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**Single and Searching: How Older and Younger Adults Seek Romantic  
Partners Online**

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**Thesis**

Presented to the Faculty of the Graduate School of

The University of Texas at Austin

in Partial Fulfillment

of the Requirements

for the Degree of

**Master of Arts**

**The University of Texas at Austin**

**August 2014**

## **Abstract**

# **Single and Searching: How Older and Younger Adults Seek Romantic Partners Online**

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Despite a growing population of single older adults, past research and theory on romantic relationship formation has primarily focused on younger adults. Online dating has become an increasingly prevalent context for both older and younger adults to form romantic relationships. Nonetheless, adults of different ages may have different motivations for seeking dating partners. Using a framework of agency and communion to synthesize disparate literatures on personal goals, evolutionary motivations, and socioemotional motivations across the lifespan, the current research focuses on age differences in self-presentations in 4000 online dating profiles sampled from two popular online dating websites. Themes in these profiles were identified using the Linguistic Inquiry and Word Count software (LIWC; Pennebaker, Booth & Francis, 2007). Regression analyses revealed significant associations between age and word use. Older adults were more likely to use first person plural pronouns (e.g. we, us, our), reflecting a

focus on connectedness as well as words associated with health and positive emotion. Younger adults were more likely to emphasize the self, using more first person pronouns and were more likely to use words associated with work and achievement. Results suggest younger adults focus on enhancing the “self” when seeking romantic partnership. Consistent with theories of adult development, older adults are more positive in their profiles and appear to focus more on the “self” as embedded in relationships.

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## INTRODUCTION

Demographic changes in recent years have led to a rise in the prevalence of dating in later life. Although scholars have extensively studied dating strategies in young adult populations, there is a surprising dearth of information regarding the dating strategies and romantic motivations of older adults. Due to societal trends, online dating is now one of the most common ways to find a romantic partner, and research suggests that single older adults are likely to pursue partners online due to a lessened stigma attached to online dating and an increasing dissatisfaction with traditional forms of dating (Rosenfeld & Thomas, 2012; Stephure, Boon, MacKinnon & Deveau, 2009). In line with this suggestion many popular press sources report an increasing prevalence of older adults dating online (Rosenbloom, 2011; Watson, 2013), with one source reporting that adults aged 60 and over represent the largest growing segment of online daters (Bowling Green State University, 2012). Although older and younger adults may seek romantic partners online, they may do so in distinct ways.

The primary focus of the current study is on similarities and differences in the dating motivations and self-presentations of older and younger adults. Self-presentation strategies are of key importance during relationship initiation, as potential partners use this information to decide whether or not to pursue a relationship (Derlega, Winstead, Wong, & Greenspan, 1987). However, there are fewer empirical studies examining how self-presentational strategies and romantic motivations may differ as a function of age. So, while many older adults are searching for partners online, we know very little about their motivations to date or how they are presenting themselves to potential partners.

Nonetheless, there are multiple lines of research that point to age differences in interpersonal motivations, including research on personal goals and problem solving, evolutionary motivations, as well as theories of socioemotional development across the lifespan. While each of these separate literatures contributes to our understanding of how individuals relate to one another across adulthood, they have yet to be integrated into research concerning romantic relationships. For the current study, we use the concepts of agency and communion as an organizing framework to examine how older and younger adults may differ in their motivations and self-presentations in the online dating domain.

### **AGENCY AND COMMUNION: RELATIONAL ORIENTATIONS**

Introduced by Bakan (1966), agency and communion are two basic concepts describing how humans relate to their social worlds. Agency refers to a fundamental motivation to separate from others, assert the self, master the environment, and experience independence, competence and achievement. Conversely, communion refers to a fundamental motivation to create connections, cooperate closely with others, form attachments and forge bonds. In their most simple forms, agency and communion refer to an orientation toward the self versus an orientation towards others.

Various scholarly traditions have identified these dual motivations, sometimes referred to as autonomy and relatedness (Ryan & Deci, 2000) or competence and warmth (Cuddy, Fiske & Glick, 2008; Judd, James-Hawkins, Yzerbyt, & Kashima, 2005). In each of these traditions, motivations to experience both separateness and relatedness are conceptualized as fundamental needs that humans are motivated to fulfill. Individuals

with an agency orientation experience fulfillment through individual accomplishments and achieving a sense of independence and autonomy. Communally-oriented individuals experience fulfillment through close relationships with others and establishing a sense of belonging (Guisinger & Blatt, 1994; McAdams, 1993).

While the presence of these motivations is a point of consensus across literatures, there are fewer studies that address possible differences in these motivations across the lifespan. Some research suggests that individuals become more communal and less agentic as they age (Diehl, Coyle & Labouvie-Vief, 1996). Studies also have found age differences in the presence of agency and communion themes in naturalistic language use (Abele & Bruckmüller, 2013; Diehl, Owen & Youngblade, 2004; Leaper, 1987; McAdams, Hoffman, Day & Mansfield, 1996; Uchronski, 2008). One such study of individuals aged 22 to 88 identified age differences in the presence of agency and communion dimensions in individual's self-representations. Older adults were more likely to describe themselves in terms of their relationships and concerns for others, while younger adults were more likely to describe themselves in terms of their achievements, autonomy and desire for independence (Diehl, et al., 2004).

While these studies help to inform the current research, we also assert that agency and communion are useful as conceptual coordinates for a broad examination of how motivations towards the self and others may differ across the lifespan. The following sections describe research in several domains where age differences have been observed and are relevant to how older and younger adults may present themselves in their online dating profiles. These domains include personal goals, evolutionary motivations, and

socioemotional motivations.

