Special Issue: Sexuality and Aging: Review Article

Sex and Love Among Older Adults in the Digital World: A Scoping Review

Ateret Gewirtz-Meydan, PhD,[1,*] Eugenia Opuda, MLS,[2] and Liat Ayalon, PhD[3,]

[1]School of Social Work, Faculty of Social Welfare and Health Sciences University of Haifa, Israel. [2]Health and Human Services Librarian, University of New Hampshire, Durham, New Hampshire, USA. [3]The Louis and Gabi Weisfeld School of Social Work, Bar Ilan University, Ramat Gan, Israel.

*Address correspondence to: Ateret Gewirtz-Meydan, PhD, School of Social Work, University of Haifa, room 509, 199 Abba Khoushy, Mount Carmel, Haifa, 3498838, Israel. E-mail: agewirtz-@univ.haifa.ac.il

Abstract

Background and Objectives: The digital world offers opportunities for sex and love and also reflects societal stereotypes regarding sex and love among older adults. The aim of the current review is to look at the ways older adults use digital media for sex and love and also at digital media's representations of older adults.
Research Design and Methods: We searched for studies published in English that used qualitative and/or quantitative methods, with findings based on empirical data from individuals 55 years of age or older. The following data sets were searched: PubMed, Web of Science, PsycINFO, Cochrane Database of Systematic Reviews, and CINAHL. Bibliographies of all relevant studies were searched. Titles and abstracts were reviewed, and selected articles were extracted independently by 2 reviewers.
Results: A total of 1,819 records were retrieved. After removing duplicates, 1,488 records remained. Of these, 70 records remained for full-text screening, and a final count of 15 records was included for synthesis.
Discussion and Implications: The present review highlights major research gaps in the field. Although studies have indeed focused on the online dating scene among this cohort, they have ignored older adults' sexuality in favor of other aspects (e.g., love and companionship). Representations of this cohort in terms of love and sex are also lacking, and diversity is hardly addressed. Additional research is needed to examine how older adults use digital media for reasons related to love and sex, and how the media mirrors societal stereotypes regarding sex and love among older adults.

Keywords: Digital media, Older people, Sexuality

In the current scoping review, we examined articles that investigated the intersection of digital media with sex and love in later life. Digital media refers to any communication media that operate with the use of any of various encoded machine-readable data formats. Digital media can be created, viewed, distributed, modified, listened to, and preserved on a digital electronics device, such as computers, mobile devices, and television (Smith, 2013). The intersection between digital media and sex and love among older adults is examined in the context of two main research questions: (a) how older adults use digital media for reasons related to sex and love and (b) how digital media represents sex and love among older adults.

The Use of Digital Media for Sex and Love in Later Life

Although older adults consistently have lower rates of technology adoption than do members of the general public, reports from the United States indicate that older adults are

embracing technology at a rapid pace (Pew Research Center, 2017). For example, in the past 5 years, the number of older Americans using a smartphone has doubled. Internet use has also risen steadily over the last decade and a half. In early 2000, just 14% of older adults were using the internet; in 2017, 67% of adults ages 65 and older said they use the internet. Finally, social media use among older adults is also steadily increasing; in fact, 34% of Americans ages 65 and up reported using social networking sites such as Facebook or Twitter (Pew Research Center, 2017). Similar shifts also were reported in other countries, such as Australia (Australian Communications and Media Authority, 2021), the United Kingdom (Selwyn et al., 2003), and other countries in Europe, for instance (Eurostat, 2021).

According to the Pew Research Center (2017), older adults use digital media as a platform to consume news, seek information, share experiences, and connect with friends and family. Limited information is available on whether and how older adults use digital media for reasons related to sex and love. A study conducted among 3,816 European older adults found that older adults use digital media for three main purposes with regard to sex and love: seeking a partner, sexual self-enhancement, and seeking information or advice (Træen et al., 2018). Another recent study examining online sexual activities among older adults categorized online sexual activities into three main activities (Scandurra et al., 2022): nonarousal activities (e.g., visiting sex-educational websites or chatting on dating websites), solitary arousal activities (e.g., watching pornography), and partnered arousal activities, which require the participation of at least one other individual (e.g., engaging in webcam sex or sexual chat).

As for seeking a partner, many older adults maintain an interest in intimate partner relationships and actively seek partners online (Malta, 2007). Online dating websites are gaining popularity as a convenient way to connect with potential partners. A growing number of older adults are using online dating sites and apps to meet new people (Wada et al., 2015). In 2019, 19% of people aged 55–64 tried dating apps, as did 13% of older adults aged 64 and older (Pew Research Center, 2020). While it is difficult to determine gender differences in the use of online dating sites among older adults, it can be assumed that participation in online dating in later life follows the overall trend of gender differences in online dating participation, in which men are significantly more likely than women to participate in online dating (Abramova et al., 2016). According to a study conducted among 200 older adults aged 60 and older, older women sought a partner who was honest and would do leisure activities with them, while older men sought women who were physically attractive and would provide emotional support (Watson & Stelle, 2021). An analysis of 600 Internet personal ads, revealed that with age, men desired women increasingly younger than themselves, whereas women desired older men until ages 75 and older, when they sought men younger than themselves

(Alterovitz & Mendelsohn, 2009). Interviews with older adults aged 53–74 also showed that older men focused on physical attractiveness, whereas older women focused on abilities (McWilliams & Barrett, 2014).

AARP (2013) conducted a survey to understand the reasons why older adults use online dating sites. According to the survey, older adults think they can meet a broader range of people (23%) through online sites than otherwise, and they do not have to reply or talk to people they do not wish to (20%) or because a friend recommended the site (14%). As to what older adults seek to find, 48% reported using online dating sites to find a serious relationship, 26% to find friendship and companionship, and only 14% for the purpose of casual dating.

Digital media is becoming a medium for sexual self-enhancement in later life. Sexual self-enhancement can be achieved in two main forms: solitary (e.g., watching pornography) and partnered (e.g., engaging in webcam sex or sexual chat, activities which require a virtual interactive participation of at least two people). A recent study showed that the use of digital media for sexual self-enhancement was popular among older adults, with a total of 58.1% of Italian older adults reporting using the internet for sexual self-enhancement at least 2–3 times during the previous month (Scandurra et al., 2022).

Another main use of digital media for sexual self-enhancement takes place via visiting online sex shops and buying sex products. Online sex shops offer sex toys, vibrators, books, videos, and erotic clothing but also medications and natural supplements that are touted as capable of heightening a person's libido and increasing erectile strength and vaginal lubrication. These products are offered to everyone but are often advertised and tailored specifically for older populations (Adams et al., 2003). A study conducted among older adults from four different European countries found that buying sex products is common (Træen et al., 2018). In the study, both men and women who masturbated more were more likely to use the internet to buy sex products than were individuals who did not masturbate (Træen et al., 2018). In a study conducted among 799 internet-recruited Czechs aged 50–96, visiting online sex shops was more frequent among men (Ševčíková et al., 2021) and was associated with masturbation and greater importance for sex in both men and women (Ševčíková et al., 2021).

