

2022

Masturbatory Behaviors Among Older Adult Populations: A Literature Review

Brandon Tischer

Minnesota State University, Mankato, gq4785eo@go.minnstate.edu

Follow this and additional works at: <https://cornerstone.lib.mnsu.edu/jur>



Part of the [Geropsychology Commons](#)

Recommended Citation

Tischer, Brandon (2022) "Masturbatory Behaviors Among Older Adult Populations: A Literature Review," *Journal of Undergraduate Research at Minnesota State University, Mankato*: Vol. 22, Article 2. Available at: <https://cornerstone.lib.mnsu.edu/jur/vol22/iss1/2>

This Article is brought to you for free and open access by the Journals at Cornerstone: A Collection of Scholarly and Creative Works for Minnesota State University, Mankato. It has been accepted for inclusion in Journal of Undergraduate Research at Minnesota State University, Mankato by an authorized editor of Cornerstone: A Collection of Scholarly and Creative Works for Minnesota State University, Mankato.

Masturbatory Behaviors Among Older Adult Populations: A Literature Review

Brandon Tischer

College of Social and Behavioral Sciences, Minnesota State University, Mankato

Eric Sprankle, PsyD, Faculty Supervisor

Amanda Bartley, Graduate Student Supervisor

Abstract

Sexual behaviors, such as masturbation, extend into older adulthood (50+ years in chronological age) and are present at all stages of the aging process. Different living situations and circumstances for older adults can affect masturbatory behavior, such as death of spouse, living in long-term care facilities, and cognitive decline. This literature review evaluates extant research on older adult masturbation, comprising 29 articles included in the final review, all published between 1991 and 2021. They consist of literature reviews, meta-studies, cross-sectional studies, semi-structured interviews, systematic reviews, and case studies. Current evidence suggests that masturbatory behaviors are an important part of older adult sexual health, although they decline in frequency across the aging, and increase in the absence of a spouse. Presence of masturbatory behaviors are not as conducive to life satisfaction as partnered sexual activity. However, older adults who masturbate in absence of partnered sexual activity have generally higher life satisfaction than those who are not sexually active. Findings suggest that older adult masturbatory behaviors are affected by social aspects, including class, religion, educational attainment, gender, and assigned sex, in addition to biological aspects, such as presence or absence of erectile dysfunction, arthritis, dementia, and so on.

Keywords: older adults, masturbation, long-term care, cognitive decline, masturbation and the aging process

Masturbatory Behaviors Among Older Adult Populations: A Literature Review

Masturbation is the stimulation of sexual organs by the hand to achieve sexual pleasure. Masturbation can either be an individual practice or part of partnered sexual activity, the latter often termed ‘mutual stroking’ or ‘partnered masturbation.’ Masturbation is an ordinary, non-pathological sexual function, and continues into older adulthood. Frequency of masturbatory behavior among older adults is impacted by a complex intersection of variables and circumstances, comprising cultural attitudes (Von Humboldt et al., 2020), individual perceptions and lifetime experiences with sexual activities (Ševčíková & Sedláková, 2019), functional and chronological age (Lee et al., 2015), educational attainment, class, and religious affiliation (Træen et al., 2018), residing in a long-term care facility (Mroczek et al., 2013), presence or absence of a spouse (Lindau et al., 2007), among other related factors.

Accurate reporting of masturbatory behaviors among older adults is impacted by research methodology and sampling, with wide variance between different studies. Some studies suggest that only 10% of older adults masturbate (Mahieu & Gastmans, 2015; Mulligan & Palguta, 1991), whereas others suggest that frequency among older adults is around or above 60% (DeLamater & Koepsel, 2014; Træen et al., 2018), and one exceptional case has a frequency over 90% (Ginsberg et al., 2005). There is some evidence that, among older adults, reporting of all sexual behaviors has increased over time (Beckman et al., 2008). Regardless of sampling, reporting, and methodology, masturbation can improve sexual and positive subjective well-being, although in a manner which is not as efficacious as partnered sexual activity (Lee et al., 2016). Although females tend to report lower frequencies of masturbatory behaviors than males, current evidence suggests that they experience greater sexual satisfaction from it (Santos-Iglesias et al., 2016). However, females may be more likely to consider masturbation as ‘transgressing’

against the rules of relationships; hence why partnered sexual activity and relationship importance are strongly inhibitory factors for frequency of older adult female masturbation (Bell & Reissing, 2017). Another negative factor is feelings of guilt for masturbating after the death of a spouse (Crowther & Zeiss, 1999). Higher sexual satisfaction can improve overall life satisfaction, and it is possible that indicators of life satisfaction, such as relationships and partnered sexual activity, will lower frequencies of masturbation (Skalaca & Gerymski, 2018).

Residence in long-term care facilities is a circumstance which uniquely applies to older adults. Living situations in long-term care facilities can impact older adult sexual behavior: facilities may collect 'sexual histories' for prospective residents (Rheaume & Mitty, 2008), may neglect to educate their staff on older adult sexual behavior (Villar et al., 2016), and may have policies in place to allow punishing residents for masturbatory behavior, such as using manual restraints (Rahn, 2018). Staff witness masturbation more than any other sexual behaviors and are likely to find it the most uncomfortable sexual behavior to witness, most likely due to its increased likelihood (Villar et al., 2018). Despite this, evidence suggests that staff are more likely to have a positive view of sexual expression than older adults themselves (Walker et al., 1998). Staff members of long-term care facilities are divided over the topic of training and education regarding older adult sexuality. One sample suggested that 76.9% of staff members acknowledged that residents use masturbation to meet sexual needs, although only 48.3% of staff members view training and education in topics of older adult sexuality to be a positive (Villar et al., 2019). The nature of social and cultural composition among residents and staff within long-term care facilities is not fully understood; it is possible that heteronormativity, homophobia, and gender norms may negatively impact sexual health among LGBTQ+ residents (Mahieu & Gastmans, 2015).

Cognitive decline, including diagnoses such as Alzheimer's disease, are another unique circumstance affecting older adults. Cognitive decline, causing loss of awareness, confusion, heightened distress, and disorientation, can lead to masturbatory behaviors which are unacceptable or physically dangerous. Older adults with dementia may pull out catheters to masturbate (Haddad & Benbow, 1993a), engage in public masturbation (Roelofs et al., 2015), or masturbate while bathing (Archibald, 1998). Hitherto, most research on masturbation and cognitive decline have viewed all phenomena of the latter as being identical or measurable by one variable. However, more recent research which quantifies cognitive decline through word recall and number sequencing has established cognitive functioning as being a major factor in older adult's sexual health; in such studies, masturbation is established as helping word recall among women (Wright et al., 2019).

Background

Sexuality among older adults, including masturbation generally, is an area of research which has only expanded within the last thirty years. For instance, sexuality among older adults in long-term care was the concern of only three academic articles composed from 1975 to 1989 (Mulligan & Palguta, 1991), whereas the same subject comprised 25 studies from 1980 to 2014 (Mahieu & Gastmans, 2015).

Early research on older adult masturbation found that only 10% of older adults reported masturbatory behaviors (Mulligan & Palguta, 1991). 10% of reporting does not imply that 90% of samples do not masturbate; rather that they refused to report. Contemporary systematic reviews have averaged frequencies at 10% (Mahieu & Gastmans, 2015), although some studies suggest a frequency above 50% (Lindau et al., 2007). Studies concerning subjectivity and personal beliefs, feelings, and attitudes towards sexuality have increased with time, from case-

studies concerning guilt over masturbation after death of a spouse (Crowther & Zeiss, 1999) to cross-sectional surveys examining subjective well-being (Lee et al., 2015; Lee et al., 2016). Frequency of sexual activity among older adults was correlated to positive subjective well-being (Lee et al., 2016). Since older adult reporting of sexual behavior has increased over time (Beckman et al., 2008), one may assume that well-being of older adults has increased over time, or that researchers have improved in the methodology of assembling sample populations.

