively on the sexual health of older Australians. Our sample, however, was not population-based. Previous analysis of the sample has revealed we oversampled those currently aged in their 60s and those with higher levels of education (Lyons et al., 2017) and a relatively high proportion of participants were born overseas, It is also possible that those who were more interested in sex may have been more likely to participate in the study. This may also partly explain the lack of gender difference in reports of sexual satisfaction. Caution is therefore required when interpreting overall rates of sexual satisfaction in this sample, as it may not be generalisable to the wider population of heterosexual older people. The analyses for sexual satisfaction were also restricted to heterosexual participants who hoped or planned to have sex in the future; it does not give any insight into sexual satisfaction among those who do not wish to have sex in the future or those who did not identify as heterosexual. Future research is needed to explore sexual satisfaction in older non-heterosexual populations, as well as satisfaction and intimacy among those who are no longer sexually

active. Another potential limitation is the use of a single item measure of sexual satisfaction. Sprecher and Cate (2004), however, suggest one-item measures of sexual satisfaction can be appropriate if these are measuring feelings or evaluations about the quality of a sexual relationship. A recent investigation of the psychometric properties of a single item measure versus three sexual satisfaction scales also found the single item measure had good convergent validity (Mark, Herbenick, Fortenberry, Sanders, & Reece, 2014). While further research is needed, the findings presented in this paper go some way to address the gap in knowledge about sexual satisfaction as related to older age, gender, and factors such as sexual difficulties.

Currently, there is little mention of sexual health in healthy ageing policies and programs, and there are no sexual health policies relating to older people in Australia and in other countries such as the United States and United Kingdom (Kirkman, Fox, & Dickson-Swift, 2016; Kirkman et al., 2013). Healthcare providers have also reported being reluctant to discuss sexual health with their older patients (Gott et al., 2004; Hinchliff & Gott, 2011). It will be important for initiatives aimed at improving the sexual health and well-being of older people who want to or are able to have sex to consider various factors associated with sexual satisfaction. Our study found sexual satisfaction in older men and women was linked to a variety of psychosexual and mental health factors. Those who had sex more frequently or who were more interested in sex tended to be more satisfied, while gender differences existed in how satisfaction was associated with sexual difficulties and positive mental health outcomes.

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Table 1. Participant characteristics (n=1,583)

Characteristic	Men	Women
	n (%)	n (%)
	<u>n= 1,127</u>	<u>n= 463</u>
Age		
60-69	850 (75.5)	373 (81.8)
70+	276 (24.5)	83 (18.2)
missing	<u>1 (0.1)</u>	<u>0 (0)</u>
Employed		
Yes	466 (41.5)	172 (38.1)
No	658 (58.5)	280 (61.9)
missing	<u>3 (0.3)</u>	<u>4 (0.9)</u>
Household income (Australian dollars)		
0-49,999	313 (27.8)	145 (31.8)
50,000+	428 (38.0)	141 (30.9)
Undisclosed	386 (34.3)	170 (37.3)
Country of birth		
Australian	728 (66.2)	310 (69.0)
other	371 (33.8)	139 (40.0)
missing	<u>28 (2.5)</u>	<u>7 (1.5)</u>
Residential location		
Inner city	141 (12.5)	87 (19.2)
Suburban	517 (46.0)	190 (41.9)
Regional/rural	466 (41.5)	176 (38.9)
missing	<u>3 (0.3)</u>	<u>3 (0.7)</u>
Relationship status		
Married, more than 10 years	601 (53.5)	181 (40.2)
Married, less than 10 years	61 (5.4)	16 (3.6)
Relationship, more than 10 years	139 (12.4)	59 (13.1)
Relationship, less than 10 years	112 (10.0)	62 (13.8)
Single	121 (10.8)	74 (16.4)
Widowed	61 (5.4)	43 (9.6)
Other	28 (2.5)	15 (3.3)
missing	<u>4 (0.4)</u>	<u>6 (1.3)</u>
Self-rated health		
Excellent/Very good	606 (54.2)	272 (59.8)
Good	354 (31.7)	123 (27.0)
Fair/Poor	158 (14.1)	60 (13.2)
missing	<u>9 (0.8)</u>	<u>1 (0.2)</u>
Positive mental health (WEMWBS)	Mean (SD)	Mean (SD)
	52.5 (9.0)	54.0 (8.7)
missing	<u>8 (0.7)</u>	<u>3 (0.7)</u>
Life Satisfaction (SWLS)	24.7 (6.9)	25.6 (6.8)
missing	<u>25 (2.2)</u>	<u>13 (2.9)</u>
Frequency of sex in the past 4 weeks		
0	259 (23.0)	128 (28.2)
1 time	83 (7.4)	32 (7.0)
2 times	127 (11.3)	47 (10.4)
3-5 times	301 (26.7)	115 (25.3)

