Online Dating: Does Your Smartphone Affect Your Love Life?

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**Abstract**

How and why people use different media on the Internet has been a primary interest in computer mediated communication since the inception of the Internet. Now that more and more relationships are being initiated and cultivated online through social networking sites, especially online dating sites, it is more critical than ever to understand who is using this type of media and what gratifications they are seeking. Applying the uses and gratifications theory as well as diffusion of innovations, this study analyzed how demographic variables, particularly age, predict the particular gratification (entertainment or social interaction) people seek through online dating sites. In addition, this study analyzed openness to mobile technology (smartphones) as a predictor to the overall attitude towards online dating and the subsequent decision of whether or not to utilize it.

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Today’s online communication landscape is both a boon and a bane when it comes to relationships. While people are more connected than ever before, traversing distance and time with instant communication capabilities, recent research has identified shortcomings and limitations of online communication. For example, Walther’s (2006) hyperpersonal framework suggests that self-presentation online is much more prone to manipulation than face-to-face interaction. Therefore, it stands to reason that there is more suspicion of deception but also more allowances for selective self-presentation. With the loss of nonverbal cues, online interactions compensate by often involving high levels of personal disclosure. So while people gain the ability to communicate with anyone at any time, they lose the richness that is inherent to face-to-face communication. Thus online communication has become a paradox of highly personalized information exchange at the loss of cues such as body language and touch.

If fewer interactions are being initiated face-to-face and more relationships are being cultivated online, this shift has interesting implications for human romantic relationships. As people are suspicious of how others represent themselves online, it is interesting to question what psychological or sociological factors assist people in overcoming this hesitation. How are people meeting these days and what influences people’s predilection for using online communication methods? This question is perhaps most salient in the context of online dating. There are many online dating websites with different appeals (e.g., dating by religious denomination, eating preferences, ethnicity) and different structures in terms of usability and platform (e.g., sites that require subscriptions or more in-depth information). According to the Pew Research Center, 5% of Americans who are in a committed relationship or are married say they met their current partner online (Smith 2014). In a recent article in The Huffington Post, online dating is listed as the second most common matchmaking method globally (Searles 2012). With the saturation of the Internet increasing, it is feasible that this figure may increase in the near future.

In an interview with one of the founders of OKCupid, one of the largest online dating sites today, a Forbes article notes that the online dating industry has gone through several major shifts (Bercovici 2014). According to the article, online dating has gone from a simple search engine function that allowed users to search through profiles by simple demographics to the current model, which incorporates mobile technology in order to facilitate more face-to-face interactions, translating into more successful relationships. Although relationships may be initiated online, people seek the richness of face-to-face interaction to truly get to know a potential partner better. Furthermore, it seems that mobile technology, such as smartphones and tablets, are impacting the adoption of online dating technology. Online dating sites offer applications (“apps”) that make the sites accessible on smartphones, which are phones with Internet capabilities. Now that the Internet is portable, a relatively new innovation, it merits analysis to examine who is most utilizing this new technology. A new relationship may begin through an online dating site accessible on one’s phone and may continue through the text-message and call functions on that same device.

Factoring in these technological advances, the initial decision to utilize an online dating site is the key point of interest for this paper. This paper’s primary
Online Dating

examination is captured in the following research question: does mobile technology ownership and openness to new media influence whether or not someone uses an online dating site? Furthermore, are the attitudes (positive or negative) influenced by these two antecedents? To explore these questions, this study looks to two theories to explain the adoption of technology and the subsequent use of online dating: Rogers’ (1995) diffusion of innovations and Katz and Blumler’s (1974) uses and gratifications theory (UGT).

Specifically, Rogers’ (1995) diffusion of innovations theory may shed some insight as to who has a greater predisposition to a.) Adopt new technologies such as a smartphone, and b.) Ultimately make the decision to participate in a new online social and technological trend such as online dating. Secondly, UGT (Katz & Blumler 1974) has passed through many developmental stages, but essentially posits that people play an active role in selecting their media to best fulfill their needs. In the online context, McQuail, Blumler, and Brown’s (1972) UGT four-category typology is particularly useful in identifying the different uses and gratifications users seek. Utilizing data collected from the Pew Research Center on American media usage, technological device ownership, and attitudinal questions concerning online dating, this study seeks to examine whether or not new media openness and a person’s age impact the likelihood of whether or not a person uses online dating sites, what they use the sites for, and what their attitudes are towards this new type of social networking site (SNS).