Research concerning long-term care facilities has departed from researching only residents (Mulligan & Palguta, 1991) to staff as well (Villar et al., 2016; Villar et al., 2018; Villar et al., 2019). Masturbation is the sexual behavior most witnessed by staff (Villar et al., 2018), with 76.9% of staff stating the residents satisfy their sexual needs through masturbation (Villar et al., 2019), implying that the 10% reported by other research is a low threshold. Although staff are more proactive than residents regarding issues of sexual health and sexual expression (Walker et al., 1998), only a minority supports employee education on older adult sexuality (Villar et al., 2019). The nature of staff and their role in older adult sexual expression in long-term care facilities is still not fully understood.

Most research on older adult masturbation is framed as part of a larger analysis of sexual behavior, and most writing on the subject is found within research of general older adult sexual behavior. Especial focus has been given to characteristics of those older adults who have high frequency of masturbatory behaviors, and what differentiates them from the rest of the older adult populace. Higher frequency of masturbation among those without a partner is recurrent throughout all research which assesses such (Lindau et al., 2007; Roelofs et al., 2015), alongside partnered masturbation being the most common masturbatory behavior among those with a spouse (Rahn, 2018). Masturbation prevalence among those without a spouse may correlate

masturbation with lower life-satisfaction (Skalaca & Gerymski, 2018), although such correlates have only recently been studied, and are not sufficiently understood.

Recent research has differed between studies which adopt an international sample (Træen et al., 2018) or long-form method, such as data collection across the span of 30 years (Beckman et al., 2008), and those which use smaller samples over with shorter collection periods, sometimes centering upon one town (Ševčíková & Sedláková, 2019) if not one institution or facility (Arias-Castillo et al., 2009; Santos-Iglesias et al., 2016). Different frameworks, from contemporary biopsychosocial approaches (DeLamater & Koepsel, 2014) to positive subjective well-being (Lee et al., 2016) and sexual well-being (Santos-Iglesias et al., 2016) have been used. Correlates to older adult masturbation along lines of culture, class, nationality, and religiosity have often been analyzed by the former (such as Beckman et al., 2008; Træen et al., 2018) whereas the latter (DeLamater & Koepsel, 2014; Ševčíková & Sedláková, 2019) often investigate issues of older adult masturbation and sexuality through novel methods and models.

The following terminology will be used throughout the paper: *masturbation* to refer to individual sexual stimulation using the hands, *partnered masturbation* to refer to mutual stroking, *masturbatory behavior* to refer to masturbation and partnered masturbation generally, *survival of spouse* to signify older adults who have outlived their spouses, *partnered relationships* to refer to those with a partner/spouse, *long-term care facilities* to refer to nursing homes and/or assisted living facilities, *cognitive decline* to refer to any kind of cognitive impairment resulting from age, such as Dementia, and *aging process* to refer to older adult aging process specifically.

Method

Data abstraction process

A literature search was conducted from 08/23/2021 to 12/12/2021 using Academic Search Premier, ProQuest, PubMed, and SpringerLink.

Study Selection

Search terms comprised “older adults”, “old adults”, “oldest adults”, “seniors”, and “elderly adults” coupled with “masturbation”, “masturbate”, “onanism”, and “auto-eroticism” alongside “long-term care”, “long-term care facilities”, “nursing homes”, “senility”, “retirement”, and “dementia.” Search limits included publications from 1991 to 2021, full text availability, English language, and peer reviewed academic journals. Articles were selected by their title and abstract, and further evaluated for inclusion or elimination. Bibliographic reviewing identified eight additional articles that were included. Table 2 in the appendix outlines results for search term combinations within each database.

Search Strategies

Table 3 in the appendix includes all articles that were reviewed against the inclusion or exclusion criteria. If articles included (1) terminology related to masturbation a non-trivial number of times (10+), related to older adults, (2) researched an aspect of older adult masturbatory behavior not present elsewhere in the literature, such as novel methods, unique measurements, or newer frameworks of analysis, (3) presented measured correlates of older adult masturbatory behavior, such as with cultural attitudes or health issues, and/or (4) assessed older adult masturbatory behavior regarding long-term care, the aging process, sexual health, and cognitive decline; all four unique circumstances facing older adults. Articles were excluded if

they (1) focused only on older adults as one demographic, (2) were commentary or reviews on original studies, (3) were published before 1991, (4) were available in abstract only, or (5) were not peer-reviewed or from a discredited academic publication.

Literature Review Process

Twenty-nine articles met inclusion criteria. They consisted of literature reviews, meta-studies, cross-sectional studies, semi-structured interviews, systematic reviews, and case studies. Cross-sectional studies constituted the majority of original research and were largely contingent upon self-reported data of older adults were correlated with demographic data. Literature reviews and meta-studies typically investigated methods of cross-sectional surveys, and included articles prior to 1991.

Methodological Assessment

The twenty-nine included articles were categorized as relating to (1) masturbation and the aging process, (2) masturbation and the sexual health of older adults, (3) masturbation and long-term care, and (4) masturbation and cognitive decline. Search terms and databases were selected on the basis of what was most likely to provide relevant and important results; however, some important literature may have been missed, excluded, or not present here. Most research prior to 1991 is represented here through literature reviews and meta-studies, although it is possible that a large number of research prior to 1991 is still absent. Research not yet translated or made available in the English language will also not be present, despite the possibility of important research on this topic not yet being available in English. Therefore, this literature review represents the current body of evidence on the subject of older adult masturbation, as can be found in peer-reviewed, empirically substantiated articles available in the English language.

Literature Review

The Aging Process

Crowther and Zeiss (1999) identified loss of spouse as being one circumstance wherein masturbation increasing in old age can be causally identified. However, the aging process tends to lower masturbation frequency, as is found in Lindau et al. (2007): 63.4% older adult men aged 57-64 years reported having masturbated in the last year, compared to 31.6% of women. This contrasts with men aged 75-85 years, 27.9% of whom reported masturbation in the last year, and women aged 75-85 years, 16.4% of whom reported masturbation in the last year. Spousal relationships were not heavily correlated to masturbation frequency in Lindau et al. (2007), 52% of older men in a spousal relationship had masturbated in the last year, contrasted to 55% of those without spouses. Women scored 25% for those with spouses and 23% for those without. 14% of participants refused to answer items regarding masturbation. Poorer health was correlated with lower frequencies of masturbation. Of all diagnoses, chronic illnesses (such as diabetes) were most closely correlated to lower frequencies of masturbation, especially among men, wherein such chronic illnesses may cause failure in sustaining an erection.

DeLamater and Koepsel (2014), analyzing data from the AARP, NSHAP, and NSSHB, found that 59.9% of older adult men masturbated alone, and 19.2% engaged in partnered masturbation. 44.5% of older adult women reported masturbating alone, compared to 12% reporting partnered masturbation. As in Lindau et al. (2007), age was correlated to lower masturbation frequency: 72.1% of men aged 50-59 years reported masturbation, contrasted to 46.4% of men aged 70+ years; 54.1% of women aged 50-59 years reported masturbation, compared to 32.8% aged 70+ years. Desire is also correlated to increased masturbation

specifically and frequent sexual activity generally; therefore, functions of sexual desire across the aging process may be meaningful indicators of masturbatory activity.

Masturbatory behaviors across the aging process may be as susceptible to biological and psychological changes of aging as they are to personal beliefs, attitudes, and demographics. For instance, reporting of masturbatory behaviors among older adults has increased over time, with happiness in a relationship and educational attainment being correlated to high reporting of sexual activity generally, extending beyond masturbation itself (Beckman et al. 2008). Higher income status has been correlated with higher reporting of masturbatory behaviors, alongside irreligiosity. However, physiological and biological functions of aging, such as increased diagnoses and medical conditions, are still closely correlated to lower frequencies of masturbatory behavior (Arias-Castillo et al., 2009).

