Review

Online Dating Profiles and Problems in Older Adults: A Review

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Abstract

This narrative review is based on literature searches of PubMed and PsycINFO using the terms online dating in older adults. The papers that met inclusion criteria include content analyses of online dating profiles and interviews with online dating individuals. The issues that emerged from this literature included online versus off-line advantages and disadvantages, online profile characteristics that differ by age and gender and online use problems. Online versus off-line dating older adults have reputedly experienced greater disclosure and expression of what they referred to as the "true-self" online. In their profiles, online older adults have also expressed greater interest in relationships and more selective relationships as well as health-related issues and have been willing to travel further for dates, whereas online younger adults have been more focused on work and achievement. Gender differences include males at all ages being more interested in physically attractive, younger dates. In contrast, online females have expressed more interest in communication and in older men, until they are 75- years-old when they have expressed more interest in younger men. These differences are discussed in the context of socioemotional selectivity theory and investment theory. Limitations of the literature include non-representative samples of individuals who are more educated and higher income than off-line individuals. The

interviews may also reflect socially desirable responses and the content analyses may be biased by deception.

Keywords
Online dating profiles; online dating problems; older adults

1. Introduction

Increasingly, older adults are using technology and turning to online dating sites to expand their social networks, to alleviate their loneliness, and to find friends and romantic partners [1, 2]. These sites have provided a rich database for several studies on internet use by older adults. Surprisingly, the literature on online dating in older populations is rather sparse, and there is considerable need for more investigation on romantic relationships among persons in this age group. The recent published research has included questionnaire, interview, content analysis and experimental studies. Comparisons have been made across ages, across gender and different types of single status, for example, widows versus divorcees. Coding of online profiles has yielded data on these differences and other factors including matching qualities. Online dating problems have also emerged including deception, excessive searching for potential friends/romantic partners, rejection, sexting and scamming.

Older adults may differ from younger age groups on their patterns of online dating. They may, for example, view online dating as one of their only alternatives for finding relationships as they have less access to those via school or work. They may invest more time on their online profiles and contacts for that reason. On the other hand, they may be disadvantaged for having less internet experience and expertise. They may also experience more online dating problems such as self-deception in order to look younger and more attractive as well as spend more time excessively searching as they feel more time-limited given their older age and lonely given their greater isolation. For those reasons, they may feel more desperate to find a relationship. They may also be more vulnerable to online dating problems like rejection, sexting and scamming due to their lesser experience with online dating. Given the apparent unique characteristics and problems among older online dating adults, it is unusual that the literature is limited and has rarely been reviewed. These questions highlighted the importance of conducting this review.

For this literature search on PubMed and PsycINFO, the terms online dating in older adults were used, and only studies in English were selected. Older adults are variously defined by the different researchers and the literature comes from primarily English-speaking countries and has the additional limitation of having sampled heterosexual individuals and not including LGBTQ individuals. Literature prior to the last twelve years was excluded because it had already been reviewed. In that review respondents between 30 and 50 were the most active online daters. Thus, older online adult issues were not included [3]. Online dating has become increasingly popular among older adults so that cohort differences might be expected between the earlier and more recent research. Surprisingly, despite increased online dating by older adults, only 22 studies met inclusion criteria for the current review. The fast growing popularity of online dating among older

adults in contrast to the slow growing research literature highlighted the need for a recent review to hopefully inspire new research.

This brief narrative review of those studies on online dating in older adults is organized by the issues covered by the research. The first section of the paper is focused on online dating profiles and profile characteristics that differ by age and gender [2, 4] and includes studies on online versus off-line dating advantages and disadvantages [5]. The second section of the paper includes online use problems that have been cited by older adults in interviews on online dating but have primarily been researched in younger adults [6]. The problems section is followed by a discussion on socioemotional selectivity theory [7] and investment theory [8] as potential theoretical interpretations for the differences between the younger and the older adult online dating profiles .This is followed by a discussion on the limitations of the literature on online dating profiles and problems in older adults. Age and gender distribution data for these studies are included in Table 1. Types of data collection and primary results of the studies are also included in Table 1 and are grouped by each type of comparison that was made. The clinical relevance of online dating profiles and problems research includes issues of loneliness, forming new relationships and finding social support in later life.

Table 1 First author, country of study, N (sample size), gender, age, methods and results from studies grouped by comparisons made in this review on online dating profiles and problems in older adults ([1]=gender and age not given in the review or meta-analysis, [2]=gender and age given earlier in this table).