Literature Review

Diffusion of Innovations

Since the popularity of online dating has risen due to the rise of smartphones making access more instant and mobile through apps, it is important to consider the characteristics of people who adopt new technologies early on. Diffusion of Innovation (DOI) Theory, initially developed by E.M. Rogers in 1962, is one of the oldest social science theories. DOI is meant to explain how, over time, an idea or product gains popularity and spreads (or “diffuses”) through a population or social system. There are five established “adopter” categories: innovators, early adopters, early majority, late majority, and laggards.

Briefly, each category has a set of attributes. For innovators, these are the people who first try a new idea or product. There is not much that needs to be done in terms of convincing to appeal to this population because they are the first to try new things out of curiosity and to stake claim as the first to try something novel. For early adopters, these people are easily convincible to try new ideas but enjoy more of the opinion leader aspect. The early majority is typically comprised of people who need to see evidence that a new idea or product works before they move to adoption. The late majority are typically people who are skeptical of change and resist it until a compelling enough argument or a large percentage of the population adopts the innovation. Finally, laggards are people who are characterized by traditionalism and conservatism and who express the strongest hesitation to change.

In addition to personality and cognitive aspects of an individual influencing the decision to innovate, Rogers (1995) noted that the final decision of whether or not to adopt an innovation is subject to a wide variety of factors. Specifically, these factors include relative advantage, which is degree to which an innovation is seen as better than the idea, program, or product it replaces; compatibility, which is a question of how consistent the innovation is with the values,
experiences, and needs of the potential adopters; complexity, which is a question of how difficult the innovation is to understand and/or use; triability, which is the extent to which the innovation can be tested before a decision to adopt is made; and observability, which is the degree to which a new idea/technology provides tangible results. Leung and Wei (1999) grouped these factors into four major categories namely: (1) adopter-related personality traits; (2) socioeconomic influences; (3) interpersonal channels and mass media use; and (4) perceived attributes of an innovation. This study primarily looks at socio-economic influences (age), and adopter-related personality traits (openness to new mobile technologies).

In the context of this study, it is important to understand how the adoption of smartphones (and largely mobile internet technology) has occurred thus far. As a relatively new innovation, there is a dearth of research regarding smartphone adoption in the United States. So, this study looks to related findings to formulate hypotheses. For example, in a survey of cellphone owners in New York, Vishwanath and Goldhaber (2003) found that certain demographic and attitudinal variables had a significant influence on the likelihood of adoption, particularly age, income, and occupation. Specifically, the researchers found that cellular phone non-adopters were distinguished by older age, gender (females), with lower monthly incomes and low education levels.

Beyond demographic variables, much research has been dedicated to examining the attitudinal factors that ultimately influence innovation adoption. In a meta-analysis of the adoption of information and communication technology (ICT), specifically mobile television and mobile news, Marez, Vyncke, Berte, Schuurman, and Moor (2007) found that there are significant differences between the early adopter populations as compared to other adopter categories.

In this study, early adopters are conceptualized as those who have a markedly higher openness towards mobile technology as opposed to other adopter segments. Based on the literature above, the following hypotheses are posed:

**H1:** Openness to mobile technology will positively predict attitudes towards online dating.
H2: Age will negatively predict a positive attitude towards online dating

**Uses and Gratifications Theory**

Since the inception of the Internet, there has been much speculation and study devoted towards understanding why and how people use this medium. The interaction between humans and computers or “computer-mediated-communication (CMC)” was originally coined by Walther (1992). Walther held that CMC is “synchronous or asynchronous electronic mail and computer conferencing by which senders encode in text messages that are relayed from senders’ computers to receivers” (52). Although the Internet’s video, voice conferencing, and graphic capabilities have grown more elaborate, the function of the Internet still largely fits this basic definition.