Finally, digital and nondigital media are two of the most preferred sources of information to learn about sex in later life, with the internet being the most common source used (Fileborn et al., 2017). Older adults use the internet to source a wide range of information on topics such as sexually transmitted diseases and safer sex, sexual dysfunction and aging, and sexuality and sexual pleasure (Fileborn et al., 2017). Older adults also satisfy their need for information, advice, and support on sexual matters with sex-related discussions in older adults' online communities (Berdychevsky & Nimrod, 2015). These communities are popular and are much needed given the limited alternatives

for open and direct sex-related communication in later life. They also offer a great deal of potential for helping people cope with the three primary sexual vulnerabilities that occur in later life: health issues and life circumstances that affect sexuality; difficulties communicating with health care providers about sex-related problems; and limited access to sexual health information (Berdychevsky & Nimrod, 2015). As the use of the internet increases among older adults, it is likely that it will be used as a platform for education and a space in which specific resources for older adults should be made available.

Representations of Sex and Love Among Older Adults in the Digital World

Representations of sex and love in digital media are highly dependent on the particular country or culture in question and the particular period under discussion (Loos & Ivan, 2018). The platform used to deliver information or representations of sex and love among older adults also makes a difference, as formal representations on digital media are likely to be very different from those on informal online chats (Rajendran & Thesinghraja, 2014). The latter forms of informal online communications are seen as beneficial because they do not discriminate on the basis of participants' appearance. They are also thought to encourage open communication among online participants who may feel a sense of safety, given the ostensible anonymity promised by digital media (Adams et al., 2003). Nonetheless, one challenge concerns the unsupported information that can be found online, coupled with the fact that older adults are more likely to accept fake information as real (Brashier & Schacter, 2020). Moreover, because most older adults never received formal sex education as young adults, their ability to detect accurate online information may be hampered (May, 2006). As such, older adults may be particularly susceptible to consuming unsupported information about sex and love at their age, including inaccurate information about sexual health and sexually transmitted diseases. The possibility of online financial or sexual abuse taking place is also increased for these reasons.

Representations of sex and love among older adults do not occur in a vacuum. Instead, they are highly influenced by the general stigma attributed to old age and aging. This bias in the way we think, feel, or act toward people because of their age is termed ageism (Ayalon & Tesch-Römer, 2018). The past few decades have seen dramatic changes in the way older adults are represented in digital media. Initially, older adults were portrayed in a very negative way, emphasizing undesirable social qualities such as vulnerability. More recently, however, older adults' representations have become overly positive, with an emphasis on "successful" aging and a general disregard for the loss and decline that may take place in older age (Loos & Ivan, 2018). The problem with overly positive representations of older

adults is that they foster an overall model of successful aging, in which old age is just a continuation of middle age. In such a model, there is no room for a decline in sexuality or in attractiveness (Calasanti, 2016).

Ageism often intersects with other attributes such as gender, sexual preferences, race, income and status, and disability. Hence, whereas older men are considered attractive—and, in the movies, can still play the protagonist even in their 60s or 70s—women's representations are more limited. Historically, older women were completely invisible on the screen. Subsequently, one-sided ageist stereotypes were used to represent older women, but their sexuality was nonexistent. Next, older women were put into the "older women" slot, and their representations were limited to a specific genre. The final stage is expected to represent women's integration in digital media (Lemish & Muhlbauer, 2012). The case of LGBTQ (lesbian, gay, bisexual, transgender, and queer) older adults demonstrates a similar pattern, as they have transitioned from being completely invisible to being depicted as victims; more recently, however, they have been depicted as icons of resilience (Hurd et al., 2020).

Online dating sites for older adults often present older adults with light skin color, and fail to present older adults of color and various races (Gewirtz-Meydan & Ayalon, 2018). Dating sites for older adults only limitedly present images of older adults with signs of disabilities (e.g., wheelchair, walking stick, and rollator; Gewirtz-Meydan & Ayalon, 2018). Online dating sites can be an opportunity for many older adults to meet and engage in romantic relationships, but they can also reinforce the social exclusion of many diverse populations (Alhabash et al., 2014). The fact that these sites tend to neglect to embrace diversity and represent only very stereotypical images of older people is concerning and likely affects both the use of these sites as well as the representations of older people.

Dating sites represent one source of information about the portrayal of older adults in relation to sex and love. Past research has shown that, in general, even dating sites that target older adults tend to represent old age as a continuation of middle age (Gewirtz-Meydan & Ayalon, 2018). Regardless of their gender, the visual representations of older adults emphasize youth, fitness, and health (Gewirtz-Meydan & Ayalon, 2018). Online sites use age-neutral terms to describe older adults, rather than terms such as older adults, and do not refer to older adults explicitly. These sites also represent older men and women differently, with women being presented as looking significantly younger than men (Ayalon & Gewirtz-Meydan, 2017). This reflects an intersection between sex and age, suggesting older women experience more sexual ageism than older men. This intersection has been demonstrated in other studies that have shown that older women are associated with more negative stereotypes than are older men (Roy & Ayalon, 2020). When considering the findings, it is also important to acknowledge the fact that most dating

sites for older adults cater to heterosexual relations, thus representing heteronormative sexuality (Gewirtz-Meydan & Ayalon, 2018).

The pharmaceutical industry also plays an important role in educating men and women about sexuality through specific representations of older sexuality (Ayalon & Gewirtz-Meydan, 2017). For instance, the introduction of Viagra resulted in the portrayal of male erectile dysfunction as a medical disease that should be treated (Marshall, 2008). Such a portrayal may result in a disregard for the psychosocial aspects of sexuality and sexual dysfunction (Ayalon & Gewirtz-Meydan, 2017). Moreover, stressing the failure of men to perform further highlights older men's vulnerability. Likewise, older women's sexuality has also been portrayed as a medical problem (Hartley, 2006). The connection between older adults and sexual dysfunction has the potential to serve as a stereotype threat, a phenomenon that occurs when individuals are at risk of confirming negative stereotypes about their own group (Lamont et al., 2015). Hence, it is possible that communications that emphasize the inadequacy of older adults and their need to rely on chemical enhancers serve as stressful reminders that impair older adults' performance.

When considering the portrayal of older adults in relation to sex and love in digital media, it is also important to take into account the general stereotype of older adults as incompetent technologically (Mariano et al., 2021). Older adults are consistently portrayed as unable and unfit when it comes to the digital world (Köttl, Tatzer, et al., 2021; Wandke et al., 2012), further affecting their self-perceptions as unfit technologically (Köttl, Cohn-Schwartz, et al., 2021; Köttl, Gallistl, et al., 2021). Even if these stereotypes are not directly related to sex and love, they likely influence the digital portrayal of sex and love among older adults in the digital world.