The aging process may cause changes in older adult perspectives of sexuality, especially the role of sexuality in everyday life (Ševčíková & Sedláková, 2019). Although using a small sample, Ševčíková and Sedláková (2019) found higher reporting of masturbation among men than women (10 men to 6 women), alongside reporting that sexuality was an important in later life (6 men to 4 women). Additional findings were that partnered sexual activity was preferred to masturbation, and that masturbation had highest frequency among those without a spouse.

Von Humboldt et al. (2020) posits that views of sexuality caused by the aging process are also affected by culture. Comprising a sample of older adults from England, Portugal, and Brazil, this study conceptualized masturbation as a form of ‘eroticism’ generally, which was more frequent among Brazilian older adults than English or Portuguese older adults. However, all three cultures privileged ‘romanticism’ and public expressions (positive communication,

companionship, shared activities) over ‘eroticism’ and private, more overtly sexualized expressions.

Masturbation and Sexual Health of Older Adults

Masturbation’s role within the sexual health of older adults has been typified as a ‘substitute’ to partnered sexual activity, penetrative intercourse specifically; Ginsberg et al. (2005) had 90.3% of the sample reporting masturbation in the past year, with 84.9% reporting mutual stroking. However, 80.1% preferred sexual intercourse to masturbation and 62.4% to mutual stroking.

Lee et al. (2015), an analysis of the English Longitudinal Study of Aging (ELSA), a multi-faceted study which included 6,201 participants from England (56% of which were women), had 44.3% of men reporting frequent masturbation, with a negative trend across increasing age (54% of males aged 50-59, 41.1% aged 60-69, 30.4% aged 70-79, 16.7% aged 80-90+). Of the 2,735 men that reported sexual activity, only 2,059 answered any questions pertaining to masturbation. Among women, 15.9% reported frequent masturbation, with a similar negative trend across increasing age (20.4% aged 50-59, 13.1% aged 60-69, 9.2% aged 70-79, 7% aged 80-90+). Of the 3,432 women that reported sexual activity, only 1805 answered any questions pertaining to masturbation. Lee et al. (2016) further interprets ELSA data through the framework of positive subjective well-being (PSWB) by analysis of sexual behavior and functioning through variables of sexual desire, frequency of partnered sexual activities, and number of sexual problems (such as erectile dysfunction). Among men, masturbation was low among those who had high sexual desire, high frequency of partnered intercourse, high frequency of fondling/petting, and no problems with erectile function or orgasming. Likewise, masturbation was low among those who had low desire and frequency of intercourse, yet also

had multiple problems with erectile functioning and reaching orgasm. Masturbation was most frequent among those who had no erectile dysfunction or problems with orgasming, yet had low frequency of intercourse, low desire, and low frequency of petting/fondling. Among women, masturbation was most common among those with medium desire, some problems with arousal yet none with reaching orgasm, and low frequency of sexual intercourse and fondling/petting. Men were more likely to report masturbation than women. Those who only practiced masturbation had lower PSWB than those who had partnered sexual intercourse, yet higher than those who were incapable of any sexual activity. This implies that masturbation is an important constituent of sexual health, yet not the foremost.

PSWB's analysis through sexual functioning and overall physical health is conceptually similar to the framework of sexual well-being (SWB), which views sexual health as a constituent of overall well-being. SWB, used in Santos-Iglesias et al. (2016), measured sexual satisfaction and activity as determined by attitudes, self-esteem, personal concepts of sexuality, and so on, rather than the biological antecedents used by biomedical perspectives. This framework, used as the conceptual basis of a cross-sectional survey, found that older adult men had higher sexual well-being than women, as well as higher frequency of masturbation, even when in partnered relationships. However, this study found that sexual satisfaction was higher among women, who had lower frequencies of all masturbatory behaviors (partnered and non-partnered). Bell and Reissing (2017) studies SWB among women specifically, especially regarding the role of sexual excitation and inhibition. Among the sample, arousability and setting were positive predictors for masturbation, whereas relationship importance was a strongly negative predictor. This may arise from a cultural attitude wherein masturbation is viewed as 'transgressing' against a partnered relationship.

Cross-cultural aspects of masturbation and sexual health among older adults is further considered by Træen et al. (2018), which included a large sample spanning Norway, Denmark, Belgium, and Portugal. Træen et al. (2018) included 3816 participants across Norway, Denmark, Belgium, and Portugal. Regarding masturbation, Norwegian men (65%) and women (40%) were most likely to report masturbation in the last year, whereas Portuguese men (42%) and women (27%) were least likely. The Portuguese sample had the highest number of women (54.4%), the lowest level of educational attainment (17% receiving post-secondary education), the second highest percentage of being in a partnered relationship (82.1%), and the highest prevalence of religiosity (87.3%). Portuguese men and Danish women were the two demographics to report highest sexual activity. All demographics, aside from Portuguese men, reported partnered sexual activity and a relationship as being the most important part of sexual satisfaction. Portuguese men, who had the lowest frequency of masturbation among men, and Danish women, 30.7% of whom masturbated at least once a month, do not have a clear correlation regarding frequency of masturbation and sexual satisfaction. Štulhofer et al. (2019) used the same sample as Træen et al. (2018), and sought to quantify successful sexual aging, a term which signifies how SWB correlates with physical and mental health. This study found that males had higher frequency of relationships (75.1%) than females (50.2%), and that religiosity and rural upbringing were strongly correlated with lowered frequency of sexual activity (including masturbation), but that education had no such impact. This study found a negative association between masturbation frequency and SWB, in line with Træen et al. (2018), suggesting that masturbation's primary occurrence among non-partnered older adults closely ties it in with lower well-being, although higher than non-partnered older adults who abstain from masturbation.

Higher sexual satisfaction is correlated to higher life satisfaction generally (Skalaca & Gerymski, 2018). However, within this study, masturbation was not indicated as an important predictor of either sexual or life satisfaction; instead, partnered sexual activity and relationships were more closely correlated to high sexual and life satisfaction.

Masturbation and Long-Term Care

Mulligan and Palguta (1991), which consisted of a small sample including only men without cognitive impairment, investigates sexual behavior in long-term care facilities (LTCF), particularly levels of interest and activity correlated to satisfaction. Older adult men in partnered relationships expressed higher sexual interest, albeit with lower preference for intercourse and lower sexual satisfaction than those in non-partnered relationships. Higher distress among those who were in partnered relationships was also noted. In addition, those in non-partnered relationships had minimal distress. Both partnered and non-partnered male residents reported masturbation in 10% of cases; 63% of partnered participants preferred intercourse over other forms of sexual activity; 68% of non-partnered participants preferred intercourse as well. Among variables measured, being married, sexual interest, frequency of kissing, and lower scores on the Folstein Mini-Mental State examination were positively correlated to distress. Masturbation had no such correlation.

One important consideration concerning LTCFs is the presence of staff. Walker et al. (1998), which included 68 older adult residents and 126 staff, were given the Knowledge and Attitudes Toward Elderly Sexuality (KATES), which included items concerning personal attitudes on politics, sexuality, along with level of personal health. All items were meant to assess tolerance towards sexual expression and level of proactive behavior in maintaining and allowing sexual activity. Many older adults in the sample had a negative view of sexual

expression, and masturbation especially; staff were more tolerant and proactive than the older adults. 26.21% of older adult residents refused to answer items regarding masturbation; the highest level of refusal for any item.

Rheaume and Mitty (2008), a meta-study included articles about older adulthood, sexuality, and barriers which older adults face in LTCFs, particularly regarding the attitudes of health care professionals, sexual effects of medications, using consent in situations with lack of information, and so on. The collecting of ‘sexual histories’ among new residents, including masturbatory activity, was common in LTCFs; if a LTCF was to take a negative view of masturbation, this could have adverse consequences upon the resident.