6+ times	356 (31.6)	132 (29.1)
<a href="#">missing</a>	<a href="#">1 (0.1)</a>	<a href="#">2 (0.4)</a>
Sexual interest		
Not at all/somewhat	190 (17.0)	187 (41.6)
Very/extremely	930 (83.0)	263 (58.4)
<a href="#">missing</a>	<a href="#">7 (0.6)</a>	<a href="#">6 (1.3)</a>
Ideal frequency of sex in the future		
More frequently	739 (65.7)	253 (55.5)
Same or less frequently	386 (34.3)	203 (44.5)
<a href="#">missing</a>	<a href="#">2 (0.2)</a>	<a href="#">0 (0)</a>
At least one sexual difficulty		
Yes	741 (66.8)	299 (68.4)
No	368 (33.2)	138 (31.6)
<a href="#">missing</a>	<a href="#">18 (1.6)</a>	<a href="#">19 (4.2)</a>
Sexual satisfaction past 12 months		
Not at all satisfying	237 (21.0)	94 (20.6)
Somewhat satisfying	369 (32.7)	160 (35.1)
Very satisfying	350 (31.1)	127 (27.9)
Extremely satisfying	171 (15.2)	75 (16.4)

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WEMWBS – Warwick-Edinburgh Mental Wellbeing Scale; SWLS – Satisfaction with Life Scale

Table 2 Demographic, health and psychosexual associations of sexual satisfaction for men (n=1,127)

	Satisfied	Unadjusted		Adjusted*	
	% (n)	OR (95% CI)	p value	OR (96% CI)	p value
Age			0.078		0.086
60-69	47.8	1.00		1.00	
70+	41.7	0.78 (0.59-1.03)		0.69 (0.45-1.05)	
Employed			0.039		0.479
Yes	50.0	1.00		1.00	
No	43.7	0.78 (0.61-0.99)		0.88 (0.61-1.26)	
Household income (Australian dollars)			0.182		0.772
0-49,999	42.5	1.00		1.00	
50,000+	49.3	1.32 (0.98-1.76)		0.87 (0.55-1.37)	
Undisclosed	45.9	1.15 (0.85-1.55)		0.86 (0.55-1.34)	
Country of birth			0.296		
Australia	47.5	1.00		-	
Other	44.2	0.87 (0.68-1.12)		-	
Residential location			0.510		
Inner city	50.4	1.00		-	
Suburban	44.9	0.80 (0.55-1.17)		-	
Regional/rural	46.4	0.85 (0.58-1.24)		-	
Relationship status			<0.001		0.212
Married, more than 10 years	45.6	1.00		1.00	
Married less than 10 years	57.4	1.61 (0.94-2.74)		1.42 (0.67-3.02)	
Relationship, more than 10 years	56.8	1.57 (1.08-2.28)		1.18 (0.72-1.94)	
Relationship, less than 10 years	61.6	1.92 (1.27-2.90)		1.49 (0.85-2.62)	
Single	28.1	0.47 (0.30-0.72)		2.49 (1.26-4.94)	
Widowed	32.8	0.58 (0.33-1.02)		1.00 (0.45-2.25)	
Other	35.7	0.66 (0.30-1.46)		1.13 (0.27-4.83)	
Self-rated health			<0.001		0.696
Excellent/Very good	54.1	1.57 (1.20-2.04)		1.05 (0.72-1.53)	
Good	42.9	1.00		1.00	
Fair/Poor	22.8	0.39 (0.26-0.60)		0.81 (0.45-1.47)	
Positive mental health	-	1.08 (1.07-1.10)	<0.001	1.01 (0.99-1.04)	0.363
Life Satisfaction	-	1.12 (1.10-1.15)	<0.001	1.07 (1.03-1.11)	<0.001
Frequency of sex (4 weeks)			<0.001		<0.001
0	6.2	0.06 (0.03-0.10)		0.12 (0.06-0.23)	
1	14.5	0.15 (0.08-0.29)		0.31 (0.15-0.64)	
2	44.9	0.74 (0.49-1.12)		1.10 (0.67-1.81)	
3-5 times	52.5	1.00		1.00	
6+ times	78.1	3.23 (2.30-4.52)		2.67 (1.79-3.98)	
Sexual interest			<0.001		<0.001
Not at all/somewhat	17.9	1.00		1.00	
Very/extremely	52.0	4.98 (3.36-7.37)		3.34 (1.95-5.73)	
Ideal frequency of sex in the future			<0.001		<0.001
More frequently	29.0	0.10 (0.08-0.14)		0.15 (0.10-0.22)	
Same or less frequently	79.5	1.00		1.00	

