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Old World, New Experiences: an Investigation of the Cognitive Complexity of Older Adults in an Online Dating Environment

Jennifer Akwi Awah-Manga
University of Wisconsin-Milwaukee

OLD WORLD, NEW EXPERIENCES: AN INVESTIGATION OF THE COGNITIVE COMPLEXITY OF OLDER ADULTS IN AN ONLINE DATING ENVIRONMENT

by

Jennifer A. Awah-Manga

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ABSTRACT

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This study seeks to add to the knowledge of cognitive complexity by examining its relationship with online dating amongst older adults in comparison to younger adults. Previous studies have indicated that individuals who score high in cognitive complexity produce better messages than those who don't. The majority of the studies about cognitive complexity and message production has centered around children, adolescents, and young adults. There has been no research addressing the cognitive complexity of elderly individuals in particular in an online dating setting. The present study addresses this gap by investigating the cognitive complexity of older adults involved in online dating in comparison to the cognitive complexity of younger adults. Data were collected from online dating profiles and the results showed that older individuals were more cognitively complex than younger adults. There was no significant difference between the cognitive complexity of older women in comparison to older men. The result of this study could help the understanding of individuals' cognition in a setting that is removed from the face-to-face environment. It could also help one's understanding of their cognitive complexity through utilizing the Role Category Questionnaire (RCQ) which is different from the original intent of the questionnaire — to measure the amount of construct in other people excluding one's self. This study increases our understanding of the display of cognitive complexity in an online dating environment amongst older adults and highlights how significantly different it is from the younger adults. Research and practice can benefit from more cognitive distinctions between age groups.

Keywords: *cognitive complexity, online dating, older adults dating.*

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Online dating provides one of the primary methods of meeting a romantic partner in today's society and is a widespread and popular activity (Stephure, Boon, MacKinnon, & Deveau, 2009). The diminishing stigma and increased social trend associated with online dating creates one of the most common ways for adults of varying age ranges to find a romantic partner (Rosenfeld & Thomas, 2012; Stephure et al., 2009). Though online dating's use spans across age groups since inception years ago (Rosenfeld, & Thomas, 2012), older adults depend on the internet to find relationships, and site membership for those 60 years and older is growing (Ellin, 2014). However, most research on the subject incorporates only young and middle-aged adult samples (McWilliams, & Barrett, 2014; Toma, Hancock, & Ellison, 2008). Little research exists examining aging adults' use of online dating (McWilliams, & Barrett, 2014). Users aged 55 and older remain underrepresented in the research (Stephure et al., 2009). According to Calasanti (2007), the lack of research in online dating for aging adults reflects the stereotype of people disinterested in intimate sexual relationships. Nevertheless, due to the growing challenges in developing romantic relationships faced by older adults (e.g., as they get older they find it more difficult meeting people), the online dating platform proves resourceful in fulfilling such needs hence the increase in online dating in older adults (Stephure et al., 2009). As such, online dating profiles provide an excellent opportunity for the comparison of elderly adults to the profiles of younger adults.

According to *eHarmony*, one of the most popular online dating site, more than 40 million Americans use online dating websites, and the number of 55-64 year olds using the sites keep increasing. A study done by Carr (2004) analyzing widows and widowers aged 65 and older showed that 18 months after the death of a spouse, 37% of men and 15% of women became interested in dating. Due to the shrinking size of social networks amongst older adults due to retirement, relocation, and death, fewer opportunities to develop new close relationships exist (de Vries, 1996; Wrzus, Hanel, Wagner, & Neyer, 2013). However, with the progression and dependability of technology in todays' society, meeting new people with similar interests is arguably easier and older adults are not exempt from testing the waters. Though online dating as an older adult might not provide the best platform for everyone due to being technologically handicap and might seem intimidating, a Pew Research study (2016) showed that 12% of adults 55+ have use an online dating site as opposed to 6% in 2013. With this steadily growing number of older adults engaging in online dating, additional research is warranted.

Literature review

Social relationships enhance both psychological and physical health at any stage of the lifespan (Alterovitz & Mendelsohn, 2009). Regardless of age, individuals desire friendship and companionship (McIntosh, Locker, Briley, Ryan, & Scott, 2011). Previous research on online dating regarding partner preference incorporates samples of young or middle-aged adults. Based on the available online dating sites and user data (e.g., Pew Research, 2016), many older adults are seeking dating relationships as well.

There exist social factors that alter the dynamics of dating as people age. Among younger singles, women are more interested than men in forming a committed, long-term relationship with what they deem the right partner, while younger men are less interested in commitment and more interested in dating multiple women (Buss & Schmitt, 1993). Conflicting desires and expectations amongst younger women and men may cause tension in new romantic relationships or may prevent the establishment of a relationship altogether. However, amongst older adults, the reverse is the case. Older single men, many of whom are widowed or divorced, are interested in the stability and domestic aid that marriage brings, while older single women are more ambivalent about marriage or remarriage (McIntosh et al., 2011). Older women being more ambivalent about marriage or remarriage may be because they do not want to lose the independence that comes with being single and do not want to find themselves in the role of care- taker for a man in ill health instead of enjoying the perks of being in a romantic relationship (Dickson, Hughes, & Walker, 2005; Talbott, 1998). Thus, older women face a dilemma. The nature of supply and demand suggests that with fewer available partners, older women looking to date might have to relax dating standards, perhaps accepting a lifestyle less than what they had hoped for (McIntosh et al., 2011). Thus, a gap in the study of older adults and online dating exists as it is important to find out if the fewer availability of older men in the dating pool would reflect in the portrayal of their cognitive complexity in older women. However, more investigation on the nature, structure, and experience of older adults' online dating remains needed.

Three studies investigate the strategies with which older adults advertise themselves when using online dating sites (Alterovitz & Mendelsohn, 2009, 2013; McWilliams & Barrett, 2014). Their findings showed that the relationship goals amongst younger and older adults moved in different directions. For example, younger adults seemed more interested in starting life over with a new romantic partner, while older adults were more interested in finding a companion with whom they could share activities. An important area lacking in the research of online dating in older adults concern analyzing the cognitive complexity of the individual through their description of self and what they seek in a partner. Comparing the cognitive complexity of older adults with that of younger adults in an online dating setting is important because many older adults are turning to the internet in search of romantic relationships hence looking at how they construct them self and their prospective other sheds light on whether they are able to express more complexity than younger adults through an online medium.

Cognitive complexity is important when comparing online dating behaviors amongst older adults versus younger adults because understanding an individual's cognition exposes how a person looks at events, structures, experiences and/or desires and these constructs are analyzed based on how complexly they portray their cognition, thinking and structure (O'Keefe & Brady, 1980). This study examines the differences that exist in the level of descriptors between younger and older adults, and the progression in complexity as age advances. This study seeks to compare and identify (if any) the existence of sex and age differences in the complexity of descriptors in an online dating profile and how these descriptors contribute to influencing partner selection. Studying the cognitive complexity of online dating is important because this could give insights on how the cumulative romantic experiences that the older adults have acquired through previous most likely long-term romantic relationships influence their desires and expectations for new, prospective romantic relationships and how these expectations are distinctive from those of the younger adults. Also, online dating, a technologically driven medium of dating is one which they may not have been familiar with as in their youthful years, they participated primarily in face-to-face dating medium. Hence it would be interesting to find out if older adults are able to translate more cognitive complexity in a virtual dating environment than younger adults.