Mroczek et al. (2013) concerns the means through which LTCF residents satisfy their sexual needs, and the frequencies of such means. The sample did not refuse survey items regarding masturbation; despite this, only one participant in the sample reported masturbation against a sample size of 85 LTCF residents. The sample population did not associate masturbation with other sexual activities. Men were more likely to engage in sexual activity than women and were more likely to feel sexual tension; the one participant who reported masturbation clarified that his masturbatory behaviors were to relieve sexual tension.

Mahieu and Gastmans (2015), a systematic literature review, consisting of 25 studies from 1980 to 2014, seeks to establish trends within the wider extant literature. Focusing on variables of sexual expression, interests, behaviors, satisfaction, homophobia, and heteronormativity, alongside considerations of study design and methodology, this article concluded that most studies reported around 90% of participants refusing to answer questions concerning masturbation, most likely due to the taboo nature of the subject. This falls in line with Mulligan and Palguta (1991). Men were more likely to report masturbatory behaviors than

women. High reluctance towards items concerning masturbation and positively false answers, caused by the taboo character of masturbation, were posited to be possible factors behind these numbers.

Villar et al. (2016) is an early study to only measure staff perceptions of older adult sexuality in LTCFs, comprising 53 staff members from 5 different long-term care. It found that most long-term care facilities do not have explicit rules concerning masturbation, and that reactions and attitudes do not always foster an environment which promotes sexual health; this leads to implicit punishment and negative attitudes from staff members. Avoidance of interference with older adult masturbation was the most common reaction reported by staff, yet staff conceptualized masturbation as a purely private thing which should not be known, mentioned, or especially done in public space. Lack of proper workplace protocol concerning masturbation creates indeterminacy among staff responses; some reported that they would tell workmates and supervisors about residents masturbating, others responded that they would not. Both reactions would be permissible by the workplace measures of the LTCF in question. Within LTCFs, staff perceptions and reactions to masturbation are an important factor affecting older adult sexuality. Villar et al. (2018), proceeding from Villar et al. (2016), using a larger sample of 1895 workers at 152 LTCFs, found that masturbation was the most common older adult sexual behavior which staff witnessed. Of the 1895 participants, 469 had witnessed a resident masturbating, giving it higher frequency than witnessing sexual intercourse (238) or caressing/fondling (147). Masturbation, by virtue of being the most frequent, was also reported as making the staff more uncomfortable than other sexual activity. Villar et al. (2019) comprised 2115 staff members across 152 LTCFs. The aim of this study was to explore staff's perceptions concerning the importance and presence of sexual needs and sexual health among residents.

Among the sample, 76.9% reported that residents satisfy their sexual needs through masturbation, and 48.3% of staff members indicating that staff should be trained to understand older adult sexual expression and not treat it as a punishable act.

Rahn (2018) included 168 baby boomers (born 1946-1965), all of whom were in partnered relationships and living in LTCFs. Disciplinary measures against masturbation were covered in this article; it was found that many facilities adopted practices which delimited the frequency of masturbation, such as putting residents in suits with zippers, putting tight draw sheets over them, and so on.

Masturbation and Cognitive Decline

Haddad and Benbow (1993a) is a literature review comprising 36 articles from 1960 to 1992, all of which concerned sexual problems and dementia. The aim of this study was to establish a system whereby the problems and consequences of sexual problems and dementia could be addressed. This literature view noted that, among older adults with dementia who have catheters, there was a trend of pulling out catheters in order to masturbate, something which can cause physical trauma to the genital area. Haddad and Benbow (1993b), returning to older adults with dementia, assesses awareness of relationships, awareness of possible sexual risks, and ability to avoid exploitation. The goal of this article was to examine physical, psychological, and social factors which were germane to the etiology and treatment of sexual problems among those with dementia. One contribution of this study is in anticipating the higher frequency of public masturbation among those with dementia.

Archibald (1998) had a sample comprising 24 nursing-homes. The survey sought to investigate the frequency of sexual behaviors among older adults with dementia, delineated along the lines of gender. This study found that masturbation and handholding were deemed the

most 'acceptable' forms of expression, whereas sexual activity between residents was disliked by managers. Masturbation was more common among men than women; public masturbation (39%) and private masturbation (39%) were equal among men, whereas women had a higher disparity between public (9%) and private (4%), with public masturbation having higher frequency. One important aspect of this study is to note that frequency was reported by managers rather than the older adults themselves.

Roelofs et al. (2015) is a meta-study which included twelve articles on sexuality and dementia from 1990 to 2013, spanning the databases of PubMed, PsychInfo, and Medline. The object of this meta-study was to investigate the extent to which sexuality of older adults with dementia differs from the general population of older adults. This meta-study includes a varied selection of publications, ranging from the USA, Israel, and Taiwan, thus creating a cross-cultural context. Frequency of sexual behavior among older adults with dementia was widely variable, contingent upon religious beliefs, loss of spouse, privacy measures of the nursing home, and so forth. Public masturbation was seemingly more frequent among older adults with dementia than the general older adult population, presumably caused by disorientation.

Wright et al. (2019) study used the English Longitudinal Study of Aging (ELSA) for its data, much like Lee et al. (2015) and Lee et al. (2016). The aim was to establish which aspects of cognitive functioning have a positive association with sexual activity. Prior studies concerning cognitive functioning and sexual activity have generally measured cognitive functioning as one measurable factor, whereas this study conceptualized cognitive functioning as comprising multiple components, rendering it unique against other research, such as Roelofs et al. (2015). Among women, higher memory recall was positively correlated with masturbation; no such impacts of masturbation were found among men.

Cognitive decline and masturbatory behavior is a line of research hitherto largely ignored. Aspects of cognitive decline beyond dementia have been highly neglected.

Gaps in Literature

Most articles included herein were conducted in global north countries, the exceptions being Arias-Castillo et al. (2009) and Von Humboldt et al. (2020). Although studies did not collect demographic information pertaining to race or ethnicity, sampling would most likely reflect the majority white and non-Hispanic populations of these countries. Measurement of any correlates of older adult masturbatory behaviors to neuroscientific phenomena has hitherto not been performed. Extant literature, largely comprising cross-sectional studies and semi-structured interviews, does not quantify phenomena of the nervous system, molecular biology, neurochemistry, and so on. More international studies, such as Von Humboldt et al. (2020), and studies with longer durations of data collection, such as Beckman et al. (2008), would lower possibility of bias and sampling error. Correlates of older adult masturbatory behaviors and diagnoses such as arthritis, osteoporosis, and so forth, are needed. Additionally, further inquiry into factors of gender, sexual orientation, class, race, and ethnicity over older adult masturbatory behaviors is also needed.

Discussion

The Aging Process

The aging process lowers frequencies of masturbatory behaviors (Lindau et al., 2007). Older adults, aged around 55 to 65 years, have higher frequencies of masturbation than oldest old adults, aged around 85 years and up (Lee et al., 2015). Most likely, lowering frequencies across the aging process is caused by increasing diagnoses and decline in physical functioning, assuming a strict connection between functional and chronological age. Masturbatory behaviors,

all of which require physical effort, will be rendered more difficult by decline in physical functioning, such as immobility, arthritis, or paralysis.

Despite lowering frequencies across the aging process, men have consistently higher frequencies of masturbatory behaviors than women (DeLamater & Koepsel, 2014; Lindau et al., 2007). This could be attributed to increased disposition of men to report masturbatory behaviors, since women are more prone to refuse reporting masturbatory behaviors (Lindau et al., 2007; Ševčíková & Sedláková, 2019), or possible socialization towards masturbatory behaviors which arises from specific cultural contexts (Træen et al., 2018). However, accuracy of reporting is itself influenced by cultural contexts; it is conceivable that rates of masturbatory behavior is consistent across all cultures, and the main thing culturally impacted is the reporting itself (Mahieu and Gastmans, 2015).

