

Not Just a Wink and Smile: An Analysis of User-Defined Success in Online Dating

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ABSTRACT

This study examines the publically available stories of self-identified successful couples that met using the online dating services Match.com, eHarmony, or OkCupid. We enumerate four main findings; 1) the distribution of relationship status (Dating, Engaged, Married) varies among websites, 2) approximately half of all stories explicitly thank the service they used, 3) the locations of successful couples from Match.com and eHarmony are not statistically different when analyzed at a regional level, and 4) while the distribution of these couples follows general population trends, there are low population density islands where many self-identified successful couples live. These findings, coupled with a review of the existing literature, establish the context for future research into the technological and societal contexts in which online dating exists. This research has broad impacts of informing the design and development of online dating websites and other information and communication technologies (ICTs) such as social networking sites.

Keywords

Social media, online dating, technology, communication, Internet dating, relationships

1. INTRODUCTION

Online dating sites have existed since the mid-1990's and technologically mediated forms of dating existed for decades prior to that [15]. Online dating sites are a unique laboratory for examining human relationship initiation, development and self-identified success. Unlike traditional dating scenarios, the initial contact and much of the early relationship development and formation in online dating is technologically mediated. This mediation affects how individuals develop an initial impression of their potential mate, which influences the course of the relationship and the eventual user-defined success or failure of the relationship.

The use of online dating has grown since its introduction in the mid-1990's. Recent market research has identified that close to 20% of all marriages today involve couples that have met online [12]. Even with the increasing utilization of online dating as a mechanism for meeting partners, there are few studies of the long-term outcomes. Prior online dating research focuses on the self-representation of online dating participants and how this representation effects the formation of a relationship [8]. Other research focuses on how individuals use specific search strategies to find potential partners on these websites [5; 10]. A few studies have attempted to analyze specific user groups, such as the elderly, to understand how online dating facilitates interactions in specific populations [18].

Prior work that has focused on the early stages of online dating has not attempted to understand how users measure or identify success while using these sites. While the selection of potential partners play an important role in understanding online dating, gaps still exist in terms of understanding why and how people adopt a particular dating site. Unlike more widely studied social networking sites, online dating websites have a clear and explicit measurable outcome: did I find a partner? Current literature does not address partnership success or the characteristics and circumstances of couples who initially meet through an online dating site. One recent study did examine the length of a relationship based on factors such as physical and personality attraction, but only examined short-term relationships and was most interested in the length of a relationship as a measure of the validity of the initial profile [19]. In fact, many of the relationships examined in the study were terminated before the study was completed.

We attempt to close this gap in online dating research by examining publically available success stories collected through a systematic random sample from success sites affiliated with three of the most popular online dating websites in the United States, Match.com (n=544), eHarmony (n=213) and OkCupid (n=61). Submitting a success story to an affiliated success site is a straightforward process. Individuals first authenticate using the account they originally used on the online dating website, and then submit a story along with a description of the current relationship status, often determined from a

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controlled vocabulary including: Dating, Engaged or Married. The act of entering information on a success site is an expression that at least one member of the couple views the outcome as a “success.” Couples also have the option to include location information, tips for other daters, and specifics about their relationship. We understand that success varies by individual perspective and do not make a value judgement of what constitutes success. In the following study we report the information collected as defined by the users of the sites.

In the following article, we first provide an overview of the current literature that examines online dating, noting important gaps explicitly. Next, we present the readers with the methods, dataset and research questions that guided our analysis. This is followed by a three-part presentation of our findings. First, we focus on the differences in distribution of relationship statuses on each site to illustrate how success varies between the three sites chosen for analysis. Second, we present examples from the collected stories to illustrate to the reader the role of the online dating website in the relationship formation process. Third, we present an analysis of the geographic distribution of the collected profiles to attempt to understand differences in geographic adoption of online dating websites. We conclude with a discussion of implications for future online dating research and website design and present a research agenda for moving forward with further online dating research.