Self-presentation and motivation

Self-presentation plays a very crucial role when searching for a romantic partner on online dating sites. The dating profile provides interested parties with the information that helps them decide whether or not to start up a conversation and pursue a potential relationship with the individual (Derlega, Winstead, Wong, & Greenspan, 1987). Self-presentation in online dating describes the creation of a personal identity through an online profile that strategically highlights desirable characteristics and conceals undesirable ones with lesser social value (Coupland, 2000; McWilliams & Barrett, 2014; Whitty, 2008; Whitty & Carr, 2006). Studies examining the age influence in self-presentation while online dating using qualitative and content analysis exist (Alterovitz & Mendelsohn, 2009, 2013; McWilliams & Barrett, 2014). For example, McWilliams and Barrett (2014) discovered that online daters aged 53 to 74 experience different barriers to online dating that cause them to utilize different online dating strategies, such as women focusing on their looks and sociability and men focusing on their financial and occupation success and good health. According to Alterovitz and Mendelsohn (2009), as individuals age, men desire women younger than themselves while women desired older men until they reach ages 75 and over, when they sought men younger than themselves usually because women outlive men.

Self-presentation and age. Age constitutes one of the main characteristics used in searching for profiles when online dating (McWilliam & Barrett, 2014). Older adults believe that others use cues in photos and descriptions to evaluate age and assess desirability (Lawson & Leck, 2006). Cues raise issues in older adult online daters' presentation of chronological age and the construction of age identities in profiles and message exchange, which has been termed "a negotiation between authenticity and social approval" (McWilliam & Barrett, 2014, p. 416). However, some older adults, due to an age-related sense of freedom to be authentic and a greater importance placed on trust and communication than desire in prospective relationships, may feel little pressure to either mask chronological age or present a more youthful identity (Riggs & Turner, 1999). However, research has shown that many online daters in middle and later life justify that age-related misrepresentation is crucial for a more successful and gratifying online dating experience (Ellison, Heino, & Gibbs, 2006; Hall, Park, Song, & Cody, 2010). Such misrepresentation may be either due to the conformation to present day online dating realities and/or a presentation of a dating profile more consistent with how these older adults view themselves. As adults age, they report feeling increasingly younger than their actual chronological age (Kleinspehn-Ammerlahn, Kotter-Grühn, & Smith, 2008). The struggle between a youthful mind and an aging body causes older adults to construct a youthful identity as a means of portraying how they see themselves while holding on to their sense of self (Biggs, 1997).

Self-presentation and gender. Older adults also feel the need to conform to gender norms when online dating so that others perusing their profile see them as meeting ideals of heterosexual femininity and masculinity (West & Zimmerman, 1987). In the case of older women, femininity according to Calasanti (2005) is centered on appearance, emphasizing attractiveness and health maintained through physical activity. Because men desire youthfulness and femininity, older women emphasize appearance and sexuality in the profiles (McWilliam & Barrett, 2014). Older men as opposed to older women use highly educated language or pictures in the profiles to emphasize manhood, demonstrating masculine power, to establish themselves as desirable partners for women (Schrock & Schwalbe, 2009). Creating a profile that is appealing requires balancing authenticity and attractiveness (Whitty, 2007); middle-aged and older adults may create profiles that highlight their youthful femininity or masculinity while concealing qualities that might make them seem old (McWilliam & Barrett, 2014).

Motivation. In the search for a romantic partner in an online environment, adults, irrespective of age share common goals and expectations (e.g., companionship, romance) that motivate (Davis & Fingerman, 2016). However, differences in priorities, goals, motivations and expectations that make the dating profiles of adults of different ages different. Based on the differing milestones in the lives of elderly adults versus younger adults, Davis and Fingerman (2016) argue elderly adults may seek partners to share already an established social world; and, younger adults may focus on relationships that help with gaining a foothold in adult roles, pursuing future achievements, and investing in potential procreation and/or recreational sexual activities.

Sociocultural theories and social connections

According to sociocultural theories, younger and older adults may possess different goals regarding the connections to others (Hoppmann & Blanchard-Fields, 2010). Whereas older adults may express concern and focus on the needs of the next generation (An & Cooney, 2006) given the high importance of family and friends (Blieszner, 2006), younger adults may be more into exploration of self and other, with a focus on individual goals and independence (Arnett, 2000). Due to differences in needs and goals, self-presentation may differ amongst the younger and older adults in their online dating profiles, reflecting their age and motivation. Previous research has shown that younger adults use more first-person singular pronouns which indicates a stronger focus on self, whereas older adults use more first-person plural pronouns, which indicates a stronger focus on connections (Pennebaker & Stone, 2003; Schwartz, Eichstaedt, Kern, Dziurzynski, Ramones, Agrawal, Shah, Kosinski, Stillwell, Seligman, & Ungar, 2013). Previous studies have looked at online dating profiles of younger adults and discovered that women were more likely to use first-person singular pronouns than men (Groom & Pennebaker, 2005). This study examines the differences in the use of descriptors between men and women in the online profiles.

Graceful Aging in Media Representations

Societal influence on the meaning of graceful aging may influence the way older adults frame their online dating profiles (Wada, Mortenson, & Clarke, 2016). Successful aging is a construct that distinguishes between usual aging and successful aging within normal aging (Rowe & Kahn, 1987). According to Rowe and Kahn (1997, 1998), successful aging is a state of being that meets three component standards: (a) a low probability of illness and disability, which is indicated by meeting two criteria — absence of disease and absence of risk factors for disease; (b) a high level of both physical and cognitive functional capacity; and (c) active engagement with life, which involves productive and interpersonal activities. The media has shifted from displaying older adults in misrepresented negative light to more positive appealing representations (Miller, 2004).

According to Vickers (2007), the mass media creates a negative effect on society's attitudes toward aging as most people portrayed in the media as young and virile. Though the number of older adults presented in the media has increased the one-sided presentations of later life creates problems and misconceptions for both young and older adults. Although older people may be better understood because of increased visibility in the media, one-dimensional representations of older adults as youthful, active, and rich might have negative consequences as well (Lee, Carpenter, & Meyers, 2007; Loos, 2013; Vickers, 2007; Ylanne, Williams, & Wadleigh, 2009).

Wada et al., (2015) report that older adult representations in Canadian newspapers and magazines established and reinforced a paradox between sexuality as crucial to remaining youthful and aging successfully, and youth and beauty as essential requisites for active sexual engagement. The representations they studied recommended that older adults use pharmaceutical and medical interventions to sustain and enhance sexual function in later life. A more positive image of older people's sexuality is necessary as implicit messages to remain sexually active in older age have become indicators of success versus failure in the aging process (Gott, 2005; Katz, 2002; Katz & Marshall, 2003).

The Analysis of Age and Gender in Older Adults' Online Dating

Previous research has shown that there are gender differences in the approach to online dating. According to McWilliam and Barrett (2014), women move toward new relationships more slowly than men and use online dating as a way to "dip their toes" into the dating pool and test the waters, whereas men view online dating as a way to dive headfirst into new dating opportunities. Also, there needs to be a consideration of the differing motivational factors for engaging in online dating. For example, men view online dating as a way to expand options and facilitate an efficient transition to a new relationship, whereas women face limitations that increase the appeal of online dating (Gewirtz-Meydan & Ayalon, 2017). Due to the differing motivational factors, the component of gender differences in online dating holds firm.

