

Attachment Style, Motives for Use, and Authenticity in Mobile Dating Apps

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Abstract

This paper explores the relationship between mobile dating app (MDA) users' motives, adult attachment styles, and presentation of an authentic-self. MDA are frequently used by members of the second digital generation (2DG) and have become more widely accepted culturally in the U.S. (McGrath, 2015; Perrin, 2015; Smith & Duggan, 2013; Ward, 2017). As a medium, MDA have distinguished themselves from other information communication technologies (ICT) through their geolocative features and limited profile options (Blackwell, Birnholtz, & Abbott, 2015; Handel & Shklovski, 2012). Using measures adapted from Ranzini and Lutz (2017) study of MDA users motives and self-presentation, and Bartholomew and Horowitz (1991) study of adult attachment styles, a survey was distributed to college aged students to examine the relationship between respondents motives for using MDA, attachment styles, and self-presentation using step wise multiple regression modeling. While several of the variables correlated with one another, only the dismissive attachment style predicted that users would portray an authentic version of self through their profile. The motive to use MDA for self-validation was the only predictor of presenting an intentionally deceptive self, which this study considers the converse of an authentic self-presentation. These results provide interesting insight into the dynamic of adult attachment styles and individual motives impact on MDA user's self-presentation.

Keywords: mobile dating apps, motives, attachment styles, authenticity

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According to Smith and Duggan (2013), online dating platforms have steadily grown in popularity. In their 2013 survey for the Pew Research Center, they found that most respondents viewed online dating as an effective place to meet others and form relationships (Smith & Duggan, 2013). They also found that, in general, participants viewed online dating more positively than had participants in a similar study conducted in 2005. Twenty-three percent of Smith and Duggan's (2013) participants met a long-term partner or spouse online. Recently, mobile dating apps (MDA) have distinguished themselves from traditional dating sites as a relevant field of study (Birnholtz et al., 2014; Blackwell et al., 2015; David & Cambre, 2016; Handel & Shklovski, 2012; Ranzini & Lutz, 2017; Sumpter, Vandenbosch, & Ligtenberg, 2017; Ward, 2017).

With the proliferation of new technologies, MDA have experienced significant growth and use (Ward, 2016). MDA differ from traditional online dating sites in a variety of ways, some of the most significant being their geolocate technology and restriction to mobile devices (Handel & Shklovski, 2012). Tinder, a popular MDA, boasted approximately 9.6 million active users daily in September of 2015 (Ward, 2016). Users are active an average of 11 times a day and will use the app between 7-9 minutes at a time. Like other MDA, Tinder has acquired a reputation for being a "hook-up app" (Sales, 2015). However, recent research has found other motives users have for engaging with mobile dating apps, such as seeking friendship, romantic partners, casual sex, entertainment, validation, and to enhance travel experiences (Ranzini & Lutz, 2017; Sumpter et al., 2017). Ranzini and Lutz (2017) demonstrates the relationship between users' motives for using MDA and their feelings about presenting an authentic self.

They found that participants motives were related to presenting either an authentic or intentionally deceptive version of self.

According to uses and gratifications theory, psychological characteristics can influence what motivates a user to use a particular medium (Papacharissi, 2009; Rubin, 2009). Ranzini and Lutz (2017), for example, documents a connection between narcissism, loneliness, and self-esteem and the use of Tinder, a popular MDA. Another likely related characteristic is attachment style, which has been shown to be related to different motives within relationships (Fox & Warber, 2014; Vogel & Wei, 2005).

This study seeks to refine the established connection between personal characteristics and motives, and between motives and the desire to present a more or less authentic self. Specifically, this research explores whether attachment style and motives for using MDA can predict users' feelings about presenting an authentic or deceptive self on MDA.

Literature Review

Mobile Dating Apps

Mobile dating apps (MDA), like many new information and communication technologies (ICTs), are extensions of existing media. Dating technologies can find their roots as far back as the 1700s, with matrimonial agencies designed to match clients with one another (Cashmore, Cleland, & Dixon, 2018). The 20th century saw the proliferation of personal advertisements or 'lonely hearts' ads as a way for individuals to find one another (Lynn & Shurgot, 1984; Lynn & Bolig, 1985). These advertisements allowed individuals to, identify the type of relationship they were looking for, disclose various personal information to potential partners, and specify preferred qualities in potential partners like age, height, and occupation (Lynn & Bolig, 1985). Studies of these ads identify several trends that still hold true for mobile dating apps. The first of

these relates to quantity of contacts. Men consistently make more attempts to match than females. In Lynn and Shurgot's (1984) study of lonely-heart ads, women received on average of 11 responses while men received an average of 9 responses. A study using fake dating app profiles shows that male profiles were able to successfully match with about .6% of other users they pursue, while females matched with 10.5% of users they pursued (Tyson et al., 2016). Another similarity between lonely-heart ads and dating apps is that females tend to be more selective than males when selecting potential mates (Tyson et al., 2016; Waynforth & Dunbar, 1995). Tyson et al. (2016) attribute this to the fact that women are presented with more matches and thus can be more selective while men receive fewer options and thus are unable to be as selective. Finally, both lonely-hearts ads and mobile dating apps favor individuals who are physically attractive (Birnholtz et al., 2014; Koestner & Wheeler, 1988; LeFebvre, 2018; Lynn & Bolig, 1985; Waynforth & Dunbar, 1995). Like lonely-hearts ads, MDA users are likely to share physical descriptions to highlight favorable physical characteristics to other users (Birnholtz et al., 2014). It is important to understand how mobile dating apps are similar to existing ICTs; however, mobile technologies provide several affordances that differentiate dating apps from other ICTs.