2. LITERATURE REVIEW

In recent years, the rate at which the Internet has been used to meet romantic partners has increased. In 1999, only 2 percent of Americans had used an online dating site [14]. This number grew to just over 17 percent of single American Internet users in 2005 [17]. *A Pew Internet & American Life* study from 2006 found that 15% of American adults knew someone who had been in a long-term relationship or married someone they had met online [11]. According to an April 2010 Match.com study, 17% of all marriages from 2007-2010 were a result of the couple meeting on an online dating site [12]. These statistics show the evolution of online dating from a limited activity to one with significant societal effect.

The literature examining online dating has analyzed two aspects of the services, the technological affordances of these websites and the manner in which individuals present themselves and seek potential partners. Previous research on the technological aspect of online dating has focused on how individuals are matched or made aware of the presence of someone that they may be compatible with on these sites. As a result of this focus, much of the evaluative research has attempted to improve the quality of initial matches between individuals by examining collaborative filtering mechanisms that recommend others based on similarity of preference and reciprocity of interest [1; 16]. Similar studies have tried to institute recommendation systems that establish an individual's position in a social

network and attempt to recommend others based on similarity connections between individuals [13]. Further research has attempted to apply information retrieval concepts and machine-learning algorithms to learn individual preferences and recommend matches based on this activity [2].

Although these studies have taken an exhaustive analysis of some aspects of the technology that is the foundation of online dating, there are still significant gaps. For example, many of the algorithms and processes evaluated in these research studies claim an improvement of matching of individuals, but a true successful outcome is never operationalized in an identifiable manner, such as whether someone was successful or unsuccessful [10]. Instead of analyzing long-term outcomes of the matching algorithms and eventual user-defined success, much of the research stops at the initial matching.

In addition to the technological aspects of online dating, there have been numerous studies that have focused on user selection of others on these sites. Fiore et al. [6] found that standard questions with discrete answers did not contribute significantly to the assessment of attractiveness of a profile as much as a photograph did. Instead, discrete answers were used as a filtering mechanism to identify sets of individuals who would be assessed as compatible. The use of discrete answer fields as a filter mechanism allows individuals to find specific individuals they are looking for. Such activity may contribute to homophily that has been found to exist among individuals communicating on online dating sites [4]. Additionally, those that made initial contact with an individual whose criteria they matched were more likely to receive a response [5].

Presentation of self on online dating sites is one of the most examined aspects of online dating users. Whitty [20] found that individuals use the profile as a filtering mechanism for identifying people of interest, but intend to move the relationship to the physical world and are thus interested in interactions beyond the online profile. People are most interested in others they find on the site whose presentation in the physical world is consistent with their presentation on the site. As a result, misrepresentation is not well received and often leads to disappointment. Other studies have also found that, unlike other forms of online communication, the eventual meeting that accompanies online dating leads to a more valid self-presentation online [7].

The anticipation of a face-to-face meeting means that individuals must strike a balance between the accuracy of their profile while still creating an ideal perception of themselves to appear more attractive. Research illustrates that this balance is achieved through emphasizing positive attributes in both the posting of the photographs and describing oneself [3]. In addition to emphasizing positive attributes as a way to make oneself more attractive, online daters have also noted specific negative attributes of profiles that would lead them to not contact another

individual. Examples of these negative attributes include misspellings or poor grammar [3]. As a result of being exposed to these negative attributes, online daters may try to minimize the existence of these attributes in their own profiles.

The photographs included on an online dating profile are one of the most important aspects of identification of possible matches and compatibility before an initial physical meeting. Hancock and Toma [8] have found that profile photographs tended to be inaccurate representations of individuals in almost one-third of cases. This difference is more pronounced in females and the most prevalent inaccuracy was that the photos were not recent. In a similar study, 81% of individuals were found to have lied in some degree about an aspect of their profile that included misrepresenting their height and weight [9]. The magnitude of these lies was often small with some exceptions, but this illustrates that the eventual validation of a meeting may lead to more truthful presentation of self on online dating sites.