According to Gewirtz-Meydan and Ayalon (2017), older adults express ambivalence toward online dating. They reported that older women describe online dating as exciting and interesting but also stressful and demanding. Frohlick and Migliardi (2011) stated that online dating exposes older adults to new cultural mores about sexual desire in later life, which lead women to feel "bombarded" by the new demands, especially in terms of figuring out how to win men's attention at their age. McWilliam and Barrett (2014) reported that older men and women disclosed that while using online dating sites, they realized the age penalty operating in the dating market and employed various strategies, including misrepresenting actual age and highlighting youthful identities and behaviors. Though older men and women might share similar tension associated with the self-marketing process, they all have their individual differing experiences based on experience, cognitive complexity, desire, and time factor.

Gendered Experience. Compared to the traditional methods of dating, which older adults may have used to meet partners earlier in life, online dating might appeal to women more than men; McWilliam and Barrett (2014) state that it is a way women exert more control over the process. According to Bailey (1988), at the time when adults were teenagers and young adults, the prevailing dating system gave more control to men; they asked women out on dates, made plans for the evening, picked women up in their cars, and paid any costs—often creating expectations of women's reciprocation with sexual favors. The feminist movement of the 20th century encouraged women to take on more control, which changed this system of dating (McWilliam & Barrett, 2014). Ben-Ze'ev (2004) argued that control of the system was further enhanced through the establishment of an online environment where feelings of anonymity reduce the vulnerability usually induced by initiating contact with another individual.

Although men usually are the initiators of romantic contact in both face-to-face and online dating environments, studies show women do initiate relationships (McWillliam & Barrett, 2014). An early study done by Scharlott and Christ (1995) showed that more than a quarter of women initiated contact with men Similarly, a more recent study reported that women initiated 20 percent of communication on an online dating site (Fiore, Taylor, Zhong, Mendelsohn, & Cheshire, 2010). According to McWilliam and Barrett (2014), the higher numbers of female initial initiators on online dating sites could be due to the structure of online dating, which facilitates women's exercise of greater control over the dating process, with differences particularly for middle-aged and older women who were socialized in earlier life stages to more passive roles in dating.

Gendered experiences in previous relationships plays a factor into shaping orientations to new partnerships (McWilliam & Barrett, 2014). Women may want to 'undo' or 'redo' traditional scripts by seeking more egalitarian future partnerships (Risman, 2009; West & Zimmerman, 2009). In a study done by Davidson (2001), many widows reported feeling a degree of freedom after the loss of the emotional and/or physical well-being of a husbands; the experience ignited a gendered version of selfishness which allows women to privilege their own desires. Women feel a reluctance to re-establish a traditional relationship because they do not want to give up their newly found autonomy (McWilliam & Barrett, 2014). On the other hand, Bennett, Hughes, and Smith (2003) found out that many older men, especially those with more traditional attitude towards marriage, may want to replicate gender relations of their past relationships as they seek a partner soon after becoming single in order to help with chores. However, widowers' faster repartnering in comparison to a widow, may stem from the desire for emotional support and companionship, resources that men are less likely to receive from friends (Carr, 2004).

Gender and Age Inequality in the Dating Experience

The decline of status with age affects both genders, however women more than men experience a greater loss both materially and symbolically causing more financial dependency on men (Arber & Ginn, 1991; Biggs, 2004; Sontag, 1979). Taking a closer look into the dating market shows a connection between age and gender inequality. Men of every age group are more likely to emphasize youthfulness and attractiveness in their preferred partner (Fisman, Ivengar, Kamenica, & Simonson, 2006; Hayes, 1995; Sprecher, Sullivan, & Hatfield, 1994). Alterovitz and Mendelsohn (2009) study of online dating profiles showed that as men age, they seek more age-discrepant relationships. Another online dating study done by Hitsch, Hortaçsu, and Ariely (2010b) showed that men prefer women within 10 years of their age bracket. On the other hand, women dating online value intelligence and socioeconomic potential over attractiveness (Hitsch, Hortaçsu, & Ariely, 2010a) and women also prefer men within their age bracket or older, however, in later life, they do seek younger men (Alterovitz & Mendelsohn, 2009). Given the relative shortage of older men compared to women in the dating pool (Levesque & Caron, 2004; Thies & Travers, 2006), if older men prefer to date younger women, and women are reluctant to date older men, a disconnect is established that could create difficulties in finding dating partners especially for the older men (McIntosh et al., 2011). According to McIntosh et al., (2011), for older men, difficulties in online dating are attenuated by the overwhelming imbalance of single women to single men. For older women, that older men usually seek younger women creates an extremely challenging dating environment.

Age-related differences in women's and men's dating preferences may reflect the gendered nature of health, longevity, and care work (McWilliam and Barrett, 2014). Older men's shorter life expectancies and higher occurrence of heart disease and cancer (Federal Interagency Forum on Aging-Related Statistics, 2010) may be a contributing factor of the preference in youthfulness in their partner when online dating as they may be looking for one who could offer care and assistance meanwhile, older women's preference for a younger partner may be because these women seek one with whom to enjoy an active lifestyle while reducing the chances of a demanding caregiving role (McWilliam & Barrett, 2014).

Cognitive Complexity Theory

Cognitive complexity is reflected to the degree individuals differentiate, integrate, and articulate a particular domain of phenomena (O'Keefe & Brady, 1980; O'Keefe, Delia & O'Keefe, 1977; Scott, 1962). A person who measures high in cognitive complexity possesses advanced perceptual skill that enables for the perception of subtle differences in communication

(O'Keefe & Sypher, 1981). Arguments on cognitive complexity highlighted the theory as a determinant of effective communication behavior (O'Keefe & Sypher, 1981). O'Keefe and Sypher (1981) argue that if cognitive differentiation is associated with the ability to conceptualize multiple understandings of others' perspectives and motivational dynamics, differentiation should predict communicative ability in children and adults. According to Burleson, individuals with more developed construct systems— higher cognitive complexity— are more skilled at engaging in various communicative activities like forming impressions and interpreting information (Burleson, 2007; Burleson & Waltman, 1988).

Kelly's (1955) personal construct theory serves as the basis for understanding cognitive complexity. The theory situates individuals as scientists as they keep trying to understand, control, and predict events. Kelly (1955) defines personal constructs as cognitive attempts through which individuals seek to understand the world. A construct according to O'Keefe and Sypher (1981) is a bipolar dimension of judgment (e.g., big-small, beautiful-ugly, and friendly-unfriendly) and they are systematically organized and interrelated which permits predictions and inferences. Kelly's work on personal construct theory opened the door for Bieri's (1955) concept of cognitive complexity. Bieri's initial definition of complexity was that cognitive complexity is the degree of differentiation in an individual's construct system, i.e., the relative number of different dimensions of judgment used by a person (Bieri, 1955; Tripodi & Bieri, 1964, p, 122). However, O'Keefe and Sypher (1981) argue that how Bieri initially defined cognitive complexity was weak because there are other bases than differentiation on which a construct system could be judged as complex or noncomplex. Though O'Keefe and Sypher's criticism was valid, construct differentiation has been the central focus of cognitive complexity theory and its research and thus O'Keefe and Sypher state that 'cognitive complexity' and 'construct differentiation' are used synonymously.