Mobile dating apps are a form of social networking site (SNS), but with certain limitations when compared to traditional SNS. Boyd and Ellison (2007) defines a social networking site as a web-based service that allows users to create a semi-public profile, form a list of contacts, and filter through their own list as well as the lists of other users. When considering this definition, the largest difference between MDA and traditional SNS is the way in which users acquire and view mutual connections. David and Cambre (2016) explains that mobile dating app users must first engage in the matching process in order to acquire another

user as a connection. The matching process may vary slightly between apps; however, most follow a similar process. For instance, on Tinder, users encounter other users by dictating a set range of age, distance, and sexual orientation (Ward, 2016). Once these ranges have been set and users have successfully created a profile, they begin to encounter the profiles of other users falling within their determined range. Users encounter these profiles one at a time; if a user comes across another user they wish to match with, they will “swipe right” on their phone screen. Alternatively, users can “swipe left” to indicate they do not wish to match (Ward, 2016). Users will only match with other users who have also swiped right on them. If a match is successful, both individuals will appear in each other’s “Matches” tab. This means that users are made aware of other users who wished to match, but receive no feedback about others who decided not to match with them (Ward, 2017). There is no provision to learn if another user swiped left or did not view the profile at all. The Matches tab is unique to each user and users do not have access to each other’s tabs (David & Cambre, 2016). So, in contrast to Boyd and Ellison’s definition of SNS, MDA users cannot control the list of contacts they acquire, only express their own desire to connect. Additionally, they cannot search the contacts list of other users.

Another unique characteristic of MDA, when compared to other SNS, is the user’s ability to set a specific geographic distance within which they wish to interact with users (Sutko & de Souza e Silva, 2011). Gordon and de Souza e Silva (2011) explains that geo-locative features like this impact the ways in which mobile users negotiate and conceptualize the world around them. Specifically, they blend users’ personal and online identities. This geo-locative function limits the other users one can encounter and the potential matches that one can make. Handel and Shklovski (2012) distinguishes mobile apps from dating websites and services by referring to

MDA as location-based real-time dating (LBRTD). The unique characteristic of these apps is that they only allow users to interact with other users who fall within a specified distance from the users' geolocation. Traditional SNS are not bound in this way, instead allowing users to interact with other users regardless of geographic proximity. Being bound to a set distance surrounding users mobile devices means that users will encounter new profiles as they physically change locations. This also means that users will encounter new profiles when they remain in the same location, as potential matches enter and leave their set geographic boundaries.

Hjorth (2013) explains that this mutually understood co-presence amongst users can foster mobile intimacy, which intensifies the ability and immediacy of users to meet while using MDA. However, the primary concern of online daters is that other users are lying, exaggerating, or misrepresenting themselves in their profiles (Gibbs, Ellison, & Lai, 2011). This means it is critical that users can convince other users that they are presenting a real and authentic version of self through their profile. It is important to point out that users do not have to present an authentic self, but instead convince other users that they are presenting an authentic self. This means users often employ self-presentation strategies designed around being selectively authentic (Gaden & Dumitrica, 2014; Ranzini & Lutz, 2017). Self-presentation and authenticity are critical to successfully matching with a consistently changing pool of users. This review will now move to a discussion about the nature of authenticity in MDA.

Authenticity

Classic work by Goffman (1959) explains how individuals attempt to control others' perceptions of themselves through self-presentation. Goffman likens self-presentation behaviors to a performance an actor puts on a stage. This performance is made of two unique concepts of self that Goffman (1959) describes as the front stage and back stage. The *front stage self* is a

public performance that an individual engages in to interact with others. The *back-stage self* plans and curates an individual's front stage behaviors. These behaviors include where individuals choose to perform, how they interact with others, and how they present themselves. Essentially, the backstage self imagines interactions and decides how individuals will present themselves through their front stage behaviors. This study examines how users' backstage motivations and attachment styles relate to their front stage performance of authentic self-presentation.

Authenticity can be established by individuals who know themselves and are able to consistently reproduce biographical narratives to others conveying that knowledge (Giddens, 1991). These narratives are reflexive and undergo continual revisions as individuals make various life style decisions. These narrative revisions are then assimilated into their ongoing narrative through daily routines (Giddens, 1991). Authentic self-presentation in digital spaces can be conceptualized as the relationship between how accurately individuals' online identities mirror their real identities and are then presented to an online audience (boyd, 2011; Marwick, 2013). Accordingly, this study defines *authentic self-presentation* as occurring when MDA users accurately represent their offline identity through their MDA profile. Conversely, this study defines inauthentic or *deceptive self-presentation* as the deliberate distortion one's offline identity through their MDA profile.