One point of contention within the extant literature is the role of relationships relating to masturbatory behaviors. Whereas relationship status has been found to have no bearing upon frequency of masturbatory behavior within some studies (Lindau et al., 2007), others demonstrate that masturbation can induce feelings of guilt and lower frequency therefrom (Crowther & Zeiss, 1999), others have correlated marriage to lower reporting of masturbatory behaviors (Træen et al. (2018). Spousal relationships and their affects over masturbatory behaviors is worth exploration in future research.

Masturbation and Sexual Health

Older adults predominantly prefer sexual intercourse to any masturbatory behavior (Ginsberg et al., 2005). Additionally, masturbation is seen as a ‘substitute’ to sexual intercourse, largely occurring among non-partnered participants, with higher frequency of sexual intercourse being correlated to lower frequency of masturbatory behaviors (Lee et al., 2016). Sexual

intercourse was correlated with higher well-being among older adults, higher than masturbation or abstinence from all sexual activity; although masturbation was not as highly correlated to well-being as sexual intercourse, well-being among older adults masturbating was higher than those who abstained from all sexual behaviors (Santos-Iglesias et al., 2016; Štulhofer et al., 2019). Although sexual satisfaction is correlated heavily to life satisfaction, whether or not masturbation has any affect over either variable is not firmly established (Skałaca & Gerymski, 2018).

Extant literature creates a difficult context for the role of masturbation in older adult sexual health. There is yet no consensus on masturbation relating to sexual satisfaction and life satisfaction therefrom, however, conceptual frameworks regarding subjective and sexual well-being has revealed masturbation as raising sexual well-being in absence of a spouse. Frequency of masturbatory behaviors raises in the absence of a spouse, entailing higher frequency of masturbatory behaviors to result in lowered well-being than those in spousal relationships with regular sexual intercourse. Since absence of masturbation in non-partnered relationships is correlated to lower well-being than the presence of it (Štulhofer et al., 2019), it can be inferred that masturbation can be an effective tool in maintaining sexual activity for successful aging.

Additionally, higher frequency of spousal relationships and sexual intercourse among men (Štulhofer et al., 2019) is a matter hitherto left with little research; further inquiry into this matter may reveal factors and dynamics which uniquely impact the sexual health of older adult women.

Long-term Care Facilities

Older adults residing in LTCFs face the unique dynamic of interacting with staff. Staff perceptions concerning older adult sexuality and masturbatory behaviors are generally positive

(Villar et al., 2016), sometimes more positive than those of the older adults themselves (Walker et al., 1998). Masturbation is the most witnessed sexual behavior seen by staff (Villar et al., 2018), although most staff do not think it necessary to be educated on older adult sexuality (Villar et al., 2019). Lack of workplace procedure and discretion regarding masturbatory behaviors can lead to asymmetrical responses from staff (Rahn, 2018; Villar et al., 2016), which can preclude privacy. Group living in LTCFs also renders masturbatory behaviors as something occurring in a more public, shared space. Additionally, executive practices in LTCFs can abscond with the concept of privacy from the beginning, by requiring ‘sexual histories’ from prospective residents (Rheaume & Mitty, 2008).

Older adults in LTCFs have lower reporting of masturbatory behaviors than the average population, with 10% being the most frequent figure (Mahieu & Gastmans, 2015; Mulligan & Palgutta, 1991). Differences in reporting between older adults in LTCFs and the general older adult population is something worth investigating in further research. Disciplinary measures against masturbatory behaviors in LTCFs are rare (Villar et al., 2016), but can still happen (Rahn, 2018). Further research could be done on older adult perspectives concerning sexual activity and privacy within LTCFs, along with frequency and nature of disciplinary practices.

Cognitive Decline

Most literature presented herein concerning masturbatory behaviors and cognitive decline concerns novel patterns of behavior largely specific to older adults with dementia, such as pulling out catheters to masturbate (Haddad & Benbow, 1993a) or public masturbation (Roelofs et al., 2015). Neurochemical phenomena brought on by degenerative diseases, such as Alzheimer’s and other forms of dementia, has not yet been sufficiently researched. At most, we

know that masturbatory behaviors can be correlated to increased memory recall among women (Wright et al., 2019).

Despite novel patterns of behavior correlated to cognitive decline, frequency of masturbation among older adults is, like the general population of older adults, contingent upon spousal relationships, religious beliefs, and privacy measures taken by LTCFs (Roelofs et al., 2015). Commonalities between older adults undergoing cognitive decline and the general older adult population is something to be considered in further research.

Conclusion

Masturbatory behaviors are a normal part of older adult sexual behavior, with variable frequency between demographics and cultures, albeit a general decline in frequency across the aging process. Masturbatory behaviors improve subjective and sexual well-being and are correlated with life satisfaction and slowing cognitive decline, albeit not as much as sexual intercourse. Masturbatory behaviors among the older adult population are often a ‘substitute’ for sexual intercourse, brought on by absence of spouse, and is not as heavily correlated to life satisfaction and well-being as sexual intercourse.

Research included in this literature review suggests that older adult masturbatory behaviors are affected by the aging process and can be complicated by cognitive decline and diagnoses. Additionally, older adults living in LTCFs will often be interacting with staff who have no procedures, protocols, or training regarding older adult masturbation and sexual health. This can cause the spreading of rumors, violation of privacy, and disciplinary measures. LTCF practices of collecting ‘sexual histories’ and compiling information on resident’s sexual activities can have a negative effect upon sexual expression and activity. Cross-cultural aspects of masturbatory behaviors, such as lower frequency being correlated to religious beliefs, feelings of

guilt and obligation towards spouse, and lower income, are common between different demographics, including older adults undergoing cognitive decline. Additionally, lower frequencies across the aging process, with a considerable discrepancy between older adults and oldest older adults, is a common finding of all research.

References

- Archibald, C. (1998). Sexuality, dementia and residential care: Managers report and response. *Health and Social Care in the Community*, 6(2), 95-101. <https://doi.org/10.1046/j.1365-2524.1998.00104.x>
- Arias-Castillo, L., Ceballos-Osorio, J., Ochoa, J. J., & Reyes-Ortiz, C. A. (2009). Correlates of sexuality in men and women aged 52-90 years attending a university medical health service in Colombia. *The Journal of Sexual Medicine*, 6(11), 3008-3018. <https://doi.org/10.1111/j.1743-6109.2009.01488.x>
- Beckman, N., Waern, M., Gustafson, D., & Skoog, I. (2008). Secular trends in self reported sexual activity and satisfaction in Swedish 70 year olds: Cross sectional survey of four populations, 1971-2001. *British Medical Journal*, 337(7662), 151-154. <https://doi.org/10.1136/bmj.a279>
- Bell, S., & Reissing, E. D. (2017). Sexual well-being in older women: The relevance of sexual excitation and sexual inhibition. *The Journal of Sexual Research*, 54(9), 1153-1165. <https://doi.org/10.1080/00224499.2016.1250147>
- Crowther, M. R., & Zeiss, A. M. (1999). Cognitive-behavior therapy in older adults: A case involving sexual functioning. *Psychotherapy in Practice*, 55(8), 961-975. [https://doi.org/10.1002/\(SICI\)1097-4679\(199908\)55:8<961::AID-JCLP5>3.0.CO;2-R](https://doi.org/10.1002/(SICI)1097-4679(199908)55:8<961::AID-JCLP5>3.0.CO;2-R)
- DeLamater, J., & Koepsel, E. (2015). Relationships and sexual expression in later life: A biopsychosocial perspective. *Sexual and Relationship Therapy*, 30(1), 37-59. <https://doi.org/10.1080/14681994.2014.939506>