Pre-dating the invention of computers, interest in the gratifications that media can provide can be dated back to the beginnings of empirical research. For example, Lazarsfeld and Stanton’s research on radio audiences (1942) or Berelson (1949) on the functions of newspaper reading. Media uses research has spanned across all media, but it is with the internet that a particular theory, Uses and Gratifications (UGT), has recently become popularized. In a history of the evolution and re-iterations of the theory, Katz, Blumler, and Gurevitch (1973) emphasize the role of an active audience in UGT. “The uses and gratifications approach highlights the audience as a source of challenge to producers to cater more richly to the multiplicity of requirements and roles that it has disclosed” (Katz et al. 1973, 521). This was a shift from the mentality of previous media effects and media uses research which held that the audience was passive and thus had little control over what information or gratification they received from their media consumption. Now, with the Internet literally in the hands of consumers, the audience has more control than ever in selecting what media they consume and how media will benefit their lives.

In 1984, McQuail proposed a cognitive model to account for the various types of uses or gratifications a person may seek in their media choices including motivation (curiosity versus general interest), individual interests, information-seeking, and satisfaction. In 1987, McQuail further refined this typology to include the different types of uses a type of media program may present. The first use was defined as “personal identity,” which is conceptualized as a media source that provides the user with self-reference. For example, a person watching a TV show may have high self-rating appeal because they can laugh at the contestants’ mistakes or compare themselves to experts. Media becomes an avenue for people to reinforce their personal beliefs or values. The second use is referred to as “integration and social interaction” and is when a person utilizes media to facilitate face-to-face social interaction. For example, a person may follow a particular blog online because the content is stimulating for future conversations with his or her spouse. The social interaction and integration use helps create a stronger sense of belonging and helps a person carry out social roles.

Third is an “entertainment” use, which is when a person utilizes a certain medium for stimulation, diversion, or pure enjoyment. For example, a person listens to his or her favorite classical radio program because of the relaxation it induces. Finally, the “information” use of media is when a user engages with a particular media outlet to gain information about their surroundings. The entertainment use is utilized to gain a
sense of security through knowledge. For example, a person may read a newspaper daily to orient his or herself in their local community and with global issues.

More recent applications of UGT, especially in the context of the internet, have focused on how youth utilize social networking sites. For example, Ezumah (2013) found that, among American students, the top five reasons that Facebook was being used at the time included: keeping in touch with friends, sharing photos, keeping in touch with family, reconnecting with old friends, and using the site as a source for entertainment. Although not explicitly labeled under McQuail's (1987) typology, many of these uses could be organized under the four uses outlined. In Ezumah's findings, these would primarily be social interaction and entertainment. In a comparative study applying UGT to Facebook and text messaging, Quan-Haase and Young (2010) found that Facebook predominantly elicited fun-seeking gratification behavior (entertainment) and knowing about the social activities occurring in one’s social network (social interaction), whereas instant messaging was found to be geared more toward relationship maintenance and development (social interaction).

Although smartphones were initially conceived of with the IBM “Simon” smartphone in 1995 (Sager 2012) they arguably did not become a nation-wide phenomenon until the 2007 launch of the Apple iPhone (Arthur 2012). With the rise of competitors, such as the Android operating system, smartphones, although barely eight years into adoption, granted mobility to the Internet like never before. While the application of UGT to smartphone use is lacking in the United States, there has been a steady stream of research centered in South Korea, where smartphone usage is among the highest in the world due to 100% wireless penetration (Osborne, 2012). In a study applying UGT to explain the high adoption rate nationwide in Korea, Joo and Sang (2013) found that in Korea, “smartphone use is affected more by motivations based on instrumental and goal-oriented use than by ritualized and less-goal oriented use” (2517). In other words, using McQuail’s (1987) typology, Korean smartphone use may be best explained through the integration/social interaction use and the information use.