To be clear, this study conceptualizes users' intent to present a real/authentic self as being antithetical to the intent to present a deceptive self. These self-presentation outcomes are best thought of as a scale with MDA users making conscious decisions to display varying degrees of authentic or deceptive versions of self. Through this conceptualization, authenticity (or the intent to be more or less authentic) is understood as a performative act by the MDA user. Rather than

thinking of authenticity as an intrinsic quality possessed by individuals, this study, like others, regards authentic self-presentation as a decision being made by the user to be perceived in a specific way (Liu, Cutcher, & Grant, 2015). By making a conscious effort to be perceived as more or less authentic, users are employing self-presentations strategies to influence other users' perceptions. It is through various self-presentation strategies that users engage in impression management (Ellison, Heino, & Gibbs, 2006; Leary, 1995). In MDA, impression management begins after a user is motivated to create a profile (Ward, 2017).

Ellison, Heino, and Gibbs (2006) finds profile creation to be critical to SNS users' likelihood to successfully match and connect with other users. Profiles are the only means of accessing other users. The composition of a specific profile can influence the possibility of relationship formation, depending on how other users assess a profile (Ellison et al., 2006). Ward (2017) explains that in computer mediated environments, as in FtF interactions, impression management happens before individuals ever meet or even communicate interpersonally. In the case of MDA, this stage allows for the sharing limited information in the form of a handful of pictures and a brief profile (Blackwell, Birnholtz, & Abbot, 2015). Blackwell et al. (2015) explains that when compared to other SNS, MDA provide users with a very limited amount of information.

Users with authentic representations of self on SNS are found to have overall more positive experiences. Grieve and Watkinson (2016) explores the effects of users who are more or less authentic online, reporting that users who are more authentic report higher levels of satisfaction with SNS use. However, it is possible that SNS as a platform are to blame for users' inability to present an authentic self. SNS frequently reflect a positivity bias, which discourages users from discussing matters thought to be depressing or otherwise negative. Research offers

evidence that this does not pose problems for users with high levels of well-being, because their authentic selves fit the positivity expectations. Users, with lower levels of well-being, on the other hand, need to present inauthentic versions of themselves in order to fit those same expectations (Reinecke & Trepte, 2014)

MDA like Tinder require users to sign in using their Facebook account (Duguay, 2017). After signing in, users can use information and pictures from their Facebook to construct their MDA profile. Users can share publicly liked interests from their Facebook, including mutual friends, music, movies, books, and organizations. In addition to pictures from Facebook, Tinder users can link their Instagram account and share additional photos beyond the six-image limit (Duguay, 2017). Users are also able to link their Spotify account, to show what music they have been listening to lately. Linking SNS allows users to present a more accurate picture of themselves to potential matches. When users link their account to multiple SNS, they offer support for a claim of authenticity that can be validated by the participation of other users in their extended networks (Duguay, 2017). By displaying shared friends from Facebook, MDA provide users with an image of how their networks overlap. This also provides users with a point of contact that can authenticate the information being shared in users' profiles. This means users must be strategic with the information they share.

Ellison et al. (2006) shows that users will employ different impression management strategies to be seen in specific ways. Users employ strategic authenticity (Gaden & Dumitrica, 2014; Ranzini & Lutz, 2017) in an attempt to highlight personal characteristics they deem favorable (Ward, 2017), and exclude characteristics they feel insecure about (Kapidzic & Herring, 2015; Reich, 2010). These specific characteristics are conveyed through self-disclosures in users' profiles (Fitzpatrick, Birnholtz, & Brubaker, 2015).

According to social penetration theory, self-disclosures are the mechanism by which individuals become closer to one another (Altman & Taylor, 1973). Social penetration theory characterizes individuals as onions with a series of layers that are broad on the outside and become gradually smaller toward the center. The outside layers represent surface level or mundane information about an individual, while the inner layers represent more intimate personal information. When relational partners disclose information, they begin a reciprocal exchange that allows them to become closer to one another by penetrating their partners' outer layers and getting closer to the center. Sharing gradually more personal information can help build trust and escalate the frequency and intimacy of disclosures (Altman & Taylor, 1973). The rate of disclosures does not progress linearly, but instead will wax and wane over time (Collins & Miller, 1994). This means it is not uncommon for individuals to engage with higher levels of disclosures and then withdraw.

When considering MDA, users' first opportunities for self-disclosures happen in their profile and can only continue if they successfully match with other users (Fitzpatrick, Birnholtz, & Brubaker, 2015). This leads to users providing primarily superficial information within their profile. Birnholtz et al. (2014) shows in these instances, it is easier for users to exclude information than to come across as intentionally deceptive, which is a type of selective authenticity. Grindr users, for example, typically disclose anatomically descriptive information within their profile, such as age, height, and weight (Birnholtz et al., 2014). The same study found that users were less likely to share weight than age or height. Fitzpatrick et al. (2015) shows that users with a higher body mass index (BMI) were more likely to crop photos closer to their face while individuals with lower BMI were more likely to display their torso. In these instances, the researchers explain that individuals with lower BMI were more likely to be

considered physically attractive and therefore find it advantageous to disclose their BMIs in their profiles. Information related to BMI must be voluntarily disclosed by users in their written biography; it is not information collected and displayed by apps.