First Author	Country	N/gender/Age	Methods	Results
Advantages and disadvantages online versus off-linedating in older adult				
Vanderweerd	U.S.	N=45 women 50-80 years	interviews	> pacing relationship but >deceptive messages
Whitty	Australia	N=60 50% males, 23-60 years, M=44 years	Telephone interviews	>selective relationships and relationships moved faster
Age effects (older versus younger)				
Davis	England	N=4000 profiles 18-95 years	analysis profiles	>focus on relationships & health
Wada2016[1]	Canada	N=320 profiles	coding profiles	>focus on active life
Wada2015[1]	Canada	N=144 articles	coding profiles	continuing sexual interest
McIntosh	U.S.	N=200 profiles 50% males, Younger age group M=29 years, Older age group M=68 years	coding profiles	>income & willing to drive >distance,
Toma[1]	U.S.	N=80 online daters	self-ratings	deception about age
Alterovitz	U.S.	N=450 profiles 50% males, 40-54, 60-74, 75+ years	content anal	>loneliness, <adventure <seeking soulmate, <sexual interest

Gender effects (females versus males)				
Alterovitz[2]	U.S.	N=450 profiles	content anal	No gender effects
McIntosh[2]	U.S.	N=200 profiles	coding	taller dates, older men, >independence >income, <interracial tolerance
Whitty	Australia	N=60 50% males, 23-60 years, M=44 years	telephone	<deception age, height, looks and relationship status
Menkin	U.S.	N=5434 quest. 50% males, 20-95 years	coding	<sexual attraction,> communication
Relationship status (widowed versus divorced)				
Young		N=240 widowed, 280 divorced Males N=274, Females N=246 18-40 years, M=35 years	Coding	>discussion about loss
Profile qualities (popular)				
Khan[1]	U.S.	N=86 studies	Meta-synthesis	>realistic, simple language, humor, mention trait of recipient, disclosure, complimentary
Taylor[1]			Review	> matching, attractiveness, popularity, self-worth
Online problems, Self-deception (females versus males)				
Toma[1]		N=80 online daters	self-ratings	>lying re wt, < re ht
Whitty[2]	Australia	N=60	Interviews	<deception relationships
Excessive searching bias				
Wu	Taiwan	N=128 50% males, 18-36 years, M=26 years	Laboratory	>search options lead to worse choices
Chiou	Taiwan	N=120 50% males, M=24 years	Laboratory	>need for cognition leads to >searching& bad choices
Rejection				
Ford	U.S.	N=78 50% males, M=22 years	Online rejection	>cortisol, >self-blame

Sexting				
Klettke[1]	U.S.	N=31 studies	Syst. Lit. Rev.	>prevalent in older adults
Scamming				
Whitty 2012	Great Britain	N= 2028 50%males, 18-75 years	online dating site	230,000 British citizens are victims of this crime
Self-protection				
Cali	U.S.	N=82 18-36 years, M=25 years	online vs. offline	>self-protective scenarios

2. Online Versus Offline Dating Advantages and Disadvantages

Both advantages and disadvantages have been noted for online versus off-line dating. In one study on 45 women ages 50+ who dated online, interviews were recorded, transcribed and coded for themes [5]. The positive aspects of online dating noted by these women included expanding their social networks, pacing their relationships and having greater knowledge about potential friends/partners before meeting them. The negative aspects reported by these women were the risks of receiving deceptive messages, unwanted sexual advances and scams. Surprisingly, very few studies have addressed these problems in older online dating adults. While the negative aspects mentioned by these women are suggestive of future research, these data are tenuous as they are based on a small sample of solely heterosexual women who were exclusively dating online. A more heterogeneous sample of both online and off-line, younger and older men and women would yield more generalizable data.