One study attempted to bridge the technical and user side of online dating analyzed data from an online dating website to determine specific attributes of an individual, including income, education and physique, which contribute to increased communication from others [10]. They found that certain physical appearance and descriptions, along with the presence of photographs to confirm these attributes, was a valid predictor of communication. The more favorable attributes in the profile, the greater the communication. Here, success is conceptualized as the receipt of communication. However, this measure is ultimately useful only to predict the likelihood of an initial meeting in the physical world and does not predict long-term success building a relationship using these websites.

Studies analyzing the successful relationship outcomes from online dating websites are missing from the current literature. As illustrated in the preceding section, there are two prevailing threads of research in regard to online dating, technology and user studies. These two threads begin to examine some aspects of what may lead to successful outcomes, but these studies generally only analyze the beginning of the online dating experience. These types of studies fail to analyze the long-term outcomes to understand how these initial factors contribute to success. We attempt to fill this gap by looking at the end of the online dating experience, when individuals determine that they are successful, as the starting point for our research. Through an examination of longer-term online dating success measures, we contribute a study that can provide a basis for future work that examines outcomes of relationships initiated on online dating sites. Such studies will be valuable for identification of the socio-technical contexts and factors that contribute to user-defined (rather than algorithmically defined) success or failure on online dating websites.

3. RESEARCH QUESTIONS

We set out to understand the nature of success stories on the three online dating success sites selected for our study (see Section 4: Methods and Dataset). In order to develop an initial understanding of the nature of the success stories on these sites we established a set of exploratory questions to guide the examination of user-defined success on these websites.

The initial three questions that our study seeks to address include:

- 1) How does the definition of “success” differ among the three online dating services, Match.com, eHarmony and OkCupid?
- 2) What commonalities exist in the user submitted stories to the online dating success websites?
- 3) To what extent does the geographical location of successful online daters differ between regions of the United States?

Online dating success is a broad, emerging area for research, and these questions are merely a beginning attempt to address gaps in the literature. In our discussion section we outline additional questions to guide future research.

4. METHODS AND DATASET

Although the online dating websites that we chose to analyze are marketed to general audiences, there are some differences in the characteristics of the sites and the samples that were collected. One characteristic that varies by site is whether members must pay to join the site. Match.com and eHarmony both require members to pay to communicate with other members, while OkCupid is free, though members may pay to remove ads. Additionally, while Match.com and OkCupid allow for same-sex relationship matching, eHarmony does not. They do provide another website for same sex matching, but we did not identify success stories from the same sex website.

We collected a systematic random sample of publically available success stories that typically included location, status (Married, Engaged, Dating) and the couple’s relationship story from the websites of Match.com (n=544), eHarmony (n=213), and OkCupid (n=61). Data collection occurred in the last week of March and first week of April 2011 on one site at a time to ensure an appropriate systematic random sample and limit the possibility of inclusion of new stories to the sites.

The stories collected were dated from 1997 through early 2011. There is no reason to believe that our sampling timeframe (late March/early April) influenced the type of stories collected. In total, 20% of the available success stories were collected. Four duplicates from eHarmony, one duplicate from Match.com, and one OkCupid submission that was determined to be fake were removed from the original sample, resulting in the final study sample numbers described above. The existence of duplicates and seemingly

fake profiles in our sample is evidence of minimal filtering on behalf of the administrators of the success websites.

The researchers then used the statistical programs SPSS and R to conduct frequency analysis of statuses and phrases in the stories. The researchers identified common phrases and words used within each of the websites and further examined a random sample of the stories to determine contextual information about the common phrases used. This allowed for the identification of abstractions of different words that were used in each website.

Following analysis of the distribution of statuses and frequency analysis of phrases, the researchers used the United States Postal Service zip code converter to recode the locations into zip codes¹. These zip codes were then coded into U.S. Census regions² to allow for a coarse grained analysis of geographical distribution of each site's success story contributors to smooth out population variation by state. Data analyzed at this granularity supports statistical significance in the differences in regional adoption for each site.