Self-disclosure can also be used to help users identify where potential matches are relative to their location, or where they are originally from. It is common in larger urban areas for users to disclose the specific neighborhood they are in (Birnholtz et al., 2014). This is especially helpful in large cities, as the geolocate function only tells you how far away other users are, not their specific location. Users on college campuses were found to use institutional identifiers to differentiate themselves from local users within the same proximity (Birnholtz et al., 2014). Likewise, it is common for users to identify themselves as traveling or being a visitor when engaging with MDA outside of the proximity of their permanent residence. These identifiers allow users to indicate if they will be in the area for extended periods of time, which may relate to their motives for using MDA. Users in town for a limited time might be less interested in a serious relationship than other permanent residents.

Another common disclosure for MDA users is their relationship status. Users looking for casual relationships have been found to be more likely to identify themselves as single in their biography (Birnholtz et al., 2014). Additionally, users looking for casual relationships commonly use terms like “looking for fun,” “looking for friends,” or “NSA (no strings attached),” and are less likely to use the term “hook-up,” which has been found to have negative connotations among MDA users (Birnholtz et al., 2014; Ward, 2017). Individuals seeking more serious relationships are more likely to include the phrase “not looking for friends” in their profiles (Birnholtz et al., 2014). This suggests that the term “friend” also has a particular connotation within the MDA community, depending upon the context in which it is used. Users can

selectively disclose terms that describe their relationship status or relational goals for using MDA to signal their motivations for using MDA.

Motives for using MDA have been shown to influence how authentically users choose to present themselves (Ranzini & Lutz, 2017). Users who are not interested in long-term or romantic relationships are less likely to present authentic versions of themselves when using MDA (Ranzini & Lutz, 2017). This can be attributed to the fact that these users are not looking at making long-term or lasting connections and thus do not care how they are perceived by other users. Their desire for casual or extra-relational partners leads them to form their profiles in such a way that will maximize their chances of a successful match. It does not matter to these users if they are accurately or authentically representing themselves as long as they are successful in achieving their casual relational goals. The way in which they present themselves is likely based on profiles that are thought to be popular or successful. One study shows that SNS users who are perceived to be popular set usage norms affecting the way less popular users engage with a particular medium (Lim et al., 2015). This means that less popular users may attempt to conform to the norms set by popular users, resulting in a less-authentic presentation of self for the less popular user as they attempt to mimic their peers.

As this review has shown, the desire to present an authentic self is complex. Many things contribute to individuals' desires to present an authentic self. Ranzini and Lutz (2017) examined how the psychological characteristics of self-esteem, narcissism, and loneliness relate to MDA users' authentic self-presentations. These psychological characteristics have been shown to relate to individuals' adult attachment styles (Oldmeadow, Quinn, & Kowert, 2013; Pistole, 1995). Attachment styles directly influence how individuals view relationships (Bartholomew & Horowitz, 1991; Hazan & Shaver, 1987). The following section reviews the four common

attachment styles found in adults, as well as their relationship to user motives, and presentation of an authentic self.

Attachment Styles

The study of attachment styles began by examining how children internalize their experiences with a primary caregiver to create a blueprint for how to sustain relationships later in life (Bowlby, 1973; 1977). Bowlby (1973) identifies two main features of these relationships that affect how an attachment style is formed: (1) if the caretaker (or relational partner) is the type of person who responds to cries for protection and support; and (2) if the persons making the cry view themselves as someone who others (the relational partner in particular) would assist when prompted with cries for help. As Bartholomew and Horowitz (1991) explains, “The first concerns the child's image of other people; the second concerns the child's image of the self” (p226). Bowlby (1973) originally identified three attachment styles. Hazan and Shaver (1987) extended the study of attachment styles to adult romantic relationships. Bartholomew and Horowitz (1991) extended that work further and added a fourth attachment style, resulting in four categories: secure, preoccupied, dismissive, and fearful.

Individuals with a secure attachment style have a positive view of others as willing to help and a positive view of themselves as being someone others would help (Bartholomew & Horowitz, 1991). They are comfortable being intimate with others and comfortable being on their own. Preoccupied individuals have a positive view of others and a negative view of themselves (Bartholomew & Horowitz, 1991). This leads to them looking for approval from others in relationships and being uncomfortable being on their own. Dismissive individuals have a positive view of self and a negative view of others (Bartholomew & Horowitz, 1991). These individuals are self-reliant and tend to avoid close relationships. Finally, fearful individuals have

a negative view of both self and others (Bartholomew & Horowitz, 1991). They struggle because they are fearful of close relationships but rely on others to validate their low self-worth.

Attachment styles have been studied in a variety of relational contexts, including patterns of self-disclosures (Mikulincer & Nachshon, 1991), emotional and cognitive reactions to stress (Mikulincer & Florian, 1998), personality traits (Nofle & Shaver, 1992), and conflict (Simpson, Rholes, & Phillips, 1996). In the realm of computer-mediated relationships, attachment styles have been studied within the contexts of partner surveillance (Fox & Warber, 2014), social skills (Oldmeadow, Quinn, & Kowert, 2013), social support (Vogel & Wei, 2005), and depression (Wei, Russell, & Zakalik, 2005). The current study examines how attachment styles impact the initiation stage of a relationship. This study explores how attachment styles relate to users' motives and, ultimately, how authentically they present themselves when using MDA. The following section will explore motives through the lens of uses and gratification theory.