## **PERSONAL GOALS AND MOTIVATIONS**

Individuals are likely to construct their online self-presentations in line with their personal goals, which are different during different life stages. Early adulthood is often characterized by a process of individualization and identity formation, which scholars have identified as tied to strivings for agency (Schwartz, Côté, & Arnett, 2005). Young adults are focused on establishing the self and on achieving a constellation of goals seen as necessary for a successful adult life. These personal goals often include pursuing an education and building a career as well as achieving developmental milestones such as marriage, the purchase of a home, and becoming a parent. Further, younger adults may view marriage or a successful romantic relationship as a marker of individual achievement or prestige (Cherlin, 2004).

Later life is associated with a different set of personal goals. Older adults are less likely to be focused on the self, as generativity concerns are often highest in late life and involve a focus on the needs of the next generation (Grossbaum & Bates, 2002). Moreover, as they age, adults focus more on connections to family, viewing themselves in a communal context (Fingerman, 2001). Additionally, older adults are also more concerned with health than their younger counterparts (Nurmi, 1992).

In one study of personal goals and everyday problem-solving, researchers asked participants of different ages to describe problems and goals important to them in their everyday lives. The descriptions were then coded and results revealed that the number of

other-focused goals increased from college-age participants to older adults (Strough, Berg & Sansone, 1996). Another study of goals and problem solving found that older adults preferred generative goals while younger adults preferred autonomy goals. The authors also noted that older adults were better at matching their strategies to their goals than younger adults (Hoppmann & Blanchard-Fields, 2010). These studies help to highlight how adults may prioritize different goals based on their stage in life, and these different goals may be reflected in how these individuals construct their online dating profiles.

## **EVOLUTIONARY MOTIVATIONS**

From an evolutionary perspective, scholars suggest that the fundamental human needs of agency and communion exist today because they helped to solve the ancestral environmental problems of reproduction and survival. In fact, the two concepts map well onto the defining characteristics of human group interaction: competition/hierarchy and cooperation/alliance formation (Fourneir, 2002). An agency orientation may have been adaptive for younger individuals in ancestral times by directing energy toward competition for limited resources or highly desirable mates. Conversely, a shift toward a more communal orientation in later life may have helped to facilitate successful alloparenting and cooperation to provide food and shelter to close relatives and extended kin.

However, most research on romantic relationships from an evolutionary perspective focuses on mate selection, reproduction and care of offspring. Early

theorizing on this topic suggested that individuals value characteristics in a mate based on evolutionary ideas of sexual selection, parental investment, and reproductive capacity (Buss, 1989). Research examining dating preferences has focused primarily on young adults of reproductive age (Buss, 1989; Buss, Shackelford, Kirpatrick & Larsen, 2001; exceptions include: Alterovitz & Mendelsohn, 2009; Buunk, Dijkstra, Fetchenhauer & Kenrick, 2002). The findings of this research highlight different mate selection strategies for men and women, reflecting gender differences in parental investment. That is, young women prefer partners with higher status (reflecting a greater ability to provide for offspring) and young men prefer partners who are more attractive (signaling fertility and higher reproductive capability; Buss & Barnes, 1986; Buss, 1989, 2003; Shackelford, Schmitt & Buss, 2005).

There is considerably less research examining evolutionary motivations and romantic relationships in later life. Some findings suggest that evolutionary themes may persist in the dating strategies of older adults. Studies have found that similar to younger women, older women emphasize the income or social status of their partner (Buunk et al., 2002; Calasanti & Kiecolt, 2007; McIntosh, Locker, Briley, Ryan & Scott, 2011). Similar to younger men, older men also are likely to emphasize physical attractiveness and sexuality (Calasanti & Kiecolt, 2007; Montenegro, 2003). Consistent with these findings, another study found that when seeking new partners, older women emphasized status more than men, whereas older men sought physical attractiveness and offered more status related information about themselves (Alterovitz & Mendelsohn, 2009).

While some research suggests that mate selection strategies of younger adults may carry into older adulthood, it seems logical to assume that motivations may shift once reproduction is no longer a concern. Older adults may be more invested in a larger family system where they can contribute to the fitness of their offspring or other kin. Along these lines, there are studies suggesting that older adults are likely to play the role of 'kinkeeper' by maintaining communication, facilitating contact and monitoring the relationships of family members (Rosenthal, 1985). Ties to family and friends do seem to be of great importance to the well-being of older adults, as they are key providers of instrumental support, emotional support, and companionship to older adults (Rook, August & Sorkin, 2011).

Finally, health is seen as a key factor in partner selection across the lifespan (Goldman, 1993), but may be particularly salient to older adults, who are aware of negative stereotypes associated with aging (Coupland, 2000; McWilliams & Barrett, 2012). Further, when attempting to attract a mate in late life, it may be important for older adults to emphasize health, or their efforts to maintain health through exercise and activity engagement so as not to appear frail. Scholars have noted that the health status of a partner may be particularly important to older women, who may be reluctant to take on the role of caregiver to an ailing partner (Carr, 2004; Dickson, Hughes, & Walker, 2005; Talbott, 1999).

In summary, some motivations rooted in our evolutionary history seem to be more relevant at different stages in the lifespan. Younger adults are likely to be motivated to seek a mate for sex, reproduction, and childrearing. In order to find such a mate, young

individuals are likely to emphasize factors related to their mate value such as their attractiveness, status and achievements. For older adults, reproduction and childrearing are likely to be less salient. However, older adults are likely to emphasize health and the importance of the larger family system. While evolutionary research may help illuminate dating motivations across the lifespan, scholarly work on socioemotional motivations may also speak to how adults of different ages may present themselves when seeking a new romantic partner.