For the geographic analysis, 3 profiles were removed from the Match.com sample because of inaccurate or missing locations that were unable to be negotiated between the researchers (n=541). The geographical information was then plotted using OpenHeatMap (Figure 3) to allow for a graphical analysis of distribution of profiles on these sites and SPSS was used to analyze the state-by-state and regional distributions of success stories. As a result of the limited reliable location information included with the OkCupid stories, the profiles from that site were eliminated from the geographic analysis findings (Section 5.3).

Couples voluntarily submit their success stories, and the online dating services present them on success websites. While there is no incentive for a couple to submit a story, the ones chosen for display by the online dating site may reflect bias toward site promotion of a specific culture or outcome. As researchers without access to every story submitted to these websites, we expect sites are similarly motivated in their biases, and expect the stories presented to roughly reflect the populations of each site. Regardless, our findings contribute a clearer understanding of the types of stories submitted to online dating sites and the various aspects of online dating that contribute to success.

5. FINDINGS

We examine three components of online dating success stories: relationship status, story commonality and geographic distribution, and report four findings. First, each of the three sites examined had different distributions of types of relationship status (Dating, Engaged, Married).

¹ USPS zip code Converter.

<https://tools.usps.com/go/ZipLookupAction!input.action>

² United States Census Regions and Divisions.

http://www.census.gov/geo/www/us_regdiv.pdf

Second, the success stories on each site had distinctly different sets of phrases within the success stories that were representative of the sites' overall distribution of relationship types. Third, the distributions of successful users from Match.com and eHarmony do not differ by region. Fourth, while overall use follows general population density, there are unexpectedly high numbers of users in low population areas of the country that upon further examination illustrates the presence of physical social networks facilitating adoption of online dating sites among groups of individuals.

The findings represent a unique examination of the distribution of online dating activity from the perspective of a successful relationship as determined by users in the United States. Our findings demonstrate that dating websites may embody cultural markers that lead to adoption by specific subsets of the population looking for a certain relationship outcome. The findings also may indicate that in-person social networks influence dating site adoption in the context of successful relationships. These findings have implications for all forms of social and participatory media and inform future research focused on online dating.

5.1 Status by Website

To compare the definitions of success across eHarmony, Match.com and OkCupid, we examined the distribution of how users classified their relationship status (Figure 1). On eHarmony and Match.com, successful couples used the coded systems of the site to describe their statuses as Dating, Engaged or Married. OkCupid profiles do not require users to categorize themselves in this way, and as a result the researchers coded each profile to determine status. Because of the small sample size and descriptive nature of the profiles, statuses were independently determined for each couple by two researchers with no discrepancy between the decisions.

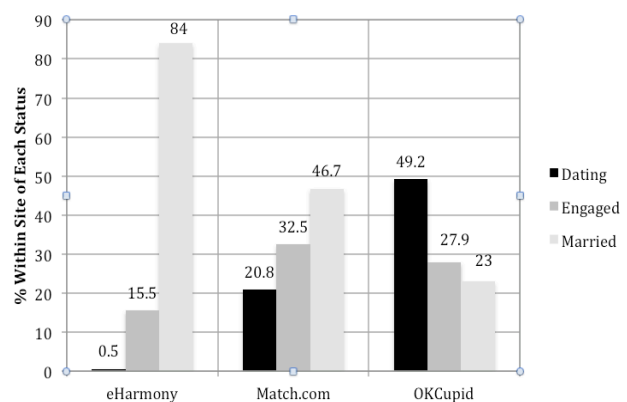


Figure 1. Distribution of Statuses by Website

The distribution of relationship statuses varies across each of the three websites. eHarmony's success stories are mostly comprised of married couples (84%), while the number of married couples on Match.com (46.7%) and OKCupid (23%) is lower. There is a difference in

distribution trajectory as well. The number of eHarmony and Match.com success profiles increases from Dating through Engaged to Married, whereas OkCupid's frequency decreases from Dating through Married. Success on eHarmony is defined as marriage, whereas success on OkCupid is most commonly defined as "dating." Match.com is more evenly distributed.

5.2 Commonalities in Stories

After examining the categories of success from site to site, we examined the stories for commonalities to develop an initial understanding of online dating success. We used frequency analysis of phrases to determine if there were phrases that were common among all dating sites or within one website. Our findings indicate that the most frequently word used in each of the three samples was the name of the respective online dating site where the individuals met.