Motives

In order to better understand users' motives, this study looks to uses and gratifications theory to explain how users decide to engage with a particular medium in the first place. Uses and gratifications theory (UGT) examines why media users select specific media to satisfy various needs (Katz, Blumler, & Gurevitch, 1973). Users' psychological and social backgrounds, along with demographic information, have been shown to relate to what motivates users to fulfill their needs via specific media (Katz, et al., 1973; Papacharissi, 2009; Rubin, 2002). These are dynamic influences that can change over time and within differing contexts (Papacharissi, 2009; Rubin, 2002). Thus, different media are used to satisfy different needs.

UGT makes three key assumptions. First, users are active participants in the media that they are selecting and assimilating into their daily routines (Papacharissi, 2009; Rubin, 2002).

This means that users are aware that they are choosing one medium over another with the intention of satisfying a particular need. For the purpose of this study, this can be interpreted as users being motivated to use MDA over other forms of media. The second assumption is that different forms of media will compete against one another (Papacharissi, 2009; Rubin, 2002). Users are aware they have different options when selecting a medium. This means users have to select one medium over another. The final assumption of UGT is that the medium a user finds the most effective will be used more frequently (Papacharissi, 2009; Rubin, 2002). This explains why users are motivated to return to certain media more frequently than others. The following section explores what motives users have when engaging with MDA.

Sumpter, Vandebosch, and Ligtenberg (2017) identifies casual sex, love, validation, excitement, and thrill as common motives individuals have for using mobile dating apps. Similarly, Ranzini and Lutz (2017) specifies hooking up, seeking relationships, seeking friends, traveling, self-validation, and entertainment. Individuals' motives to engage with MDA also affect the information they choose to disclose in their written profiles and thus how they decide to present themselves (Blackwell et al., 2015; Correrio & Tong, 2016). For instance, Ranzini and Lutz (2017) shows that users who are motivated by casual sex or finding extra-relational partners are less likely to present authentic versions of themselves. These users are not interested in long-term relationships. As such, they prefer to present the version of themselves that will allow them the highest probability of matching with another user. Contrastingly, users motivated to use MDA to find long term relationships are more likely to present an authentic version of themselves (Ranzini & Lutz, 2017).

This study explores whether MDA users' - as Goffman (1959) would put it- backstage attachment styles and motives for using MDA can predict their frontstage performance of

authenticity. Authentic self-presentations as defined by this study are MDA users' ability to accurately present their offline identity through their MDA profile. While authentic self-presentation has been linked to an overall more positive experience when using SNS (Grieve & Watkinson, 2016), some users prefer to employ strategic authenticity (Gaden & Dumitrica, 2014) to highlight desirable characteristics while downplaying less-desirable characteristics (Kapidzic & Herring, 2015; Reich, 2010). These characteristics are presented by users through their self-disclosures within their MDA profiles (Birnholtz et al., 2014; Fitzpatrick et al., 2015; Ward, 2017). Users' likelihood of presenting an authentic self have been linked to their motives for using MDA, such as hooking-up/casual sex, seeking love or long-term relationships, entertainment, self-validation, seeking friends, and traveling (Ranzini & Lutz, 2017; Sumpter et al., 2017). Ranzini and Lutz (2017) also shows a relationship between users' motivations for using MDA and the psychological characteristics of narcissism, self-esteem, and loneliness. These psychological characteristics have also been shown to relate to individuals' adult attachment styles (Oldmeadow, Quinn, & Kowert; Pistole, 1995). Adult attachment styles influence how individuals view, create, and behave within relationships (Bartholomew & Horowitz, 1991; Bowlby; 1973; 1977; Hazan & Shaver, 1987). This study builds upon the framework laid by Ranzini and Lutz (2017) by exploring how adult attachment styles relate to MDA users' motives and authentic presentation of self. Additionally, this study builds upon Ranzini and Lutz's (2017) study by specifically targeting members of the second digital generation (2DG), which constitute the largest user base for MDA. Finally, this study also examines if users feel is important to disclose in their MDA profiles based on common disclosures outlined in Birnholtz et al.'s (2014) and Fitzpartick et al.'s (2015) studies of self-disclosures in MDA. Based on the literature reviewed above, this study proposes to answer a

single question: Can mobile dating app users' attachment styles and motives for use predict users' presentation of an authentic self?

Method

A survey was used to assess users' attachment style, motives for using MDA, and authentic self-presentation using measures found in Bartholomew and Horowitz (1991) and Ranzini and Lutz (2017). Additional information was gathered related to common disclosures, as found in Birnholtz et al.'s (2014) and Fitzpatrick et al.'s (2015) studies.

Sample

According to market research conducted by Global Web Index, users age 16-34 account for 83% of Tinder's user base, with a third of users falling between ages 18-24 (McGrath, 2015). Individuals born after 1990 are known as the second digital generation (2DG) (Taipale, 2016). Members of 2DG were the target of this study, as they have grown up with social media and sophisticated mobile technology. Previous studies have identified the need to target this specific population (Ranzini & Lutz, 2017; Sumpter et al., 2017). As a generation, they are the heaviest consumers and users of social media (Perrin, 2015). While other age groups use MDA regularly, this study provides further insight into the behaviors of its largest generation of users.

