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Love at First Touch: How Swiping vs. Typing Changes Online Dating Decision-Making

Farhana Nusrat
Drexel University, fn68@drexel.edu

Yaniu Huang
Drexel University, yh364@drexel.edu

Cait Lamberton
University of Pennsylvania, catlam@wharton.upenn.edu

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Farhana Nusrat
Drexel University

Yanliu Huang
Drexel University

Cait Lamberton
University of Pennsylvania

ABSTRACT

Online dating is one of the fastest-growing industries in the United States. In this research, we investigate how the use of different platforms (computers vs. smartphones) can influence customers' decision-making process in the context of online dating. We demonstrate that while using their computers (vs. smartphones) to evaluate dating profiles, customers will prioritize the inner attributes of the person (e.g., personality and compatibility). Moreover, the effect of device type on customers' online dating decision-making is moderated by customers' gender. Finally, our results also exhibit a significant moderated mediation effect in that the device used by female participants moderates the indirect effect of inner attributes of dating profiles on customers evaluations through perceived psychological closeness. This research contributes to the literature on the use of computers vs. smartphones and the literature of online dating while also providing essential practical implications for online dating.

Keywords: *online dating, computers vs. smartphones, touch interface, gender effect in dating, psychological distance*

BACKGROUND AND MOTIVATION

Since the dawn of humanity, finding a partner and forming a romantic relationship has been one of the most desirable needs for humans. Searching for the appropriate partner has always been a challenging task for which humans have always needed help in various ways, be it from family, friends, or any other third party. In the modern age, peoples' yearning for a romantic partner still endures, however, the resources available to build the bridge of love have evolved. Many of these changes can be traced to the invention, spread, and ubiquity of the Internet (Finkel et al., 2012). As the internet became more and more accessible, the concept of online dating has become more and more popular. Online dating has revolutionized modern lives and contributed to some of the most profound and widespread changes in traditional courtship (Sharabi and Dykstra-DeVette, 2019).

A new Pew Research Center survey conducted on February 6, 2019, reported that three in every ten U.S. adults have used an online dating site or app at least once and 11% of them have done so in the past year. Whether it is used as a tool to find a soulmate or a casual hookup, online dating is now one of the most popular avenues for singles in the U.S. Almost half of U.S. online users have met or know someone who has met a romantic partner via a dating website or app and by the end of the 2019 year, around 77 percent of adult online users reported having gone on a date with someone they had met online (statista.com, 2020). As a result of this continued success of meeting potential romantic partners online and the decline of meeting through friends and family, online dating has become the most popular way of searching for partners in the United States (Rosenfeld, Thomas, and Hausen, 2019).

Researchers have long been interested in studying interpersonal attraction and various attributes of romantic relationships. The area has received renewed attention in the last decade due to the rise of online dating (Rosenfeld and Thomas, 2012; Finkel and Eastwick, 2015; Sharabi and Dykstra-DeVette, 2019). Aside from the huge popularity among its users, online dating also merits the attention of researchers because of its effects on fundamental interpersonal processes like self-disclosure and uncertainty reduction (Altman and Taylor, 1973; Berger and Calabrese, 1975). Furthermore, online dating platforms provide an important context for understanding how present-day relationships are formed, as well as for testing extant theories and assumptions about relationship initiation in ways that were not possible during the height of early attraction research (Finkel and Eastwick, 2015; Sharabi and Caughlin, 2017). The existing works on the growing body of online dating research include both qualitative and quantitative investigations studying attitudes, goals, and preferences of adults who engage in online dating (Alterovitz and Mendelsohn, 2009; Cali et al., 2013); the process of selecting and pursuing romantic partners (Heino, Ellison and Gibbs, 2010; Finkel et al., 2012; Blackhart et al., 2014), and the conceptualization and analysis of the presentation strategies employed by others and self (Geser, 2007; Couch and Liamputtong, 2008; Guadagno and Sagarin, 2010; Lo, Hsieh, and Chiu, 2013). However, most of these studies focus on comparing different contexts associated with online vs. offline dating. To our knowledge, no research has focused on analyzing how the concepts and strategies of online dating vary in terms of the type of digital platforms used. Which platform customers use is an important context here because online dating service is mainly provided through either dating websites or dating mobile applications. In this research, we want to investigate how the platform used in online dating (computers vs. smartphones) affects customers' way of evaluating a potential partner.

As computers and smartphones are the two most popular electronic devices in the modern era, scholars have investigated many contexts where the use of computers vs. smartphones have different effects. According to the extant literature, whether consumers are using their computer or their smartphones can affect their willingness to disclose personal information (Melumad and Pham, 2020), the length and type of content they generated online (Buskirk and Andrus, 2014; Melumad, Inman, and Pham, 2019), their task completion and success rate (Jones et al., 1999; Parush and Yuviler-Gavish, 2004), and information gathering process (Sweeney and Crestani, 2006). However, no existing research has investigated how using computers (vs. smartphones), while looking for a potential romantic partner in online dating, can affect consumers' evaluation of different dating profiles. In this study, we aim to address this gap and examine the impacts of using different devices (computers vs. smartphones) on evaluating dating profiles.