Upon further analysis, the name of the online dating site was often found within a phrase such as "Thank you (Online Dating Site)." Our analysis indicated that there were two types of phrases in which the online dating site was used. The first was a general thank you that as included at the end of a story such as: *We bought a house about a month ago, and are planning a June 2011 wedding! Thank you so much OkCupid.* In the second example, the success story would include an explicit thank you to the online dating website for a specific reason, such as enabling the meeting explicitly: *We immediately went on a date after talking on the phone for 7 hours, and married 3 months later. We will celebrate our 1 year anniversary on January 28, 2009. Thanks, Match.com, for helping to make a brief encounter a lifetime love.*

These findings indicate that many users ascribe agency to the site they are using, and demonstrates that the technology used for finding a partner was a salient aspect of the success stories. More generally, couples may attribute some level of their success to the technology as they see it as part of the reason that they were successful. This is an area for future investigation, as it demonstrates that the individuals contributing stories see the technological affordances as facilitating their success and meeting, and highlights the importance of technology in these users' lives and personal successes.

In addition to the presence of the online dating site as the most frequently used word in the success stories, there were some differences between the types of words that were used in success stories between the sites. Both eHarmony and Match.com success stories were found to have a higher frequency of phrases related to more serious aspects of relationships, such as "the rest of my life," "rest of our lives together," and "asked me to marry." OkCupid success profiles were found to have a higher frequency of phrases dealing with the situational aspects of dating such as "we decided to meet," "on the phone," and "to get to know."

These differences demonstrate that individuals who use different dating sites have varying definitions of success

and that these users highlight different aspects of the relationship process, possibly related to or determined by the status of their relationship. The motivation for the different definitions between online dating websites is unknown, but as noted earlier they may also be associated with cultural dimensions inherent in each website and the types of relationships that are matched by each of the websites. This further confirms the findings that users vary from site to site.

5.3 Geographical Distribution

In the second phase of our analysis, we built a deeper understanding of the way location interacts with online dating. The locations of successful couples were coded into U.S. Census divisions, depicted in Figure 2. The U.S. Census divides the country into four regions and nine divisions based on geography. Using U.S. Census division allows for future comparisons with U.S. Census data and mutes any bias inherent in comparisons based on state population size.

We found that there is no regional bias of the distribution of successful couples from Match.com and eHarmony, based on a Chi-square analysis of the distribution of the locations of successful couples on the two sites (Chi square = 9.458, significance $p < 0.305$). OkCupid did not require location information from couples, so these stories were not included in this portion of our analysis. Because there is no statistically significant difference in the distribution of successful couples by region, it follows that there is no regional bias in site use; people use these dating sites with consistent frequency across the United States. Future research intends to discern whether adoption differs depending on urban versus rural classification.

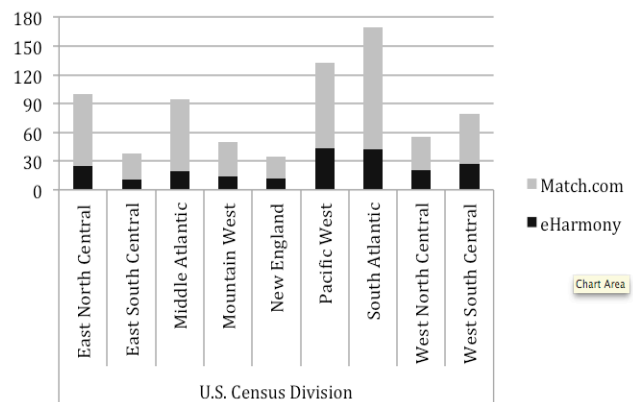


Figure 2. Distribution of couples by US Census Region

While there is no difference in distribution by U.S. Census division, there is an increased likelihood of overall online dating site use as population density rises. Figure 3 provides a representation of the frequencies of successful couples from Match.com and eHarmony in the 48 contiguous states with the larger circles representing higher densities. At the state level, California has the highest number of successful couples (n=89), with Montana and South Dakota tied for lowest with no couples in our

sample. Other states with a higher frequency of online dating activity were Texas, California, Michigan, New York, Florida, and Virginia.