At least one sexual difficulty			<0.001		<b>0.035</b>
Yes	41.7	0.58 (0.45-0.74)		0.69 (0.48-0.97)	
No	55.4	1.00		1.00	

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OR = odds ratio; CI = confidence interval \*Adjusted ORs for very/extremely satisfied vs. not at all/somewhat satisfied. Adjusted for age, employed, income, relationship status, self-rated health, positive mental health, life satisfaction, sexual interest, ideal frequency of sex in the future and experiencing at least one sexual difficulty

Table 3 Demographic, health and psychosexual associations of sexual satisfaction (women) (n=456)

	Satisfied	Unadjusted		Adjusted*	
	% (n)	OR (95% CI)	p value	OR (96% CI)	p value
Age			0.666		
60-69	44.8	1.00		-	
70+	42.2	0.90 (0.56-1.46)		-	
Employed			0.493		
Yes	46.5	1.00		-	
No	43.2	0.88 (0.60-1.28)		-	
Household income (Australian dollars)			0.432		
0-49,999	40.0	1.00		-	
50,000+	45.4	1.25 (0.78-1.99)		-	
Undisclosed	47.1	1.33 (0.85-2.09)		-	
Country of birth			0.637		
Australia	44.8	1.00		-	
other	42.5	0.91 (0.61-1.36)		-	
Residential location			0.995		
Inner city	43.7	1.00		-	
Suburban	44.2	1.02 (0.61-1.70)		-	
Regional/rural	43.8	1.00 (0.60-1.68)		-	
Relationship status			<0.001		0.598
Married, more than 10 years	45.9	1.00		1.00	
Married, less than 10 years	37.5	0.71 (0.25-2.03)		0.73 (0.12-4.28)	
Relationship, more than 10 years	45.8	1.00 (0.55-1.80)		1.12 (0.45-2.78)	
Relationship, less than 10 years	74.2	3.39 (1.79-6.44)		1.99 (0.83-4.73)	
Single	23.0	0.35 (0.19-0.65)		0.93 (0.34-2.57)	
Widowed	34.9	0.63 (0.32-1.26)		0.70 (0.24-2.02)	
Other	33.3	0.59 (0.19-1.80)		1.90 (0.41-8.82)	
Self-rated health			<0.001		0.711
Excellent/Very good	51.8	1.87 (1.20-2.89)		1.13 (0.58-2.02)	
Good	36.6	1.00		1.00	
Fair/Poor	26.7	0.63 (0.32-1.24)		0.76 (0.29-2.05)	
Positive Mental Health	-	1.10 (1.07-1.13)	<0.001	1.06 (1.01-1.11)	<b>0.017</b>
Life Satisfaction	-	1.12 (1.08-1.16)	<0.001	1.05 (1.00-1.12)	0.067
Frequency of sex (4 weeks)			<0.001		<b>0.002</b>
0 times	14.1	0.16 (0.08-0.29)		0.20 (0.08-0.50)	
1 time	18.8	0.22 (0.08-0.57)		0.44 (0.13-1.51)	
2 times	38.3	0.59 (0.29-1.18)		0.78 (0.31-1.96)	
3-5 times	51.3	1.00		1.00	
6+ times	75.0	2.85 (1.66-4.87)		1.30 (0.62-2.72)	
Sexual interest			<0.001		<b>&lt;0.001</b>
Not at all/somewhat	20.9	1.00		1.00	
Very/extremely	61.6	6.09 (3.95-9.37)		13.16 (6.27-27.61)	
Ideal frequency of sex in the future			<0.001		<b>&lt;0.001</b>
More frequently	26.5	0.18 (0.12-0.27)		0.17 (0.08-0.33)	
Same or less frequently	66.5	1.00		1.00	



At least one sexual difficulty			<0.001		0.554
Yes	39.1	0.47 (0.31-0.70)		0.83 (0.45-1.53)	
No	58.0	1.00		1.00	

OR = odds ratio; CI = confidence interval \*Adjusted ORs for very/extremely satisfied vs. not at all/somewhat satisfied. Adjusted for relationship status, self-rated health, positive mental health, life satisfaction, sexual interest, ideal frequency of sex in the future and experiencing at least one sexual difficulty