When it comes to dating, another factor that plays an important role is gender. Studies have shown that males and females have different preferences for attributes when they choose a partner (Hitsch, Hortaçsu, and Ariely, 2010). For example, in heterosexual dating, females are more attracted to males who have the potential to be long-term partners and have more resources, whereas males seek younger and physically attractive females who show signs of high fertility (Hall et al., 2010). Furthermore, extant research also demonstrates that many of the gender differences in the context of dating persist online as well (Herring and Stoerger, 2014). Even in online dating, males and females differ in terms of initiating contact, desired outcomes, and reasons for using online dating (Kreager et al., 2014; Clemens, Atkin, and Krishnan, 2015). Based on these findings, in this research, we would also like to examine if the gender of the consumers influences their decision-making process in online dating across different platforms (computers vs. smartphones).

In sum, our objective is to examine how the use of the different platforms (computers vs. smartphones) in the context of online dating might influence customers' evaluation of dating profiles. We particularly focus on the role of different types of profile attributes such as photos, achievement attributes (e.g., demographic information), and inner attributes (e.g., personality, compatibility, etc.). Furthermore, we would like to test how the gender of the customers will have a moderating effect during this decision-making process.

THEORETICAL FRAMEWORK

1. Online Dating: From Stigma to Social Acceptance

Not too long ago, online dating used to be considered the last desperate resort to find a partner for lonely people. Yet, with the advancement and adoption of new technologies, people realized the benefits of online dating. Thus, the stigma associated with it started to dispel, and online dating is now widely accepted as a good way to meet people (Johnson, Vilceanu, and Pontes, 2017). Research indicates that 87 percent of single American males and 83 percent of single American females view online dating as socially acceptable (Johnson, Vilceanu, and Pontes, 2017). Therefore, there are a vast plethora of online dating companies in the U.S. now. In 2019 alone, the online dating revenue in the U.S. amounted to 973 million USD, and it is projected to surpass 1.1 billion USD by 2024 (statista.com, 2020). The number of online dating resources available today is more than ever. There are traditional dating websites like Match.com and eHarmony, but also plenty of dating apps like Tinder and Coffee Meet Bagel. Most online dating companies nowadays are trying to utilize both platforms (websites and mobile applications) making them easily accessible by customers; one good example of this case is OkCupid.

Merkle and Richardson (2000) stated that in online dating, relationships do not necessarily follow traditional models of relationship development. Instead of meeting a physical person, online daters are introduced to virtual profiles to help them find a romantic partner. According to Fiore and Donath (2004), the virtual profiles include three types of information: photos of the person, achievement attributes which are some fixed-choice responses like demographic information, and inner attributes which are the free-text responses indicating behaviors, interests,

and descriptions of the characteristics sought in a potential partner (Fiore et al., 2008). The dating platforms employ different searching and/or matching algorithms so that users can find potential dates from thousands of profiles on a typical system.

Past research has examined various aspects of online dating including the relationship initiation process (Sharabi and Dykstra-DeVette, 2019), effects of sexual orientation (Johnson, Vilceanu, and Pontes, 2017), effects of gender, self-monitoring, and personality traits (Hall et al., 2010), and deception in online dating profiles (Toma and Hancock, 2010). However, the effects on customers' decision-making based on the different modes of devices or platforms (e.g., computers, smartphones) used for online dating are rather understudied. In other words, will consumers evaluate a dating profile differently depending on which platform they are using (computers vs. smartphones) to see the profile? In this project, we attempt to explore this question. Given the availability and popularity of online dating websites and apps as two major outlets, we believe that studying how the use of computers and smartphone apps may influence customers' online dating decision-making differently will be an important addition to the existing literature on online dating.

2. Use of Computers vs. Smartphone

The two major modes of using the internet in today's world are computers and smartphones. Although the use of personal computers was the main mode of accessing the internet before, the quick spread of mobile devices in the last two decades changed the scenario. Recently, the adoption of smartphones over computers for daily internet usage is very evident in many countries (Revilla and Ochoa, 2015). Smartphones have very different characteristics if compared to computers (e.g., the touch feature, reduced size of the screens, or the freedom to use the internet at any time and any place) (Toninelli and Revilla, 2016). Researchers have studied these differences and their impacts on customers' different aspects of life such as shopping experience (Brasel and Gips, 2015; Chung, Kramer, and Wong, 2018), web surfing experience (Toninelli and Revilla, 2016), product evaluation (Peng, Wang, and Teo, 2017), food consumption behavior (Shen, Zhang, and Krishna, 2016), and self-disclosure (Melumad and Meyer, 2020). However, no study so far, to our knowledge, has investigated how the use of smartphones (vs. computers) in online dating can influence customers' decision-making process.

2.1. The Magic of Touch. One of the main differences between using a computer and a smartphone is the touch interface. When using a computer, we use a mouse or a trackpad, whereas we use a touch interface while using a smartphone. Several studies have explored how the use of the touch interface influences customers' decisions. According to Shen, Zhang, and Krishna (2016), the use of the touch interface facilitates the choice of an affect-laden alternative, whereas the use of a computer leads to cognitively superior choices. Additionally, Zhu and Meyer (2017) demonstrated that using computers evokes rational thinking in customers' minds which increases the choice of utilitarian alternatives. Alternatively, using smartphones evokes stronger experiential thinking which increases preference for hedonic options. Therefore, as personality traits are inherently inner and subjectively defined, we speculate that when using

computers (vs. smartphones) to evaluate dating profiles, customers will prioritize such information.