5.4 Low Population Density Islands

In addition to showing that the locations of successful users from Match.com and eHarmony are not distributed differently by region, we found evidence for in-person social networks influencing dating site adoption. In one example of a low population density island, there are 6 profiles in our sample from Match.com that are from a small town in the southern U.S. with a population of 3,000. This is tied for the fourth highest number of success stories for any city in the U.S following Houston (n=11), Chicago (n=9), and New York City (n=8).

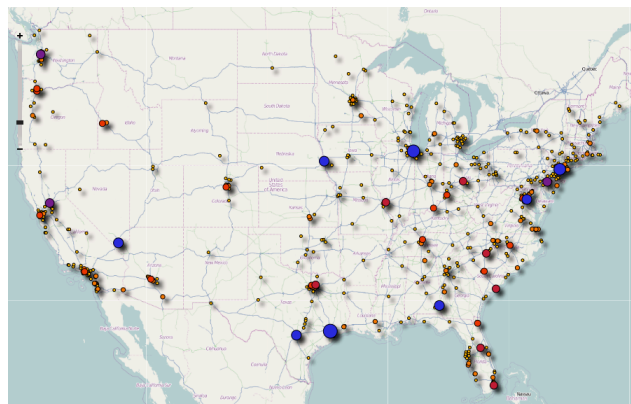


Figure 3. Geographical Distribution of Successful Match.com and eHarmony Couples by zip code (OpenHeatMap)

In an effort to ensure that this was not a sampling error, the authors returned to the site and searched the available profiles for those associated with this town. Further analysis uncovered 22 couples, or approximately 1.467% of the town's entire population, that used Match.com successfully, demonstrating that our finding was not the result of sampling error. Analysis of these stories suggests that social networks in the real world do influence online social network adoption in the case of online dating sites; people select a site because it has worked for other people they know. A snippet from a story in our sample represents the sentiments of many of the stories we sampled to illustrate that in-person networks are playing a part: *Joe joined the site after talking to his brother, who'd met someone on [Online Dating Site] (they'd marry 18 months later). He had only been on the site for about 2 days when he messaged me.*

There are also user-applied tags for success stories on eHarmony and Match.com that indicate that social interaction with friends or family ("Multiple Successes in Family," "Gift of Love") encourages selection of a site. This also indicates that sites are described as important elements in success that encourages others to select that same site. We did not use these tags as a selection criterion in our sampling, but this is an interesting area for future research. Our findings suggest that the use of tags may have implications for social media in general. The idea that

these couples give so much credit to the service they adopt hints at the following questions: Why select one online dating service over another? Why do people start using a given social media technology, and why do they continue? What happens when they stop? These questions form the basis for a detailed research agenda for online dating, and raise considerations for design and evaluation of success in other social media.

6. DISCUSSION: MOVING FORWARD

Our exploratory study builds understanding of user-defined success in online dating and provides a core set of findings related to how individuals measure success in online dating and how that success is described. We examine three elements of the success stories collected from the popular online dating sites: the varying definitions of success based on user-defined relationship status, the location of successful couples and some commonalities in stories. Although the study analyzed online dating websites that are primarily used in the English speaking world, these findings and the proposed follow on studies are salient to other technologies and online behaviors. Different cultures may use different terms and have different measures of success, but the patterns of finding and measuring love and companionship online may be no less similar than offline practices that are not technologically mediated.

Individuals use social technologies differently and although much of this use is dictated by explicit cultural attributes, there may be many implicit cultural attributes that dictate adoption and use of certain technologies. Physical social networks may have a significant impact on choice of online services and behaviors and some aspects of this influence are reflected in our findings. Measuring success in social media use begins with sites like these, where the measure is clear and user defined, and by working backwards to develop deeper understanding. The explicit and implicit cultural aspects of "success" may dictate and influence information behavior by individuals that use these websites, and as a result, may further contribute to the establishment of a subculture within the technology.

