
BRIEF REPORT

The Effects of Subjective Age and Aging Attitudes on Mid- to Late-Life Sexuality

Amy Estill

School of Public Health and Health Systems, University of Waterloo

Steven E. Mock and Emily Schryer

Department of Recreation and Leisure Studies, University of Waterloo

Richard P. Eibach

Department of Psychology, University of Waterloo

This study examined the effects of subjective age and attitudes about aging on frequency of sex and interest in sexual activity among middle-aged and older adults. Data were drawn from two waves of the Midlife in the United States (MIDUS) study (n = 1,170 adults, mean age Time 1 = 53.70 years, SD = 9.08). Regression analyses were used to investigate the effects of subjective age and attitudes about aging on three measures of sexuality: frequency of sex, perceived quality of sexual activity, and interest in sexual activity, over 10 years. The older participants felt and the less positive their views of aging, the less they rated sexual activity as enjoyable over time. Feeling older (though not attitudes about aging) also predicted less interest in sex. Subjective age and beliefs about aging did not have an impact on frequency of sex. Although frequency of sex was not predicted by subjective aging and aging attitudes, the results suggested that subjective age and stereotypic views on aging may shape the experience of sex in later life.

Older adults are often portrayed as asexual by younger people, adults, health care providers, and even peers (Arnold-Cathalifaud, Thumala, Urquiza, & Ojeda, 2008; Barrett & Cantwell, 2007; Kane, 2006; Kimuna, Knox, & Zusman, 2005; Villar, Faba, Serrat, & Celdrán, 2015; Walz, 2002). This stereotype is reflected in policy and research that ignores or minimizes the role of sexuality in the health and well-being of older adults (Gott & Hinchliff, 2003). According to the World Health Organization (WHO), sexuality is “a central aspect of being human throughout life” (WHO, 2006). Sexuality encompasses “sex, gender identities and roles, sexual orientation, eroticism, pleasure, intimacy and reproduction” and is experienced and expressed in “thoughts, fantasies, desires, beliefs, attitudes, values, behaviours, practices, roles, and relationships” (WHO, 2006). Certainly, sexuality contributes to adults’ quality of life by enhancing relationships and acting as an important part of health across the life span (Field et al., 2013; Hodson & Skeen,

1994; Laumann, Glasser, Neves, & Moreira, 2009; Lindau & Garilova, 2010; Lindau et al., 2007; Palmore, 1982; Smith, Frankel, & Yarnell, 1997). As such, addressing stereotypes to better understand older adult sexuality has important public health implications (Amin, 2016).

Many factors, interacting together or working independently, influence sexuality across the life span, including biological, psychological, social, economic, political, legal, and cultural influences, as well as history, religion, and spirituality (WHO, 2006). The effects of health conditions on sexual activity in later life have been well researched and are known to play a critical role in predicting frequency and quality of sex (Field et al., 2013; Lindau & Garilova, 2010; Lindau et al., 2007; Smith et al., 1997), but sexuality scholars have noted that psychological factors have been neglected (Carpenter, Nathanson, & Kim, 2006). Furthermore, subjective aspects of sexuality and sexual experience have largely been ignored in the literature (Carpenter et al., 2006). Thus, the goal of the current research was to better understand how two psychological factors relevant to midlife and later life, namely, subjective age and aging attitudes, influence behavioral and subjective aspects of sexuality. This study

Correspondence should be addressed to Amy Estill, School of Public Health and Health Systems, University of Waterloo, 19 Galt St., Guelph, ON N1H 3G4, Canada. E-mail: agray@uwaterloo.ca

explored how different psychological and demographic factors may affect measures of sexuality, highlighting the importance of considering subjective measures of sexuality along with objective measures. Furthermore, the findings suggest that subjective age and aging attitudes could be important factors for clinicians to consider when determining influences on a person's sexuality in later life.

Subjective age represents the extent to which felt age and chronological age align (Barak & Stern, 1986; Hubley & Hultsch, 1994; Montepare & Lachman, 1989). After age 40, adults typically report feeling about 20% younger than their chronological ages (Rubin & Berntsen, 2006). Middle-aged and older adults who feel younger than their chronological ages typically live longer, report better health, have higher self-esteem, and feel more sexually attractive (Barrett, 2003; Kotter-Grühn, Kleinspehn-Ammerlahn, Gerstorf, & Smith, 2009; Mock & Eibach, 2011; Montepare, 1996; Westerhof & Barrett, 2005). Based on these patterns, we predicted that older subjective age would be associated with less sexual activity and less positive attitudes about sex in midlife and older age.