2.2. Does Screen Size Matter? Another key difference between using a computer and a smartphone is the screen size. Customers can perform a lot of tasks using both computers and smartphones respectively. However, extant studies have shown that the significant difference in the screen size of both these devices significantly impacts customers' behavior. One of the major costs of using smaller screens provided by smartphones is related to information search. Ghose, Goldfarb, and Han (2013) demonstrated that the smaller screen of smartphones increases the cost to the user of browsing information. These higher search costs have unique implications for user behavior, such as stronger ranking effects, where links that appear at the top of the screen are more likely to be clicked.

In online dating profiles, the photo and the achievement attributes (e.g., profession) are generally displayed on the top of the page, and the free-text component indicating inner attributes is at the bottom. Therefore, given that both photo and achievement attributes will always attract people's attention regardless of the type of device they use, we posit that the device type (computers vs. smartphones) will less likely impact the use of photo and achievement attributes as evaluation criteria in online dating decision making.

The smaller screens of smartphones have also been found to impair performance on various tasks. For instance, the use of smartphones reduces the effectiveness of learning experiences (Maniar et al., 2008) and negatively affects reading comprehension resulting in a poorer understanding of website privacy policies (Singh, Sumeeth, and Miller, 2011). Additionally, it diminishes respondent compliance such as a lower likelihood of completing a survey and responding to open-ended questions (Lambert and Miller, 2015). The inner attributes of an online dating profile are communicated through free text component about the person that includes information about personality and compatibility, which signals interpersonal deeper knowledge. Based on the aforementioned findings, we speculate that when customers look at a dating profile from their smartphones (vs. computers), it will hinder (vs. enhance) their overall learning experience about the dating profile which could lead to psychological distance (vs. psychological closeness) from the person in that profile.

Therefore, we propose that when customers view a dating profile from their smartphones, they will engage less with the inner attributes (e.g., information about personality, compatibility, etc.) in the profile. Therefore, they will feel psychologically distant from the person in the profile, and subsequently, attribute less importance to inner attributes during evaluation. Consequently, when customers use computers, they will engage more with the inner attributes to assess the potential feasibility of the relationship. This will lead to increased psychological closeness with the person in the profile which in turn will improve customers' ratings for profiles with attractive (vs. average) inner attributes. We also conjecture that as photos and achievement attributes are easy to spot in a dating profile and take less cognitive learning (vs. inner attributes) for comprehension and evaluation, they will be less subjected to the influence of the device used by customers. Thus, device choice will not have any impact on the use of these two components of online dating profiles.

3. Gender as a Moderator

3.1. Effect of Gender in Dating: What Rocks Your Boat? Evolutionary psychology theory suggests that males and females have different mating preferences and strategies, and the differences stem from the disparate reproductive realities males and females have faced in humans' distant past (Schmitt, 2005). Females prefer males who possess more resources and have the potential for long-term relationships, whereas males seek females who are younger, psychically attractive, and show signs of fertility (e.g., waist-hip ratio). The physical attractiveness of the partner is more important to males (Stroebe et al., 1971), and females have a stronger preference for income and long-term feasibility (Hitsch, Hortaçsu, and Ariely, 2010).

Parental investment theory (Trivers, 1972) suggests that females are generally more discriminating than men in making mating decisions because their parental investment is greater than that of males. The greater parental investment of females increases their motivation to make more accurate mating decisions to avoid the greater costs associated with inaccurate decisions. Buss (1989, p. 2) noted that "This greater choosiness by the more heavily investing sex exists because greater reproductive costs are associated with indiscriminate mating and greater benefits are associated with exerting a choice". By contrast, the costs of less discriminatory mating are lower for those with lower parental investment (i.e., males). Therefore, parental investment theory suggests that women will be more selective or discriminating about who they mate with (Buss and Schmitt, 1993). Therefore, we speculate that the greater fastidiousness of women should manifest as a higher motivation to process the inner attributes (i.e., text component) of dating profiles as it will help them make more accurate mating decisions.

Thus, we presume that in the case of online dating, female customers (vs. male) will give more importance to the inner attributes of dating profiles (i.e., text information about personality and compatibility) to assess the potential for long-term relationships.

3.2. How does Gender Affect Computer and Phone Usage? Several researchers have studied gender as a moderator of using new technologies like computers and smartphones. Early studies suggest that compared to females, males had a more positive attitude toward computers (Collis and Williams, 1987; Makrakis and Sawada, 1996), and were more confident in their computer skills (Li and Kirkup, 2007). However, most scholars agreed that as more females had access to computers, gender had no significant effect on any dimensions of computer attitudes (Shaw and Gant, 2002; Economides and Grousopoulou, 2008).

Past research on gender and technology indicates that differences exist in how males and females use their phones (Billieux, van der Linden, and Rochat, 2008). According to Geser (2006), males see a more instrumental use for phones whereas females utilize phones as a social tool. Furthermore, compared to males, females are more attached to, more addicted to, and more dependent on their phones (Wei and Lo, 2006; Jackson et al., 2008; Leung, 2008; Hakoama and Hakoyama, 2011; Sama, 2020).

Based on the findings, we argue that the effect of using different devices will be moderated by customers' gender. Specifically, we posit that females will be more susceptible than males to the

influence of using smartphones (vs. computers) for online dating. Hence, the interaction effect between device choice and inner attributes of dating profiles will be more pronounced for females (vs. males).

HYPOTHESES

In sum, based on our discussion, using computers (vs. smartphones) evokes rational thinking in customers' minds and leads to cognitively superior choices. Additionally, using smartphones (vs. computers) negatively impacts customers' learning experience and leads to less thorough information processing. Thus, we postulate that customers' choice of device (smartphones vs. computers) for online dating will have a significant impact on their decision-making.