Through this analysis, we establish a research agenda for understanding online dating behavior from numerous dimensions. The next steps with this dataset are to perform qualitative analysis on the stories provided by the successful couples. This will lead to a more developed understanding of characteristics of successful couples and how these characteristics contributed to the success or progression of the relationship. In addition to revealing more about the characteristics of the couples themselves, preliminary analysis indicates that success stories often contain cues about speed of contact, first dates, and trigger events that highlight a couple's seriousness, which would all benefit from in depth examination. To further differentiate our dataset and to overcome possible bias, the researchers are exploring the recruitment of subjects who have had both successful and unsuccessful experiences on online dating sites, but have not submitted their stories to

these types of sites, or used sites that did not have as well-defined mechanisms to submit stories.

The researchers are also currently exploring other niche dating sites such as those that cater to specific religions, hobbies or medical conditions, and how information behavior and the concept of success may differ on these sites as a result of the context and presence of other types of individuals. In addition to different sites, the researchers are also interested in studying how different types of relationships are formed on these websites that are not romantic in nature. Future work also includes examining success on online dating sites that may not always be seen as romantic in the long-term, and romantic relationships formed on sites that are not explicitly oriented to dating, such as social networking sites.

In addition to deeper analysis of the success stories, qualitative interviews with successful and unsuccessful couples, examining other sites, and examining online relationships formed in other sites and services, there are wider research issues related to online dating services and success. One important element of online dating is that these services garner users that are reluctant and often ashamed about using these sites and saying how they met their partners. For example, a quote from one of the stories states: *At the time I started online I was really skeptical about the result I was going to get. I actually didn't like telling people that I was dating online because I thought only weird people met online.*

Despite this reluctance, the importance of a romantic partner leads people to start to use a technology, which indicates that people will work with a new technology when motivated. It would be fruitful to examine why users choose to begin the process of online dating in the first place, and to develop a deeper understanding of how online dating functions in the course of users' lives. Not everyone has a successful match right away, and many users move from site to site before they find a "successful" relationship. Additionally, other users return to one site again and again after relationships end. While understanding how people present themselves and seek others online is important, the contextual reasons for beginning the process and the way in-person social networks impact these behaviors (for example, creating a profile with family or friends) are research areas that can contribute to a larger understanding of online behavior.

These varied behaviors and the ecology of online dating site use represent an additional gap in the existing research. Most studies are focused on individual sites or profiles, rather than the way these technologies work within the lives of users when looking for a partner and how varied experiences influence other experiences. There are also few studies that examine the ways these technologies fail. Dating and romantic life are basic parts of human existence, and those who chose to incorporate online dating sites into this arena of their lives are participating in new behaviors that are worthy of in-depth study. Understanding

how people find companionship in an information rich, social media environment like online dating sites will have broad impact.

Because this is a rich data environment, online dating also provides an interesting study site to further engage with issues of access and the digital divide. While our analysis shows low population density islands where high-speed Internet access may be less common, lack of access to Internet or computing technology clearly influences a person's ability to date online. Additionally, if in-person social networks influence dating site adoption and a person does not know anyone using these services, the barrier to entry may be higher than those who know many people using these technologies. This preceding finding also highlights that there may be other divides of importance for social and technical research, such as site structures that only support certain sexualities or types of relationships.

7. CONCLUSION

This study represents an initial analysis of a substantial dataset of self-defined successful relationships from three of the most popular online dating websites in the United States. We have demonstrated that the self-defined "successful users" on three of the most popular online dating websites have different distributions of success. These users also talk about their success in different ways, but tend to thank the technology that mediated the introduction to their partner. The locations of successful users of Match.com and eHarmony are not different when analyzed on a regional level. While the distributions of these users follow general population trends, there is also an indication that there are low population density islands where a higher percentage of residents use online dating successfully.