- Ginsberg, T. B., Pomerantz, S. C., & Kramer-Feeley, V. (2005). Sexuality in older adults: behaviors and preferences. *Age and Ageing, 34*(5), 475-480.
<https://doi.org/10.1093/ageing/afi143>
- Haddad, P. M. & Benbow, S. M. (1993a). Sexual problems associated with dementia: Part 1. Problems and their consequences. *International Journal of Geriatric Psychology, 8*, 547-551.
- Haddad, P. M. & Benbow, S. M. (1993b). Sexual problems associated with dementia: Part 2. Aetiology and treatment. *International Journal of Geriatric Psychology, 8*, 631-637.
- Lee, D. M., Nazroo, J., O'Connor, D. B., Blake, M., & Pendleton, N. (2015). Sexual health and well-being among older men and women in England: Findings from the English longitudinal study of ageing. *Archives of Sexual Behavior, 45*(1), 133-144.
<https://doi.org/10.1007/s10508-014-0465-1>
- Lee, D. M., Vanhoutte, B., Nazroo, D. B., & Pendleton, N. (2016). Sexual health and positive subjective well-being in partnered older men and women. *The Journals of Gerontology, 71*(4), 698-710. <https://doi.org/10.1093/geronb/gbw018>
- Lindau, S. T., Schumm, L. P., Laumann, E. O., Levinson, W., O'Muircheartaigh, C. A., & Waite, L. J. (2007). A study of sexuality and health among older adults in the United States. *The New England Journal of Medicine, 357*(8), 762-774.
<https://doi.org/10.1056/NEJMoa067423>
- Mahieu, L. & Gastmans, C. (2015). Older residents' perspectives on aged sexuality in institutionalized elderly care: A systematic literature review. *International Journal of Nursing Studies, 52*(12), 1891-1905. <https://doi.org/10.1016/j.ijnurstu.2015.07.007>

- Mroczek, B., Kurpas, D., Gronowska, M., Kotwas, A., & Karakiewicz, B. (2013) Psychosexual needs and sexual behaviors of nursing care home residents. *Archives of Gerontology and Geriatrics*, 57(1), 32-38. <https://doi.org/10.1016/j.archger.2013.02.003>
- Mulligan, T. & Palguta, R. F. (1991). Sexual interest, activity, and satisfaction among male nursing home residents. *Archives of Sexual Behavior*, 20(2), 199-204.
- Rahn, A. A. (2018). *Behind closed doors: Exploring ways to support partnered baby boomers' coupledness in residential aged care settings*. [Doctoral dissertation, University of Sydney]. ProQuest Dissertations and Theses Database.
- Rheume, C. & Mitty, E. (2008). Sexuality and intimacy in older adults. *Geriatric Nursing*, 29(5), 342-349. <https://doi.org/10.1016/j.gerinurse.2008.08.004>
- Roelofs, T. S. M., Luijkx, K. G., & Embregts, P. J. C. M. (2015). Intimacy and sexuality of nursing home residents with dementia: A systematic review. *International Psychogeriatrics*, 27(3), 367-384. <https://doi.org/10.1017/S1041610214002373>
- Santos-Iglesias, P., Sandra Byers, E., & Moglia, R. (2016). Sexual well-being of older men and women. *The Canadian Journal of Human Sexuality*, 25(2), 86-99. <https://doi.org/10.3138/cjhs.252-A4>
- Ševčíková, A., & Sedláková, T. (2019). The role of sexual activity from the perspective of older adults: A qualitative study. *Archives of Sexual Behavior*, 49(5), 969-981. <https://doi.org/10.1007/s10508-019-01617-6>
- Skałaca, K., & Gerymski, R. (2018). Sexual activity and life satisfaction in older adults. *Psychogeriatrics*, 19(3), 195-201. <https://doi.org/doi:10.1111/psyg.12381>
- Štulhofer, A., Jurin, T., Graham, C., Enzlin, P., & Træen, B. (2018). Sexual well-being in older men and women: Construction and validation of a multi-dimensional measure in four

- European countries. *Journal of Happiness Studies*, 20(7), 2329-2350.
<https://doi.org/10.1007/s10902-018-0049-1>
- Træen, B., Štulhofer, A., Janssen, E., Carvalheria, A. A., Hald, G. M., Lange, T., & Graham, C. (2018). Sexual activity and sexual satisfaction among older adults in four European countries. *Archives of Sexual Behavior*, 48(3), 815-829. <https://doi.org/10.1007/s10508-018-1256-x>
- Villar, F., Serrat, R., Celdran, M., & Faba, J. (2016). Staff attitudes and reactions towards residents' masturbation in Spanish long-term care facilities. *Journal of Clinical Nursing*, 25(5-6), 819-828. <https://doi.org/10.1111/jocn.13105>
- Villar, F., Celdran, M., Serrat, R., Faba, J., Genover, M., & Martinez, T. (2018). Sexual situations in Spanish long-term care facilities: Which ones cause the most discomfort to staff? *Sexuality Research and Social Policy*, 16, 446-454. <https://doi.org/10.1007/s13178-018-0346-9>
- Villar, F., Serrat, R., Celdran, M., Faba, J., Martinez, T., & Twisk, J. (2019). 'I do it my way': Long-term care staff's perceptions of resident's sexual needs and suggestions for improvement in their management. *European Journal of Ageing*, 17(5), 197-205. <https://doi.org/10.1007/s10433-019-00546-6>
- Von Humboldt, S., Ribeiro-Goncalves, J. A., Costa, A., Low, G., Leal, I. (2020). Sexual expression in old age: How older adults from different cultures express sexually. *Sexuality Research and Social Policy*, 18(2), 246-260. <https://doi.org/10.1007/s13178-020-00453-x>

Walker, B. L., Osgood, N. J., Richardson, J. P., & Ephross, P. H. (1998). Staff and elderly knowledge and attitudes toward elderly sexuality. *Educational Gerontology, 24*(5), 471-489. <https://doi.org/10.1080/0360127980240504>

Wright, H., Jenks, R. A., & Lee, D. M. (2019). Sexual expression and cognitive function: Gender-divergent associations in Older Adults. *Archives of Sexual Behavior, 49*(1), 941-951. <https://doi.org/10.1007/s10508-019-1448-z>

Appendix

Table 1

Database Search Description

Database	Restrictions Added to Search	Dates Included in Database	General Subjects Covered by Database
1. Academic Search Premier	Full text, Peer reviewed, English language	1991-2021	A research database providing thousands of journals, magazines, books, newspapers, and other publications.
2. ProQuest	Full text, Peer reviewed, English language	1991-2021	A collection of multiple databases, providing access to thousands of journals, magazines, newspapers, dissertations, and other publications.
3. PubMed	Full text, English language	1991-2021	Provides citations, abstracts, and selected full-text articles concerning subjects within the medical sciences, such as dentistry, healthcare, and clinical research.
4. SpringerLink	Full text, Health discipline and subdisciplines, English	1991-2021	Online database compiling scientific, technical, and medical journals, books, and related works, owned by the publishing company Springer.

Table 2

Data abstraction process

Date of search	Key words	Results in ASP	Results in ProQuest	Results in PubMed	Results in SpringerLink
09/08/21	“older adult masturbation”	17	1882	489	1824
09/08/21	“old adult masturbation”	10	1988	108	1812
09/08/21	“oldest adult masturbation”	0	1822	0	1810
09/08/21	“senior masturbation”	11	588	10	451
09/08/21	“elderly adult masturbation”	10	458	443	302
09/08/21	“older adults masturbate”	0	321	477	883
09/08/21	“old adults masturbate”	1	405	108	877