## **SOCIOEMOTIONAL MOTIVATIONS**

According to socioemotional selectivity theory (SST), as people age, their time horizon shrinks; that is, older adults view the future as less expansive than younger adults. Because humans evolved to view themselves in a temporal context, goals and motivations are necessarily tied to a perception of time. In young adulthood, individuals are focused on facilitating their future selves and are likely to focus on seeking out novel experiences and acquiring new information that will aid them in reaching their future goals (Carstensen, Fung & Charles, 2003). This characterization of the motivational priorities of young adulthood is directly consistent with an agency orientation.

However, as people age, they begin to prioritize emotionally meaningful goals above novelty and the acquisition of new information. Individuals seek to maximize positive emotional experiences and minimize negative or unfulfilling experiences in their relationships (Charles & Carstensen, 2010). Due to this increased emphasis on emotional regulation, individuals become more selective in choosing their social partners,



prioritizing intimate, fulfilling relationships and pruning peripheral or problematic relationships (Carstensen, 2006; Lang, 2001). This focus on positivity, emotional rewards and fulfilling relationships with others is directly consistent with a communal orientation.

The findings of the socioemotional selectivity literature help to highlight a key finding in the broader aging literature, the presence of a “positivity effect” in older age. Numerous scholars have documented the presence of such an effect in research on memory, cognitive processing, visual attention, and emotion regulation. Across these multiple domains older adults show a preference for the positive, such that older adults attend to and have better memory for positive over negative information (see Reed & Carstensen, 2012 for a theoretical review and Reed, Chan & Mikels, 2014 for a meta-analytic review).

Consistent with our multidisciplinary review of changing goals and motivations across the adult lifespan, scholars have drawn connections between socioemotional selectivity theory and evolutionary theory. Carstensen and Löckenhoff (2003) suggest that perceived constraints on time lead motivations to shift from goals focused on personal advancement to goals that benefit others. Further, they suggest that improvements in socioemotional regulation with age and the increasing investment in emotionally close others would have been evolutionarily adaptive due to higher contributions to the reproductive success of kin.

These ideas support our characterization of agency and communion motives as well as our review of the evolutionary literature. Broadly, it appears that aging is accompanied by shifting motivations that draw focus from individual strivings and

personal advancement to goals focused on emotional meaning and the needs of others. Based on the review of these various related literatures, we expect to see age differences in the self-presentations of online daters. Further, we expect that these age differences will align with our broader framework of agency and communion.

## **OVERVIEW OF THE CURRENT STUDY**

The current study involved a systematic analysis of the content of online dating profiles obtained from two major dating websites. We compared the language used by younger adults in the text of online dating profiles to the language used by older adults. To do so, we utilized a text analysis program that allows researchers to calculate the degree to which individuals use a variety of different categories of language in a given sample of text (see the method section for a detailed description). Due to the increasing prevalence of online dating as a means to find a romantic partner across age groups, collecting and analyzing data from online dating profiles offered a unique opportunity to examine dating themes in an ecologically valid way.

Drawing on the concepts of agency and communion as well as the previously outlined research, we tested five sets of hypotheses. All hypotheses will be presented with older age predicting a larger or smaller proportion of words in a category of language, but all hypotheses could be considered in the converse, with younger age predicting larger or smaller proportions of words in those same categories. First, we expected to observe age differences in the degree to which individuals focus on the self versus others in their online dating profiles.

*Hypothesis 1A: Older age will be associated with a lower percentage of words in the 1st person singular pronoun category.*

*Hypothesis 1B: Older age will be associated with a higher percentage of words in the 1st person plural pronoun category.*

Second, we expected to observe age differences in the degree to which individuals mention communal concerns in their profiles, specifically relationships with family and friends.

*Hypothesis 2A: Older age will be associated with a higher percentage of words in the family category.*

*Hypothesis 2B: Older age will be associated with a higher percentage of words in the friends category.*

Third, we expected to observe age differences in the degree to which individuals mention agentic concerns in their profiles, specifically work, achievement and money.

*Hypothesis 3A: Older age will be associated with a lower percentage of words in the work category.*

*Hypothesis 3B: Older age will be associated with a lower percentage of words in the achievement category.*

*Hypothesis 3C: Older age will be associated with a lower percentage of words in the money category.*

Fourth, we expected to observe age differences in the degree to which individuals mention words related to physical health, attractiveness and sexuality.

*Hypothesis 4A: Older age will be associated with a higher percentage of words in the health category.*

*Hypothesis 4B: Older age will be associated with a lower percentage of words in the physical attractiveness category.*

*Hypothesis 4C: Older age will be associated with a lower percentage of words in the sexual category.*

Lastly, we expected to observe age differences in the degree to which individuals express positive and negative emotion in their online dating profiles.

*Hypothesis 5A: Older age will be associated with a higher percentage of words in the positive emotion category.*

*Hypothesis 5B: Older age will be associated with a lower percentage of words in the negative emotion category.*

## **METHOD**

### **SOURCE OF ONLINE DATING PROFILES**

Widely used dating websites in the United States for this study were identified using four search engines (e.g. Google, Bing, Yahoo and Ask.com) with the key words “online dating” as well as reports from Experian Hitwise (a consumer behavior firm) and Google Zeitgeist (a report on most frequent search queries in a given year). Websites were eliminated from consideration if they catered only to a “niche” audience (i.e. older adults, sexual minorities, a particular religious denomination, individuals looking for extramarital affairs, individuals interested in “speed dating”, or individuals looking for “hookups” or relationships of a casual or exclusively sexual nature). Additionally, dating websites that did not allow users to search for potential partners (thereby eliminating the potential for random selection) were excluded (e.g., eHarmony.com, Chemistry.com). After exclusions two popular websites were selected that appeared in each of the seven searches.