> ***H_1:*** *While using their computers (vs. smartphones), customers will prioritize the inner attributes of the person (e.g., personality) when evaluating a dating profile.*

Gender is another important factor for both dating and the use of smartphones vs. computers. Previous literature suggests that in romantic relationships, one of the most important factors to consider for males is physical attractiveness, whereas for females it is potential for long-term relationships. Furthermore, females (vs. males) are more attached to and more dependent on their phones. Therefore, we believe females will be more susceptible than males to the influence of using smartphones (vs. computers) for online dating. Hence, the interaction effect between device and attribute will be more pronounced for females (vs. males).

> ***H_2:*** *The effect of using different devices on customers' decision-making in online dating will be moderated by customers' gender.*

STUDY 1

Study 1 was exploratory and we examine the effect of devices used by real online dating customers on their online dating decision making.

Method

Participants. In total, 370 Amazon Mechanical Turk (MTurk) participants (58.8% female, M_{age} = 41.73 years) took part in this study who reported that they are single and actively using different online dating platforms to look for a partner.

Procedure and Measurement. We first asked the participants to indicate how frequently they use a computer/smartphone for online dating using a slider bar (0 means always a computer, 100 means always a smartphone). Then, we asked the participants to allocate 100 points to different attributes of a dating profile (external attributes: photo indicating physical attractiveness and

profession, inner attributes: personality and compatibility) to describe the extent to which they use each attribute to evaluate dating profiles.

Results and Discussion. We performed a multivariate linear regression with participants' allocated points to different attributes as dependent variables and the frequency of participants' device usage and their gender as the independent variables.

A two-way ANOVA first revealed a main effect of device type, in that when using computers (vs. smartphones) customers use "inner attribute" as an evaluation criteria to a greater extent ($M_{computer}$ = 21.33, SD = 10.25 vs. $M_{smartphone}$ = 19.15, SD = 9.83; $F(1, 366) = 5.75$, $p < .05$). The results also demonstrated a main effect of customers gender as in females (vs. males) use "inner attribute" significantly more while assessing dating profiles (M_{males} = 17.95, SD = 19.86 vs. $M_{females}$ = 21.85, SD = 9.77; $F(1, 366) = 19.83$, $p < .01$).

In addition, we found a significant interaction effect of device choice and participants' gender on how much participants use "inner attribute" of dating profiles as an evaluation criterion ($F(1, 366) = 5.50$, $p < .05$). Specifically, for male participants, regardless of which device they use, they regard "inner attribute" as similarly important while evaluating dating profiles ($M_{computer}$ = 18.24, SD = 9.71 vs. $M_{smartphone}$ = 17.81, SD = 9.96; $p = 0.86$). However, females use "inner attribute" significantly more to evaluate dating profiles while using computers (vs. smartphones) ($M_{computer}$ = 25.49, SD = 9.56 vs. $M_{smartphone}$ = 20.55, SD = 9.53; $p < 0.01$). These results provide preliminary support for our hypotheses. However, since we only measured device type in this study, in the next studies, we manipulated the type of device people use when assessing dating profiles.

STUDY 2

The goal of Study 2 was to directly manipulate the device participants use when evaluating dating profiles and examine its effect on the importance participants assign to different types of attributes.

Method

Participants. In total, 214 undergraduate students (61.2% female, Mage = 19.8 years) participated in this study. Participants were presented with a set of online dating profiles and were asked to evaluate them either using a computer or a smartphone.

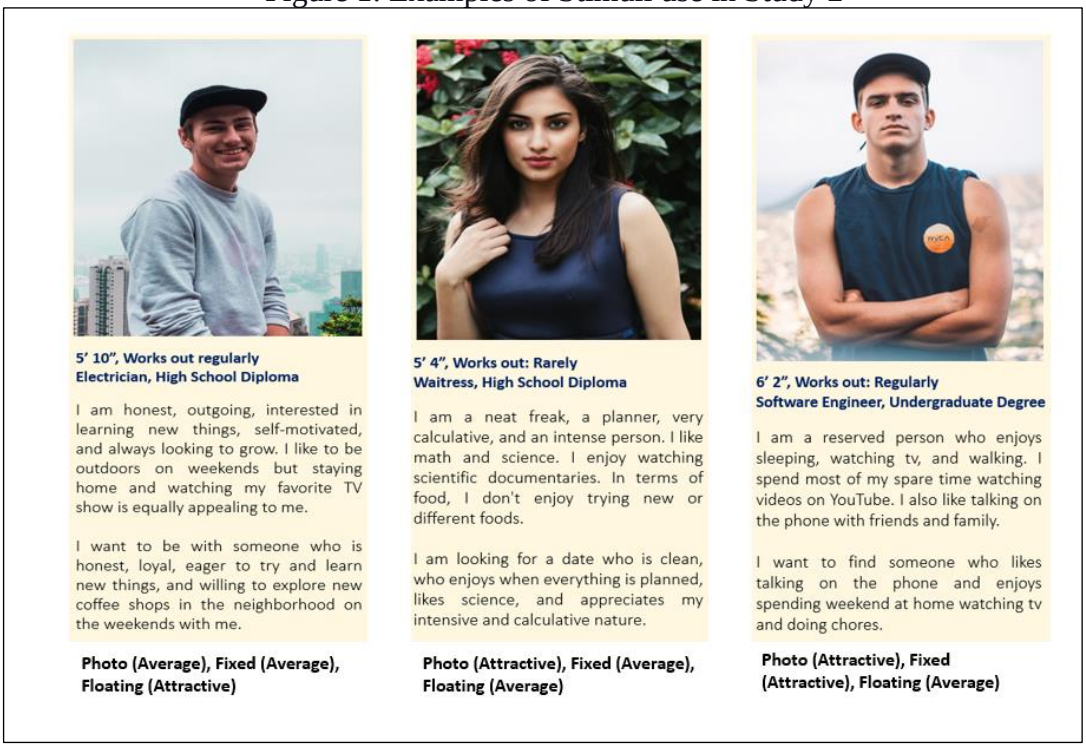
Procedure and Measurement. For this study, we constructed multiple online dating profiles as stimuli. According to Fiore et al. (2008), we divided the attributes used in evaluating a dating profile into three categories: Photo (photos in dating profile which indicate physical attractiveness), Achievement Attributes (education and profession), and Inner Attributes (free-text components in the profiles that provide clues about inner self of a person like personality and compatibility). We conducted pretests to pick the stimuli demonstrating two levels for each of these three attributes (attractive vs. average). We opted for a Conjoint Study design to present participants with dating profiles composed of all possible combinations of three different attributes. We randomly assigned participants to use either a computer or a smartphone for the task. Participants in the computer condition used a computer to take the survey and participants