One problem seems to be that this cohort (i.e., older adults) has internalized negative stereotypes of older adults, age, and aging throughout their lives, and therefore when they grow older, these same stereotypes become self-relevant (Levy, 2009). The representation of older adults as asexual may result in a limited engagement in (safe) sex and limited recognition of the negative impact of sexually transmitted diseases (Kenny, 2013). Moreover, given the differential portrayal of sex and love by gender, it is likely that men and women hold very different stereotypes, which influence their self-perceptions in old age. For instance, women are subject to more sexual stereotypes at a younger age (Hinchliff & Gott, 2008), but their sexuality and attractiveness are seen as diminished at a much younger age compared to men (Clarke & Griffin, 2008).

In summary, past research has identified both opportunities and limitations of social media as a form to represent and engage older people in sex and love (Malta & Roberts, 2017). The present review will elaborate on these conceptualizations through a thorough scoping review of the literature. The digital world has a role both as a site of information about and a provider of opportunities for sex and love. It also acts as a mirror reflecting societal stereotypes regarding sex and love among older adults and at the same time shapes older adults' public perceptions of sex and love in old age. In this study, we examined the digital world in relation to sex and love among this cohort: a world in which older adults are consumers but also targets of stereotypical depictions. Our scoping review thus concerned two main research questions: (a) How do older adults use digital media for reasons related to sex and love? and (b) How are older adults represented in digital media?

Method

Obtaining the Data

This scoping review adhered to the Preferred Reporting Items for scoping reviews (PRISMA-ScR), and a protocol is available through Open Science Framework (https://osf. io/a7n38/). Using a combination of keywords and relevant subject terms, the Health and Human Services Librarian conducted a search of the PubMed, Web of Science, PsycINFO, Cochrane Database of Systematic Reviews, and CINAHL databases. The search was conducted in September 2021. The following keywords were used to guide the search: ("Aged" OR geriatric* OR elder* OR "Frail Elderly" OR "older adult*" OR aging OR aging OR "Aging") AND ("online dating" OR internet OR "social network*" OR "online social networking" OR "dating" OR "internet" OR bumble OR OK cupid OR match OR tinder OR porn* OR MH "Pornography" OR digital OR web OR video OR apps OR phone OR mobile) AND (dating OR "dating" OR love OR "love" OR MH "affection" OR affection OR sexual* OR MH "intimacy" OR intima* OR "sexual behavior" OR sexual). The search was conducted by a librarian (EO) and translated across multiple databases. The full search strategy table is included in Open Science Framework (https://osf.io/a7n38/). We did not search gray literature databases, but gray literature did appear in the database search results. The bibliographies of all relevant studies were searched. A Google Scholar search using the function "cited by" and "related articles" was used with all articles included in the present review to trace additional relevant articles.

Selection of Studies

All titles and available abstracts were reviewed for relevance by two independent researchers (A. Gewirtz-Meydan and L. Ayalon). Disagreements were resolved through consensus decisions. The target sample for the review consisted of older adults (55 years of age or older) who reported on any variables related to their sexuality, love, and dating behaviors, using digital media apps and the internet. Any studies that discussed the representation of older adults' sexuality in digital media were also included.

Inclusion and Exclusion Criteria

Inclusion criteria included articles written in English, with qualitative and/or quantitative research designs, and with findings based on empirical data that focused on a sample of individuals 55 years of age or older who reported on any variables related to their sexuality and dating behaviors, using digital media apps and the internet. In addition, studies that discussed the representation of older adults' sexuality in digital media were included. No publication date restrictions were applied. Exclusion criteria included studies that were not available for a full review, such as conference proceedings, and different studies conducted on the same sample (only the first published paper was reviewed), studies that included participants younger than 55 (that could not be differentiated from people older than 55), and studies that examined sex and love in nondigital media (e.g., magazines and newspapers).

Data Extraction

Data extraction was conducted between September and November 2021, independently by the two reviewers. Disagreements between reviewers were discussed until an agreement was established. Extraction details are available in Table 1 and include references, the country in which the study was conducted, the aim of the study, method, sampling, age range, the total number of participants, and the distribution of men and women in the study. Findings are described in the Results section.

Results

A total of 1,819 records were saved in Covidence software (Covidence systematic review software n.d.). After removing duplicates, the remaining 1,488 records underwent title and abstract screening by the first and last authors. Of those, 1,418 records did not meet the inclusion criteria, leaving 70 records for full-text screening. After the full-text review of articles was completed, we searched the bibliographies for relevant citations. One additional record was included for the final synthesis. The PRISMA Flow Diagram (Figure 1) illustrates the number of citations selected for inclusion and lists the reasons for exclusion after full-text screening. The remaining 15 records were included for synthesis. Studies varied in terms of the country in which the data were collected. However, most of the studies were conducted in Western countries. Most of the studies (*n* = 9) collected data from online websites (e.g., dating sites for older adults). These studies may have chosen the websites from which they downloaded the data, but in many cases they used random sampling within the chosen websites—a strategy that increased the reliability of their results. In addition, most of the identified studies (*n* = 10) used a qualitative method to analyze the data. In most studies, there was an equal distribution between men and women.

The Use of Digital Media for Sex and Love in Later Life

Most of the papers (*n* = 11) identified in the current review were related to online dating in later life. In this area of research, studies tend to focus on what older adults are seeking in their potential romantic relationships and how their preferences differ from the romantic preferences of young adults. Alterovitz and Mendelsohn (2011) found significant differences between young–old (aged 60–74) and old–old participants (above 75), with young–old participants being more likely to mention adventure, romance, sexual interests, and seeking a soul mate, and less likely to mention health. Davis and Fingerman (2016) found that older adults were more positive in their profiles and focused more on connectedness and relationships with others than did younger adults. In another study that compared internet dating profiles for 100 older adults and 100 younger adults (McIntosh et al., 2011), older adults (and especially older women) were more selective than younger adults when it came to age, race, religion, income, and height of a prospective dating partner. However, older adults were willing to travel substantially farther than younger adults to meet the right partner than were younger adults.

Overall, the studies indicated that older men and women were interested in a companion and in someone fun-loving and kind/compassionate (Watson & Stelle, 2021). Additionally, women sought a partner who was honest and would engage in leisure activities with them, whereas men sought women who were physically attractive and would provide emotional support. These findings are in line with the findings of Menkin et al. (2015), which revealed that older adults valued interpersonal communication more than sex appeal. Older users rated sexual attraction as slightly less important than did younger users, but they still highly valued sexual attraction (Menkin et al., 2015). Women placed an even greater emphasis on communication over sexual attraction than did men.