We obtained dating profiles from these two online dating websites. There was no charge for creating a profile on either of the websites. To create a profile, users on both websites completed an online form where they could choose to provide a variety of information about themselves. As a part of these profiles, users on both sites completed a free response section (i.e. “About Me” or “In My Own Words”) in which they wrote about anything they chose, often including a description of themselves and their ideal partner. In this sample, the number of words in this free response section ranged from 1

to 1251 ( $M = 138.35$ ,  $SD = 129.24$ ). We did not collect profiles that did not include a response to this section (i.e., zero words); less than one percent of potential profiles were excluded due to nonresponse on that item.

## **PARTICIPANTS**

We collected 4000 total profiles, 2000 from each of the two online dating websites using random quota sampling without replacement. Within each website, we collected 1000 profiles from heterosexual males and 1000 profiles from heterosexual females in the following four age groups: 18 to 29, 30 to 49, 50 to 64, and 65 or over. That is, we collected 250 profiles for each Age X Gender group on each website (4 age groups, 2 genders, 2 websites).

Each website requires users to search for profiles using age, gender, and geographic location filters. To ensure a geographic dispersion of profiles, we selected equal numbers of profiles from the following five major metropolitan areas: Los Angeles, Denver, Chicago, Atlanta and New York City. We randomly selected zip codes from each of the five metropolitan statistical areas to search for profiles. From each profile, we extracted the following data: gender, age, ethnicity and the text from the “About Me” free response section. Although the data were public access, to assure anonymity of profile writers, we did not obtain additional demographic information (e.g., education, religious preferences, income). A visual representation of the sampling method is available in Appendix A.

As expected, the sample was well distributed by age. The range of our sample was 18 to 95 years ( $M = 46.44$ ,  $SD = 17.41$ ). Means by age were: the youngest age group  $M = 25.13$ ,  $SD = 3.24$ , the second age group  $M = 36.56$ ,  $SD = 5.63$ , the middle-aged age group  $M = 55.00$ ,  $SD = 3.96$ , and the oldest age group had a mean age of  $M = 69.05$ ,  $SD = 4.30$ . An independent t-test revealed no difference in mean age for women ( $M = 46.43$ ,  $SD = 17.42$ ) and men ( $M = 46.45$ ,  $SD = 17.40$ );  $t(3998) = -0.04$ ,  $p = 0.971$ . The breakdown of ethnicity in the sample is as follows: 70.0% White/Caucasian, 11.0% Black/African-American, 7.3% Hispanic/Latino, 2.2% Asian, 4.9% Mixed race, and 4.8% Other.

## **LIWC ANALYSIS**

We used the Linguistic Inquiry and Word Count (LIWC) software (Pennebaker, Booth & Francis, 2007) to analyze the content of the profiles. This software calculates the frequency and proportions of specific categories of words within a text file. The LIWC program compares each word of a text file with an internal dictionary of over 4,500 words assigned to word categories. Examples of categories include articles (LIWC searches for instances of a, an, and the) as well as positive emotion words (love, nice, sweet). This study drew on 11 established LIWC categories: 1<sup>st</sup> person singular pronouns, 1<sup>st</sup> person plural pronouns, friends, family, work, achievement, money, health, sexual, positive emotion and negative emotion.

The program also allows users to create custom categories of phrases, individual words, and word stems not available in existing LIWC categories. For the current study, we created a custom category of words that was not available in the existing LIWC

categories: physical attractiveness. This category was created in accordance with the original construction of the LIWC categories (for a description see Tausczik & Pennebaker, 2010) by generating a list of words from dictionaries, thesauruses, questionnaires from previous research, and lists generated by the research team. We then held meetings with three graduate student judges to rate the appropriateness of each word to the category. Judges were instructed to indicate whether or not each word should be included in the category and to generate any additional words that they felt should be included in the category. Words remained in the category if two of three judges agreed and words were excluded from or added to the category if two of three judges agreed. A final list of the words included in the physical attractiveness category is available in Appendix B.

## **ANALYTIC STRATEGY**

We first considered potential control variables (e.g., websites, geographic region, ethnicity) by examining potential differences in LIWC category percentages. To test mean level differences between the two websites, we conducted independent t-tests with the proportion of words in each response fitting the twelve LIWC categories as the outcome variables. Only two of the twelve t-tests were significant and differences in the categories between websites did not appear to be systematic.

Then we conducted a series of analysis of variance (ANOVAs) to test mean level comparisons between the five geographic regions and six ethnic categories on each of the LIWC categories of interest. Of the twelve tests related to geographic region, only three



were significant and the differences were not consistent or theoretically meaningful. Regarding ethnicity, six of the twelve ANOVAs were significant, but we found no consistent pattern of differences across the LIWC categories. Further, we ran all of our models including website, geographic location, and ethnicity as covariates and the pattern of effects was unchanged. Therefore, our analytic strategy relied on a simple regression analysis involving only two independent variables: age and gender.

## RESULTS

### DESCRIPTIVE OVERVIEW OF DATING PROFILES

Prior to examining the mean percentage of responses fitting each of the hypothesized LIWC categories by age (see Table 2), we were interested in looking at overall word use across the sample. To do so, we used a word-cloud based technique to visualize the most commonly used words across the sample and in each of the age groups (see Figure 1). In each word cloud, word size is scaled relative to frequency, creating an intuitive summary of most prevalent words in each age group (Wordle, 2014). By creating a visualization of the 100 most common words, we were able to see the extent to which word use was consistent across the sample and in each of the age groups. Each of the five word clouds show high frequencies of words such as: like, love, someone, and looking. This similarity indicates that regardless of age, there is a strong script for personal descriptions in the context of an online dating profile.

Figure 2 shows the same five figures, with the twenty most common words removed from each of the word clouds. By removing the most common words in the sample, we are able to visually detect some of the heterogeneity across the age groups. Without the twenty most common words, we can see that the youngest age group has higher percentages of words such as: go, get, and work, while the oldest age group has higher percentages of words such as: travel, relationship, and great. Our hypothesis testing sought to pursue these descriptive differences systematically.