in the smartphone condition scanned a QR code provided to them to use their smartphones for taking the survey. Each participant saw eight dating profiles and indicated how attractive they found each profile. Please see some examples of the stimuli we used in figure 1.

Results and Discussions. The results (see Table 1) demonstrated that a more attractive photo and more attractive inner attribute description respectively lead to a higher profile rating. We further found an interaction effect between the device and inner attribute levels, such that customers using smartphones (but not when using computers) showed stronger and more positive responses to attractive (vs. average) inner attributes profiles. Additionally, a three-way interaction between the device, inner attributes, and gender demonstrates that the interaction effect of device and inner attributes becomes significantly weaker for female participants. We further looked at the interaction effects separately for both genders and found that the interaction effect of inner attributes and devices is only significant for male participants ($p = .001$), but not for female participants ($p = .802$). There was no main effect on achievement levels. However, we found an interaction between gender and achievement level, such that female participants showed more positive responses to profiles with attractive (vs. average) achievement levels. This is consistent with the literature that females (vs. males) have a stronger preference for partners who have high income (Hitsch, Hortaçsu, and Ariely, 2010).

These results, especially the main effect of the device used by participants and the interaction effect of the device used and participants' gender are inconsistent with our hypotheses. We speculate this happened because a large percentage of the participants (i.e., 30%) were not single in real life according to their reported current relationship status. Therefore, it is possible that those participants were not as invested in rating the dating profiles presented to them as the participants who were single. Furthermore, more than 80% of our participants reported that they were not currently using any online dating platform. We address these issues in the next study by recruiting only the participants who are currently single and actively looking for a partner.

Figure 1: Examples of Stimuli use in Study 2



IV	Unstandardized B	t	Sig.
(Constant)	2.861	13.670	.000
Device (0 = computer, 1 = smartphone)	.159	.506	.613
Photo (0 = average, 1 = attractive)	.850	4.062	.000
Achievement Attribute (0 = average, 1 = attractive)	-.001	-.006	.995
Inner Attribute (0 = average, 1 = attractive)	1.161	5.549	.000
Gender (0 = male, 1 = female)	-.134	-1.019	.308
Device*Photo	-.257	-.819	.413
Device*Achievement	.035	.110	.912
Device*Inner Attribute	.974	3.099	**.002**
Device*Gender	-.136	-.713	.476
Photo*Gender	-.371	-2.827	.005
Achievement Attribute*Gender	**.270**	**2.058**	**.040**
Inner Attribute*Gender	-.0.030	-.228	.820
Device*Photo*Gender	.199	1.041	.298
Device*Achievement Attribute*Gender	-.058	-.306	.760
Device*Inner Attribute*Gender	-.472	-2.472	**.014**

STUDY 3

The purpose of Study 3 was to directly test our hypotheses by manipulating both the device participants use and inner attributes to investigate their impact on how people use different attributes when evaluating dating profiles. Different from Study 3, this time we aimed to conduct the study with a different population with a diverse age group.

Method

Participants. A total of 346 Amazon Mechanical Turk (MTurk) participants (57.3% female, M_{age} = 43.28 years) took part in this study who reported that they are single and actively using different online dating platforms to look for a partner.

Pretest. One hundred and fifty MTurk participants (52.1% female) of three different age groups (18-35, 36-50, and 51-70) were asked to evaluate the attractiveness of eight photos, eight pieces of fixed information, and eight pieces of floating information respectively for each gender on a seven-point Likert scale. All photos were purchased from stock photo websites and participants of each age group evaluated photos of people who are in the same age group as them. Based on the results of the pretest, we created two sets of hypothetical online dating profiles for the participants of each gender. As in Study 2, we divided the attributes used in dating profile

evaluation into three categories: Photo (indicating physical attractiveness), Achievement Attributes (education and profession), and Inner Attributes (free-text components providing clues about the inner self of a person like personality and compatibility). Keeping the photo and achievement attributes that are moderately attractive across all the four conditions for different age groups (18-35, 36-50, and 51-70), we varied the inner attributes to be either average or attractive. Please see figure 2 for the example stimuli.