In a more heterogeneous sample of 60 Australian men and women, one third of the sample reported via telephone interviews that online dating was the only method of finding potential dates [9]. Although this study was more heterogeneous than the previous study in that it included both men and women who were online as well as off-line dating, the sample was skewed towards a better educated group, and as many as 11% had a partner or were married. Based on the already existing literature, the authors suggested that online versus off-line dating would be advantaged by allowing for greater impression management, more controllable interactions, and greater self-disclosure, intimacy and expression of what they referred to as "true selves" as opposed to "actual selves". This was especially true for socially anxious individuals who typically had difficulty self-disclosing in face-to-face social situations. The participants in this study were recruited from the largest Australian online dating site. Transcripts were made from the telephone interviews and submitted to grounded theory analysis to identify categories/themes from the participants' comments [10]. After the themes were identified, the transcripts were coded for the presence of the themes. Surprisingly, many of the gender differences that had been identified in the off-line dating literature did not appear in this study [9]. For example, there were no gender differences on looking for partners based on their physical attractiveness, on their similar interests or on their socioeconomic status. According to Whitty (2008) [9], in the off-line dating literature, men typically looked for physical appearance more than women and women were notably more interested in partners with high socioeconomic status. Online daters in the Whitty (2008) [9] study were seemingly more selective and had greater expectations for their potential dates, likely

because they had a greater number of potential dates online than they would find off-line. The relationships that were formed online versus off-line also seemed to move faster from being solely online communications to dating, possibly related to the greater self-disclosure that was evident on the online interactions.

3. Profiles Differ by Age, Gender and Relationship Status

Online profiles have differed not only by age, but also by gender and by relationship status. Typically, these differences have been identified on profiles from popular online dating sites by the use of word count software. The focus on profiles may relate to their being readily accessible on online dating sites as opposed to deriving data from more costly interviews and self-report methods.

3.1 Older Age Effects

Age differences are the most frequently studied effects in the recent literature on online dating in older adults. In an age comparison study on 4000 dating profiles from two popular websites, the authors hypothesized that younger adults would likely focus on themselves and their achievements, attractiveness and sexuality, while older adults would present themselves positively but focus on their relationships and physical health probably to clarify that older adults were not too old for relationships and physical health [2]. The younger adults more often used first–person singular pronouns (i.e. I and my) and comments that were related to work and achievement. In contrast, older adults more often used first person plural nouns (i.e. we and our) that were related to health and positive emotions. While the younger adults focused more on self, the older adults commented more on their relationships and connectedness. References to attractiveness and sexuality as they relate to health did not differ between the age groups.

Profiles of older adults have also been coded for three criteria for successful aging including low incidence of disease, high functioning and active life engagement. In a cross-sectional study, for example, 320 profiles of older adults were coded for these criteria [11]. Logistic regression analysis suggested that low disease was characteristic of the younger profiles, while the older profiles were characterized by active life engagement, especially among older women. In another study, the same research group reviewed 144 newspaper and magazine articles about older people and their online dating profiles that were published between 2009 and 2011 [12]. Sexuality was idealized in 13% of the articles on "older adults and online dating" including sexual attractiveness and optimal sexual engagement. In 19% of the articles, sexual interest and functioning were shown as declining in older people while 15% of the articles showed sexuality as sustained in older people. Another 15% of the articles on older adults and online dating implied that older adults might explore new techniques to boost their sexual pleasure. The authors suggested that these articles challenge the stereotype of older adults being non-sexual. That might be even more characteristic of a future review, as the average lifespan has increased since then. A review of more contemporary news articles would be more informative inasmuch as the zeitgeist of dating online has changed within recent times including that more older adults are using online dating sites and more sites are available.

While the review on news articles focused on sexuality, online profiles typically elaborate demographic variables. For example, in a study on Match profiles, 200 of those were randomly

selected to assess the demographic characteristics that older online versus younger online daters preferred [13]. The older adults were defined as 65 and older and the younger adults as 25 to 35 years, suggesting a wide age gap in their sample. The variables included age, gender, youngest acceptable age, oldest acceptable age, height, income requirement, distance willing to travel, willingness to date interracially and to date other religions. Older as compared to younger individuals were willing to date younger individuals, but preferred taller individuals with a greater income. The older adults were less willing to date adults of different races and religions. Surprisingly, the older as opposed to the younger adults indicated that they were willing to travel greater distances for their dates. Gender differences also emerged suggesting that males were more interested in younger dates with less income and more tolerant of interracial and cross-religion dating. Females, on the other hand, preferred taller dates and older men until age 75 at which time they began to prefer younger men. As the authors noted, this is a problem inasmuch as there are three single women for every single man over the age of 65. They contrasted the interests of older men and women as being men looking for stability and domestic help from a marriage, while older women are reluctant to lose their independence and afraid that they will find a companion who needs caregiving. Thus, the authors suggested that women may have to relax their standards to perhaps date other races and religions as well as men who are not as tall or as well-off financially [13]. On the other hand, women may be advantaged by their being more selective regarding age, race, religion, income and height of a prospective partner as they have a profile of preference which might help them identify someone sooner without extensive searching. And, as others have noted, women have expressed the advantages of online dating expanding their social networks, pacing their relationships and having greater knowledge about potential friends/partners before meeting them [5].