## **HYPOTHESIS TESTING**

To test our hypotheses, the percentage of words in a given LIWC category was used as the dependent variable in that analysis. All models were run with the inclusion of the interaction term of age and gender, but as no significant interactions were found, results are reported for the simpler models, which include only age and gender main effects. Results regarding age differences will be presented first, though all models include gender as well. Additionally, Tables 2-6 show the regression results with unstandardized beta coefficients.

*Hypothesis 1A: Older age will be associated with a lower percentage of words in the 1st person singular pronoun category.*

*Hypothesis 1B: Older age will be associated with a higher percentage of words in the 1st person plural pronoun category.*

Findings supported Hypothesis 1A and 1B (See Table 2). Two linear regressions revealed a main effect of age, such that as the age of the profile writer increased the percentage of words in the 1<sup>st</sup> person singular LIWC category decreased ( $\beta = -0.27, p < .001$ ) and the percentage of words in the 1<sup>st</sup> person plural category increased ( $\beta = 1.26, p < .001$ ). In other words, older adults were significantly less likely than younger adults to use 1<sup>st</sup> person singular pronouns in their online dating profiles and significantly more likely to use 1<sup>st</sup> person plural pronouns.

*Hypothesis 2A: Older age will be associated with a higher percentage of words in the family category.*

*Hypothesis 2B: Older age will be associated with a higher percentage of words in the friends category.*

There was mixed support for Hypothesis 2 (See Table 3). There were no significant age effects with regard to the family category ( $\beta = 0.22, p = .161$ ), suggesting that older and younger adults were equally likely to mention family in their profiles. The findings regarding friends were consistent with expectations, such that as age increased, percentage of words in the friends category increased as well ( $\beta = 0.04, p = .011$ ).

*Hypothesis 3A: Older age will be associated with a lower percentage of words in the work category.*

*Hypothesis 3B: Older age will be associated with a lower percentage of words in the achievement category.*

*Hypothesis 3C: Older age will be associated with a lower percentage of words in the money category.*

There was mixed support for Hypothesis 3 (See Table 4). Three multivariate regressions were conducted with age and gender as the independent variables and the three separate LIWC categories (work, money and achievement) as the dependent variable in each model. The results of the first regression model with the work category as the outcome were consistent with our hypothesis. As age increased, the percentage of words in the work category decreased ( $\beta = -0.03, p = .042$ ). Findings were similar for achievement, as age increased the percentage of words in the achievement category decreased ( $\beta = -0.08, p < .001$ ). However, the findings for money were in the opposite

direction of predictions, such that as age increased so did the percentage of words in the money category ( $\beta = 0.05, p = .004$ ).

*Hypothesis 4A: Older age will be associated with a higher percentage of words in the health category.*

*Hypothesis 4B: Older age will be associated with a lower percentage of words in the physical attractiveness category.*

*Hypothesis 4C: Older age will be associated with a lower percentage of words in the sexual category.*

There was mixed support for Hypothesis 4 (See Table 5). Three multivariate regressions were conducted with age and gender as the independent variables and the three separate LIWC categories (health, physical attractiveness and sex) as the dependent variable in each model. Findings regarding health were consistent with predictions. As age increased, so did the percentage of words in the health category ( $\beta = 0.10, p < .001$ ). Also consistent with predictions, as age increased the percentage of words in the sexual category decreased ( $\beta = -0.03, p = .032$ ). However, the findings with regards to physical attractiveness were in the opposite direction of predicted effects. As age increased, so did the percentage of words in the physical attractiveness category ( $\beta = 0.04, p = .012$ ).

*Hypothesis 5A: Older age will be associated with a higher percentage of words in the positive emotion category.*

*Hypothesis 5B: Older age will be associated with a lower percentage of words in the negative emotion category.*

The results of the models regarding positive and negative emotion were consistent with predictions. With increasing age, profiles had greater percentage of positive emotion words and lower percentage of negative emotion words ( $\beta = 0.15, p < .001$  and  $\beta = -0.17, p < .001$  respectively).

Although gender was not a main focus of the current study, our regressions did reveal a number of significant gender differences in the proportion of words in the relevant LIWC categories. There was a main effect of gender in both of the regressions on the LIWC pronoun categories. Women had a higher percentage of words in the first person singular category ( $\beta = -0.07, p < .001$ ) while men had a higher percentage of words in the first person plural category ( $\beta = 0.04, p = .006$ ). Women had higher proportions of words in the communal categories of friends ( $\beta = -0.09, p < .001$ ) and family ( $\beta = -0.13, p < .001$ ).

However, no significant gender differences were found in the agentic categories of work ( $\beta = 0.03, p = .061$ ), achievement ( $\beta = 0.02, p = .15$ ), and money ( $\beta = 0.01, p = .459$ ). Women had higher percentages of words in the health and sexual categories ( $\beta = -0.05, p = .001$  and  $\beta = -0.13, p < .001$  respectively), but there were no gender differences in the proportion of words in the physical attractiveness category ( $\beta = 0.02, p = .142$ ). Lastly, women had higher percentages of words in the positive emotion category ( $\beta = -0.13, p < .001$ ), though no gender differences were found for the negative emotion category ( $\beta = 0.03, p = .094$ ).

## DISCUSSION

Changing demographics and social trends have contributed to a reality where older adults are increasingly interested and involved in dating. Recent years have seen a proliferation of romantic relationships formed via the Internet and although most research in this domain focuses on younger adults, older adults are similarly turning online to find romantic partners. The ubiquity of online dating as a means to find a relationship provides scholars with a unique opportunity to examine dating strategies and motivations in the context in which they actually occur. Due to the lack of research on dating strategies and motivations in older adults, we turned to a variety of literatures that address age-related differences in motivation, including research on evolutionary motivations, personal goals, and socioemotional motivations to form our hypotheses. Using a framework of agency and communion, we hypothesized that these age-related shifts in motivation toward the self and others would be apparent in the online self-presentations of adults of different ages.