Respondents included 163 college students, ages 18-50 years ($M=19.55$, $SD= 3.09$), who were recruited from introductory communication courses at a midsized Midwestern university. This is a form of convenience sampling, as it is non-random and uses participants that are close at hand (Babbie, 2015). However, it allowed access to the specific population targeted by this study, college students aged 18-29. According to research conducted by the Pew Research Center, the number of MDA users in this age range tripled between 2013 and 2015. Market research has also shown that this age group constitutes 83% of the MDA active user base. Of the

respondents ($n=157$), the majority fell within the targeted range ($n=155$, 98.73%). The sample predominately identified as women ($n=89$, 54.6%), Caucasian ($n=141$, 86.5%), and Heterosexual or Straight ($n=143$, 87.7%). Of the 163 respondents, 73 (44.8%) identified themselves as MDA users. The remaining 90 (55.2%) were excluded from the current study. Of the respondents identifying as MDA users, the majority indicated that Tinder was their most used app ($n=62$, 84.93%). Study respondents received extra credit for their course and the opportunity to win one of fifteen \$5 Amazon.com gift cards. Gift card winners were chosen at random after data collection was complete.

Measures

The purpose of this study is to assess whether the independent variables of users' attachment styles and motives for using MDA can predict whether users feel they are representing a real/authentic self or a deceptive self. Respondents completed an online survey delivered through Qualtrics after providing informed consent.

Authenticity

The presentation of an authentic self was assessed through a modified version of Michikyan, Dennis, and Subrahmanyam's (2014) scale measuring individuals' self-presentation on Facebook. Ranzini and Lutz (2017) adapted this scale to assess users' self-presentation on Tinder. The original scale included five different categories of self-presentation. However, Ranzini and Lutz (2017) found three of them to be highly correlated and have low reliability. These measures were also excluded from the current study, leaving the subscales of *real/authentic self* (4 items) and *deceptive self* (4 items) to assess MDA users' presentation of an authentic self (See Appendix A). Each of these items was assessed on a five-point Likert scale ranging from strongly agree to strongly disagree. These scales were scored from +2 to -2, with

strongly agree being scored as +2, agree as +1, neither agree nor disagree as 0, disagree as -1, and strongly disagree as -2. To potentially provide context for how users present an authentic or deceptive self, a list of common self-disclosures was adapted from Birnholtz et al.'s (2014) study. Respondents indicated the extent to which they felt it important for them to disclose certain information in their MDA profile. The disclosures included are age, weight, height, race, ethnicity, goals for using MDA, relationship status, locational identifiers such as hometown, college attended, or neighborhood, educational status or year in school, profession or job, and other social networking sites (e.g., Spotify, Instagram, Snapchat).

Motives

Motives for using MDA were examined with an adapted version of van de Wiele and Tong's (2014) study of Grindr users' motives. Using UGT, this study identified six primary motives users have for using Grindr. These motives were then turned into subscales and adapted by Ranzini and Lutz (2017) to assess users' motives for using Tinder. The six motives identified were *hooking up/casual sex* (4 items), *making friends/social networking* (4 items), *finding a relationship/long term partner* (3 items), *traveling* (3 items), *self-validation* (2 items), and *entertainment* (3 items). Each of these items was assessed on a five-point Likert scale ranging from strongly agree to strongly disagree (also scored from +2 to -2).

Attachment Styles

A modified version of version of Bartholomew and Horowitz's (1991) attachment measure was used to identify respondents' primary attachment style. This measure includes descriptions of each of the four attachment styles. Typically, this measure has participants select one of the four attachment styles. This type of nominal classification prevents the examination of attachment style relative to other variables through a stepwise regression. As regression was the

goal here, the current study examined users' attachment styles using an interval scale that allows respondents to rate their fit with each attachment style. It is important to note that individuals often possess qualities of multiple attachment styles; this adaptation allowed that to be measured.

RQ1: Can motives for using MDA and attachment styles predict the likelihood of a user presenting an *authentic* self?

RQ2: Can motives for using MDA and attachment styles predict the likelihood of a user presenting a *deceptive* self?

To answer these questions, a stepwise multiple regression framework was used. The major advantage to this framework is the ability to see how multiple independent variables predict a dependent variable (Armstrong & Hilton, 2010). It also allows for groupings to see if certain variables have a stronger influence in tandem than others. All measures are adapted from previous studies, where they were found both valid and reliable.

Results

Authenticity

Participants presentation of an authentic self was measured through two scales measuring their likelihood to be intentionally real/authentic or deceptive while using MDA. Two of the measures of a *real/authentic self* were removed for having a low relationship to the rest of the items on the subscale. The final measure for real/authentic self consisted of two items ($\alpha=.64$) and the *deceptive* scale consisted of 4 items ($\alpha=.62$). Overall, most participants felt they presented an authentic self when using MDA ($M=.98, SD=.63$), and did not feel they were being intentionally deceptive ($M=-.79, SD=.62$).