Men's greater emphasis (than women's) on physical attractiveness and provision of status-related information holds true across the life span and does not seem to significantly change with age (Alterovitz & Mendelsohn, 2011, 2013; Menkin et al., 2015). With men desiring women increasingly younger than themselves, and women desiring older men. That said, at around the age of 75 and older, older women sought men younger than themselves (Alterovitz & Mendelsohn, 2013).

One study examined the use of online dating in same-sex older adults (Griffin & Fingerman, 2018). According to this study, adults seeking same-sex relationships emphasized romance more than did older adults seeking heterosexual relationships. Furthermore, adults seeking same-sex relationships who lived in environments with low structural support for LGBTQ people were most likely to emphasize a desire for shared experiences.

The use of the internet for online dating among older adults was very meaningful for older adults' self-image

Table 1. Summary of the Reviewed Studies by Location, Aim, Method, Sampling, Age Range, Age Mean, and Gender

Reference	Location	Aim	Method	Sampling	Age range	Mean age	N total
Alterovitz and Mendelsohn (2013)	Online websites	To examine relationships goals of middle-aged, young-old, and old-old internet daters	Qualitative	Random sampling	middle-aged (40–54), young-old (60–74), and old-old (≥75)	The young-old group had a mean age of 63.6 ($SD = 3.49$), and the mean age for the old-old group was 77.7 ($SD = 2.95$).	150 (Men = 75; Women = 75)
Araújo et al. (2017)	Brazil	To identify the needs of the older in view of their sexuality to subsidize the construction of an educational technology	Qualitative	Convenience sampling	65–78	NA	7 (Men = 1; Women = 6)
Ayalon and Gewirtz-Meydan (2017)	Online websites	To examine homepage advertisements of dating sites for older adults	Qualitative	The entire population of websites that met criteria	NA	NA	39 websites
Calasanti and King (2007)	Online websites	To examine old manhood in antiaging advertisements	Qualitative	The entire population of antiaging websites that met criteria	NA	NA	96 websites + 10 tags from sites no longer operational
Davis and Fingerman (2016)	Online websites	Examine the difference in content in how older vs. younger adults present themselves in online dating sites	Qualitative	Random sampling	18–95	1,000 Young adults (18–29), ($M = 25.28, SD = 3.17$); 1,000 late young adulthood/early midlife (30–49), ($M = 36.63, SD = 5.61$); 1,000 late midlife (50–64), ($M = 55.02, SD = 3.99$); and 1,000 older adults (≥65), ($M = 69.02, SD = 4.29$)	4,000 (Men = 2,000; Women = 2,000) dating profiles from two popular websites
Erjavec and Zilic Fiser (2016)	Slovenia	To examine how older adults who lived the majority of their lives under socialism perceived online	Qualitative	Convenience sampling	63–77	NA	38 (Men = 19; Women = 19)
Griffin and Fingerman (2018)	Online websites	To examine the dating motivations and self-presentations of older adults seeking same-sex relationships	Qualitative	Random sampling within selected websites	≥60	$M = 64.90$ for same-sex adults and $M = 65.38$-for cross-sex adults	3,343 (Men = 1,672; Women = 1,671) dating profiles from two popular dating sites (1,389 same-sex relationship; 1,954 cross-sex relationship)

Table 1. Continued

Reference	Location	Aim	Method	Sampling	Age range	Mean age	N total
Jönson and Siverskog (2012)	Online websites (Sweden)	To investigate humorous and self-mocking comments about age and age-related appearance among LGBTQ older adults in two Swedish Internet dating forums	Qualitative	Purposive sampling	60–81	NA	276 (Men = 162; Women = 88; 26 transgender)
Lyons et al. (2018)	Australia	To examine sources of information that older adults use or are willing to use for knowledge about safer sex and STIs	Cross-sectional	Convenience sampling	524: 60–69; 162: ≥70	NA	686 (Men = 466; Women = 220) heterosexual men and women who met the criteria for being at some potential risk of a current or future STI
Malta (2007)	Australia	To investigate older adult's romantic Internet relationships	Qualitative	Convenience sampling	61–85	71	7 (Men = 1; Women = 6)
McIntosh et al. (2011)	Online websites	To examine what do older adults seek in their romantic partners online?	Qualitative	Random sampling	≥65	48 young males ($M = 30.08$, $SD = 3.23$), 46 young females ($M = 29.00$, $SD = 3.21$), 38 older males ($M = 5.20$), and 43 older females ($M = 67.77$, $SD = 2.75$).	175 (Men = 86; Women = 89)
Menkin et al. (2015)	Online websites	To examine what are the goals of online dating across the life span	Cross-sectional	Age- and gender-stratified sample of 5,829 users was drawn from the entire population of United States eHarmony.com users between October and March 2002	20–95	NA	5,434 (Men = 2,717; Women = 2,717)

Table 1. Continued

Reference	Location	Aim	Method	Sampling	Age range	Mean age	N total
Traeen et al. (2018)	Norway, Denmark, Belgium, and Portugal	To examine how do older adults use the Internet for sex and love purposes	Cross-sectional	Convenience sampling	60–75	1,271 participants from Norway (M = 66.7 for men and M = 66.9 for women); 1,045 participants from Denmark (M = 67.8 for men and M = 67.8 for women); 991 participants from Belgium (M = 67.3 for men and M = 66.4 for women); and 509 participants from Portugal (M = 66.6 for men and M = 66.8 for women).	3,816 (Men = 1,875; Women = 1,940)
Wada et al. (2016)	Online websites	To examine to what extent the concept of successful aging was reflected in the personal descriptions created by older online daters	Qualitative	Random sampling within chosen dating sites	60–99	68.7	320
Watson and Stelle (2021)	Online websites	How do older adults self-represent themselves in online dating sites and what are they seeking in their romantic partner?	Qualitative	Random sampling within chosen dating sites	60–81 (depending on website and sex)	64.7–65.8 (depending on website and sex)	200 (100 from ourtime.com and 100 from match.com; Men = 99; Women = 100)

Notes: NA = not available; LGBTQ = lesbian, gay, bisexual, transgender, queer; STI = sexually transmitted infection; *SD* = standard deviation.
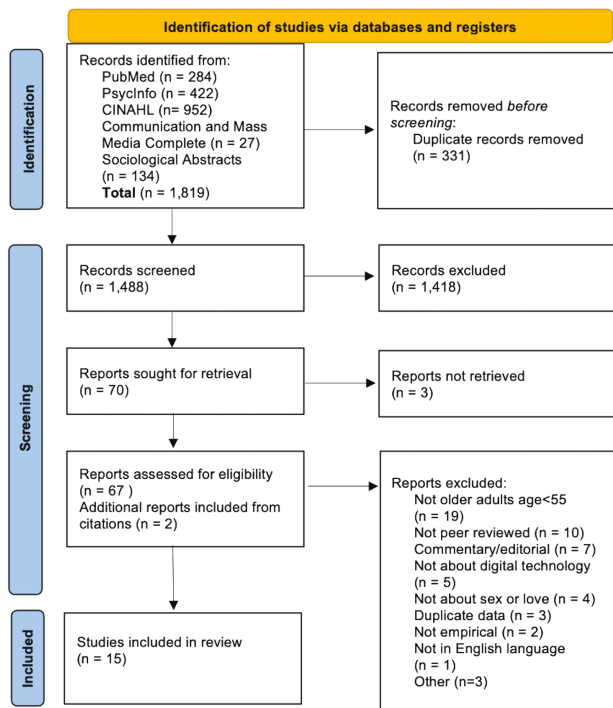
Figure 1. PRISMA flow diagram illustrating the search, screening, and selection process.