09/08/21	“oldest adults masturbate”	0	321	0	876
09/08/21	“seniors masturbate”	0	120	10	183
09/08/21	“elderly adults masturbate”	0	84	443	118
09/15/21	“older adults onanism”	8	33	54	51
09/15/21	“old adults onanism”	3	51	9	48
09/15/21	“oldest adults onanism”	0	33	1	47
09/15/21	“seniors onanism”	5	16	1	20
09/15/21	“elderly adults onanism”	3	8	51	7
09/15/21	“older adults auto-eroticism”	8	13	0	17
09/15/21	“old adults auto-eroticism”	3	13	1	17
09/15/21	“oldest adults auto-eroticism”	0	13	0	17
09/15/21	“seniors auto-eroticism”	5	10	0	6
09/15/21	“elderly adults auto-eroticism”	4	4	0	4
09/23/21	“older adults masturbation long-term care”	1	696	9	626
09/23/21	“old adults masturbation long-term care”	1	629	2	626
09/23/21	“oldest adults masturbation long-term care”	0	696	0	623
09/23/21	“seniors masturbation long-term care”	2	192	1	181
09/23/21	“elderly adults masturbation long-term care”	1	178	9	170
09/23/21	“older adults masturbation long-term care facilities”	1	185	3	209
09/23/21	“old adults masturbation long-term care facilities”	1	178	0	210
09/23/21	“oldest adults masturbation long-term care facilities”	0	185	0	208
09/23/21	“seniors masturbation long-term care facilities”	2	71	0	94
09/23/21	“elderly adults masturbation long-term care facilities”	1	81	3	102

Tischer: Masturbatory Behaviors Among Older Adult Populations

09/23/21	“older adults masturbation nursing homes”	0	273	4	362
09/23/21	“old adults masturbation nursing homes”	0	270	2	364
09/23/21	“oldest adults masturbation nursing homes”	0	273	0	361
09/23/21	“seniors masturbation nursing homes”	1	116	1	130
09/23/21	“elderly adults masturbation nursing homes”	0	119	4	150
10/03/21	“older adults masturbation senility”	0	5	0	10
10/03/21	“old adults masturbation senility”	0	6	0	12
10/03/21	“oldest adults masturbation senility”	0	5	0	10
10/03/21	“seniors masturbation senility”	0	1	0	6
10/03/21	“elderly adults masturbation senility”	0	3	0	7
10/07/21	“older adults retirement masturbation”	1	60	2	97
10/07/21	“old adults retirement masturbation”	1	55	0	99
10/07/21	“oldest adults retirement masturbation”	0	60	0	96
10/07/21	“seniors retirement masturbation”	2	33	0	55
10/07/21	“elderly adults retirement masturbation”	1	38	2	66
10/14/21	“older adults masturbation dementia”	0	187	8	151
10/14/21	“old adults masturbation dementia”	0	174	2	154
10/14/21	“oldest adults masturbation dementia”	0	187	0	151
10/14/21	“seniors masturbation dementia”	0	71	0	68
10/14/21	“elderly adults masturbation dementia”	0	113	6	97
11/01/21	bibliography search (8)				

Table 3*Characteristics of Literature Included and Excluded*

Reference	Included or Excluded	Rationale
Archibald, C. (1998). Sexuality, dementia and residential care: Managers report and response. <i>Health and Social Care in the Community</i> , 6(2), 95-101. https://doi.org/10.1046/j.1365-2524.1998.00104.x	Included	Original research concerning staff attitudes towards masturbatory behaviors and cognitive decline in LTCFs.
Arias-Castillo, L., Ceballos-Osorio, J., Ochoa, J. J., & Reyes-Ortiz, C. A. (2009). Correlates of sexuality in men and women aged 52-90 years attending a university medical health service in Colombia. <i>The Journal of Sexual Medicine</i> , 6(11), 3008-3018. https://doi.org/10.1111/j.1743-6109.2009.01488.x	Included	Evaluated demographic and social attitudes and their correlates to masturbatory behaviors.
Ayalon, L., Gewirtz-Meydan, A., Levkovich, I., & Karkabi, K. (2021). Older men and women reflect on changes in sexual functioning in later life. <i>Sexual and Relationship Therapy</i> , 36(4), 347-367. http://dx.doi.org/10.1080/14681994.2019.1633576	Excluded	Abstract only.
Beckman, N., Waern, M., Gustafson, D., & Skoog, I. (2008). Secular trends in self reported sexual activity and satisfaction in Swedish 70 year olds: Cross sectional survey of four populations, 1971-2001. <i>British Medical Journal</i> , 337(7662), 151-154. https://doi.org/10.1136/bmj.a279	Included	Novel conceptualization of pre-existent research; was able to analyze a large body of data which spanned 30 years, finding trends absent in other literature.
Bell, S., & Reissing, E. D. (2017). Sexual well-being in older women: The relevance of sexual excitation and sexual inhibition. <i>The Journal of Sexual Research</i> , 54(9), 1153-1165. https://doi.org/10.1080/00224499.2016.1250147	Included	Original use of an excitation/inhibition model, contributed original research concerning women and masturbatory behaviors.
Carvalho, A., Træen, B., & Stulhofer, A. (2015). Masturbation and pornography use among coupled heterosexual men with decreased sexual desire: How many roles of masturbation? <i>Journal of Sex & Marital Therapy</i> , 41(6), 626-635. http://dx.doi.org/10.1080/0092623X.2014.958790	Excluded	Abstract only.
Crowther, M. R., & Zeiss, A. M. (1999). Cognitive-behavior therapy in older adults: A case involving sexual functioning. <i>Psychotherapy in Practice</i> , 55(8), 961-975. <a href="https://doi.org/10.1002/(SICI)1097-4679(199908)55:8<961::AID-JCLP5>3.0.CO;2-R">https://doi.org/10.1002/(SICI)1097-4679(199908)55:8<961::AID-JCLP5>3.0.CO;2-R	Included	Case-study which evaluated social attitudes towards masturbation after survival of spouse; informed methodology and conceptualization in proceeding literature.
Dekker, A. D. S., & Schmidt, G. (2003). Patterns of Masturbatory Behaviour. <i>Journal of Psychology & Human Sexuality</i> , 14(2-3), 35-48. https://doi.org/10.1300/J056v14n02_04	Excluded	Abstract only
DeLamater, J., & Koepsel, E. (2015). Relationships and sexual expression in later life: A biopsychosocial perspective. <i>Sexual and Relationship Therapy</i> , 30(1), 37-59. https://doi.org/10.1080/14681994.2014.939506	Included	Novel conceptualization of pre-existent research (NSSHB data) concerning masturbation after survival of spouse.
Fischer, N., Graham, C. A., Træen, B., & Hald, G. M. (2021). Prevalence of masturbation and associated factors among older adults in four european countries. <i>Archives of Sexual Behavior</i> , http://dx.doi.org/10.1007/s10508-021-02071-z	Excluded	Abstract only.
Ginsberg, T. B., Pomerantz, S. C., & Kramer-Feeley, V. (2005). Sexuality in older adults: behaviors and preferences. <i>Age and Ageing</i> , 34(5), 475-480. https://doi.org/10.1093/ageing/afi143	Included	Assessed social attitudes towards masturbation among the older adult working-class, a demographic not assessed in most research.
Haddad, P. M. & Benbow, S. M. (1993a). Sexual problems associated with dementia: Part 1. Problems and their consequences. <i>International Journal of Geriatric Psychology</i> , 8, 547-551. No DOI.	Included	Contributed original research concerning older adult masturbatory behaviors and cognitive decline.