To this end, the main goal of the current study was to systematically identify and examine agency and communion themes in online dating profiles of 4000 adults from across the US. We expected to find age differences in the extent to which a variety of categories of language were present in the self-presentations of older and younger adults, including categories that highlight a self- versus other-focus (1<sup>st</sup> person pronouns), as well as a focus on a variety of other content dimensions related to agency and

communion strivings (family, friends, work, achievement, money, health, sexual, physical attractiveness, positive and negative emotion).

Findings generally supported our framework of agency and communion, with a few notable exceptions. In line with our hypotheses, older adults were more likely than younger adults to use communal themes, describing themselves in terms of their connections with others. This was reflected in a larger proportion of 1<sup>st</sup> person plural pronouns and words related to friends in their online dating profiles. Also consistent with our hypotheses, older adults were also more likely to mention health and positive emotion in their profiles. Counter to our predictions, there were no age differences in the proportion of words in the family category, suggesting that family is salient in the self-representations of older and younger adults alike.

Another unexpected finding was that older adults were more likely to mention money in their profiles than younger adults. Some research suggests that older women are particularly concerned with the income of potential dating partners, as they are concerned with a relationship becoming a financial strain (McIntosh et al., 2011) or the possibility of losing their financial independence (Calasanti & Kiecolt, 2007). It might be the case that older men and women are more likely to openly address income in their dating profiles.

Additionally, results regarding physical attractiveness were in the opposite direction of expected effects, with older age predicting a greater proportion of words in the physical attractiveness category. This finding was not particularly surprising when we considered the large overlap between words in the physical attractiveness category and



the health category, with both word categories containing a large number of words related to the body. It might be the case that future research could benefit from the creation of a category for attractiveness that uses only words that are synonymous with attractive or good-looking.

Conversely, younger adults appear to be more focused on the self, with a greater proportion of 1<sup>st</sup> person singular pronouns than older adults. This is consistent with an agency orientation, as are the results in the categories of work and achievement where younger adults had significantly higher percentages of words. Also consistent with predictions, younger adults had higher percentages of words in the sexual category and the negative emotion category.

Results with regard to gender revealed that women are more likely to focus on the self as well as themes related to positive emotion, friends, family, health and sex. Men were more likely to focus on others, as evidenced by their higher percentage of words in the 1<sup>st</sup> person plural categories. Some of these findings support the broader literature on age differences in language and self-presentation, such that women are more likely to use positive emotion words and self-references (Newman, Groom, Handelman & Pennebaker, 2008; Schwartz et al, 2013).

Overall, the findings presented in this study are consistent with the agency and communion framework and lend support to the idea that age-related motivational differences are apparent in how adults approach the formation of new romantic relationships. It is also important to note that due to the inherent homogeneity among dating profiles, which are highly scripted and constrained by the structure of the websites

(Ellison, Heino & Gibbs, 2006), it is exciting to detect age and gender differences using our systematic micro-analytical technique. Further, this study is one of the largest examinations of online dating profiles to date. As the popularity of online dating increases, we hope to continue to explore how individuals are constructing their self-presentations, as the content of these profiles may become increasingly important in determining what types of partners individuals may be attracting.

We hope that future research will extend these findings and connect the content of online dating profiles to downstream romantic outcomes, such as contact between partners, number of dates or eventual relationship satisfaction or stability. Although we cannot address the romantic outcomes of the individuals in our sample, there is some research that suggests that specific components of profile content may play a role in dating success. It appears that individuals are more likely to respond to initial messages in an online dating context if they contain fewer self-references (Schöndienst & Dang-Xuan, 2011). Additionally, greater positive emotionality appears to predict more favorable evaluations of online dating profiles (Rosen, Cheever, Cummings, & Felt, 2008). This is encouraging news for older adults, as our study revealed a general picture of older adults as more positive and less self-focused than younger adults.

**Table 1***Mean Percentage of Responses fitting each LIWC Category by Age*

LIWC Category	Total Sample Ages 18 to 95 (n=4,000)	Age Group 1 18 to 29 (n=1,000)	Age Group 2 30 to 49 (n=1,000)	Age Group 3 50 to 64 (n=1,000)	Age Group 4 65 and older (n=1,000)
1 <sup>st</sup> person singular	8.92 (4.06)	10.60 (4.37)	9.11 (3.76)	8.28 (3.65)	7.71 (3.83)
1 <sup>st</sup> person plural	0.33 (0.78)	0.18 (0.53)	0.32 (0.77)	0.40 (0.81)	0.42 (0.92)
Family	0.57 (1.14)	0.55 (1.24)	0.58 (1.03)	0.49 (0.97)	0.66 (1.28)
Friends	0.65 (1.27)	0.54 (1.13)	0.68 (1.39)	0.67 (1.30)	0.70 (1.22)
Work	1.89 (1.98)	2.09 (2.38)	1.85 (2.46)	1.67 (1.99)	1.96 (2.46)
Achievement	1.83 (1.98)	1.91 (1.96)	2.08 (2.33)	1.80 (1.81)	1.55 (1.74)
Money	0.50 (0.90)	0.44 (0.89)	0.50 (0.88)	0.49 (0.90)	0.56 (0.94)
Health	10.16 (5.67)	10.20 (5.42)	10.70 (7.06)	10.18 (5.07)	9.58 (4.80)
Physical attractiveness	3.22 (3.39)	2.98 (2.66)	3.29 (3.95)	3.21 (2.51)	3.44 (4.13)
Sexual	1.47 (1.93)	1.63 (2.26)	1.37 (1.70)	1.51 (1.90)	1.39 (1.82)
Positive emotion	10.62 (5.64)	9.29 (5.30)	10.39 (5.89)	11.37 (5.65)	11.44 (5.43)
Negative emotion	0.81 (1.21)	1.09 (1.42)	0.89 (1.28)	0.70 (1.09)	0.57 (0.94)