(Erjavec & Zilic Fiser, 2016), and they tended to present themselves as having aged successfully (Wada et al., 2016). By using online dating sites, older adults seemed to be declaring: "We are alive again because we are back in the relationship market" (Erjavec & Zilic Fiser, 2016). The decision to seek a partner through online sites among older adults meant that they were once again active in a socially important space, which stimulated a sense of revitalization.

For the most part, relationships that formed online were described as meaningful, intimate, and long-lasting (Malta, 2007). The majority of the participants in this study were involved in ongoing sexual activity with their partners and, for some, cyber-sex was or had been an integral part of their relationships. Additionally, a portion of participants enjoyed flirting online with others, and some were also involved in extra-dyadic relationships, indicating that sex and intimacy outside of primary, committed relationships was just as compelling activity for these older adults as for younger internet users (Malta, 2007).

Only two studies discussed using the internet for obtaining information on sexuality in later life. In a study conducted among 2,137 Australian adults aged 60 and older (Lyons et al., 2018), older adults drew upon a range of different information sources on sexually transmitted infection in later life, with digital media sources listed as the most common source. In another small study, seven older adults were interviewed. Video and/or visual resources (accompanied by professional interactions) were viewed as being the most appropriate technology capable of promoting an understanding of sex-related issues,

according to older adults. In this study, the researchers recommended not to use explicit images of sexual acts, which could generate rejection of the technology (Araújo et al., 2017).

Finally, LGBTQ older adults use the internet for humorous self-presentations. Self-mocking comments, although sometimes subverting norms of age-appropriate behavior, contribute to allocating ambiguous problematic status to old age and appear as a form of age-salient maneuvering (Jönson & Siverskog, 2012).

Representations of Sex and Love Among Older Adults in Digital Media

Only two studies specifically addressed the representations of sex and love among older adults in digital media. In a study that examined 39 online dating sites for older adults (Ayalon & Gewirtz-Meydan, 2017), this cohort was portrayed in positive-neutral terms as well as in negative age-related terms. In addition, the main purpose of each site was broadly described as promoting long-term relationships or even marriage rather than companionship or flirting. In another study that analyzed 96 antiaging websites (Calasanti & King, 2007), manhood was described on the basis of hormones, opposing womanhood, forestalling aging, and competing and performing in sexual and employment realms. Rather than challenging ageism, this construction reinforces both age and gender inequalities. It defines men as dominant and defines women in terms of men's desires. It defines prosperity in old age in terms of youthful experiences and defines aging itself as a sickness that results from a loss of masculinity (testosterone), the cure for which can only be achieved by the aggressive consumption of antiaging products (Calasanti & King, 2007)

Discussion

The Use of Digital Media for Sex and Love in Later Life

Most of the studies identified in this review ($n = 11$) discussed online dating in later life, rather than the representations of sex and love among older adults on digital media ($n = 4$). This finding aligns with the increasing popularity of online dating sites among older adults (Pew Research Center, 2020). Some of the studies concluded that older adults are mainly seeking companionship (Menkin et al., 2015; Watson & Stelle, 2021). Only one study suggested that older adults also enjoy flirting online with others, and that some are involved in extra-dyadic relationships (Malta, 2007). However, it is important to engage in critical thinking and view these findings with some skepticism: are older adults truly only seeking friendship/companionship, or is friendship/companionship simply what they say they are seeking, given prevailing stereotypes of older adults as

asexual? Also, although research on using online dating websites is abundant, to the best of our knowledge, no research was conducted on the use of online dating apps (e.g., Tinder) among older adults.

The intersection between age and gender is salient regarding online dating. Online dating in later life follows the overall trend of gender differences in participation; men are significantly more likely than women to participate in online dating. Moreover, the reasons for seeking online dating are different: Whereas older women report seeking a partner for leisure activities and emotional support, men report desiring women increasingly younger than themselves, to whom they are physically attracted (Alterovitz & Mendelsohn, 2011, 2013; Menkin et al., 2015). The intersection with other forms of marginalization, such as ethnic minority status and/or visible disabilities was not acknowledged in the reviewed studies, suggesting limited representations of intersectionality in research on older adult's use of digital media for love and sex purposes.

The findings from this review also indicate that older adults may be using the internet to seek information about sex. The internet has become a popular venue for searching for medical advice and care among older adults (Baker et al., 2003; Diaz et al., 2002). We also know that older adults turn to the internet to obtain information about sexual issues, possibly because this outlet allows for some anonymity (Adams et al., 2003). A population-based survey of older adults showed that 15% of men and women who experience sexual difficulties would likely use either digital or nondigital media to seek help for their problem (Laumann et al., 2009). Hinchliff and Gott (2011) pointed to the advantages of using the internet for seeking information on sex in later life: the internet allows access to a substantial body of literature on sexual health and sexuality aimed directly at older adults, and also facilitates greater access to sex aids in a way that overcomes the barriers of geographic location and physical ability. The internet also ostensibly provides anonymity, a feature that can be extremely important in older age when individuals experience sexual ageism. As the use of the internet increases among older adults, it is likely that the internet will be a platform for education and a space in which specific resources for older adults should be made available. However, it is essential that more research be conducted in this area, especially given how selective (or not selective) older adults are about which sites they use and how aware (or not aware) they are of the risks and pitfalls of seeking information, including dating partner/s online. It is also important to assess the criteria that older adults use when judging the quality of the information provided, especially because the criteria that older adults use have been shown to be a problem in past research (Loos & Nijenhuis, 2020).

It seems that research on using digital media for love and sex among older adults focuses on nonarousal activities (Scandurra et al., 2022), such as seeking a romantic partner on online dating websites and seeking information about sex online. Solitary arousal activities (e.g., watching pornography) and partnered arousal activities (e.g., engaging in webcam sex or sexual chat, activities which require the virtual interactive participation of at least two people) are significantly under-studied. Using the internet for solitary arousal activities is still one of the most common sex and/or love-related activities in which older men and women engage (Scandurra et al., 2022; Ševčíková et al., 2021; Træen et al., 2018). Partnered online sexual activities are even less studied among older adults. Thus, future research is needed to determine how widespread these practices are among older adults. It is possible that older adults under-report their use of digital media for sexual self-enhancement, because of the threat of stigma once they acknowledge that not only are they sexual but that they engage in (historically) unconventional means of expressing their sexuality (Adams et al., 2003). Alternatively, it is possible that older adults are simply not asked about these topics.