This work highlights the cultural dimensions of various online dating sites, indicates that in-person social networks may influence dating site adoption and points to the importance of user-defined success as a metric for evaluating online dating sites as well as other social media technologies. Online dating sites constitute a unique Internet technology that engages users even when they are reluctant, and where the end goal is typically to stop using the service by finding a relationship. These qualities make online dating a unique area for study that deserves deeper and nuanced analysis. Selecting a person to message or date does not a "success" make, and it is important to examine sites with the metrics of the users themselves, rather than simply examining message rates or presentation and deception in online practice. The use of these social media technologies is complex and diverse, and understanding how success looks will allow for sites to serve their users more effectively, and give users more understanding of how to use these services.

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9. REFERENCES

- [1] Brozovsky, L. and Petricek, V. 2007. Recommender System for Online Dating Service. *Znalosti*. 29-40.
- [2] Diaz, F., Metzler, D., and Amer-Yahia, S. 2010. Relevance and Ranking in Online Dating Systems. *SIGIR*.
- [3] Ellison, N., Heino, R., and Gibbs, J. 2006. Managing Impressions Online: Self-Presentation Processes in the Online Dating Environment. *Journal of Computer-Mediated Communication*. 11, 2006, 415-441.
- [4] Fiore, A. and Donath, J. 2005. Homophily in Online Dating: When Do You like Someone Like Yourself. *Computer Human Interaction*.
- [5] Fiore, A., Shaw Taylor, L., Zhong, X., Mendelsohn, G. A., and Cheshire, C. 2010. Who's Right and Who Writes: People, Profiles, Contacts and Replies in Online Dating. *Hawaii International Conference on System Sciences*.
- [6] Fiore, A., Taylor, L., Mendelsohn, G. A., and Hearst, M. 2008. Assessing Attractiveness in Online Dating Profiles. *Computer Human Interaction*.
- [7] Gibbs, J., Ellison, N., and Heino, R. 2006. Self-Presentation in Online Personals: The Role of Anticipated Future Interaction, Self-Disclosure and Perceived Success in Internet Dating. *Communication Research*. 33, 152-177.
- [8] Hancock, J. and Toma, C. 2009. Putting your Best Face Forward: The Accuracy of Online Dating Photographs. *Journal of Communication*. 59, 2009, 367-386.
- [9] Hancock, J., Toma, C., and Ellison, N. 2007. The Truth about Lying in Online Dating Profiles. *Computer Human Interaction*.
- [10] Hitsch, G. J., Hortacsu, A., and Ariely, D. 2010. What makes you click? - Mate preferences in online dating. *Quantitative Marketing and Economics*. 8, 4, 393-427.
- [11] Madden, M. and Lenhart, A. 2006. Online Dating.
- [12] Match.com 2010. Recent Trends: Online Dating.
- [13] Nayak, R., Zhang, M., and Chen, L. 2010. A Social Matching System for an Online Dating Network: A Preliminary Study. *IEEE International Conference on Data Mining Workshops*.
- [14] Orr, A. 2004 Meeting, Mating and Cheating: Sex, Love and the New World of Online Dating. *Reuters*.
- [15] Paumgarten, N. 2011. Looking for Someone: Sex, love and loneliness on the Internet. *New Yorker*.
- [16] Pizzato, L., Rej, T., Chung, T., Koprinska, I., Yacef, K., and Kay, J. 2010. Reciprocal recommender system for online dating. *ACM Conference on Recommender Systems*.
- [17] Sautter, J., Tippett, R., and Morgan, S. P. 2010. The Social Demography of Internet Dating in the United States. *Social Science Research*. 91, 2, 554-575.
- [18] Sears-Roberts Alterovitz, S. and Mendelsohn, G. A. 2009. Partner Preferences Across the Life Span: Online Dating by Older Adults. *Psychology and Aging*. 24, 2, 513-517.
- [19] Shaw Taylor, L., Fiore, A., Mendelsohn, G. A., and Cheshire, C. 2010. A Second Chance to Make a First Impression: Factors Affecting the Longevity of Online Dating Relationships. *ICWSM*.
- [20] Whitty, M. 2007. Revealing the 'real' me, searching for the actual you: Presentations of self on an internet dating site. *Computers in Human Behavior*. 24, 2008, 1707-1723.