Haddad, P. M. & Benbow, S. M. (1993b). Sexual problems associated with dementia: Part 2. Aetiology and treatment. <i>International Journal of Geriatric Psychology</i> , 8, 631-637. No DOI.	Included	Contributed original research concerning older adult masturbatory behaviors and cognitive decline.
Lee, D. M., Nazroo, J., O'Connor, D. B., Blake, M., & Pendleton, N. (2015). Sexual health and well-being among older men and women in England: Findings from the English longitudinal study of ageing. <i>Archives of Sexual Behavior</i> , 45(1), 133-144. https://doi.org/10.1007/s10508-014-0465-1	Included	Assessment of large sample (ELSA data), contributed original correlates and analysis of data.
Lee, D. M., Vanhoutte, B., Nazroo, D. B., & Pendleton, N. (2016). Sexual health and positive subjective well-being in partnered older men and women. <i>The Journals of Gerontology</i> , 71(4), 698-710. https://doi.org/10.1093/geronb/gbw018	Included	Assessment of large sample (ELSA data), contributed original correlates and analysis of data with novel framework of subjective well-being (SWB).
Lindau, S. T., Schumm, L. P., Laumann, E. O., Levinson, W., O'Muircheartaigh, C. A., & Waite, L. J. (2007). A study of sexuality and health among older adults in the United States. <i>The New England Journal of Medicine</i> , 357(8), 762-774. https://doi.org/10.1056/NEJMoa067423	Included	Original research comprising a large sample (3005 participants).
Mahieu, L. & Gastmans, C. (2015). Older residents' perspectives on aged sexuality in institutionalized elderly care: A systematic literature review. <i>International Journal of Nursing Studies</i> , 52(12), 1891-1905. https://doi.org/10.1016/j.ijnurstu.2015.07.007	Included	Systematic literature review which pulled 25 studies from 1980 to 2014; selected for presentation of articles prior to 1991.
Monteiro, A., von Humboldt, S., & Leal, I. (2017). How do formal caregivers experience the sexuality of older adults? Beliefs and attitudes towards older Adults' sexuality. <i>Psychology, Community & Health</i> , 6(1), 77-92. http://dx.doi.org/10.5964/pch.v6i1.216	Excluded	Research does not extend what is already covered in Villar et al. (2016), Villar et al. (2018), Villar et al. (2019).
Mroczek, B., Kurpas, D., Gronowska, M., Kotwas, A., & Karakiewicz, B. (2013) Psychosexual needs and sexual behaviors of nursing care home residents. <i>Archives of Gerontology and Geriatrics</i> , 57(1), 32-38 https://doi.org/10.1016/j.archger.2013.02.003	Included	Original research concerning masturbatory behaviors in LTCFs.
Mulligan, T. & Palguta, R. F. (1991). Sexual interest, activity, and satisfaction among male nursing home residents. <i>Archives of Sexual Behavior</i> , 20(2), 199-204. No DOI.	Included	Original research concerning masturbatory behaviors in LTCFs; informs later research on issues of methodology and frequency of masturbatory behaviors.
Palacios-Ceña, D., Carrasco-Garrido, P., Hernández-Barrera, V., Alonso-Blanco, C., Jiménez-García, R., & Fernández-de-las-Peñas, C. (2012). Sexual behaviors among older adults in Spain: Results from a population-based national sexual health survey. <i>Journal of Sexual Medicine</i> , 9(1), 121-129. http://dx.doi.org/10.1111/j.1743-6109.2011.02511.x	Excluded	Abstract only.
Rahn, A. A. (2018). <i>Behind closed doors: Exploring ways to support partnered baby boomers' coupledom in residential aged care settings</i> . [Doctoral dissertation, University of Sydney]. ProQuest Dissertations and Theses Database. No DOI.	Included	Contributes original research concerning disciplinary measures against masturbation used in LTCFs.
Rheume, C. & Mitty, E. (2008). Sexuality and intimacy in older adults. <i>Geriatric Nursing</i> , 29(5), 342-349. https://doi.org/10.1016/j.gerinurse.2008.08.004	Included	Meta-study comprising 24 articles which contributes original research concerning staff attitudes in LTCFs.
Roelofs, T. S. M., Luijckx, K. G., & Embregts, P. J. C. M. (2015). Intimacy and sexuality of nursing home residents with dementia: A systematic review. <i>International Psychogeriatrics</i> , 27(3), 367-384. https://doi.org/10.1017/S1041610214002373	Included	Evaluated the phenomena of masturbatory behavior among older adults undergoing cognitive decline.
Santos-Iglesias, P., Sandra Byers, E., & Moglia, R. (2016). Sexual well-being of older men and women. <i>The Canadian Journal of Human Sexuality</i> , 25(2), 86-99. https://doi.org/10.3138/cjhs.252-A4	Included	Cross-sectional survey which evaluates masturbatory behavior through the novel method of sexual well-being.
Ševčíková, A., & Sedláková, T. (2019). The role of sexual activity from the perspective of older adults: A qualitative study. <i>Archives of Sexual</i>	Included	Unique use of the Gendered Sexuality over the Life Course Model (GSLC), contributes

<i>Behavior</i> , 49(5), 969-981. https://doi.org/10.1007/s10508-019-01617-6		original research on older adult perspectives of masturbatory behaviors.
Skalaca, K., & Gerymski, R. (2018). Sexual activity and life satisfaction in older adults. <i>Psychogeriatrics</i> , 19(3), 195-201. https://doi.org/doi:10.1111/psyg.12381	Included	Original research concerning older adult perspectives of masturbatory behaviors.
Štulhofer, A., Jurin, T., Graham, C., Enzlin, P., & Træen, B. (2018). Sexual well-being in older men and women: Construction and validation of a multi-dimensional measure in four European countries. <i>Journal of Happiness Studies</i> , 20(7), 2329-2350. https://doi.org/10.1007/s10902-018-0049-1	Included	Used large sample to assess correlates of sexual activity and ‘successful sexual aging’ as understood through the framework of sexual well-being.
Træen, B., Štulhofer, A., Janssen, E., Carvalheria, A. A., Hald, G. M., Lange, T., & Graham, C. (2018). Sexual activity and sexual satisfaction among older adults in four European countries. <i>Archives of Sexual Behavior</i> , 48(3), 815-829. https://doi.org/10.1007/s10508-018-1256-x	Included	Evaluated pre-existing data through cross-cultural aspects and correlates therein to masturbatory behaviors.
Villar, F., Serrat, R., Celdran, M., & Faba, J. (2016). Staff attitudes and reactions towards residents’ masturbation in Spanish long-term care facilities. <i>Journal of Clinical Nursing</i> , 25(5-6), 819-828. https://doi.org/10.1111/jocn.13105	Included	Original research concerning staff perceptions of older adult masturbatory behaviors in LTCFs.
Villar, F., Celdran, M., Serrat, R., Faba, J., Genover, M., & Martinez, T. (2018). Sexual situations in Spanish long-term care facilities: Which ones cause the most discomfort to staff? <i>Sexuality Research and Social Policy</i> , 16, 446-454. https://doi.org/10.1007/s13178-018-0346-9	Included	Large sample and original data concerning staff perceptions and attitudes of older adult masturbatory behaviors and barriers to older adult sexual health in LTCFS.
Villar, F., Serrat, R., Celdran, M., Faba, J., Martinez, T., & Twisk, J. (2019). ‘I do it my way’: Long-term care staff’s perceptions of resident’s sexual needs and suggestions for improvement in their management. <i>European Journal of Ageing</i> , 17(5), 197-205. https://doi.org/10.1007/s10433-019-00546-6	Included	Large sample and original data concerning protocols, procedures, and staff perceptions of older adult masturbatory behaviors in LTCFS.
Von Humboldt, S., Ribeiro-Goncalves, J. A., Costa, A., Low, G., Leal, I. (2020). Sexual expression in old age: How older adults from different cultures express sexually. <i>Sexuality Research and Social Policy</i> , 18(2), 246-260. https://doi.org/10.1007/s13178-020-00453-x	Included	Original research concerning sexual expression and concepts of self, examining cross-cultural correlates.
Walker, B. L., Osgood, N. J., Richardson, J. P., & Ephross, P. H. (1998). Staff and elderly knowledge and attitudes toward elderly sexuality. <i>Educational Gerontology</i> , 24(5), 471-489. https://doi.org/10.1080/0360127980240504	Included	Early research on staff perceptions of older adult masturbatory behaviors.
Wright, H., Jenks, R. A., & Lee, D. M. (2019). Sexual expression and cognitive function: Gender-divergent associations in Older Adults. <i>Archives of Sexual Behavior</i> , 49(1), 941-951. https://doi.org/10.1007/s10508-019-1448-z	Included	Original research concerning gendered correlations of masturbatory behaviors and cognitive decline.