Procedure and Measurement. This study uses a 2 (computer vs. smartphone) x 2 (inner attribute: average vs. attractive) between-subject design. We randomly assigned participants to one of the four conditions, asking them to use either a computer or a phone to evaluate a set of dating profiles on a 7-item scale ($\alpha = 0.932$). We also asked the participants to rate how psychologically close they feel to each dating profile.

Results and Discussion. We performed a two-way repeated measures analysis of variance (ANOVA) which first revealed that there was no main effect of inner attribute levels on the overall rating of the dating profiles. The results then show a marginal 2-way significant interaction between device and inner attributes on participants' overall rating of dating profiles ((F (1, 338) = 2.013, $p < .10$). This demonstrates that when using computers (vs. smartphones) to evaluate dating profiles, participants assign higher ratings to profiles with attractive inner attributes (IA) which supports our first hypothesis (Computer: $M_{average\ IA} = 2.85$, SD = 1.62 vs. $M_{attractive\ IA} = 3.86$, SD = 1.65; F (1, 221) = 21.402, $p < .01$; Phone: $M_{average\ IA} = 2.78$, SD = 1.42 vs. $M_{attractive\ IA} = 3.35$, SD = 1.63; F (1, 121) = 5.719, $p = .13$).

We further found a 3-way significant interaction between device, inner attributes, and gender on the overall rating of the dating profiles (F (1, 338) = 4.791, $p < .05$) where the interaction effect of device and inner attributes was only significant for female participants (F (1, 166) = 5.322, $p < 0.05$), but not for males (F (1, 172) = 0.723, $p = 0.396$). Specifically, females rate dating profiles with attractive (vs. average) inner attribute higher when they use computers ($M_{average\ IA} = 2.44$, SD = 1.47 vs. $M_{attractive\ IA} = 3.74$, SD = 1.58; F (1, 103) = 18.578, $p < .01$). However, when they use smartphones, the level of attractiveness of the inner attributes no longer significantly affects the overall rating ($M_{average\ IA} = 2.66$, SD = 1.47 vs. $M_{attractive\ IA} = 2.84$, SD = 1.50; F (1, 63) = 0.239, $p = 0.627$). For male participants, dating profiles with attractive (vs. average) inner attributes received significantly higher rating from both computer and smartphone users (computer: ($M_{average\ IA} = 3.15$, SD = 1.67 vs. $M_{attractive\ IA} = 4.00$, SD = 1.73; F (1, 116) = 7.406, $p < .01$); smartphone: ($M_{average\ IA} = 2.91$, SD = 1.39 vs. $M_{attractive\ IA} = 4.21$, SD = 1.50; F (1, 56) = 11.683, $p < .01$).

Additionally, we found a moderated mediation effect for only female participants using the SPSS macro PROCESS Model 8 (Hayes, 2017) and 5,000 bootstrap samples. The results demonstrate that inner attribute has a significant, positive indirect effect on the DV (overall rating of profiles) through perceived psychological closeness when female participants used computer ($ab = –5.03$, SE = 2.07, 95% CI: [-9.09, –1.06]).

In summary, the results provide support for H_1 and H_2. We replicated the findings from Study 2 demonstrating that while using their computers (vs. smartphones) to assess dating profiles,

customers prioritize the inner attributes of the person (e.g., personality) and this effect is moderated by customers' gender. We further provided process evidence that the device used by female participants moderates the indirect effect of inner attributes of dating profiles on the overall assessment of the profiles through perceived psychological closeness. Hence, in Study 5, we manipulate female participants' psychological distance to dating profiles to examine its impact on participants' decisions while using smartphones.

Figure 2: Examples of Stimuli use in Study 3

Age 18-35: Average vs. Attractive Inner Attribute

- 5' 10", Works out: Regularly
- Electrician, High School Diploma

I am a reserved person who enjoys sleeping, watching tv, and walking. I spend most of my spare time watching videos on YouTube. I also like talking on the phone with friends and family.

I want to find someone who likes talking on the phone and enjoys spending weekend at home watching tv and doing chores.

- 5' 10", Works out: Regularly
- Electrician, High School Diploma

I am an open-minded person who enjoys photography, museums, going out (but also staying in), sharing, simplicity, and learning about new cultures.

I want to find someone who knows how to enjoy the simple things in life, likes exploring new cultures, and someone who likes spending time walking around museums.

Age 35-50: Average vs. Attractive Inner Attribute

- 5' 4", Works out: Sometimes
- Nurse, Undergraduate Degree

I have a very busy schedule and very little free time. When I have some spare time, I like to sleep and watch tv. My favorite sports to watch are golf and lawn bowls.

I want to find someone who likes movies and watching golf. Someone who will understand that I will not have much time to hangout.

- 5' 4", Works out: Sometimes
- Nurse, Undergraduate Degree

I am educated, loyal, and inquisitive. I enjoy learning about different culture and try to travel as often as I can. I speak three languages. I value my family and friends and always keep in touch with them.

I want to find someone who is passionate, caring, values family and friends, can teach me about new culture, and always up for learning something new.

Age 51-70: Average vs. Attractive Inner Attribute

- 5' 10", Works out: Regularly
- Electrician, High School Diploma

I am a reserved person who enjoys sleeping, watching tv, and walking. I spend most of my spare time watching videos on YouTube. I also like talking on the phone with friends and family.

I want to find someone who likes talking on the phone and enjoys spending weekend at home watching tv and doing chores.

- 5' 10", Works out: Regularly
- Electrician, High School Diploma

I am an open-minded person who enjoys photography, museums, going out (but also staying in), sharing, simplicity, and learning about new cultures.