Attitudes about aging learned early in life can become self-stereotypes as individuals age (Levy, 2003). Internalization of negative views of aging are associated with health problems and a shorter life (Levy & Myers, 2005; Levy, Slade, & Gill, 2006; Levy, Slade, & Kasl, 2002; Levy, Zonderman, Slade, & Ferrucci, 2009). Little is known about the relationship between aging attitudes and sexuality in later life. However, sexual behavior among older adults is sometimes interpreted as deviant, for example, the stereotype of the "dirty old man" (Kane, 2006; Villar et al., 2015). To the extent that attitudes about aging affect experiences, behaviors, and health outcomes as people age, aging attitudes may influence sexuality in later life. In one study, middle-aged and older women who reported more sexual dysfunction also reported more negative beliefs about late-life sexuality (Nobre & Pinto-Gouveia, 2006). Attitudes about aging also influence the way that feeling older is associated with well-being in midlife and later life. In a longitudinal study, positive aging attitudes buffered the negative effect of older subjective age on life satisfaction (Mock & Eibach, 2011).

Based on this review of subjective age and aging attitudes and their likely association with sexuality in midlife and later life due to their effect on experiences, behaviors, and health outcomes, we predicted the following:

H1: The older adults felt in midlife and later life, the less frequently they would engage in sexual activity and the less favorable their ratings of quality of and interest in sex would be. Conversely, the more favorable older adults' attitudes about aging were, the more they would engage in sexual activity and the more favorable their ratings of quality and interest in sex would be.

H2: Positive aging attitudes would buffer any negative effect of older subjective age on frequency of sex and ratings of quality and interest in sex.

Method

Participants

Data were drawn from two waves of the Midlife in the United States (MIDUS) survey, a national survey of more than 7,000 Americans that collected data on psychological, social, and behavioral factors related to physical and mental health, including sexuality (Brim, Ryff, & Kessler, 2004; Ryff et al., 2006). The current study was restricted to those age 40 and over at Wave I who had complete information for each dependent variable, leading to a final sample size of 1,170 adults. Accounting for missing data in the predictor variables led to a final sample of 1,006 participants with complete data. The sample was 47.1% female, with a mean age of 53.7 years ($SD = 9.08$). Most of the study participants were white (92.9%), married (73.3%) and still employed (73.8%). This research involved analysis of deidentified, public access secondary data in the United States. According to U.S. federal regulation, research with humans does not require research ethics clearance for studies that rely on deidentified and publicly accessible data (Department of Health & Human Services, 2009).

Measures

Demographic variables included gender (1 = female, 0 = male), ethnicity (1 = white, 0 = all others), annual household income (in dollars), education level (1 = did not graduate high school, 2 = graduated high school, 3 = some college, 4 = college or greater educational achievement), sexual orientation identity (1 = heterosexual, 0 = all other sexual orientation identities), marital status (1 = married, 0 = all others) and employment status (1 = working for pay, 0 = not working for pay). The aforementioned demographic variables were included because of their established relationship with well-being and aging (Carpenter et al., 2006; Diener, Suh, Lucas, & Smith, 1999). Two other health-related variables were included because of the association between well-being and late life sexuality (Lindau & Garilova, 2010; Lindau et al., 2007): number of chronic health conditions was the sum of 29 health conditions experienced over the past 12 months (e.g., high blood pressure, diabetes); and self-rated physical health was measured on a scale from 1 = *Poor* to 5 = *Excellent*.

Subjective age was calculated as the difference between participants' chronological age and the age they normally feel, as assessed with one question: "Many people feel older or younger than they actually are. What age do you feel most of the time?" Positive values indicated feeling older and negative values indicated feeling younger compared with chronological age.

Participants rated the overall lives of people in their late twenties and in their late sixties by responding to two separate questions. The questions asked: "Using a scale from 0 to 10 where 0 means 'the worst possible you can imagine,' and 10 means 'the best possible you can imagine,' how would you rate most people in these age groups? Most people in their late

twenties? Most people in their late sixties?” Aging attitudes were calculated by subtracting participants’ ratings of life at age 20 from life at age 60, with positive values indicating higher life quality of life for those in their sixties compared with those in their twenties (Mock & Eibach, 2011). This variable was assessed at Wave I only.