**Table 2**

*Regression Analysis Predicting Percentage of Words in 1<sup>st</sup> Person Pronoun LIWC Categories*

Variables	LIWC category: 1 <sup>st</sup> person singular		LIWC category: 1 <sup>st</sup> person plural	
	B	SE	B	SE
Intercept	9.21***	0.09	0.30***	0.02
Age	-0.06***	0.00	0.01***	0.00
Gender <sup>a</sup>	-0.57***	0.12	0.07**	0.02
R <sup>2</sup>	0.08		0.02	
F	165.63***		36.35***	

<sup>a</sup>Gender: 0 (female) and 1 (male).

\*p < .05. \*\*p < .01. \*\*\*p < .001.

**Table 3**

*Regression Analysis Predicting Percentage of Words in Family and Friends LIWC Categories*

Variables	LIWC category: Family		LIWC category: Friends	
	B	SE	B	SE
Intercept	0.72***	0.25	0.76***	0.03
Age	0.00	0.00	0.00*	0.00
Gender <sup>a</sup>	-0.30***	0.04	-0.23***	0.04
R <sup>2</sup>	0.02		0.01	
F	36.69***		19.09***	

<sup>a</sup>Gender: 0 (female) and 1 (male).

\*p < .05. \*\*p < .01. \*\*\*p < .001.

**Table 4**

*Regression Analysis Predicting Percentage of Words in Work, Achievement, and Money LIWC Categories*

Variables	LIWC category: Work		LIWC category: Achievement		LIWC category: Money	
	B	SE	B	SE	B	SE
Intercept	1.82***	0.52	1.79***	0.04	0.49***	0.02
Age	-0.00*	0.00	-0.01***	0.00	0.00***	0.00
Gender <sup>a</sup>	0.14	0.07	0.09	0.06	0.02	0.03
R <sup>2</sup>	0.01		0.01		0.00	
F	3.833*		15.11***		4.50*	

<sup>a</sup>Gender: 0 (female) and 1 (male).

\*p < .05. \*\*p < .01. \*\*\*p < .001.

**Table 5**

*Regression Analysis Predicting Percentage of Words in Health, Physical Attractiveness, and Sexual LIWC Categories*

Variables	LIWC category: Health		LIWC category: Physical Attractiveness		LIWC category: Sexual	
	B	SE	B	SE	B	SE
Intercept	0.98***	0.03	3.15***	0.08	1.72***	0.04
Age	0.01***	0.01	0.01*	0.00	-0.00*	0.00
Gender <sup>a</sup>	-0.13**	0.04	0.16	0.11	-0.49***	0.06
R <sup>2</sup>	0.01		0.00		0.02	
F	25.02***		4.23		35.55***	

<sup>a</sup>Gender: 0 (female) and 1 (male).

\*p < .05. \*\*p < .01. \*\*\*p < .001.

**Table 6**

*Regression Analysis Predicting Percentage of Words in Positive and Negative Emotion LIWC Categories*

Variables	LIWC category: Positive emotion		LIWC category: Negative emotion	
	B	SE	B	SE
Intercept	11.36***	0.12	0.78***	0.03
Age	0.05***	0.01	-0.01***	0.00
Gender <sup>a</sup>	-1.47***	0.18	0.06	0.04
R <sup>2</sup>	0.04		0.03	
F	79.96***		57.19***	

<sup>a</sup>Gender: 0 (female) and 1 (male).

\*p < .05. \*\*p < .01. \*\*\*p < .001.