I want to find someone who knows how to enjoy the simple things in life, likes exploring new cultures, and someone who likes spending time walking around museums.

STUDY 4

Study 3 demonstrates that when female customers use computers for online dating, perceived psychological closeness mediate the effect of inner attributes on customers' rating. In other words, females find attractive dating profiles to be psychologically far when they are using smartphones. Therefore, we conducted Study 5 with just female participants using smartphones. In this study, we manipulate female participants' psychological distance to dating profiles to investigate how that will influence their online dating decision-making on smartphones.

Method

Participants. A total of 362 female Amazon Mechanical Turk (MTurk) participants (M_{age} = 45.19 years) took part in this study.

Procedure and Measurement. This study uses a 2 (psychological distance manipulation: close vs. far) x 2 (inner attribute: average vs. attractive) between-subject design. We randomly assigned female participants to one of the four conditions and asked them to evaluate a set of dating profiles on a 7-item scale (α = 0.932). As in Study 3, participants scanned a QR code to use their smartphones. We manipulated participants' psychological distance to the dating profiles by mentioning the person in the dating profile lives either 3 miles (psychologically close condition) or 3000 miles (psychologically far condition) away from them (Zhang and Wang, 2009). As in Studies 3 and 4, we divided the attributes used in dating profile evaluation into three categories: Photo (indicating physical attractiveness), Achievement Attributes (education and profession), and Inner Attributes (free-text components providing clues about the inner self of a person like personality and compatibility). Keeping the photo and achievement attributes that are moderately attractive across all the four conditions for different age groups (18-35, 36-50, and 51-70), we varied the inner attributes to be either average or attractive (selected through a pretest).

Results. We first performed a manipulation check which confirmed that participants in the "psychologically close" condition (vs. "psychologically far" condition) perceived higher psychological closeness to the dating profiles they saw ($M_{psychologically\ close}$ = 2.99, SD = 1.81 vs. $M_{psychologically\ far}$ = 2.42, SD = 1.63, $p < .01$). We then ran a two-way analysis of variance (ANOVA) which first revealed that there is a main effect of inner attribute levels, in that participants give higher ratings to profiles with attractive (vs. average) inner attributes ($M_{average}$ = 2.29, SD = 1.46 vs. $M_{attractive}$ = 3.69, SD = 1.61, $p < .01$). There was also a main effect of psychological closeness which demonstrate that participants rate dating profiles higher when they are in psychologically close condition (vs. far) ($M_{psychologically\ close}$ = 3.19, SD = 1.81 vs. $M_{psychologically\ far}$ = 2.74, SD = 1.51, $p < .01$).

In addition, we found a significant interaction effect of inner attributes and psychological distance on customers' overall rating of dating profiles ($F(1, 358) = 6.23$, $p < .01$). Specifically, when females use smartphones to look at dating profiles with average inner attributes, there is no significant effect of "psychological distance" on participants' rating ($M_{psychologically\ close}$ = 2.36, SD = 1.55 vs. $M_{psychologically\ far}$ = 2.23, SD = 1.34, p = 0.45). However, when the inner attribute is attractive, participants rate dating profiles significantly higher when they think the person in the profile is psychologically close to (vs. far from) them ($M_{psychologically\ close}$ = 4.16, SD = 1.59 vs. $M_{psychologically\ far}$ = 3.24, SD = 1.50, $p < 0.01$). Also, the difference between the rating of average and attractive profile reduces when psych distance is shifted from close to far.

We also asked participants a couple of questions about the dating profiles. From their answers, we measured how many errors they made (which represents how much attention they paid to the descriptive part of the profile or inner attributes). The results show that when the psychological distance was manipulated to be close (vs. far), participants made significantly fewer mistakes ($p < .05$). This supports extant literature that suggests using smartphones (vs. computers) can lead to poorer reading comprehension and inferior learning experience.

So far, across four studies, our findings supported both H_1 and H_2 by demonstrating that customers use the inner attribute of dating profiles for evaluation when they use computers (vs. smartphones) for online dating and this effect of device type is moderated by customers' gender. The findings also displayed a significant moderated mediation effect in that the device used by female participants moderates the indirect effect of inner attributes of dating profiles on customers evaluations through perceived psychological closeness. We further manipulated perceived psychological distance to dating profiles for females which reveals that when females use smartphones to look at dating profiles, the effect of "psychological distance" on participants' rating is only significant when the profiles have attractive (vs. average) inner attributes.

FUTURE STUDIES

In the next studies, we plan to replicate the findings in Study 5 with a different type of psychological distance manipulation. Further, we aim to explore other plausible mediating factors as well. According to the extant literature, using a phone impairs participants' learning experience and reading comprehension (Maniar et al., 2008; Singh, Sumeeth, and Miller, 2011). Therefore, in future studies we want to examine how using phones in online dating can negatively impact participants' comprehension of inner attributes. Past studies also suggest that compared to males, females are more attached to, more addicted to, and more dependent on their phones (Wei and Lo, 2006; Hakoama and Hakoyama, 2011; Sama, 2020). Hence, we further want to investigate how participants' level of attachment and dependency on their phones can impact how they make online dating decisions. We believe this will shed more light on the moderating effect of gender in the context of online dating.