Three variables were used to assess sexuality: frequency of sex, quality of sex, and interest in sex. These variables have been used in previous research that examined the relationship between sexuality and health (Lindau & Garilova, 2010). Frequency of sexual activity was assessed with one question: “Over the past six months, how often have you had sex with someone?” Answer options were *Two times or more per week* (5), *Once a week* (4), *Two or three times a month* (3), *Once a month* (2), *Less often than once a month* (1), *Never or not at all* (0). Participants who reported no sexual partners over the past year, or no sexual activity with their partners over the past six months, were scored as zero. Quality of sex was assessed with one question: “Using a scale from 0 to 10 where 0 means ‘the worst possible situation’ and 10 means ‘the best possible situation,’ how would you rate the sexual aspect of your life these days?” Interest in sex was assessed with this question: “Using a 0 to 10 scale where 0 means ‘no thought or effort’ and 10 means ‘very much thought and effort,’ how much thought and effort do you put into the sexual aspect of your life these days?”

Procedure

Wave I data were collected between 1995 and 1996 and included a nationally representative main sample of community-dwelling, English-speaking U.S. adults 25 to 74 years of age ($n = 3,485$). Data were collected through a 30-minute phone interview (response rate = 70%) and a mailed self-administered questionnaire (response rate = 87%) (Brim et al., 2004). Wave II data were collected between 2004 and 2006 (Ryff et al., 2006). Approximately 70% of the Wave I participants took part in Wave II through computer-assisted phone interviews and mail-in interviews. There were no significant differences in subjective age or aging attitudes between those who remained in the study and those who dropped out.

Data Analysis

Linear regression models, built in three sequential steps, were used to examine the relationship between subjective age, aging expectations, and each of the measures of sexuality. Step one included Wave I age, gender, income, education, race, marital status, employment status, and sexual orientation. Step one also included Wave I and Wave II variables for chronic conditions and self-rated health. In step two, Wave I and Wave II subjective age variables were added as well as aging attitudes (available at Wave I only). Significant findings for Wave II subjective age would indicate that change in subjective age leads to a change in the dependent variable over time, after controlling for Wave I levels of the predictor and dependent variables (Cronbach & Furby, 1970; Holahan & Moos, 1981). In step three, a two-way subjective age by aging

attitudes interaction term was added to the model to assess the potential role of aging attitudes as a moderator if older subjective age was found to predict less frequent and lower ratings of quality and interest in sex over time.

Results

Descriptive statistics with paired t tests are shown in Table 1. Mean subjective age ratings changed significantly from -9.73 to -11.23 (Table 1), indicating that the discrepancy between chronological age and felt age increased from Time 1 to Time 2 ($t = 5.654, p < 0.001$). The mean value for aging attitudes at Time 1 was 1.42, indicating that, on average, participants perceived better quality of life for people in their sixties compared to those in their twenties.

Frequency of Sex

The mean frequency of sex variable decreased significantly over time, from 2.53 times over the past six months at Time 1 to 1.80 times over the past six months at Time 2, $t(1095) = 14.41$,

Table 1. Descriptive and Comparative Statistics for Demographic, Predictor, and Outcome Variables (MIDUS Survey: T1 = 1995 to 1996, T2 = 2004 to 2006)

Variable	M/Percent	SD	t Test
Demographic variables			
Age	53.70	9.08	
Female	52.91	—	
Household income	\$61,365.93	\$51,762.34	
Education	2.98	1.00	
White	92.91	—	
Married	73.30	—	
Employed	73.82	—	
Heterosexual	96.24	—	
Chronic conditions T1	2.68	2.58	$t(1168) = -1.29,$ $p > .05^a$
Chronic conditions T2	2.77	2.60	
Self-rated health T1	3.52	0.96	$t(1170) = 2.09,$ $p < .05^a$
Self-rated health T2	3.46	1.01	
Aging variables			
Subjective age T1	-9.73	8.15	
Subjective age T2	-11.23	9.91	$t(1120) = 5.65,$ $p < .001^a$
Aging attitudes T1	1.42	2.47	
Sexuality variables			
Frequency of sex T1	2.53	1.87	
Frequency of sex T2	1.80	1.82	$t(1095) = 14.41,$ $p < .001^a$
Quality of sex T1	5.42	3.12	
Quality of sex T2	4.64	3.10	$t(1047) = 9.04,$ $p < .001^a$
Interest (thought/effort) in sex T1	5.66	2.99	
Interest (thought/effort) in sex T2	4.73	3.10	$t(1066) = 10.13,$ $p < .001^a$

^aPaired t tests compared T1 health, aging, and sexuality variable means to T2 means.