The data from these four studies are seemingly consistent including that older people are less willing to date people of other races and they are not wanting to have a financial burden [2, 11-13]. Further, women have consistently held a stronger preference for men who are taller than them. And, economic status has been more important for women than men, who seem to have a greater desire for a confidante who provides emotional support. Of note here was the frequent finding that men who are married tend to live longer, while this health benefit is less obvious for women, which may lead the women to being more selective.

The data from these four studies also have the limitations that the older adults from some online data sites may not be representative of other dating sites or of older singles in general, inasmuch as older people use the Internet less often [2, 11-13]. Once again, the samples were more educated and higher socioeconomic status and perhaps even healthier than older singles who are not online daters. Further, there may have been socially desirable responses in these interviews as, for example, approximately 13% of women and 24% of men have been noted to lie about their age [14]. However, there were no age differences in deception in the Toma et al (2008) [14] study. Further, these data reflect peoples' stated criteria, not their actual dating behavior which would be more difficult to tap given the methodological difficulty of monitoring internet behavior. The participants may have been "faking good" or stating more socially desirable preferences Finally, the age differences may be simple cohort effects. For example, the younger adults were reaching dating age at a time when dating others from different races and religions was more socially accepted.

These studies also featured wide age gaps between young and old samples. But even when the age gap is reduced, age differences have emerged. For example, important age distinctions were noted between middle-age, younger-old, and older-old groups when online daters were divided that way in another study [4]. In this case, 3 groups were compared including the younger-old, (60-74 years) the older-old (75+) and the middle-aged (40-54 years). According to the authors, these three age groups were based on previous research on physical and cognitive aging [15](Abrams, Trunk & Merrill, 2017). The 3 groups were compared on their dating motivations based on salient themes that were identified by a qualitative content analysis of personal profiles including: 1) expressing loneliness, 2) seeking adventure or exploration,3) searching for a "soulmate",4) desiring romantic activities,5) expressing sexual interests, and 6) mentioning health. Personal ads (N=450) were downloaded from "Yahoo! Personals" by random quota sampling without replacement to have 75 "men seeking women" and 75 "women seeking men". The online daters were a representative sample from three geographic areas across the US. These areas included a 200 mile radius around Austin, Texas, Seattle, Washington and Pittsburgh, Pennsylvania. Although online personal ads are more common among middle-aged adults, a sufficient sample was selected for all three groups. The mean age of each group was the same for men and women, although the groups differed on other dimensions. For example, 70% of the older–old adults were widowed and 66% of the middle-aged adults were divorced, a difference that could confound the group comparisons. Employment status also differed by age group, and the sample was not representative given that 36% had a college degree and 88% were white, raising the question of the generalizability of these data. Nonetheless, the qualitative approach of these authors revealed interesting data.

The qualitative content analysis was conducted on the written portions of the profiles (the section entitled"in my words") to determine the motivations/themes of the online daters [4]. The profiles were then coded for these motivations/themes. No gender differences were noted on these motivations/themes. Loneliness was the only theme that the two old adult groups expressed more than the middle-age adult group (15% vs. 5%). The adventure/exploration theme was expressed significantly less often by the older–old adult group than the other two groups (14% versus 27% for the younger-old and 32% for the middle-aged adult group). Looking for a soulmate was expressed significantly less often by the older-old adult group than the other two groups (4% versus 13% and 19%). Less interest for romantic activities was mentioned by the older–old adult group (13%) than the younger-old (30%) or the middle-age (32%) adult groups. Similarly, the older–old adult group expressed less sexual interest (2%) than the younger–old (10%) and the middle-aged (13%) adult groups. Health was the only interest that the older-old adult group expressed more often than the other two adult groups (39% versus 19% and 18%).