Interestingly, Scandurra et al. (2022) suggest that engaging in solitary sexual activities online (in comparison to partnered online sexual activities) is more common among nonheterosexual older adults. This finding may reflect the intersection between ageism and heterosexism, which places older LGBTQ individuals in a more vulnerable and lonely place, and forces them to return to the "closet" in later life (Hafford-Letchfield, 2008). In this way, expressing their sexuality on an anonymous platform such as digital media can be valuable for their sexual health but may also reinforce stigmas attributed to LGBTQ older adults.

Finally, we did not identify any studies that examined the use of the internet among older adults for the purpose of buying online sex products (e.g., sex toys, vibrators, books, videos, and erotic clothing but also medications and natural supplements that are touted as being capable of heightening a person's libido and increasing erectile strength and vaginal lubrication). Moving forward, this is an important area of study because these products are offered to everyone but are often advertised and tailored specifically for older populations (Adams et al., 2003). In addition, the available, anonymous, and immediate nature of such purchases may free older adults from the stigma that they might endure regarding later-life sexuality and from the fear of purchasing from local vendors (Adams et al., 2003).

It seems clear that sexual expression on the internet has facilitative potential for older adults by providing a wonderful platform for all things related to love and sex, possibly free of discrimination and stigma. However, although there is growing research on the use of online dating sites among older adults, there are too many unknowns to provide a complete summary of how often older adults use the internet for reasons related to sex and love, and especially on how older adults use digital media for sexual self-enhancement (solitary or partnered), to buy sex products or visit online sex shops, and to seek information or advice about sex.

Representations of Sex and Love Among Older Adults on Digital Media

The representation of sex and love among older adults was examined in only two studies: One focused on dating sites, and the other focused on antiaging websites. Both studies highlighted the portrayal of successful aging among older adults. This finding coincides with the Loos & Ivan (2018) analysis, which concluded that the successful aging model has become particularly prominent in the representation of older adults. Although this model is optimistic and presents older adults in a positive light, it fails to acknowledge diversity in old age. Hence, it further stigmatizes those older adults who fail to meet the successful aging stereotype (Ayalon, 2021). It would be important to have a more diverse and balanced representation of old age and aging.

Diverse and inclusive representations of older people in social media are essential to break the stigma and the taboos associated with the love and sexuality of older people. Such representations can provide older people and people of other age groups with educational information about the role of sex and love in the life of older people and possibly open the door for older people to new opportunities and experiences associated with sex and love (Malta & Roberts, 2017). While changes in the representations of older people have been taking place (Chivers, 2011), in the areas of sex and love, social media is lagging behind. The limited research identified suggests the exclusion from the inquiry of possibly important influential channels in the lives of older people.

Limitations

As with any scoping review, it is possible that we missed relevant studies despite our thorough methodology. The focus on articles written in English further limits our ability to understand sex and love in the digital world from a cross-cultural perspective. Our findings show that most studies originated in the developed world, thus possibly reflecting a biased perspective. Finally, the division between use and representation is somewhat blurred as some studies examined online use via self-representations. Thus, although these studies were included under the former category, they also reflect to some degree (self)-representation. Future research on sex and love among older adults in the digital world should include data collection in developing countries, should use quantitative measures (e.g., surveys) to a greater extent, and should approach older adults themselves (rather than extracting data from online websites).

Conclusion and Implications

To conclude, the present scoping review highlights major research gaps in the field. First and foremost, the research has mainly examined older adults who take part in the online dating scene with a focus on love, largely ignoring older adults' sexuality. It is unclear whether this focus on online dating rather than on online sexuality reflects the true preferences of older adults or whether, in fact, it reflects the a-sexualization of old age by research(ers). Further research should explore this issue. In addition, the medicalization of sexuality in old age has also received only limited attention, mainly in relation to online antiaging advertisements, but no attention has been given to older adults' use of these websites for medical information or products. Although some studies have highlighted the experiences of groups holding multiple disadvantaged statuses (i.e., intersectionality), this subject requires more attention in further research (Cho et al., 2013). When examining multiple marginalizations based on age, it is argued that discrimination is never solely based on age alone, but rather, on a multiplicity of characteristics, such as gender, appearance, financial status, and socioeconomic status (Krekula et al., 2018). Thus, examining the use of digital media for sex and love in later life should not only be limited to the obvious intersection of age and sex or gender, but also to other characteristics such as digital savviness, race/ethnicity, disability, cohort, and marital status. These factors and others are likely to be associated with older adults' use of digital media for reasons related to love and sex, and also with the presentation of older adults. The impact of these representations should also be examined, especially given past research which has highlighted the negative impact of internalized age stereotypes on older adults (Levy, 2009).

References

AARP. (2013). *AARP online dating survey*. https://www.aarp.org/content/dam/aarp/research/surveys_statistics/general/2012/AARP-Online-Dating-Survey-AARP.pdf

Abramova, O., Baumann, A., Krasnova, H., & Buxmann, P. (2016). Gender differences in online dating: What do we know so far? A systematic literature review. Proceedings of the Annual Hawaii International Conference on System Sciences, 2016-March, 3858–3867. doi:10.1109/HICSS.2016.481

Adams, M. S., Oye, J., & Parker, T. S. (2003). Sexuality of older adults and the internet: From sex education to cybersex. *Sexual and Relationship Therapy*, **18**(3), 405–415. doi:10.1080/1468199031000153991

Alhabash, S., Hales, K., Baek, J. H., & Oh, H. J. (2014). Effects of race, visual anonymity, and social category salience on online dating outcomes. *Computers in Human Behavior*, **35**, 22–32. doi:10.1016/j.chb.2014.02.016

Alterovitz, S. S., & Mendelsohn, G. A. (2009). Partner preferences across the life span: Online dating by older adults. *Psychology and Aging*, **24**(2), 513–517. doi:10.1037/a0015897

Alterovitz, S. S., & Mendelsohn, G. A. (2011). Partner preferences across the life span: Online dating by older adults. *Psychology of Popular Media Culture*, **1**(S), 89–95. doi:10.1037/2160-4134.1.s.89

Alterovitz, S. S. R., & Mendelsohn, G. A. (2013). Relationship goals of middle-aged, young-old, and old-old internet daters: An analysis of online personal ads. *Journal of Aging Studies*, **27**(2), 159–165. doi:10.1016/j.jaging.2012.12.006

Araújo, M. I. R., Moreira, A. C. A., Silva, M. J., Aragão, A. E. de A., Freitas, C. A. S. L., & Monteiro, P. A. A. (2017). Sexuality and aging: Identified needs for construction of an educational technology. *Revista de Enfermagem UFPE on Line*, **11**(7), 2674–2682. doi:10.5205/reuol.10939-97553-1-RV.1107201704

Australian communications and media authority. (2021). *The digital lives of older Australians (Issue May)*. https://www.acma.gov.au/sites/default/files/2021-05/ThedigitallivesofolderAustralians.pdf

Ayalon, L., & Gewirtz-Meydan, A. (2017). Senior, mature or single: A qualitative analysis of homepage advertisements of dating sites for older adults. *Computers in Human Behavior*, **75**, 876–882. doi:10.1016/j.chb.2017.06.033

Ayalon, L., & Tesch-Römer, C. (2018). *Contemporary perspectives on ageism*. Springer Nature.