The self-disclosure measure comprised of 11 items that measure respondents' feelings towards self-disclosures in their MDA profile. One item, "Other social networking sites (e.g., Spotify, Instagram, Snapchat)" was removed for having low relationship with the rest of the items on the subscale. The final 10 item subscale ($\alpha=.72$) found that on average respondents felt it was somewhat important to include disclosures in their MDA profile ($M=.38$, $SD=.5$).

Motives

Six motives for using MDA were measured, based on Ranzini and Lutz (2017). The motive to *hook up or find sexual partners* was measured by 4 items that were found to be highly reliable ($\alpha=.92$). By a slight margin, participants indicated that they were not motivated to use MDAs to hook up or find sexual partners ($M=-.51$, $SD= 1.13$). This sub scale also had the largest range of answers of any of the motives, indicating respondents may be motivated to both use and not use MDA for hookups. The motivation to use MDA to *make friends or tap into existing social networks* was measured by a 4-item scale ($\alpha=.78$). Results suggested that respondents in this sample did not use MDA to make friends or tap into existing social networks ($M=-.16$, $SD=.87$). The motivation to use MDA to *find a romantic partner* or relationship was measured on a 3-item scale ($\alpha=.80$). Respondents indicated that they felt slightly motivated to use MDA to search for a romantic partner or relationship ($M=.51$, $SD=.87$). Being motivated to use MDA for the purpose of *traveling or while traveling* was measured by a 3 item scale ($\alpha=.74$). On average, respondents were less likely to be motivated to use MDA while traveling ($M=-.18$); however, the distribution of responses ($SD=.93$) implies some respondents are motivated to use MDA while traveling. The 2 item scale ($\alpha=.86$) measuring the motive of *self-validation* also had varied responses ($M=-.36$, $SD=1.05$). Like previous measures, this indicates that some MDA users are motivated to use MDA for self-validation while others are not. Two of the items for the

motivation of *entertainment* were removed because of a weak relationship to other items. The final 1 item scale, while varied, found that respondents were motivated to use MDA for the purpose of entertainment ($M=.64$, $SD=1.05$).

Attachment Styles

Attachment styles were assessed using 4 scales adapted from Bartholomew and Horowitz (1991). Respondents indicated on a scale of 0-5 the extent to which they disagreed or agreed with a description of each attachment style. On average, respondents indicated that they most identified with the *dismissive* attachment style ($M=3.12$, $SD=1.32$). After dismissive, *secure* was the second highest reported attachment style ($M=2.98$, $SD=1.23$). *Fearful* was the third most reported attachment style ($M=2.69$, $SD=1.49$). By a narrow margin, *preoccupied* was the least identified attachment style ($M=2.63$, $SD=1.46$). As anticipated, respondents exhibited multiple attachment styles.

The main research questions as posed in this study explore whether MDA users' motives and attachment styles predict their likelihood of presenting an authentic or deceptive self. Some measures were modified to increase their reliability. All modified measures were found to be reliable and were assembled in a correlation matrix to examine the relationship between variables. After examining these relationships, the variables went through multiple linear regressions to predict how likely users were to present an authentic or inauthentic self based on their motives, attachment style, and likelihood to disclose in their profile. With regard to RQ1, a significant regression equation was found ($F(1,66) = 4.92$, $p < .05$, with an $R^2 = .069$) for the likelihood to present a real/authentic self. The only significant predictor of MDA users presenting a real/authentic self was having a highly *dismissive* attachment style. This was especially true for respondents that identified as men ($F(1,33) = 5.38$, $p < .05$, $R^2 = .14$). The

dismissive attachment style was also negatively correlated with the motive of self-validation ($r = -.37, p < .05$) and the likelihood to present a deceptive self ($r = -.34, p < .05$).

When addressing RQ2, a significant regression equation was also found ($F(1,66) = 30.86, p < .05, R^2 = .32$) for the likelihood to present a deceptive or inauthentic self (see table 2). The only significant predictor of a deceptive self presentation was the motive of self-validation. This was especially true for individuals who identified as men ($F(1,31) = 8.07, p < .05, R^2 = .21$). The motive of using dating apps for self-validation was positively correlated with motives to hook up or find sexual partners ($r = .26, p < .05$), entertainment ($r = .37, p < .05$), traveling ($r = .38, p < .05$), and the preoccupied attachment style ($r = .28, p < .05$). Having a dismissive attachment style was negatively correlated to the motive of self-validation ($r = -.37, p < .05$).

Discussion

The purpose of this study was to explore the self-presentation of MDA users. Specifically, can MDA users' attachment styles and motives for use predict users' presentation of an authentic self? The results indicated that only the dismissive attachment style and motive of self-validation influenced user's intent to perform an authentic or deceptive self. The dismissive attachment style was a significant predictor of exhibiting a real/authentic self. Contrastingly, the motive for self-validation was predictor of a user's intent to present an intentionally deceptive self. Neither self-presentation outcome was associated with both users' motivations and attachment styles. However, this study makes several relevant contributions to the study of MDA, attachment styles, motives, and the antecedents to presenting an authentic or inauthentic self by building on the foundation of previous research.