$p < 0.001$. The older participants were and the worse the more chronic conditions they had at Time 2, the less frequent their sexual activity; and women reported less frequent sexual activity than men (Table 2, Model 1). Household income at Time 1, frequency of sex at Time 1, and higher self-rated health at Time 2 all predicted greater frequency of sex at Time 2. Subjective age, aging attitudes, and their interaction did not predict frequency of sex.

Quality of Sex

The mean quality of sex variable also significantly decreased over time, from 5.42 at Time 1 to 4.64 at Time 2, $t(1047) = 9.04, p < 0.001$. The older participants were and the worse their health was at Time 2, the lower they rated quality of sex (Table 2, Model 1). Better health predicted greater quality of sex. Higher subjective age predicted lower ratings of quality of sex, and positive aging attitudes predicted increased ratings for quality of sex (Table 2, Model 2). The subjective age by aging attitudes interaction term was not statistically significant (Table 2, Model 3).

Table 2 Standardized Coefficients for Regression Analyses Predicting Frequency, Interest, and Quality of Sex From Demographic Covariates, Subjective Age, Beliefs About Aging, and their Interaction (MIDUS Survey: T1 = 1995 to 1996, T2 = 2004 to 2006)

	Frequency of Sex	Quality of Sex	Interest in Sex
	Beta	Beta	Beta
Model 1			
Age	-0.18**	-0.09**	-0.17**
Female	-0.07**	-0.04	-0.15**
Heterosexual	0.01	-0.01	-0.01
White	-0.05	-0.01	-0.02
Married	0.01	0.05	0.09**
Household income	0.06*	0.03	0.05
Education	0.03	0.03	0.03
Employed	-0.01	0.02	0.03
Chronic conditions T1	0.05	-0.05	0.03
Chronic conditions T2	-0.11**	-0.01	-0.07
Self-rated health T1	-0.01	0.03	0.03
Self-rated health T2	0.09**	0.09**	0.08*
Dependent variable T1	0.47**	0.40**	0.35**
R ²	0.38	0.25	0.29
Model 2			
Subjective age T1	-0.01	0.04	0.01
Subjective age T2	-0.03	-0.10**	-0.09**
Aging attitudes T1	0.01	0.07*	0.04
R ²	0.38	0.26	0.30
Model 3			
Subjective age T2 × Attitudes T1	-0.01	-0.03	0.03
R ²	0.38	0.26	0.30

Note. Models 2 and 3 include all variables from previous models. * $p < .05$; ** $p < .01$.

Interest in Sex

Mean interest in sex also significantly decreased for participants over time, from 5.66 at Time 1 to 4.73 at Time 2, $t(1066) = 10.13, p < 0.001$. Older participants and women (compared with men) showed decreased interest in sex (Table 2, Model 1). Being married and better health at Time 2 predicted increased interest in sex (Table 2, Model 1). Feeling older predicted decreased interest in sex (Table 2, Model 2), but aging attitudes and the subjective age by aging attitudes interaction term (Table 2, Model 3) were not significantly associated with interest in sex.

Discussion

The data suggest that the psychological constructs related to aging explored in this study do have an impact on certain aspects of sexuality. As expected, feeling relatively older predicted lower ratings of quality of sex and having more positive aging attitudes predicted higher ratings of quality of sex. Older subjective age also predicted decreased interest in sex. Contrary to expectations, neither subjective age nor aging attitudes predicted changes in the frequency of sex. Younger participants, men (compared with women), and participants who reported engaging in more frequent sexual activity at Time 1 engaged in more frequent sexual activity 10 years later. It is worth noting that the magnitude of the standardized coefficients shows that the impact of subjective age and chronological age on quality of sex are comparable (Table 2, Models 1 and 2) and the impact of subjective age on interest in sex is more than half the impact of chronological age on interest in sex (Table 2, Models 1 and 2). These findings add to a growing body of evidence that subjective age can be as strong a predictor of psychological well-being and health-related factors as chronological age (Montepare, 2009; Westerhof et al., 2014; Yannick, Caudroit, Jaconelli, & Terracciano, 2014; Yannick, Demulier, & Terracciano, 2012). The findings also highlight the importance of considering perceptions and attitudes about aging, and not only chronological age, to understand sexuality in midlife and later life.