Ayalon, L. (2021). Successful ageing and ageism: A bidirectional model of influence. In Tesch-Römer, C., Wahl, H.-W., Suresh, I. S. R. & Liat, A. (Eds.), *Successful Ageing. Ambition and Ambivalence*. Oxford: Oxford University Press, 128 pp. doi:10.1017/S0144686X22000794

Baker, L., Wagner, T., Singer, S., & Bundorf, K. H. (2003). Use of the internet and e-mail for health care information. *Journal of American Medical Association*, **289**(18), 2400–2406. doi:10.1001/jama.289.18.2400

Berdychevsky, L., & Nimrod, G. (2015). *"Let's Talk about Sex"*: Discussions in Seniors' Online Communities. *Journal of Leisure Research*, **47**(4), 467–484. https://doi-org.ezproxy.haifa.ac.il/10.1080/00222216.2015.11950371

Brashier, N. M., & Schacter, D. L. (2020). Aging in an era of fake news. *Current Directions in Psychological Science*, **29**(3), 316–323. doi:10.1177/0963721420915872

Calasanti, T. (2016). Combating ageism: How successful is successful aging? *The Gerontologist*, **56**(6), 1093–1101. doi:10.1093/geront/gnv076

Calasanti, T., & King, N. (2007). "Beware of the estrogen assault": Ideals of old manhood in anti-aging advertisements. *Journal of Aging Studies*, **21**(4), 357–368. doi:10.1016/j.jaging.2007.05.003

Chivers, S. (2011). *The silvering screen: Old age and disability in cinema*. University of Toronto Press.

Cho, S., Crenshaw, K. W., & Mccall, L. (2013). Toward a field of intersectionality studies: Theory, applications, and praxis. *Journal of Women in Culture and Society*, **38**(4), 785–810. https://doi-org.ezproxy.haifa.ac.il/10.1086/669608

Clarke, L. H., & Griffin, M. (2008). Visible and invisible ageing: Beauty work as a response to ageism. *Ageing and Society*, **28**(5), 653–674. doi:10.1017/S0144686X07007003

Covidence systematic review software. (n.d.). *Veritas health innovation, Melbourne, Australia*. www.covidence.org

Davis, E. M., & Fingerman, K. L. (2016). Digital dating: Online profile content of older and younger adults. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, **71**(6), 959–967. doi:10.1093/geronb/gbv042

Diaz, J. A., Griffith, R. A., Ng, J. J., Reinert, S. E., Friedmann, P. D., & Moulton, A. W. (2002). Patients' use of the internet for medical information. *Journal of General Internal Medicine*, **17**(3), 180–185. doi:10.1046/j.1525-1497.2002.10603.x

Erjavec, K., & Zilic Fiser, S. (2016). Aging adults about online dating: "I am back on the relationship market!" *Polish Sociological Review*, **195**(195), 361–371. https://www.jstor.org/stable/44113937

Eurostat. (2021). *How popular is internet use among older people?* https://ec.europa.eu/eurostat/web/products-eurostat-news/-/edn-20210517-1

Fileborn, B., Lyons, A., Hinchliff, S., Brown, G., Heywood, W., & Minichiello, V. (2017). Learning about sex in later life: Sources of education and older Australian adults. *Sex Education*, **17**(2), 165–179. doi:10.1080/14681811.2016.1273829

Gewirtz-Meydan, A., & Ayalon, L. (2018). Forever young: Visual representations of gender and age in online dating sites for older adults. *Journal of Women and Aging*, **30**(6), 484–502. doi:10.1080/08952841.2017.1330586

Griffin, E. M., & Fingerman, K. L. (2018). Online dating profile content of older adults seeking same- and cross-sex relationships. *Journal of GLBT Family Studies*, **14**(5), 446–466. doi:10.1080/1550428X.2017.1393362

Hafford-Letchfield, T. (2008). What's love got to do with it? Developing supportive practices for the expression of sexuality, sexual identity and the intimacy needs of older people. *Journal of Care Services Management*, **2**(4), 389–405. doi:10.1179/csm.2008.2.4.389

Hartley, H. (2006). The "pinking" of Viagra culture: Drug industry efforts to create and repackage sex drugs for women. *Sexualities*, **9**(3), 363–378. doi:10.1177/1363460706065058

Hinchliff, S., & Gott, M. (2008). Challenging social myths and stereotypes of women and aging: Heterosexual women talk about sex. *Journal of Women and Aging*, **20**(1–2), 65–81. doi:10.1300/j074v20n01_06

Hinchliff, S., & Gott, M. (2011). Seeking medical help for sexual concerns in mid- and later life: A review of the literature. *Journal of Sex Research*, **48**(2–3), 106–117. doi:10.1080/00224499.2010.548610

Hurd, L., Mahal, R., Ng, S., & Kanagasingam, D. (2020). From invisible to extraordinary: Representations of older LGBTQ persons in Canadian print and online news media. *Journal of Aging Studies*, **55**(September), 100877. doi:10.1016/j.jaging.2020.100877

Jönson, H., & Siverskog, A. (2012). Turning vinegar into wine: Humorous self-presentations among older GLBTQ online daters. *Journal of Aging Studies*, **26**(1), 55–64. doi:10.1016/j.jaging.2011.07.003

Kenny, R. (2013). A review of the literature on sexual development of older adults in relation to the asexual stereotype of older adults. *Canadian Journal of Family and Youth*, **5**(1), 91–106. doi:10.29173/cjfy18949

Köttl, H., Cohn-Schwartz, E., & Ayalon, L. (2021). Self-perceptions of aging and everyday ICT engagement: A test of reciprocal associations. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, **76**(9), 1913–1922. doi:10.1093/geronb/gbaa168

Köttl, H., Gallistl, V., Rohner, R., & Ayalon, L. (2021). "But at the age of 85? Forget it!": Internalized ageism, a barrier to technology use. *Journal of Aging Studies*, **59**(September), 100971. doi:10.1016/j.jaging.2021.100971

Köttl, H., Tatzer, V. C., & Ayalon, L. (2021). COVID-19 and everyday ICT use: The discursive construction of old age in German Media. *The Gerontologist*. doi:10.1093/geront/gnab126

Krekula, C., Nikander, P., & Wilińska, M. (2018). Multiple marginalizations based on age: Gendered ageism and beyond. In L. Ayalon & C. Tesch-Römer (Eds.), *Contemporary perspectives on ageism* (pp. 33–50). Springer.