Yet how does this apply to online dating? The reasoning for how people may utilize online dating sites is two-fold. First, smartphone owners may apply similar gratification behavior to the applications they install within their smartphones, namely, that they may be more prone to using dating apps or online dating sites as social interaction/integration media. Second, based on the UGT research within the context of SNSs, because online dating can be considered a form of SNS, it stands to reason that people may utilize these sites similarly. While the literature is lacking on how older people utilize online media, both Quan-Haase and Young (2010) and Ezumah (2013) found that younger SNS users (18–25 years old) were likely to use Facebook as an entertainment source and as a means of social connection.

In this study, I assumed that older users are more serious in their motivations to use online dating. In other words, if an older individual is using an online dating site or another SNS with the intention to form a romantic relationship, it is likely because a previous relationship failed or he or she feels pressured due to age to initiate a relationship. It may be possible that older individuals use SNS sites less for casual entertainments and more to forge real social
interaction. Using the reverse logic, younger people who are relatively unencumbered by life responsibilities such as work or families may utilize SNS (in particular online dating SNS) with the express purpose of diversion. Thus the following hypotheses were posed:

**H3:** Age will negatively predict the entertainment use for online dating behavior through SNS sites.

**H4:** Age will positively predict the social interaction use for online dating behavior through SNS sites.

**H5:** Openness to mobile technology will positively predict whether or not someone uses an online dating site.

**Methodology**

**Data Collection**

This study uses secondary data retrieved from the Pew Research Center’s Internet and American Life Project survey, which administered a telephone survey to 2,250 adults 18 years of age or older between April 17 and May 19, 2013. The survey was comprised of approximately 124 questions depending on whether or not the respondent qualified to answer the question. This data set contained questions about online dating, technology and existing relationships, and non-internet users. Eighteen questions were extracted from this dataset to represent the predictor and dependent variables for the study.

**Measurement**

There are three dependent variables in this study: attitude towards online dating sites, whether or not a person uses an online dating site, and the particular use/gratification a person seeks/derives from using SNS for online dating (entertainment or social interaction/integration). For attitudes towards online dating, four questions were used to identify either positive or negative attitudes towards online dating. Two questions were inherently positive views and two questions were inherently negative. The answers are computed within a 4-item scale to represent a range from 0 to 1 (negative, somewhat negative, somewhat positive, and positive). A sample question for positive attitudes was “Online dating is a good way to meet people” and a sample question for a negative attitude was “People who use online dating sites are desperate.”

In order to gauge what use a person most identities with when using an SNS site as a means of initiating dating behavior, several questions were coded as social interaction, information, or entertainment. An example of the social interaction question is “Thinking about your experiences on social networking sites such as Facebook or Twitter... have you ever used a SNS to post details or pictures form a date?” An example of the entertainment use is “Have you ever flirted with someone online?” The information use question was not used because, based on the literature (Ezumah 2013; Quan-Haase & Young 2010), the primary uses identified in SNS use are entertainment and social interaction.

The predictor variables included age (continuous) and openness to new media. The remaining demographic predictor variables (income, education level, and gender) were grouped together for control with the reference category being males with college degrees and an income bracket between $50,000 and $100,000 per year. For openness to mobile technology, score on eight categorical questions were grouped into an index to measure the degree of openness. Some of the questions in the index include “Do you ever use your cellphone to download a software application or “app”?”
and “Do you ever use your cellphone to access the Internet?”

Findings

Descriptive Results

In total, there were 2,250 respondents, 1,834 when accounting for non-respondents. Of all respondents, 54.3% were female. In this sample, 24.7% of respondents were 18-25 years old, 30% were 36–55 years old, 32.9% were 56-75 years old, and 12.4% were 76 years or older. The majority of respondents had attained a high school degree (M = 3.10, SD = 1.20). In addition, the majority of respondents reported an annual income of $50,000 or less (M = 1.76, SD = 0.96).

Hypotheses Tests

A standard linear regression was used to model the continuous variable of attitudes towards online dating. The predictor variable for hypothesis 1 was openness to mobile technology and the predictor variable for hypothesis 2 was age (using 18–35 as the reference group). The results of the linear regression analysis indicated that the model provided a statistically significant prediction of success. For the overall model fit of predicting the attitude towards online dating, F (10, 1298) = 6.76, p = .000, ΔR2 = .042, were significantly predicted by the model. Openness to mobile technology positively predicted attitudes towards online dating (β = .13, SE = .01, p = .000). Thus, hypothesis 1 was supported. Age negatively predicted the DV (β = -.01, SE = .00, p = .750). This predictor was not statistically significant, thus, hypothesis 2 was not supported.