These results were unique in that there is very little related research on the romantic lives of these different age adult groups and virtually none on the older–old age adult group. The results suggest that at least on this online dating site, the younger–old adult group was closer to the middle-age adult group than the older–old age adult group, suggesting that old age begins later than the typical 65-year marker, at least for online dating motivations. The fact that both "old" adult groups expressed loneliness motivations suggests the value of online dating at least to 75+ years. As the authors pointed out, these data highlight the importance of improving computer literacy for older adults and for facilitating online dating. The authors also discussed limitations of their study including lack of generalizability given that the sample was better educated and less

ethnically diverse than the general population and the fact that a greater percentage of the older-old adult group was widowed. Finally, they suggested that their results likely reflect both age and cohort effects. Without having longitudinal data, there is no way to estimate the relative contributions of these two effects. The absence of expected gender effects and gender by age interaction effects may relate to the even distribution of gender across the age groups or an insufficient sample size or simply that these motivations/themes are shared by both genders.

3.2 Gender Differences

Gender differences would be expected in this literature just as they have been noted in many other studies on behaviors/activities/attitudes of older people. However, they were not reported in the study just described [4]. No gender differences emerged on the motivations of the middle-age, younger-old and older-old online dating adults including the loneliness, adventure-seeking, looking for a soulmate, romantic activities, sexual interests or health themes. Gender differences did emerge, however, in the Match study [13]. The males were more interested in younger dates with less income and expressed more tolerance of interracial and cross-religion dating. Females, on the other hand, preferred taller dates and older men until age 75 at which time they preferred younger men. As the authors noted, this is a problem inasmuch as there are three single women for every single man among people over age 65. They contrasted the interests of older men and women. That is, men were looking for stability and domestic help from a marriage, while older women were reluctant to lose their independence and afraid that they would find a companion who needed caregiving. Unfortunately, the disadvantages cited for women's online dating were not counterbalanced by any noted advantages in this study, although the women in the Vanderweed et al (2016) study cited the advantages of expanding social networks, pacing relationships and having greater knowledge about partners before meeting.

Gender differences also appeared in the Australian study including that women more often included a photo, most especially a glamour photo [9]. Men more often misrepresented their looks and included a photo that was over a year out of date or even a photo of a different person, as in "stealing another's identity" [9]. The men also described themselves as being better looking than they actually were and more often misrepresented their height and their relationship status (did not report that they were married).No gender differences, however, emerged with regard to what the daters were looking for in a partner

More typically, age by gender interactions have been noted. For example, in a study on 5,434 relationship questionnaires that were completed by new users of eHarmony, older age users rated sexual attraction as less important than younger age users [16]. Although the users generally valued interpersonal communication more than sexual attraction, the men valued sexual attraction more than women at all ages and the women expressed a greater interest in communication as opposed to sexual attraction.

3.3 Relationship Status

As suggested by the men misrepresenting their relationship status in the Whitty (2008) study, relationship status may be a meaningful variable in online profiling. However, only one study could be found on a comparison between divorced and widowed individuals, and no research appeared on single but never married versus other status individuals. In the study on divorced versus

widowed individuals entitled "Online dating and conjugal bereavement", online dating profiles of 241 widowed and 280 divorced individuals were content analyzed for the backstory of their relationship and any meaning--making about the lost relationship [17]. The results suggested that about one-third of those who were widowed discussed their loss and about 16% reappraised their bereavement. In contrast, the divorcees made very little mention of their loss and made less meaning-making about future partners. This finding was not surprising inasmuch as widowed individuals often idealize their lost spouses while divorced individuals often denigrate their former partners. And, profiles are most frequently positive, as already mentioned, so negative referents would be unusual.

4. Profile Qualities and Motivations

Most online dating site profiles begin with a photo, an online name along with location of residence and an opening line. They then give basic demographics including age, height, body type, relationship status, drinking, smoking, profession, income, education, astrological sign, number of children and interests along with an adjacent column that specifies the characteristics wanted in the potential significant other. In at least the Australian study, no gender differences were noted on any of these factors in terms of characteristics/interests they were looking for in a partner [9]. However, as noted, men more often misrepresented their looks including an outdated photo or a photo of another person, their height and their relationship status. In the Whitty (2008) study, the participants talked about keeping their profiles "real" (actual self) as well as selling themselves or describing who they would like to be. Many reported that they showed their profiles to their friends and family to ensure that their profile was a true reflection of themselves. Over half the participants stated that they met their date within a week or two after being contacted on the site. As many as 68% of the participants suggested that the first meeting determined if the relationship would progress. Phone calls made prior to the first date were meant to organize the date and verify information about the person.