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**(3), 171–178.

Lamont, R. A., Swift, H. J., & Abrams, D. (2015). A review and meta-analysis of age-based stereotype threat: Negative stereotypes, not facts, do the damage. *Psychology and Aging*, **30**(1), 180–193. doi:10.1037/a0038586

Lemish, D., & Muhlbauer, V. (2012). "Can't have it all": Representations of older women in popular culture. *Women and Therapy*, **35**(3–4), 165–180. doi:10.1080/02703149.2012.684541

Levy, B. (2009). Stereotype embodiment: A psychosocial approach to aging. *Current Directions in Psychological Science*, **18**(6), 332–336. doi:10.1111/j.1467-8721.2009.01662.x

Loos, E., & Ivan, L. (2018). Visual ageism in the media. In *Contemporary perspectives on ageism* (pp. 163–176). Springer.

Loos, E., & Nijenhuis, J. (2020). Consuming fake news: A matter of age? The perception of political fake news stories in Facebook ads. In *International conference on human-computer interaction* (pp. 69–88). Springer.

Lyons, A., Mikolajczak, G., Heywood, W., Fileborn, B., Minichiello, V., Hinchliff, S., Malta, S., Dow, B., Barrett, C., & Brown, G. (2018). Sources of information-seeking on sexually transmitted infections and safer sex by older heterosexual Australian men and women. *Educational Gerontology*, **44**(2–3), 186–195. doi:10.1080/03601277.2018.1433989

Malta, S. (2007). Love actually! Older adults and their romantic internet relationships. *Australian Journal of Emerging Technologies and Society*, **5**(2), 84–102.

Malta, S., & Roberts, S. (2017). Older people as cyber-sexual beings: Online and internet dating. *Addressing the Sexual Rights of Older People*, 139–153. doi:10.4324/9781315641751-11

Mariano, J., Marques, S., Ramos, M. R., Gerardo, F., Cunha, C. L. da., Girenko, A., Alexandersson, J., Stree, B., Lamanna, M., Lorenzatto, M., Mikkelsen, L. P., Bundgård-Jørgensen, U., Rêgo, S., & de Vries, H. (2021). Too old for technology? Stereotype threat and technology use by older adults. *Behaviour and Information Technology*, **0**(0), 1–12. doi:10.1080/0144929X.2021.1882577

Marshall, B. L. (2008). Older men and sexual health: Post-viagra views of changes in function. *Generations*, **32**(1), 21–27. http://www.jstor.org/stable/44877623

May, J. (2006). Secrets and lies: Sex education and gendered memories of childhood's end in an Australian provincial city, 1930s–1950s. *Sex Education*, **6**(1), 1–15. doi:10.1080/14681810500508790

McIntosh, W., Locker, L., Briley, K., Ryan, R., & Scott, A. (2011). What do older adults seek in their potential romantic partners? Evidence from online personal ads. *International Journal of Aging and Human Development*, **72**(1), 67–82. doi:10.2190/AG.72.1.d

McWilliams, S., & Barrett, A. E. (2014). Online dating in middle and later life: Gendered expectations and experiences. *Journal of Family Issues*, **35**(3), 411–436. doi:10.1177/0192513X12468437

Menkin, J. A., Robles, T. F., Wiley, J. F., & Gonzaga, G. C. (2015). Online dating across the life span: Users' relationship goals. *Psychology and Aging*, **30**(4), 987–993. doi:10.1037/a0039722

Pew Research Center. (2017). *Technology use among seniors*. https://www.pewresearch.org/internet/2017/05/17/technology-use-among-seniors/

Pew Research Center. (2020). *Americans' personal experiences with online dating*. https://www.pewresearch.org/internet/2020/02/06/americans-personal-experiences-with-online-dating/

Rajendran, L., & Thesinghraja, P. (2014). The impact of new media on traditional media. *Middle-East Journal of Scientific Research*, **22**(4), 609–616. doi:10.5829/idosi.mejsr.2014.22.04.21945

Roy, S., & Ayalon, L. (2020). Age and gender stereotypes reflected in google's "autocomplete" function: The portrayal and possible spread of societal stereotypes. *The Gerontologist*, **60**(6), 1020–1028. doi:10.1093/geront/gnz172

Scandurra, C., Mezza, F., Esposito, C., Vitelli, R., Maldonato, N. M., Bochicchio, V., & Amodeo, A. L. (2022). Online sexual activities in Italian older adults: The role of gender, sexual orientation, and permissiveness. *Sexuality Research and Social Policy*, **19**(1), 248–263. doi:10.1007/s13178-021-00538-1

Selwyn, N., Gorard, S., Furlong, J., & Madden, L. (2003). Older adults' use of information and communications technology in everyday life. *Ageing and Society*, **23**(5), 561–582. doi:10.1017/s0144686x03001302

Ševčíková, A., Vašek, D., Blinka, L., Macháčková, H., & Ježek, S. (2021). Markers of sexual life and health in association with Internet use for sexual purposes in Czechs aged 50 and older. *Sexuality Research and Social Policy*, **18**(2), 355–367. doi:10.1007/s13178-020-00463-9

Smith, R. (2013). *What is digital media?* Center for Digital Media. https://thecdm.ca/news/what-is-digital-media

Træen, B., Carvalheira, A. A., Kvalem, I. L., & Hald, G. M. (2018). European older adults' use of the internet and social networks for love and sex. *Cyberpsychology*, **12**(3), 1–15. doi:10.5817/CP2018-3-1

Wada, M., Hurd Clarke, L., & Rozanova, J. (2015). Constructions of sexuality in later life: Analyses of Canadian magazine and newspaper portrayals of online dating. *Journal of Aging Studies*, **32**, 40–49. doi:10.1016/j.jaging.2014.12.002

Wada, M., Mortenson, W. B., & Hurd Clarke, L. (2016). Older adults' online dating profiles and successful aging. *Canadian Journal on Aging*, **35**(4), 479–490. doi:10.1017/S0714980816000507

Wandke, H., Sengpiel, M., & Sönksen, M. (2012). Myths about older people's use of information and communication technology. *Gerontology*, **58**(6), 564–570. doi:10.1159/000339104

Watson, W., & Stelle, C. (2021). Love in cyberspace: Self presentation and partner seeking in online dating advertisements of older adults. *Journal of Family Issues*, **42**(10), 2438–2463. doi:10.1177/0192513X20982024