According to Brieri (1966, p. 185), cognitive complexity focuses on developmental aspects of cognitive structure. That is, as an individual's construct develops, it becomes more differentiated. This development suggests that the measure of cognitive complexity should be positively associated with age across childhood and adolescence. According to O'Keefe and Sypher (1981) by the time adulthood comes along, cognitive complexity is relatively stable and the stability suggests that the measure should result to a high test-retest reliability amongst adults over a short period of time.

Cognitive complexity provides a variable of individual difference that distinguishes individuals whose social-cognitive systems develop differently (O'Keefe & Brady, 1980; O'Keefe & Sypher, 1981). In other words, complexity is associated with other aspects of an individual's social cognition and individual differences in complexity are expected to reflect in the differences in interpersonal functioning (Goldstein & Blackman, 1982).

Online dating amongst older adults. Research has loked into the cognitive complexity and development in children, adolescents and young adults (Burleson & Samter, 1990; Delia & Clark, 1977; Hale, 1980; O'Keefe & Brady, 1980; O'Keefe, Delia & O'Keefe, 1977; O'Keefe & Sypher, 1981; Ritter, 1979; Scott, 1962) however, none has explored cognitive complexity of adults in an online dating environment. Using online dating profiles as the determining factor, the objective of this study is to determine whether the descriptors in senior online dating profiles are differentiated as a function of interpersonal cognitive complexity and whether the complexity increases with age hence the present study compares the older adults profiles with those of younger adults in order to code for differentiation.

Cognitively complex individuals have interpersonal constructs that are relatively differentiated with integrated elements and are abstract (Burleson & Samter, 1990). Interpersonal constructs are the cognitive structures through which a person interprets, evaluates, and anticipate the thoughts and behaviors of others (Raskin, 2002). Cognitively complex individuals are more likely to have more differentiated views of relationships (Burleson & Samter, 1990). More so than less complex individuals, more cognitively complex individuals orient spontaneously to social situations in terms of relationships and feelings. According to Burleson and Samter (1990), complex individuals highly value communication skills and focus on others' internal qualities and the relational aspects of situations while cognitively 'simple' individuals have a cognitive construct system that provides poor differentiation amongst individuals (Bieri, 1955).

Older adults are more likely than younger adults to have experienced long-term, intimate relationships that may affect re-emergence into the dating pool (McWilliams, & Barrett, 2014). Becoming single through divorce or widowhood is an emotionally challenging experience (Barrett, 2000; Kitson, Babri, Roach, & Placidi, 1989; William & Umberson, 2004) possessing the capability to dampen the development of a future relationship (Lampard, & Peggs, 2007; Moorman, Booth, & Fingerman, 2006; Talbott, 1998). Nevertheless, many older adults immerse themselves in the dating pool and endeavor to explore new relationships (Davidson, 2001; McWilliams, & Barrett, 2014). Older individuals are more likely to have had long term relationship experiences (e.g., marriage) and a better understanding of their expectations in an online dating pool. This study seeks to find out if there exists a distinct differentiation in the online dating profiles of older adults versus that of younger adults. As having a lot of multiple differentiation categorizes an individual as more complex (like an onion, each term creates a new layer), O'Keefe and Sypher (1981) stated that the measure of cognitive complexity should positively associated with chronological age across childhood and adolescence but by the time of adulthood cognitive complexity should be stable. The present study aims at testing O'Keefe and Sypher's argument using the context of online dating thus;

RQ1: Do older adults display a higher level of cognitive complexity in their online dating profiles than younger adults?

H1: Women will display a higher level of cognitive complexity than men.

Older adults have more difficulties and face more challenges when searching for a suitable partner in an offline face-to-face setting, largely due to the fact that their social circle has shrunk making it much smaller than that of the younger adults (Ajrouch, Blandon, & Antonucci, 2005; McPherson, Smith-Lovin, & Cook, 2001; McWilliams, & Barrett, 2014) and also because of their diminished interest in the traditional method of meeting potential dates at places like bars and clubs (Stephure et al., 2009). Due to the unavoidable challenges older adults face when searching for a partner in a face-to-face environment, the present study seeks to find out whether the display of multiple layers of one's personality increases or reduces in older adults as opposed to younger adults when online dating.

Evident in the reoccurring advertisement of online dating websites targeting seniors aged 50 and above (e.g., *OurTime.com, SeniorPeopleMeet.com*), the online dating pool expanded to accommodate the different generations irrespective of how small the population involvement might be (McWilliams & Barrett, 2014). The present study will be done through online dating sites analysis, looking into online profile descriptions of members targeting both the older and younger adults respectively. Exploring data from both younger and older adults will help give insight into the cognitive differentiation these two different groups of adults display while online dating, the complexity of their construct and that of the description of their ideal romantic partner. Comparing the older and younger adults would shed more clarity on how cognitively complex or noncomplex individuals portray themselves and use that as a window into their personalities and expectations.

Empirical studies have shown that gender stereotypes influence how men and women describe themselves and their ideal partner. Feingold's (1990) meta-analysis on gender differences in physical attractiveness supported that men's online profiles contained higher expectations of physical attractiveness than did women's. Studies alongside Feingold's have supported that men seek physical attractiveness in women while offering financial security (e.g., Hirschman, 1987) whereas women's profiles offered physical attractiveness and sought financial status (Feingold, 1990). This study seeks to find out how many descriptors the respective sexes use and how it differs between the older and the younger generations. The aim seeks to determine whether a gender difference in the cognitive complexity of individuals while online dating and how it difference between the age groups.

Method

Profile source

The personal profile advertisements in this study appeared on the free online dating websites *silversingles.com* for the older adults and *zoosk.com* for the younger adults. In order to create a profile on *silversingles.com*, individuals complete an online form and upload at least one photograph in order to get as many profile matches and views as possible. In the first part of the online form, potential members describe themselves by answering multiple choice questions about themselves and the preferred match (e.g., race, ethnicity, religion, educational qualification, job). Individuals can decline to answer by skipping the questions. In the next part, potential members write descriptions of what is sought in a relationship, what they enjoy doing, their likes and dislikes. After completion of the online form, members can go into the profile to update, complete, or change any part of the form.

When creating a profile on *zoosk.com*, individuals complete an online form and upload at least one photograph in order to optimize the potentials of the website. In the first part of the form, individuals are prompted to input the zip code in order for the site to triangulate matches within the individual's area. Next, a prompt asks for an upload of a picture which the potential member may skip. The next part of the form prompts the individual to describe themselves by answering multiple choice questions about themselves e.g., "What's your body type?", "Do you have children", 'What's your highest level of education?', "What's your ethnicity?" and so forth. They have to fill out the multiple choice questions before they are able to move on to the next step. The next step requires verification of the account via email. After verification, the dating profile will be successfully created and members advised to go into the profile and complete the form by filling three sections: writing their 'story', 'perfect match' and 'ideal date'.

Sample

The personal profile advertisements for *silversingles.com* for the older adults and *zoosk.com* for the younger adults served as data for this investigation. The written part of the form was where participants wrote a brief description about themselves and the desired partner. The data used for this study coded the written descriptions of the participant's self and preferred other.