Surprisingly, no data could be found in this literature on the proportion of phone calls that successfully led to face-to-face meetings. Further, age differences have not been reported for phone calls or face-to-face meetings, although online dating has been said to result in faster-moving relationships in general [9]. The types of phone conversations would be an important variable for future research including, for example, superficial versus intimate and long versus short conversations. Some have at least explored the profile characteristics that lead to face-to-face meetings. One study, for example, used electronic searches to perform a meta-narrative synthesis of the profiles that resulted in a face-t-o-face meeting [18]. This synthesis included 86 studies. Results suggested that capturing initial interest required an attractive photo, a screen name, and a headline message. The profiles, according to this study, increased likability when they featured a 70:30 ratio of who the dater was to qualities of the desirable person [18]. Popular profiles also stayed close to reality and used simple language with humor. The invitations that were most successful gave a short personalized message that addressed a trait in the profile of the recipient and, they were generally complimentary. Typically, an in-person meeting was scheduled if the sender expressed genuine interest in a short turnaround time. This also happened when the individuals had a similar level of self–disclosure, humor, lack of criticism and an early move from being online chatting to a date. These data would support the "matching hypothesis" that

individuals would select partners who were similar on these qualities. Another research group assessed the matching hypothesis but on different qualities [19]. In this review on data collected in laboratories and popular online dating sites, the reviewers reported that matching was based on the individual's selection of someone who was similar on physical attractiveness, popularity and self-worth. However, the matching on these qualities varied by degree of matching and by different stages of the dating process.

5. Online Dating Problems

Despite attempts to optimize online profiles, phone calls and ultimate face-to-face meetings, potential online dating problems are a downside of this practice. Several problems have been cited by older adults in the literature on online dating profiles in older adults. Those have included deceptive self–presentation, excessive searching bias, rejection, sexting and scamming. Although these problems have been raised by older adults in the online dating interview research, they are not unique to older adults and have rarely been studied in older adults.

5.1 Deceptive Self-presentation

Deceptive self-presentation has been self-reported in several of the studies already reviewed but has been measured more objectively by using a novel cross–validation technique [14]. In this study, 80 online daters rated the accuracy of their self–presentation. The researchers then gathered information on the physical characteristics of the participants including their age, weight and height and compared those data with their online profile data. Women lied about their weight and men lied about their height. In general, the photographs were the least accurate (typically outdated photographs) and the relationship information was the most accurate, although the latter is inconsistent with the Australian study reporting deception about relationships by men [9]. In addition, the observed accuracy was correlated with the participants' self–ratings of accuracy, suggesting that the individuals were deliberately deceptive. Intentional deception would not be surprising given the attempt to be socially desirable online and especially among older adults who have a more limited "playing field". It is also possible that online daters have simply neglected to update their profiles including their photographs, despite the importance of not deceiving their viewers.

5.2 Excessive Searching Bias

Older online dating adults may need to "excessively search" including across several dating sites, although this has not been studied in older adults. Again, this may be related to the limited number of online participants in the older age category and/or the large number of individuals (especially men) who have a stated preference for younger individuals [13]. Excessive searching was explored in two studies demonstrating that excessive searching has led to poor decision-making and reduced selectivity among online dating people [20, 21]. In the first study, the research participants were asked to enter characteristics they find desirable in a partner and then they were randomly assigned to three levels of available profiles [21]. The results supported their thesis that more search options triggered excessive searching leading to worse choices/poorer selectivity. In their second study, they investigated this "more–means-worse–effects"

phenomenon which they described as searching leads to poorer choices because the online users get distracted by irrelevant information which reduces their ability to screen out inferior choices [20]. They tested the research participants on their "need-for-cognition" (engaging in and enjoying intellectual activity) and then asked the participants to review either a small or large number of their most desirable romantic partners on an online dating site. The high need-for-cognition participants did more excessive searching and the effects of their searching were worse than for the low-need-for-cognition participants. Although education is often given on online dating sites, intellectual activity would not necessarily relate to education level. The "need for cognition" individuals may need to search more to find matches on intellectual activity. Other variables that may lead to excessive searching include being perfectionistic as in looking for "a match made in heaven". This may happen more frequently in older online dating adults, especially if they have been widowed and have idealized their deceased partner or if they have been divorced and are looking for a very different person than their ex-spouse. Excessive searching would also provide alternative choices in anticipation of being rejected.