**Figure 1**

*100 Most Common Words Across the Sample and in Each Age Group*



**Total Sample**



**Age Group 1**



**Age Group 2**



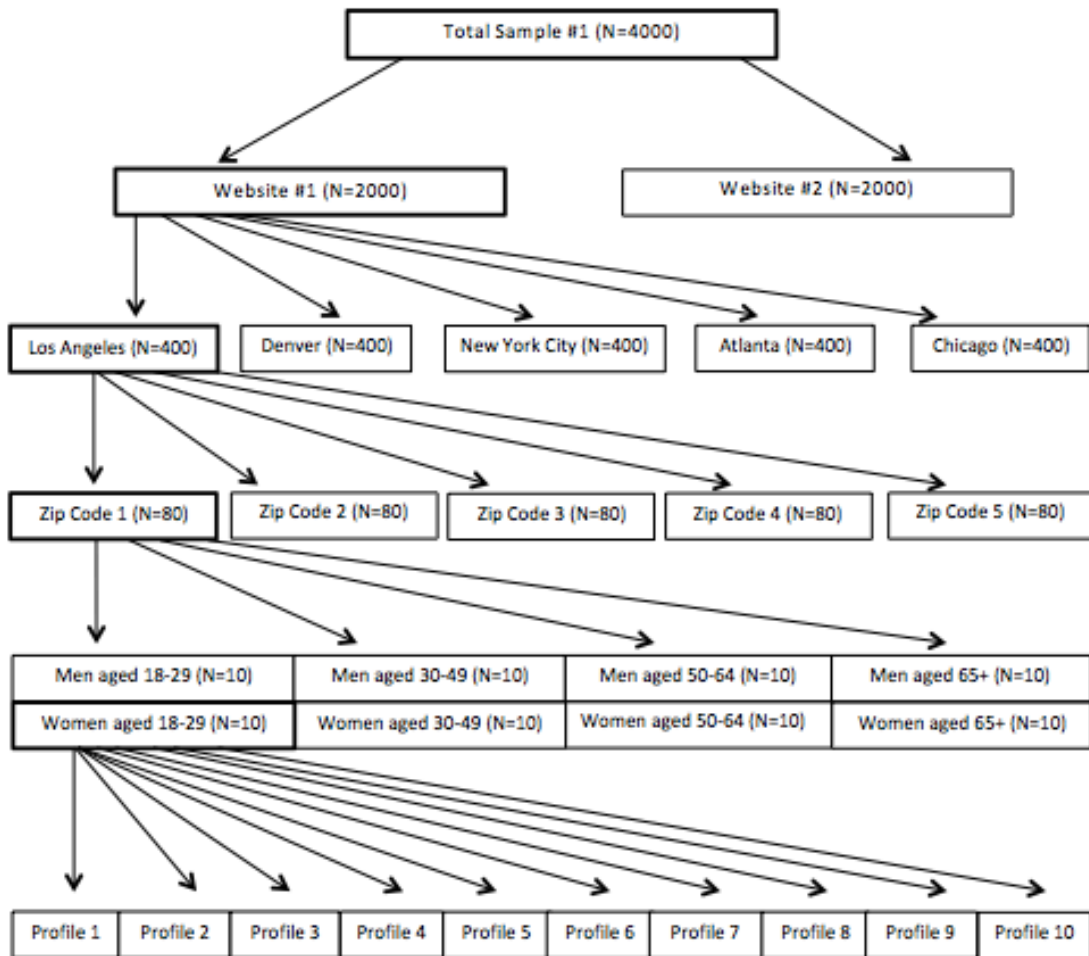
**Age Group 3**



**Age Group 4**



## Appendix A: Visual Representation of Sampling Method



## Appendix B: Words Included in Physical Attractiveness Category

adorable	bony	dark-*	fair*	haggard	legendary
aged	brawny	darling	fashionable	hairy	light*
allure*	breath-taking	dazzling	fat	handsome	light-*
amaze*	bright*	debilitated	fetching	healthy	little
ancient	brilliant	decaying	fine	heavenly	looker
angelic	bristly	decrepit	flamboyant	heavy*	lovely
angular	broad	deformed	flaw*	hefty	luring
appalling	broken	delectable	fleshy	herculean	luscious
appealing	brunette	delicate	fossil	hideous	lustrous
aristocratic	budding	delicious	foul	homeless	luxur*
arousing	built	desirable	foxy	homely	magnetic
ashy	bulging	deteriorated	fresh*	horrid	magnificent
astonish*	bulky	developing	fresh-*	hot	majestic
athletic	bumpy	dignified	fuzzy	hunky	malnourished
attractive	burly	dilapidated	gargantuan	husky	marvelous
awe*	bushy	disfigured	gaudy	ideal	mature*
awe-*	busted	disheveled	gaunt	ill*	meager
awful	busty	distasteful	geriatric	ill-*	meaty
bad-*	butterball	divine	giant	immaculate	mesmeric
bad	buxom	dream*	glamorous	impeccable	mind-blowing
barren	callow	dumpy	glittering	impressive	misshapen
battered	captivating	elderly	glorious	inactive	monstrous
beanpole	centerfold	elegant	good	incredible	monumental
beanstalk	chapped	elephantine	good-*	infirm	moving
bearded	childlike	elevated	gorgeous	inflated	muscle*
bearish	chubby	emaciated	grace*	inviting	nappy
beastly	chunky	enchancing	grand	irresistible	neat
beauty*	classy	enfeebled	grandiose	jagged	new
beckoning	clean*	enthraling	gray*	jelly-belly	nice
becoming	clean-*	enticing	gray-*	kissable	nodular
beefy	coarse	entire	grey*	knobby	obese
belly	come-hither	exalted	grey-*	knockout	old*
bewitching	compact	exciting	great	knotty	old-*
big	crag*	exhausted	grisly	lanky	opulent
blimp	crumbling	exquisite	grizzled	lard*	ostentatious
blonde	cute	extravagant	gross	lard-*	outrageous
blooming	dainty	eyeful	grotesque	large	over*
blossoming	dapper	fab	growing	lavish	paunchy
blubbery	dark	fabulous	gut	lean	perfect

petite	royal	stocky	unattractive
phenomenal	ruffled	stony	unbecoming
pint-sized	rugged	stout	unbelievable
plain	run-down	strapping	uncomely
pleasant*	runty	striking	undernourished
plump*	scragg*	strong	undersized
plush	scrawny	stubby	underweight
pocket-sized	scrumptious	stun*	unseemly
pompous	seasoned	stunted	unsightly
portly	seductive	stupendous	venerable
potbellied	senile	stylish	virile
precious	senior	suave	voluptuous
prepossessing	sensual	sublime	wasted
pretty	sex*	suggestive	wee
prodigious	shag*	sumptuous	weighty
provoke*	shapely	super*	well*
pubescent	sharp	super-*	well-*
pudgy	shocking	swag*	whale-like
puny	short	swol*	wicked
put-together	showy	swollen	winning
racy	sizable	symmetrical	wonderful
radiant	skeletal	tall	woolly
rangy	skimpy	tan	
ravishing	skinny	tangled	
rawboned	skyscraping	tantalizing	
redhead	slender	tasteful	
refined	slinky	teasing	
regal	small	tempting	
remarkable	smart	terrific	
repelling	smashing	thick*	
repugnant	smooth	thin*	
repulsive	soaring	thrilling	
resplendent	solid	tiny	
revolting	spectacular	tired	
ridged	spicy	titillating	
righteous	splendid	toned	
risqué	squatty	tousled	
robust	stamina	towering	
rocky	stately	tufted	
roly-poly	statuesque	twiggy	
rotund	steamy	ugly	

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