Two hundred profiles were selected (the dating sites randomly presented 'suitable' matched based on their matching algorithm) and coded on the basis of gender and age to create four separate cell combinations (male/young, female/young, male/old, and female/old). Elderly daters were defined as age 65 and older, while younger daters consisted of those aged 21-45. Two hundred profiles consisting of 50 younger and older males and 50 younger and older females were randomly selected. Profile selection was restricted to the Milwaukee, Wisconsin area because the dating sites collect users' zip codes in order to match them with potential partners that are located nearby.

Procedure

Using the Role Category Questionnaire developed by Crockett (1965), the participant's narratives were reviewed in order to identify emergent categories. The Role Category Questionnaire (RCQ) satisfies the criteria for an adequate complexity measure (O'Keefe & Sypher, 1981). According to O'Keefe and Sypher (1981), using the RCQ consistently resulted in a desired association with chronological age across childhood and adolescence and provided consistent adult test-retest reliability. Evidence shows the relationships between the measure and indices of sophisticated communicative functioning and the evidence ranges across age groups (children, adolescence, and adults), communication situations (persuasive, referential, regulative), and specific dependent measures (message strategies, message rationales).

The original questionnaire asks respondents to write descriptions of two peers; one whom the respondent likes and the other whom the respondent dislikes. In order to determine the level of cognitive complexity, the constructs contained in each description are assigned one point each and would be counted and scored according to the questionnaire's procedure. Physical descriptors, demographic descriptors and any other descriptors and labels that are not attributes, mannerisms, and reactions do not qualify as descriptors. The sum of the number of constructs provides the measurement of the individual's interpersonal construct differentiation. In this study, each profile's description of the self and the preferred partner were collected and counted for the number of constructs in order to determine cognitive complexity. 2x2 Anova was used to analyze the data. In order to code for reliability of the result, 30% of the gathered sample was re-coded by a second coder. The intercoder reliability revealed a high degree of correspondence, correlation = .97.

Results

RQ1: Do older adults display more cognitive complexity in their online dating profiles than younger adults?

Older participants (*M* = 14.11, *SD* = 10.47, *n* = 100) demonstrated significantly higher complexity, *F* (1, 99) = 22.45, $p < .05$ than younger participants (*M* = 7.81, *SD* = 8.30, *n* = 102). No significant interaction took place between age of participants and gender [*F* (1, 199) = 0.03, $p > .05$].

H1: Women would demonstrate higher complexity than men.

No significant difference was observed [*F* (1, 199) = 1.63, $p > .05$] between men (*M* = 10.08, *SD* = 9.31, *n* = 101) and women (*M* = 11.80, *SD* = 10.48, *n* = 100).

Discussion

The study made use of Crockett's Role Category Questionnaire (RCQ) in order to perform the present quantitative analysis of select online dating profiles. RCQ was used differently in the present study as the original questionnaire is usually used to code for one's description of another however, this study utilized RCQ differently by using it to code for constructs in one's self-description as well as in the description of the prospective other. The present study aimed at two specific goals. The first goal was to determine how cognitive differences in the online dating profiles of older adults compared to younger adults. The second goal sought to determine whether gender differences in the cognitive complexity of adults' online dating profiles existed.

Significant cognitive differences demonstrate older adults display significantly more complexity in the online dating profile than younger adults. For example, older adults were more inclined to state completely what they were looking for in a partner using words like loyalty, happiness, and to love and be loved. Older adults offered details when describing themselves in the profiles by using words like honesty, respect for others, like reading, like taking walks, and trust. Though some of the younger adults' online dating profiles demonstrated some level of descriptors when describing themselves and the preferred match (e.g., having fun, love going to dive bars, brave), fewer descriptors were used when compared to older adults.

To test whether any significant gender difference in the online dating profiles to prove or reject H1, the profiles of women were examined against those of men. No significant difference between the complexity of women and men in the online dating profile descriptors existed, hence H1 was not supported.

Implications

The present study measured the cognitive complexity of older adults in an online dating setting. The study contributes to the theoretical and practical knowledge of cognitive complexity in older adults. Cognitive complexity is often used in the study of children and adolescents. The present study broadens the scope of cognitive complexity theory, encapsulating the elderly while employing the measure in an area of research not tested previously — online dating. Findings offer rich implications for communication research field of practice as well as for future research as they can benefit from more cognitive distinctions between age groups. Cognitive complexity when used as a theory in the present research proved to generate rich and interesting results.

The present study opens doors for more varied research on the theory of cognitive complexity. Researchers are advantaged due to the pool of samples to study thus giving researchers the ability to perform more studies when using the theory. Implications for practical applications are promising as the theory and its results may help individuals understand their cognition and its complexity throughout their life span.

Individuals can measure cognitive complexity and understand how the complexity can help or hinder the online dating experiences.

Limitations

Given the structure of online dating profiles, the current study was limited by the lacking of more in-depth information regarding the online dating profile owners. There exists no way of inferring whether the varying cognitive differentiation and complexity in these dating profiles was due to their education qualifications, occupation, religion or prior relationship or marital experiences. For example, no information on how the educational or income level of an individual affect their cognitive complexity. Without knowledge of prior marital or non-marital relationship status, no ability to determine how a previous relationships altered the self-presentation and expectations of a potential partner and relationship exists.

Though previous research using online data has proven that even with limited information on individual's personal background information, reconstructing identities is possible (Parry, 2011; Zimmer, 2010). Data in this study were collected from free online dating websites and consent was not sought; therefore, no personal data became available outside of that on the online dating profile.

Future research

The study reveals a significant difference in the cognitive complexity of older and younger adults and no significant difference in the cognitive complexity of older men and women. However, the study raises questions about other possibilities that could be components of future research on older adults as online dating participants. Future research may consider potential associations by utilizing additional variables through surveys or experimental designs and obtaining informed consent from the participants in order to gather other personal information that could help provide more insight into older adult's preferences, choices, and self-presentation.

The differences between the two websites used in the present study suggest that distinct types of people may choose different dating websites as there are multiple dating websites available on the internet. However, studies of online dating profiles typically sample from only a single website (e.g., Alterovitz & Mendelsohn, 2009, 2013; Ellison et al., 2006; Groom & Pennebaker, 2005). Different websites provided different instructions for being a part of their platform, from the open-ended sections to the individual verification section. Future research should consider sampling from a greater variety of websites to learn more about the cognitive complexity and motivations for dating partners.

Another area lacking in research of online dating including research on older adult's online dating is the ethnic variable. Literature has barely addressed the issue of ethnic differences and behaviors in online dating hence future research may benefit from a closer examination of ethnic differences in cognitive complexity, dating motivations and behaviors.

Future research also needs to examine whether in older adults' online dating experiences, the contents of their profile predicts outcomes and results such as being contacted for dates, number of dates, or eventual relationship satisfaction or stability. Previous research suggests that there are components of online dating profiles that play a significant role in the overall dating success. For example, Schöndienst and Dang-Xuan (2011) revealed that individuals are more likely to respond to initial messages in an online dating context if the messages contain fewer self-references. Also, Rosen, Cheever, Cummings, and Felt (2008) stated that greater positive emotionality appears to predict more favorable evaluations of online dating profiles.