Why did subjective age and aging attitudes affect ratings of quality and interest in sex but not sexual behavior? One possibility is that sexual activity is affected by opportunity variables such as relationship status, and health of relationship partner (Carpenter et al., 2006) that are not directly related to the individuals' own subjective age and attitudes toward aging. We did not find that marital status at Time 1 was associated with frequency of sexual activity 10 years later. However, relationship status can change over a decade and the health and sexual interest of the relationship partner were not assessed. It would be interesting in future research to study subjective age and beliefs about aging in a dyadic context, examining how each partner's subjective age, beliefs about aging, and subjective health influence sexual behavior and quality.

We did not find an interaction between subjective age and positive aging attitudes in predicting change in sexual experience or activity. This contrasts with previous research showing

that positive aging attitudes buffer individuals who feel relatively older from experiencing a decline in life satisfaction (Mock & Eibach, 2011). However, positive aging attitudes may be less likely to act as a buffer in this case because sexual experience is typically a relational activity. If an individual feels older, then even if that individual has positive aging attitudes he or she may be influenced by a partner who endorses the more negative ageist stereotypes of the broader culture. To test this interpretation, future research should measure not just participants' own subjective age and aging attitudes but also their metaperceptions of how potential partners' perceive them and their beliefs about potential partners' endorsement of the culture's ageist stereotypes.

Previous research suggests that sexuality in midlife and later life is important for well-being and that gender and relationship status add complexity to sexual experiences (Carpenter et al., 2006; Gott & Hinchliff, 2003). The present study confirms those ideas for certain aspects of sexuality. It shows that gender predicted frequency of sex and interest in sex and marital status predicted interest in sex. The significance of the impact of these sociocultural variables on sexuality may speak to the inequitable effects of aging stereotypes on women and the the major historical sociological trend over time toward "uncoupling sex with marriage" that would have affected people who were socialized during the era of sexual liberation (Carpenter et al., 2006; Gott & Hinchliff, 2003).

It should be noted that the three measures of sexuality included in this study are likely not a comprehensive picture of older adult sexuality. The measures for quality of sex and interest in sex are also highly subjective, and those are limitations of the variables available in the MIDUS study. Furthermore, there was no definition provided for "sex," so participants were left to determine their own definition, and this could have created variability in their answers. Future surveys should consider including other behavioral and subjective measures of sexual expression beyond sexual intercourse only. A variety of sexual behaviors, such as intimate touching and intimate speech, and subjective measures, such as desire for sex, information on sex roles, and value placed on sex, could be assessed to more holistically align with the WHO definition (WHO, 2006).

Overall, this study adds complexity to the current understanding of older adult sexuality by illustrating how the psychological factors of subjective age and aging attitudes have an effect on the less frequently explored subjective variables quality and interest in sex. In particular, although feeling relatively older predicted decreased ratings in quality of sex over time, having positive attitudes about later life predicted more positive ratings of quality of sex. The present study highlights the importance of assessing subjective measures of sexuality at the same time as objective measures, especially in light of the findings that different factors may affect them differently. Furthermore, the findings suggest that subjective age and aging attitudes could be important factors for clinicians to consider when determining influences on a person's sexuality in later life.