For hypothesis 3, a standard logistic regression was used to predict entertainment use. The predictor variable in this analysis was of age (using 18–35 as the reference group). The logistic analysis indicated that the single-predictor model provided a statistically significant prediction of success, χ² (9, N = 1,568) = 257.492, p= .000). The IV negatively predicted the DV. The Nagelkerke pseudo R2 indicated that the model accounted for approximately 23% of the total variance. Thus, hypothesis 3 was supported.

For hypothesis 4, a standard logistic regression was used to social interaction/integration use. The predictor variable in this analysis was age (using 18–35 as the reference group). The logistic analysis indicated that the single-predictor model provided a statistically significant prediction of success, χ² (9, N = 1,120) = 158.222, p= .000). Age negatively predicted the social interaction/integration use. The Nagelkerke pseudo R² indicated that the model accounted for approximately 23% of the total variance. Thus, hypothesis 4 was not supported.

Finally, for hypothesis 5, a standard logistic regression was used to model whether or not a person uses online dating. The predictor variable in this analysis was the openness to mobile technology index. The logistic analysis indicated that the single-predictor model provided a statistically significant prediction of success, χ² (9, N = 1,439) = 41.875, p= .000). Openness to mobile technology positively predicted whether or not a person uses online dating sites. The Nagelkerke pseudo R² indicated that the model accounted for approximately 6% of the total variance. Thus, hypothesis 5 was supported.

Discussion

This study primarily analyzed the relationship between age and openness to mobile technology to attitudes towards
online dating, particular gratification/use sought, and whether or not a person decided to use an online dating site. The traditional ways in which people used to meet are changing, thus prompting this study to generate a clearer picture of the attributes of an online dater. Although findings from previous research were echoed in this study, there are also interesting new implications for typifying people who use online dating sites.

According to previous research using DOI theory, it is classically young, highly educated males who are the early adopters of new innovations (Vishwanath & Goldhaber 2003). As a communication innovation that is barely 10 years into its diffusion, SNSs are still relatively novel and likely hold appeal to early adopters matching this classification. Considering that online dating sites are a subgroup of SNSs that have been slower to achieve the number of users that sites such as Facebook and Twitter have amassed, they are possibly even more “new” in the eyes of those considering whether or not to utilize them. Thus, the finding that age does not negatively predict attitudes towards online dating is interesting. The prevailing attitude that the young are more inclined to embrace novelty and change may not apply in the context of forming and nurturing relationships online. If age is not a significant variable in attitudes towards online dating, this may have implications that online dating may be a facilitator of relationships in instances of divorce, widowing, and other circumstances that push individuals to seek companionship later in life.

Regarding openness to mobile technology, it was confirmed that those who are more open to using mobile Internet technology, such as a smartphone, are more likely to have a positive attitude towards online dating sites. However, since age is not a significant factor in determining attitudes towards online dating, this has the interesting implication that age also does not impact openness to mobile technology. In other words, older people may be just as capable of embracing the onslaught of technological innovations such as video conferencing, applications, and touch-screen technology just as much as their younger counterparts. This may be due to ease of use in newer technological innovations or that fact that more and more generations are born into a communication landscape that includes online communication as a mainstay in daily life. However, this was not directly measured within this study and merits more thorough analysis.

Furthermore, openness to mobile technology also positively predicted whether or not a respondent had used/would use an online dating site. In other words, those people who are more comfortable with innovations such as smartphones have a greater likelihood of utilizing online dating. This has attitudinal implications but also may be a result of ease of access. In other words, if people have openness to mobile technology and own a smartphone as a result, they may be more likely to download an online dating site’s app or access the site remotely on their phone. Harkening back to the Forbes interview (Bercovici 2014), there is a rising trend in the mobile utilization of online dating sites. How much the environment is impacting online dating is an interesting question to consider.