Finally, the present study raises questions about other dimensions of difference that exist in online dating. For example, the present study did not permit the examination of online dating experiences of sexual minorities. Research on online dating in older adults identifying as part of the sexual minority would contribute to the literature reporting variation by sexual identity in aging experiences. Examining how cognitive complexity (amongst other factors) differs amongst heterosexual, bisexual, and homosexual older adults, would illuminate the ways in which intersecting system of inequality shape the process of seeking and maintaining intimate relationships in later life.

Conclusion

Significant differences in the cognitive complexity of older adults in comparison the that of younger adults when examining online dating profiles. As the means to seek and establish new intimate relationships have diversified into the online environment, the ubiquitous nature of online dating sites have provided an avenue for older adults to become comfortable involved. However, the differences in cognitive complexity of older adults based on many varying factors (e.g., education level, income, past relationship experiences) might cause motivations that accompany their online self-presentation to change.

References

Ajrouch, K. J., Blandon, A. Y., & Antonucci, T. C. (2005). Social networks among men and women: The effects of age and socioeconomic status. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, *60*(6), S311-S317. doi: https://doi.org/10.1093/geronb/60.6.S311

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

Alterovitz, S. S., & MendelsohnG. 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, 159–165. doi:10.1016/j.jaging.2012.12.006

An, J. S., & Cooney, T. M. (2006). Psychological well-being in mid to late life: The role of generativity development and parent–child relationships across the lifespan. *International Journal of Behavioral Development*, *30*, 410–421. doi:10.1177/0165025406071489

Arber, S., & Ginn, J. (1991). *Gender and later life: A sociological analysis of resources and constraints*. London, England: Sage.

Arnett, J. J. (2000). Emerging adulthood. A theory of development from the late teens through the twenties. *The American Psychologist*, 55, 469–480. doi:10.1037/0003-066x.55.5.469

Barrett, A. E. (2000). Marital trajectories and mental health. *Journal of Health and Social Behavior*, 451-464. Retrieved from http://www.jstor.org/stable/2676297?seq=1#page_scan_tab_contents

Bailey, B. (1988). *From front porch to back seat: Courtship in twentieth-century America.* Baltimore, MD: John Hopkins University Press.

Ben-Ze'ev, A. (2004). *Love online: Emotions on the internet*. New York, NY: Cambridge University Press

Bennett, K. M., Hughes, G. M., & Smith, P. T. (2003). I think a woman can take it: Widowed men's views and experiences of gender differences in bereavement. *Ageing International*, *28*, 408-424. Retrieved from https://link.springer.com/content/pdf/10.1007/s12126-003-1012-x.pdf

Bieri, J. (1955). Cognitive complexity-simplicity and predictive behavior. *The Journal of Abnormal and Social Psychology*, *51*, 263-268. Retrieved from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.741.267&rep=rep1&type=pdf

Biggs, S. (1997). Choosing not to be old? Masks, bodies, and identity management in later life. *Ageing & Society*, *17*, 553-570.

Biggs, S. (2004). Age, gender, narratives, and masquerades. *Journal of Aging Studies*, *18*, 45-58.

Blackman, S., & Goldstein, K. M. (1982). Cognitive styles and learning disabilities. *Journal of Learning Disabilities*, *15*(2), 106-115. doi: https://doi.org/10.1177/002221948201500211

Blieszner, R. (2006). A lifetime of caring: Dimensions and dynamics in late-life close relationships. *Personal Relationships*, *13*, 1–18. doi:10.1111/j.1475-6811.2006.00101.x

Burleson, B. R. (2007). Constructivism: A general theory of communication skill. In B. B. Whaley & W. Samter (Eds.), *Explaining communication: Contemporary theories and exemplars* (pp. 105–128). Mahwah, NJ: Erlbaum.

Burleson, B. R., & Samter, W. (1990). Effects of cognitive complexity on the perceived importance of communication skills in friends. *Communication Research*, *17*, 165-182. doi: https://doi.org/10.1177/009365090017002002

Burleson, B. R., & Waltman, M. S. (1988). Cognitive complexity: Using the role category questionnaire measure. In C. H. Tardy (Ed.), *A handbook for the study of human communication: Methods and instruments for observing, measuring, and assessing communication processes* (pp. 1–35). Westport, CT: Ablex Publishing.

Buss, D. M., & Schmitt, D. P. (1993). Sexual strategies theory: An evolutionary perspective on human mating. *Psychological Review, 100,* 204-232. Retrieved from https://www.bradley.edu/dotAsset/165805.pdf

Calasanti, T. (2007). Bodacious berry, potency wood and the aging monster: Gender and age relations in anti-aging ads. *Social Forces*, *86*(1), 335-355. Retrieved from http://www.jstor.org/stable/4495039?seq=1#page_scan_tab_contents

Calasanti, T., & Kiecolt, K. J. (2007). Diversity among late-life couples. *Generations*, 31, 10–17.

Carr, D. (2004). The desire to date and remarry among older widows and widowers. *Journal of Marriage and Family, 66,* 1051–1068. Retrieved from http://www.rci.rutgers.edu/~carrds/publications/remarriage.pdf

Coupland, J. (2000). Past the 'perfect kind of age'? Styling selves and relationships in over-50s dating advertisements. *Journal of Communication*, 50, 9–30. doi:10.1093/joc/50.3.9

Davidson, K. (2001). Late life widowhood, selfishness and new partnership choices: A gendered perspective. *Ageing and Society*, *21*, 297-317. Retrieved from https://brainmass.com/file/357779/davidson.pdf

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

Delia, J. G., & Clark, R. A. (1977). Cognitive complexity, social perception, and the development of listener-adapted communication in six-, eight-, ten-, and twelve-year-old boys. *Communications Monographs*, *44*, 326-345. Retrieved from http://bit.ly/2tMVPMv

Derlega, V. J., Winstead, B. A., Wong, P. T., & Greenspan, M. (1987). Self-disclosure and relationship development: An attributional analysis. In M.E Roloff & G. R. Miller (Eds.), *Interpersonal processes: New directions in communication research* (pp. 172–187). Thousand Oaks, CA: Sage.

de Vries, B. (1996). The understanding of friendship: An adult life course perspective. In C. Magai & S. H. McFadden (Eds.), *Handbook of emotion, adult development, and aging* (pp. 249–268). San Diego, CA: Academic Press.

Dickson, F. C., Hughes, P. C., & Walker, K. L. (2005). An exploratory investigation into dating among later-life women. *Western Journal of Communication*, *69*, 67–82. doi:10.1080/10570310500034196

Ellin, A. (2014). Matchmakers help those over 60 handle dating's risks and rewards. *The New York Times*. Retrieved from http://www.nytimes.com/2014/03/29/your-money/matchmakers-can-help-those-over-60-navigate-datings-risks-and-rewards.html.