References

- Amin, I. (2016). Social capital and sexual risk-taking behaviors among older adults in the United States. *Journal of Applied Gerontology, 35*, 982–999. doi:10.1177/0733464814547048
- Arnold-Cathalifaud, M., Thumala, D., Urquiza, A., & Ojeda, A. (2008). Young people's images of old age in Chile: Exploratory research. *Educational Gerontology, 32*, 105–123. doi:10.1080/03601270701700359
- Barak, B., & Stern, B. (1986). Subjective age correlates: A research note. *The Gerontologist, 26*, 571–578. doi:10.1093/geron/26.5.571
- Barrett, A. E. (2003). Socioeconomic status and age identity: The role of dimensions of health in the subjective construction of age. *Journals of Gerontology: Series B, 58*, 101–109. doi:10.1093/geronb/58.2.S101
- Barrett, A. E., & Cantwell, L. E. (2007). Drawing on stereotypes: Using undergraduates' sketches of elders as a teaching tool. *Educational Gerontology, 33*, 327–348. doi:10.1093/geronb/58.2.S101
- Brim, O. G., Ryff, C. D., & Kessler, R. C. (2004). The MIDUS National Survey: An overview. In O. G. Brim, C. D. Ryff, & R. C. Kessler (Eds.), *How healthy are we? A national study of well-being at midlife* (pp. 1–36). Chicago, IL: University of Chicago Press.
- Carpenter, L. M., Nathanson, C. A., & Kim, Y. J. (2006). Sex after 40? Gender, ageism, and sexual partnering in midlife. *Journal of Aging Studies, 20*, 93–106. doi:10.1016/j.jaging.2005.06.003
- Cronbach, L. J., & Furby, L. (1970). How we should measure "change"—Or should we? *Psychological Bulletin, 74*, 68–80. doi:10.1037/h0029382
- Department of Health and Human Services. (2009). Title 45: Public Welfare; Part 46: Protection of human subjects. Retrieved from <http://www.hhs.gov/ohrp/regulations-and-policy/regulations/45-cfr-46/index.html>
- Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective well-being: Three decades of progress. *Psychological Bulletin, 125*, 276–302. doi:10.1037/0033-2909.125.2.276
- Field, N., Mercer, C. H., Sonnenberg, P., Tanton, C., Clifton, S., Mitchell, K. R., ... Jones, K. G. (2013). Associations between health and sexual lifestyles in Britain: Findings from the third National Survey of Sexual Attitudes and Lifestyles (Natsal-3). *The Lancet, 382*, 1830–1844. doi:10.1016/S0140-6736(13)62222-9
- Gott, M., & Hinchliff, S. (2003). How important is sex in later life? The views of older people. *Social Science and Medicine, 56*, 1617–1628. doi:10.1016/S02779536(02)00180-6
- Hodson, D. S., & Skeen, P. (1994). Sexuality and aging: The Hammerlock of myths. *Journal of Applied Gerontology, 13*, 219–235. doi:10.1177/073346489401300301
- Holahan, C. J., & Moos, R. H. (1981). Social support and psychological distress: A longitudinal analysis. *Journal of Abnormal Psychology, 90*, 365–409. doi:10.1037/0021843X.90.4.365
- Hubley, A. M., & Hultsch, D. F. (1994). The relationship of personality trait variables to subjective age identity in older adults. *Research on Aging, 16*, 415–439. doi:10.1177/0164027594164005
- Kane, M. N. (2006). Ageism and gender among social work and criminal justice students. *Educational Gerontology, 32*, 859–880. doi:10.1080/03601270600846543
- Kimuna, S. R., Knox, D., & Zusman, M. (2005). College students' perceptions about older people and aging. *Educational Gerontology, 37*, 563–572. doi:10.1080/03601270590962514
- Kotter-Grühn, D., Kleinspehn-Ammerlahn, A., Gerstorff, D., & Smith, J. (2009). Self-perceptions of aging predict mortality and change with approaching death: 16-year longitudinal results from the Berlin Aging Study. *Psychology and Aging, 24*, 654–667. doi:10.1037/a0016510
- Laumann, E. O., Glasser, D. B., Neves, R. C. S., & Moreira, E. D. (2009). A population-based survey of sexual activity, sexual problems, and associated help-seeking behavior patterns in mature adults in the United States of America. *International Journal of Impotence Research, 21*, 171–178. doi:10.1038/ijir.2009.7
- Levy, B. R. (2003). Mind matters: Cognitive and physical effects of aging self-stereotypes. *Journals of Gerontology: Series B, 58*, 203–211. doi:10.1093/geronb/58.4.P203