5.3 Rejection

Rejection by online users is a common experience given the significant number of contacts typically made online. In a simulated rejection study, 78 online dating individuals experienced an ambiguous interpersonal rejection or no rejection from a partner in the context of an online dating interaction [22]. In that situation, individuals who had low self-esteem blamed themselves, had greater cortisol reactivity and criticized the rejecter. These results might be expected in a real-life online situation. However, it is difficult to believe that the participants were not aware that this study was a contrived deception, especially if they were given informed consent that had been approved by an institutional review board. On the other hand, the participants may have vividly imagined this happening in real life and accordingly had negative reactions and elevated cortisol.

5.4 Sexting

Sexting, or sending unwanted sexual material, has become so common that it is the topic for one of the only systematic literature reviews that is relevant to online dating [23]. In this separate literature, thirty-one studies met criteria for the review that covered behavioral, psychological and social factors influencing sexting. The results revealed no gender differences but suggested that sexting was more prevalent among older age individuals. This age difference is difficult to interpret, especially since others have reported the lesser focus on sexuality in older adults [4]. Further research is needed to confirm this unexpected finding.

5.5 Scamming

Scamming is a major risk factor for online dating. Typically, someone with a stolen identity initiates an online relationship and after sometimes months of positive interaction dupes the online partner into sending large sums of money via reputable wiring and banking companies [6](Whitty & Buchanan, 2012). Despite being a relatively new form of fraud, an estimated 230,000 British citizens have been victims of this crime. An entire blog devoted to this problem features the stolen identity photos along with templates of the poetry and material shared by these

Internet café scammers. Although online dating sites have warned their members about potential scamming, they do not provide information about the institutions that are enabling the crime. And, because there are no gatekeepers to monitor and prevent this scamming, the crime continues. It has likely dissuaded many potential online daters, especially older adults who have hard-earned monies and may be targeted more often for that reason. Online dating sites might alert members to specific scamming episodes, to blogs that describe the details and to self-protective behaviors. Research on this topic is rare, likely because it is is difficult to identify potential scammers online.

5.6 Self-protection

The felt need for self-protection may derive from knowledge about the preceding online dating problems, especially sexting and scamming. Self-protection is the topic of a paper called "Stranger danger? Women's self-protection intent and the continuing stigma of online dating". In this study, 82 women were asked to read scenarios on a prospective date who was only known through an online dating site or a date who was known through a face-to-face interaction [24]. After the participants read the scenario they rated the importance of self–protection behaviors that they would use if they were in that scenario. As might be expected, those who were in an online scenario rated self-protection behaviors as more important than those who experienced the face-to-face scenario. The authors reported that those participants who had not been on a date with someone online had particularly high self–protection ratings. The same study might be conducted with sexting and non-sexting and scamming and non-scamming online dating scenarios to highlight the importance of self-protection behaviors during those situations. Although different age groups have not been compared on self-protection behavior, it is conceivable that older adults might feel more vulnerable to online dating problems like these and show more self-protection behavior.

6. Discussion

This recent literature on online dating profiles and problems in older adults generally suggests that going online for potential dating is a positive experience that is focused on finding relationships, although online dating has potential problems. In the studies comparing the online dating profiles of older and younger adults, the older adults commented more often about connectedness and relationships while the younger adults more often focused on work and achievement [2]. And, notably, the older adults talked about selective relationships [9] and they more often used plural nouns (we, our), unlike the younger adults who more often used singular nouns (I, my). In addition, they often commented on an active life [11] and expressed positive emotions [2], suggesting that going online for dating is generally a positive experience despite the frequently mentioned potential problems.

Given that these studies have been conducted in English-speaking countries (U.S., Canada, Australia)and exclusively on heterosexual adults, these data might not be generalizable and could be considered ethnocentric as opposed to universal by cross-cultural psychologists [25]. In addition, the data are subjective versus objective and descriptive versus theoretical. Most of the research reviewed here was based on self-reports and interviews rather than observations and was not based on theoretical models.

The positive-emotion and relationship-oriented profiles of the older online dating adults could be considered in the context of socioemotional selectivity theory [7].In that theory, age is associated with increasing motivation to derive emotional meaning from life. For example, in a study by Carstensen and her colleagues on age-related patterns in social networks of European Americans and African Americans, older people "became more selective in their choice of social partners, favoring emotionally meaningful relationships over peripheral ones" [26]. This occurred across a wide age range (18-90 year-olds) and among both ethnic groups. Online dating may provide a broader array of potential partners and a greater opportunity to be selective in choosing social partners and to find more emotionally meaningful relationships. The greater focus on relationships and emotional well-being in the profiles of the older online dating adults versus the focus on work and economic well-being of the younger adults may derive from the socioemotional selectivity concept that "When time is perceived as limited, emotional goals assume primacy" [7].