How and why people use the Internet broadly and the various types of communication outlets within it have been widely studied since the creation of the World Wide Web. One such theory that lends itself to this field of study is UGT. The four uses/gratifications (entertainment, social interaction, personal identity, and information) are all utilized
to some extent in any online format. Yet, online dating presents a unique context in which all four uses are possible depending on the unique personality and situation of the individual. Due to the constraints of the data set, the entertainment and social interaction uses were the two primary uses observable. According to the findings, age negatively predicted the entertainment use for online dating behavior through SNS sites. So, as people age, they are less likely to utilize online dating sites with the intention of diversion, distraction, sexual pleasure, or other more temporary, entertainment-focused gratifications. Since there is a possibility that older people access these sites with the intention of forming a serious relationship, (the social interaction/integration use) this finding is logical.

To further test the hypotheses that age would negatively predict the entertainment use, the reverse was predicted for the social interaction/integration use. Specifically, as people age, they would be more inclined to seek out online dating sites to form social bonds. However, this hypothesis was not supported. Age did not positively predict the social interaction use for online dating sites. However, this may be due to the operationalization of social interaction within the survey. The particular question that measured this variable asked whether or not participants had ever posted photos or commentary after a date online through an SNS. This particular behavior (hyper personal exchange of information, Walther 2006) is a relatively new phenomenon that may not appeal to older Internet users.

**Limitations**

As with any study utilizing secondary data, I was limited by the phrasing and construction of the survey. The questions that best operationalized the constructs selected were chosen, but a new survey would need to be constructed and administered to more accurately measure the variables of openness to mobile technology and particularly the four categories of uses and gratifications. Also, there were significant instances of non-response for some of the questions in the data set. However, the overall sample size was large enough where this was not an issue. Finally, in terms of mobile technology, future studies should incorporate tablet devices and other new innovations into this classification to have a truly comprehensive list.

**Implications and Recommendations for Future Research**

As human communication moves into a digital format, understanding how people select what media and how they adapt it to fit their needs is more salient than ever. The convenience of online dating sites is a highly attractive feature for those who do not have alternative means to meet new people. With the ability to sort through thousands of profiles complete with pictures and compatibility scores, online dating offers a distinct advantage in terms of choice and quality of information. While there are many advantages to online dating, there are many shortcomings as well. An overabundance of choice and technological barriers are just two. The latter was the primary concern of this study. With the rise in popularity of smartphone technology, access is becoming more streamlined and convenient, especially with the creation of online dating apps. Does this innovation in technology overcome any possible age or other socioeconomic disparities that may prevent some segments of the population from accessing online dating? The findings of this study suggest that openness to technology such as smartphones improves attitudes towards online dating and
makes it an accessible means of forming relationships regardless of age. If this is the case, companies should seek to continue the pursuit of greater mobility for internet-enabled devices. If the trend is to initiate relationships online but also have the capacity to move those interactions into the face-to-face context, smartphones offer this capability in a very unique way.

Furthermore, these findings have relational implications but also implications for marketers. If more and more people are using online dating sites that collect such rich data, marketers have an untapped resource. According to an article in Adweek, online advertising is parallel with expressed-interest data (i.e. from Facebook or other SNSs) and social data is generally highly accurate (Giordani, 2014). While Facebook and Twitter may allow users to upload basic biographical information and a certain numbers of likes and dislikes, users may be more likely to include even more information on an online dating site profile where the objective is to be honest and prolific to attract a potential life partner. Advertising on sites such as Facebook and Twitter has become commonplace. To become more insightful, marketers may look to online dating sites as the next wave of SNSs to tap into in order to best market to their targeted consumers.

Finally, the link between attitudinal and personality variables and online dating site behavior merits further analysis. As the saturation of mobile technology narrows the gap in terms of access to the internet, demographic variables may become less and less significant in terms of dictating who accesses what online media the most. Looking at the individual differences among people will become more relevant not just in terms of online dating sites but in terms of creating highly personalized advertising messages to suit specific psychological profiles.
References