GENERAL DISCUSSION

This research investigates how the use of different platforms (smartphones vs. computers) can influence customers' decision-making process in the context of online dating. Consequently, it also explores how the gender of the customers will have a moderating effect during this decision-making process. Specifically, across multiple studies, we found systematic support for our proposition that when using computers (vs. smartphones) to evaluate dating profiles, customers will prioritize the inner attributes of the person. Moreover, the gender of the customers moderates this effect as females are more influenced by device choice than males. We further found that females perceive dating profiles to be psychologically close (vs. far) when they use

computers (vs. smartphones). As our next steps, we will further investigate the process underlying our effects. Furthermore, we will measure participants' dependency and attachment to their phones as possible moderators.

1. Theoretical Contributions

This research contributes to the literature on online dating and the use of computers vs. smartphones. Users of online dating sites typically have access to three types of information about potential partners: visual information in the form of photos, demographic information such as profession (i.e., achievement attributes), and textual information about personality and compatibility (Fiore et al., 2008) which we call inner attributes. Existing knowledge about gender differences suggests that men would be more affected by the photos due to the higher value they attribute to physical attractiveness, whereas women would be more affected by the inner attributes due to the higher value they attribute to nonphysical qualities. Existing knowledge about device differences, however, suggests that these gender differences in information processing may be contingent on the device being used to interact with the online dating site. Users of smartphones face higher search costs than do computer users because of the smaller screen of mobile devices (Ghose, Goldfarb, and Han, 2013), causing smartphone users to perform less effectively than computer users in various tasks, such as video-based learning (Maniar et al., 2008), reading comprehension (Singh, Sumeeth, and Miller, 2011), and navigation (Dillemuth, 2009). Hence, it is possible that the use of computers and smartphones in the context of online dating will also have a different effect on customers' decision-making.

The comparative use of computers vs. smartphones has received significant research attention in the past decade considering the increasing prevalence of mobile devices (Pousttchi et al., 2015; Ghose, 2017; Lurie et al., 2018;). Two major streams of research have empirically investigated the consequences of mobile use on consumer behavior (Bang et al., 2013; Wang, Malthouse, and Krishnamurthi, 2015; Huang, Lu, and Ba, 2016; ; Raphaeli, Goldstein, and Fink, 2017; Rodríguez-Torrico, San José Cabezudo, and San-Martín, 2017; Xu et al., 2017; Gong et al., 2020; Lee, Gopal, and Park, 2020) and on user-generated content (Burtch and Hong, 2014; Piccoli and Ott, 2014; Melumad et al., 2019; Ransbotham, Lurie, and Liu, 2019). The literature on the use of mobile devices generally perceives ubiquity as the main advantage of mobile devices and usability as their main disadvantage (Lee and Benbasat, 2003; Venkatesh and Ramesh, 2006; Bang et al., 2013; Xu et al., 2017; Fink, Rosenfeld, and Ravid, 2018). While numerous studies have highlighted the benefits of the continuous access afforded by mobile devices (e.g., Bang et al., 2013; Wang, Malthouse, and Krishnamurthi, 2015; Huang, Lu, and Ba, 2016), an equivalent number of studies have investigated the costs associated with their lower usability as well (Maniar et al., 2008; Dillemuth, 2009; Singh, Sumeeth, and Miller, 2011; Ghose, Goldfarb, and Han, 2013).

Though many studies have examined the use of computers vs. smartphones in different contexts, no study, to our knowledge has explored how it can influence customers' behavior in the case of online dating. Therefore, we believe this study will be a unique addition to the body of both online dating and computers vs. smartphones literature. Additionally, this study will also be an essential addition to the literature of gender effect in online dating as it also explores how customers' gender can moderate the use of different devices in online dating

2. Practical Contributions

Online dating is one of the fastest-growing industries in the United States. The number of online dating users is expected to see a consistent annual increase, with 35.4 million Americans in 2024, up from 30.4 million users in 2019 (statista.com, 2020). Though many dating sites and apps are free, most of them use a freemium pricing model. By upgrading to premium accounts, users can get various exclusive features. A significant percentage of online dating customers pay for these premium services. In 2019, paying customers accounted for approximately one-third of U.S. online dating users. Considering how successful the online dating industry is, we believe more studies need to be done to explore this research area to help businesses build improved algorithms to serve their customers better. After all, it is a matter of finding love!

To take a step in that direction, in this study, we examine how the use of different platforms (computer vs. smartphone) can influence customers' decision-making process in the context of online dating. Our findings demonstrate that the type of platform (smartphones or computers) customers use will influence how they will evaluate the dating profiles presented to them. As most popular online dating companies have both websites and smartphone applications, we believe that it will be beneficial to understand how using these two different platforms (computer vs. smartphones) can influence customers' decisions. We also suggest that the gender of the customers will determine how strong the impact of the device choice will be.

We believe this study will have important practical implications for businesses. This research will help dating companies design their websites and mobile applications to be more suited to customers' preferences while also considering customers' gender. Therefore, incorporating our findings in their websites and mobile applications, online dating companies can provide their customers with a better dating experience.

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ABOUT THE AUTHORS

Farhana Nusrat Farhana is a Marketing PhD candidate at the LeBow College of Business in Drexel University.

Yanliu Huang Dr. Huang is an Associate Professor of Marketing at the LeBow College of Business in Drexel University. Her research interests are focused on consumer planning, in-store decision making, new technology in marketing, and consumer welfare.

Cait Lamberton Dr. Lamberton Huang is a Professor of Marketing at the Wharton School of the University of Pennsylvania. Her research interests are focused on consumption behavior, marketing practice, and marketplace dignity.