Further, Carstensen and her colleagues in a growth curve analysis of longitudinal data noted that the "peak of emotional life may not occur until well into the 7th decade" [27]. This sample ranged from 18 to 94 years of age (ethnicity, gender and socioeconomic status stratified across age). The participants were interviewed three times at five year intervals on physical and mental health problems, happiness and personality variables and daily emotion sampling was done 5 times per day for 7 days following the interviews. The authors noted better physical health for those who pursued emotionally meaningful goals and suggested that they also "invested more psychological and social resources to optimize emotional well-being" [27]. The Carstensen et al (2011) sample may have been self-selected for old people who "feel younger". In a recent study on visual representations of people on 39 dating sites intended for older adults, for example, the sample was comprised of older adults who "felt younger" [28]. These authors did a visual thematic analysis of the older adults on these sites. They reported that the majority of the older men and women were smiling, fair complexion, light eye color and looked younger than 60. The "looking younger" was consistent with the older adults "feeling younger" [28].

Another possible interpretation for the older adults focusing on emotional connection is that older adults have been accustomed to emotional well-being from longer-term relationships they have experienced as compared to younger adults. This raises another potential theoretical framework for these data, namely investment theory, which posits that relationships are based on the investment of time, emotional energy and commitment [8]. The primacy of emotional goals in the profiles of older online dating adults may reflect their greater previous experience investing in long-term relationships that have been based on emotional connections. And looking for emotional connections may be more salient and more pressing given their lesser longevity and greater loneliness that has resulted in part from spending more time alone.

A more mundane explanation for the focus on emotional connection is that emotional goals and emotionally meaningful relationships may also be more affordable when one is retired and no longer occupied with working, mating and parenting responsibilities. And, time for preparing profiles and for finding relationships may also be more available. Further research as in that modeled by Carstensen and her colleagues [26] and Rusbult (1980) would inform potential theoretical models for these age differences. More theoretically derived and empirically robust research is needed on this topic.

The studies reviewed here have several limitations including that they may not be representative of other dating sites or of older singles given that older people use the Internet less

often. Most of the samples were also more educated and higher socioeconomic status and perhaps even healthier than older adults who do not engage in online dating. They were also not representative of different gender individuals in that LGBTQ adults were not included in the samples. And, they were limited to English-speaking countries, suggesting that they were not cross-culturally representative.

Several of the studies were based on self-reports or interviews that may have been biased by "socially desirable" responses. Other studies were based on content analyses of profiles which have been subject to deception. Further, most of these studies were based on stated criteria for online dating preferences rather than actual dating behavior. And, the age differences may be simple cohort effects. The older adults reached a dating age at a time when dating across race and religion was less socially acceptable. Nonetheless, the data are suggestive of older versus younger and female versus male online dating preferences which, in turn, suggest ways that online dating older adults can improve their profiles and perhaps move faster from online to face-to-face relationships.

Multivariate research is needed to explore multiple variables within studies rather than single variable studies. And, more experimental and observational research is needed on the online dating behaviors as most of the research has been on profile-stated preferences. Longitudinal research is also needed on several features of online dating including the pacing of the relationships and the transitions from online to offline and how the "stories ended". Future research might assess whether online dating actually alleviates loneliness, expands social networks and helps the consumer find a partner. Comparisons might be made between private dating agencies that perform the matching of potential partners versus traditional online dating. Finally, this research literature has not been driven by theoretical perspectives. Several aspects of online dating including motivations, attitudes and personality characteristics have not been addressed either empirically or theoretically in the current literature. Theories like socioemotional selectivity theory and investment theory might generate further hypotheses as, for example, older people being more selective in their choice of social partners and online dating affording that selectivity more than offline dating. This would especially pertain to older adults since they have less opportunity for face-to-face encounters. As in many other behavioral phenomena, the popularity of the practice has outpaced the scientific study of the behavior, and the data reviewed here highlight the need for further research.

Author Contributions

The author did all works.

Competing Interests

The author has declared that no competing interests exist.

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