- Levy, B. R., & Myers, L. M. (2005). Relationship between respiratory mortality and self perceptions of aging. *Psychology and Health, 20*, 553–564. doi:10.1080/14768320500066381
- Levy, B. R., Slade, M. D., & Gill, T. M. (2006). Hearing decline predicted by elders' stereotypes. *Journals of Gerontology: Series B, 61*, 82–87. doi:10.1093/geronb/61.2.P82
- Levy, B. R., Slade, M. D., & Kasl, S. V. (2002). Longitudinal benefit of positive self-perceptions of aging on functional health. *Journals of Gerontology: Series B, 57*, 409–417. doi:10.1093/geronb/57.5.P409
- Levy, B. R., Zonderman, A. B., Slade, M. D., & Ferrucci, L. (2009). Stereotypes held earlier in life predict cardiovascular events in later life. *Psychological Science, 20*, 296–298. doi:10.1111/j.1467-9280.2009.02298.x
- Lindau, S. T., & Garilova, N. (2010). Sex, health, and years of sexually active life gained due to good health: Evidence from two U.S. population based cross sectional surveys of aging. *British Medical Journal, 340*, 810. doi:10.1136/bmj.c810
- Lindau, S. T., Schumm, L. P., Laumann, E. O., Levinson, W., Muirheartaigh, C. A., & Waite, L. J. (2007). A study of sexuality and health among older adults in the United States. *New England Journal of Medicine, 357*, 762–774. doi:10.1056/NEJMoa067423
- Mock, S. E., & Eibach, R. P. (2011). Aging attitudes moderate the effect of subjective age on psychological well-being: Evidence from a 10-year longitudinal study. *Psychology and Aging, 26*, 979–986. doi:10.1037/a0023877
- Montepare, J. M. (1996). Actual and subjective age-related differences in women's attitudes toward their bodies across the life span. *Journal of Adult Development, 3*, 171–182. doi:10.1007/BF02285777
- Montepare, J. M. (2009). Subjective age: Toward a guiding lifespan framework. *International Journal of Behavioral Development, 33*, 42–46. doi:10.1177/0165025408095551
- Montepare, J. M., & Lachman, M. E. (1989). "You're only as old as you feel": Self-perceptions of age, fear of aging, and life satisfaction from adolescence to old age. *Psychology and Aging, 4*, 73–78. doi:10.1037/0882-7974.4.1.73
- Nobre, P. J., & Pinto-Gouveia, J. (2006). Dysfunctional sexual beliefs as vulnerability factors for sexual dysfunction. *Journal of Sex Research, 43*, 68–75. doi:10.1080/00224490609552300
- Palmore, E. B. (1982). Predictors of the longevity difference: A 25-year follow-up. *The Gerontologist, 22*, 513–518. doi:10.1093/geront/22.6.513
- Rubin, D. C., & Berntsen, D. (2006). People over forty feel 20% younger than their age: Subjective age across the lifespan. *Psychonomic Bulletin and Review, 13*, 776–780. doi:10.3758/BF03193996
- Ryff, C., Almeida, D. M., Ayanian, J. S., Carr, D. S., Cleary, P. D., & Coe, C. (2006). *Midlife development in the United States (MIDUS II), 2004–2006*. Madison: University of Wisconsin, Survey Center.
- Smith, G. D., Frankel, S., & Yarnell, J. (1997). Sex and death: Are they related? *British Medical Journal, 315*, 1641–1644. doi:10.1136/bmj.315.7123.1641
- Villar, F., Faba, J., Serrat, R., & Celdrán, M. (2015). What happens in their bedrooms stays in their bedrooms: Staff and residents' reactions toward male–female sexual intercourse in residential aged care facilities. *Journal of Sex Research, 52*, 1054–1063. doi:10.1080/00224499.2014.959882
- Walz, T. (2002). Cronos, dirty old men, sexy seniors: Representations of the sexuality of older persons. *Journal of Aging and Identity, 7*, 99–112. doi:10.1023/A:1015487101438
- Westerhof, G. J., & Barrett, A. E. (2005). Age identity and subjective well-being: A comparison of the United States and Germany. *Journals of Gerontology: Series B, 60*, 129–136. doi:10.1093/geronb/60.3.S129
- Westerhof, G. J., Mische, M., Brothers, A. F., Barrett, A. E., Diehl, M., Montepare, J. M., ... Wurm, S. (2014). The influence of subjective aging on health and longevity: A meta-analysis of longitudinal data. *Psychology and Aging, 29*, 793–802. doi:10.1037/a0038016
- World Health Organization. (2006). *Defining sexual health: Report of a technical consultation on sexual health, 28–31 January 2002, Geneva*. Geneva, Switzerland: World Health Organization.
- Yannick, S., Caudroit, J., Jaconelli, A., & Terracciano, A. (2014). Subjective age and cognitive functioning: A 10-year prospective study. *American Journal of Geriatric Psychiatry, 22*, 1180–1187. doi:10.1016/j.jagp.2013.03.007
- Yannick, S., Demulier, V., & Terracciano, A. (2012). Personality, self-rated health, and subjective age in a life-span sample: The moderating role of chronological age. *Psychology and Aging, 27*, 875–880. doi:10.1037/a0028301

Copyright of Journal of Sex Research is the property of Routledge and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.