Ellison, N., Heino, R., & Gibbs, J. (2006). Managing impressions online: Self-presentation processes in the online dating environment. *Journal of Computer-Mediated Communication*, *11*, 415-441. Retrieved from: https://doi.org/10.1111/j.1083-6101.2006.00020.x

Feingold, A. (1990). Gender differences in effects of physical attractiveness on romantic attraction: A comparison across five research paradigms. *Journal of Personality and*

Social Psychology: Interpersonal Relations and Group Processes, 59, 981-993. Retrieved from: http://dx.doi.org/10.1037/0022-3514.59.5.981

5 facts about online dating. (2016). *Pew Research Center, Washington, D.C.* retrieved from http://www.pewresearch.org/fact-tank/2016/02/29/5-facts-about-online-dating/

Fisman, R., Ivengar, S. S., Kamenica, E., & Simonson, I. (2006). Differences in mate selection: Evidence from a speed dating experiment. *Quarterly Journal of Economics*, *121*, 673-697. Retrieved from http://www.jstor.org/stable/25098803

Fiore, A. T., Taylor, L. S., Zhong, X., Mendelsohn, G. A., & Cheshire, C. (2010). Who's right and who writes: People, profiles, contacts, and replies in online dating. In R. H. Sprague Jr (Ed.), *Proceedings of the 43rd Hawaii International Conference on System Sciences* (pp. 1-10). Los Alamitos, CA: Computer Society Press.

Frohlick, S., & Migliardi, P. (2011). Heterosexual profiling: Online dating and 'becoming' heterosexualities for women aged 30 and older in the digital era. *Australian Feminist Studies*, *26*(67), 73-88. Retrieved from https://bit.ly/2qtccwG

Gewirtz-Meydan, A., & Ayalon, L. (2017). Forever young: Visual representations of gender and age in online dating sites for older adults. *Journal of Women & Aging,*1-19. Retrieved from: https://doi.org/10.1080/08952841.2017.1330586

Gott, M. (2005). *Sexuality, sexual health and ageing*. Berkshire, UK: Open University Press. Retrieved from http://bit.ly/2EDjWFa

Blackman, S., & Goldstein, K. M. (1982). Cognitive styles and learning disabilities. *Journal of Learning Disabilities*, *15*, 106-115. Retrieved from https://bit.ly/2HihIMM

Groom, C. J., & Pennebaker, J. W. (2005). The language of love: Sex, sexual orientation, and language use in online personal advertisements. *Sex Roles*, *52,* 447–461. doi:10.1007/s11199-005-3711-0

Hall, J., Park, N., Song, H., & Cody, J. (2010). Strategic misrepresentation in online dating: The effects of gender, self-monitoring, and personality traits. *Journal of Social and Personal Relationships*, *27*, 117-135. Retrieved from http://bit.ly/2C2zD8d

Hale, C. L. (1980). Cognitive complexity-simplicity as a determinant of communication effectiveness. *Communications Monographs*, *47*, 304-311. Retrieved from http://bit.ly/2vclcXz

Hayes, A. F. (1995). Age preferences for same- and opposite-sex partners. *Journal of Social Psychology*, *135*, 125-133.

Hirschman, E. (1987). People as products: Analysis of a complex marketing exchange. *Journal of Marketing, 51*(1), 98-108. doi: 10.2307/1251147

Hitsch, G. J., Hortaçsu, A., & Ariely, D. (2010a). Matching and sorting in online dating. *American Economic Review*, *100*, 130-163. Retrieved from http://www.jstor.org/stable/27804924

Hitsch, G. J., Hortaçsu, A., & Ariely, D. (2010b). What makes you click? Mate preference in online dating. *Quantitative Marketing and Economics*, *8*, 393-427. Retrieved from https://link.springer.com/article/10.1007/s11129-010-9088-6

Hoppmann, C. A., & Blanchard-Fields, F. (2010). Goals and everyday problem solving: Manipulating goal preferences in young and older adults. *Developmental Psychology*, *46*,1433. doi:10.1037/a0020676

Katz, S. (2002). Growing older without aging? Positive aging, antiageism, and anti-aging. *Generations*, *25*(4), 27–32.

Katz, S., & Marshall, B. (2003). New sex for old: Lifestyle, consumerism, and the ethics of aging well. *Journal of Aging Studies, 17*(1), 3–16. doi:10.1016/S0890-4065(02)00086-5

Kelly, G. (1955). *Personal construct psychology.* Retrieved from http://ksi.cpsc.ucalgary.ca/PCP/Kelly.html

Kitson, G. C., Babri, K. B., Roach, M. J., & Placidi, K. S. (1989). Adjustment to widowhood and divorce: A review. *Journal of Family Issues*, *10*(1), 5-32. Retrieved from http://journals.sagepub.com/doi/pdf/10.1177/019251389010001001

Kleinspehn-Ammerlahn, A., Kotter-Grühn, D., & Smith, J. (2008). Self-perceptions of aging: Do subjective age and satisfaction with aging change during old age? *Journals of Gerontology. Series B, Psychological Sciences and Social Sciences, 63*(6), 377-385. doi: https://doi.org/10.1093/geronb/63.6.P377

Lampard, R., & Peggs, K. (2007). Identity and repartnering after separation. New York, NY: Springer.

Lawson, H. M., & Leck, K. (2006). Dynamics of internet dating. *Social Science Computer Review*, *24*, 189-208. Retrieved from http://bit.ly/2oaut0

Lee, M. M., Carpenter, B., & Meyers, L. S. (2007). Representations of older adults in television advertisements. *Journal of Aging Studies, 21,* 23–30. doi:10.1016/j.jaging.2006.04.001

Levesque, L. M., & Caron, S. L. (2004). Dating preferences of women born between 1945 and 1960. *Journal of Family Issues, 25,* 833-846. doi: 10.1177/0192513X03258300

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. *The International*

Journal of Aging and Human Development, 72(1), 67-82. Retrieved form http://journals.sagepub.com.ezproxy.lib.uwm.edu/doi/pdf/10.2190/AG.72.1.d

McPherson, M., Smith-Lovin, L., & Cook, J. M. (2001). Birds of a feather: Homophily in social networks. *Annual Review of Sociology*, *27*(1), 415-444. Retrieved from http://www.jstor.org/stable/2678628?seq=1#page_scan_tab_contents

McWilliams, S., & Barrett, A. E. (2014). Online dating in middle and later life: Gendered expectations and experiences. *Journal of Family Issues, 35,* 411–436. doi:10.1177/0192513x12468437

Miller, D. W. (2004). Stereotypes of the elderly in US television commercials from the 1950s to the 1990s. *The International Journal of Aging and Human Development*, *58*(4), 315–340. doi:10.2190/N1R6-7Q5Y-2N7Q-8NM1

Moorman, S. M., Booth, A., & Fingerman, K. L. (2006). Women's romantic relationships after widowhood. *Journal of Family Issues*, *27*(9), 1281-1304. doi: 10.1177/0192513X06289096

O'Keefe, D., & Brady, R. (1980). Cognitive complexity and the effects of thought on attitude change. *Social Behavior and Personality: An International Journal, 8*(1), 49-56. Retrieved from: http://bit.ly/2uS4pcl

O'Keefe, B. J., Delia, J., G., & O'Keefe, D. J. (1977). Construct individuality, cognitive complexity, and the formation and remembering of interpersonal impressions. *Social Behavior and Personality: An International Journal, 5*(2), 229-240. Retrieved from http://bit.ly/2sx61aJ

O'Keefe, D. J., & Sypher, H. E. (1981). Cognitive complexity measures and the relationship of cognitive complexity to communication. *Human Communication Research*, *8*(1), 72-92. Retrieved from http://www.dokeefe.net/pub/OKeefeSypher81HCR.pdf

Parry, M. (2011, July 10). Harvard researchers accused of breaching students' privacy. *The chronicle of higher education*. Retrieved from: http://chronicle.com.ezproxy.lib.uwm.edu/article/Harvards-Privacy-Meltdown/128166/

Pennebaker, J. W., & Stone, L. D. (2003). Words of wisdom: Language use over the life span. *Journal of Personality and Social Psychology*, *85,* 291–301. doi:10.1037/0022-3514.85.2.291

Riggs, A., & Turner, B. S. (1999). The expectation of love in older age: Towards a sociology of intimacy. In M. Poole & S. Feldman (Eds.), *A certain age: Women growing older* (pp. 193-208). St. Leonards, New South Wales, Australia: Allen & Unwin.

Risman, B. (2009). From doing to undoing: Gender as we know it. *Gender & Society*, *23*, 81-84. Retrieved from http://journals.sagepub.com/doi/pdf/10.1177/0891243208326874

Ritter, E. M. (1979). Social perspective-taking ability, cognitive complexity and listener-adapted communication in early and late adolescence. *Communications Monographs*, *46*(1), 40-51. Retrieved from http://bit.ly/2sPG5a7

Rosen, L. D., Cheever, N. A., Cummings, C., & Felt, J. (2008). The impact of emotionality and self-disclosure on online dating versus traditional dating. *Computers in Human Behavior*, *24*, 2124–2157. doi:10.1016/j.chb.2007.10.003

Rosenfeld, M. J., & Thomas, R. J. (2012). Searching for a mate: The rise of the internet as a social intermediary. *American Sociological Review*, *77,* 523–547. doi:10.1177/0003122412448050

Rowe, J. W., & Kahn, R. L. (1987). Human aging: Usual and successful. *Science*, *237* (4811), 143–149. Retrieved from http://bit.ly/2spKvZU

Rowe, J. W., & Kahn, R. L. (1997). Successful aging. *The Gerontologist*, *37* (4), 433–440. doi: 10.1093/geront/37.4.433

Rowe, J. W., & Kahn, R. L. (1998). *Successful aging*. New York, NY: Pantheon Books.

Scharlott, B. W., & Christ, W. G. (1995). Overcoming relationship-initiation barriers: The impact of a computer-dating system on sex role, shyness, and appearance inhibitions. *Computers in Human Behavior*, *11*, 191-204.

Schöndienst, V., & Dang-Xuan, L. (2011). *The role of linguistic properties in online dating communication—A large-scale study of contact initiation messages.* Proceedings of the 15th Pacific Asia Conference on Information Systems, Paper 166, Brisbane, Australia.

Schrock, D., & Schwalbe, M. (2009). Men, masculinity, and manhood acts. *Annual Review of Sociology*, *35*, 277-295. Retrieved from http://www.jstor.org/stable/27800079

Schwartz, H. A., Eichstaedt, J. C., Kern, M. L., Dziurzynski, L., Ramones, S. M., Agrawal, M., Shah, A., Kosinski, M., Stillwell, D., Seligman, M.E. & Ungar, L.H. (2013). Personality, gender, and age in the language of social media: The open-vocabulary approach. *PloS One*, *8,* e73791. doi:10.1371/journal.pone.0073791

Scott, W. A. (1962). Cognitive complexity and cognitive flexibility. *Sociometry*, *25,* 405-414. doi: 10.2307/2785779

Sontag, S. (1979). The double standard of aging. In J. Williams (Ed.), *Psychology of women* (pp. 462-478). San Diego, CA: Academic Press.

Sprecher, S., Sullivan, Q., & Hatfield, E. (1994). Mate selection preferences: Gender differences examined in a national sample. *Journal of Personality and Social Psychology*, *66*, 1074-1080. Retrieved from http://bit.ly/2GevJHk

Stephure, R. J., Boon, S. D., MacKinnon, S. L., & Deveau, V. L. (2009). Internet initiated relationships: Associations between age and involvement in online dating. *Journal of Computer-Mediated Communication*, *14*(3), 658-681. doi: 10.1111/j.1083-6101.2009.01457.x

Talbott, M. M. (1998). Older widows' attitudes towards men and remarriage. *Journal of Aging Studies, 12,* 429-449.

Thies, K. M., & Travers, J. F. (2006). *Handbook of human development for health care professionals.* Sudbury, MA: Jones & Bartlett.

Toma, C. L., Hancock, J. T., & Ellison, N. B. (2008). Separating fact from fiction: An examination of deceptive self-presentation in online dating profiles. *Personality and Social Psychology Bulletin*, *34*(8), 1023-1036. doi: 10.1177/0146167208318067

Tripodi, T., & Bieri, J. (1964). Information transmission in clinical judgments as a function of stimulus dimensionality and cognitive complexity. *Journal of Personality*, *32*(1), 119-137. Retrieved from https://bit.ly/2HsEP57

Vickers, K. (2007). Aging and the media: Yesterday, today, and tomorrow. *Californian Journal of Health Promotion*, *5*(3), 100–105. Retrieved from http://cjhp.fullerton.edu/Volume5_2007/Issue3/100-105-vickers.pdf

Wada, M., Mortenson, W., & Clarke, L. (2016). Older adults' online dating profiles and successful aging. *Canadian Journal on Aging/La Revue canadienne du vieillissement, 35*(4), 479-490. Retrieved from https://muse-jhu-edu.ezproxy.lib.uwm.edu/article/643900

West, C., & Zimmerman, D. (1987). Doing gender. *Gender & Society*, *1*, 125-151. Retrieved from http://bit.ly/2o2T9ZH

West, C., & Zimmerman, D. (2009). Accounting for doing gender. *Gender & Society*, *23*, 112-122. Retrieved from http://journals.sagepub.com/doi/pdf/10.1177/0891243208326529

Whitty, M. T. (2007). The art of selling one's 'self' on an online dating site: The BAR approach. In M. T. Whitty, A. J. Baker, & J. A. Inman (Eds.), *Online matchmaking* (pp. 57–69). New York, NY: Palgrave Macmillan.

Whitty, M. T. (2008). Revealing the 'real' me, searching for the 'actual' you: Presentations of self on an internet dating site. *Computers in Human Behavior*, *24* (4), 1707–1723. doi: 10.1016/j.chb.2007.07.002

Whitty, M. T., & Carr, A. N. (2006). *Cyberspace romance: The psychology of online relationships*. New York, NY: Palgrave Macmillan.

Williams, K., & Umberson, D. (2004). Marital status, marital transitions, and health: A gendered life course perspective. *Journal of Health and Social Behavior*, *45*(1), 81-98. doi: 10.1177/002214650404500106

Wrzus, C., Hänel, M., Wagner, J., & Neyer, F. J. (2013). Social network changes and life events across the life span: A meta-analysis. *Psychological Bulletin, 139* (1) 1-28. doi: 10.1037/a0028601

Ylanne, B. V., Williams, A., & Wadleigh, P. M. (2009). Ageing well? Older people's health and well-being as portrayed in UK magazine advertisements. *International Journal of Ageing and Later Life*, 4(2), 33–62. doi:10.3384/ijal.1652-8670.094233

Zimmer, M. (2010). But the data is already public: On the ethics of research in Facebook. *Ethics and Information Technology*, *12*, 313–325. doi:10.1007/s10676-010-9227-5