In line with previous research (Liu et al., 2015), the current study considers the presentation of an authentic self a performative act (rather than an inherent trait) by defining

authentic self-presentation as occurring when MDA users accurately represent their offline identity through their MDA profile. The current study does not define what an authentic self-presentation looks like, but rather what may influence an MDA user's likelihood of presenting an authentic self.

There are several meaningful areas that relate to self-presentation through the creation of a SNS profile that the current study does not address. One of the most prominent is the relationship between individuals and their computer mediated profiles as avatars (Bélisle & Bodur, 2010; Ikegami & Hut, 2008; Konijn, Utz, Tanis, & Barnes, 2008; Reidsma et al., 2005). Avatars are digital representations of self-created by users to interact with other users (Ikegami & Hut, 2008). Typically, avatars are thought of as interactive three-dimensional virtual models that represent users in computer mediated spaces (Reidsma et al., 2005). However, a digital photograph is all that is needed to satisfy the most basic definition of an avatar, “looking like a user” (Konijn et al., 2008). Studies of avatars examine how users create new public and social spheres through their avatars’ digital interactions (Bélisle & Bodur, 2010). These studies focus on the dynamics of the users’ avatar interactions in a virtual setting. Further, these studies often explore larger societal and cultural trends the influence the creation of these networked publics. The current study wished to examine the relationship between users' motives, attachments styles, and their degree of authentic self-presentation. Rather than examine interactions and influences between users performing their frontstage digital identities through interaction, this study focuses on the backstage antecedents to MDA users’ presentation of an authentic self.

Previous research has shown that strategic self-disclosures can be used to enhance MDA users’ likelihood of matching with other users (Duguay, 2017; Gaden & Dumitrica, 2014; Ranzini & Lutz, 2017). Common disclosures in MDA profiles include anatomical descriptions,

race, ethnicity, and locational identifiers (Birnholtz et al., 2014). Disclosures allow individuals to reduce uncertainty, become closer, and foster trust (Altman & Taylor, 1973). Interestingly, the current study found no correlation between specific self-disclosures and the likelihood to present either a real/authentic or intentionally deceptive self. The measure asked participants if they felt it was important to share common disclosures, as identified by a previous study, in their MDA profile (Birnholtz et al., 2014). It would make sense that users wishing to represent a real/authentic self would feel it important to accurately describe themselves. Conversely, users wishing to present a deceptive self may still feel it important to disclose, but instead share false or deceitful information. However, neither of these claims were supported. The only other variable that correlated with the measure of self-disclosures was the motivation to use MDA to seek friendship. This suggests either an issue with the current measure or some degree of cognitive dissonance amongst respondents. It is highly confounding that self-disclosures did not have a significant relationship with either of the current study's dependent variables.

Adjusting the current measure of self-disclosure may provide better insights for future researchers. Rather than having respondents evaluate each type of disclosure on a Likert scale, it may be advantageous to have respondents indicate which disclosures they feel it is important to reveal on a nominal scale. This would result in a score of 1-10 for each respondent depending on how many disclosures they feel it is important to include, which may provide a better understanding of the relationship between self-disclosures and the likelihood of presenting an authentic or deceptive self as conceptualized in this study.

Unlike Ranzini and Lutz (2017), the current study examined attachment styles instead of the psychological variables of narcissism, loneliness, and self-esteem. Overall, the results indicate that only the dismissive attachment style predicted the likelihood of presenting a

real/authentic self. Adult attachment styles in the current study did not correlate with other variables the same way that Ranzini and Lutz's (2017) psychological variables did in their original study. However, adult attachment styles still provided some unique insights relative to 2DG members motives and self-presentation.

When considering the four attachment styles, it may be counterintuitive to find out that the dismissive style was the only predictor of an authentic self-presentation. It had a weak but significant positive correlation to the measure of being real/authentic ($r = .27, p < .05$). Previous research has shown dismissively attached individuals exhibit behaviors negatively correlated with authenticity (Leak & Cooney, 2001). Dismissive individuals typically have a negative view of others and a positive view of self, which results in self-reliance and an avoidance of close relationships (Bartholomew & Horowitz, 1991). However, authenticity, as it is conceptualized in the current study, is the accurate translation of MDA users' offline identities through their profiles. One explanation of these results is that dismissive individuals do not care about relationships with others and are thus not concerned with how they are perceived by others. They are not invested in others' perceptions and do not try to influence them through deception.

The dismissive attachment style was also significantly negatively correlated with the motive of self-validation ($r = -.37, p < .05$). This makes sense, considering self-validation was the only predictor of a deceptive self-presentation, which the dismissive attachment style was also negatively correlated with ($r = -.34, p < .05$). Dismissive individuals already have a positive view of self, and thus do not seek validation from others.

Relative to other attachment styles, the dismissive attachment style was found to be somewhat negatively correlated with the preoccupied attachment style. Preoccupied individuals can be thought of as the antithesis of dismissive individuals. They have a negative view of self

and a positive view of others (Bartholomew & Horowitz, 1991). The preoccupied attachment style had positive correlations for using MDA to seek friend, relationships, and self-validation. These individuals are looking to use MDA to find acceptance in others as they are insecure with their own selves. They are not particular about the type of relationship, but instead are looking to find validation in others in whatever form a relationship takes.

The secure attachment style was shown to negatively correlate with the fearful attachment style. Similar to the relationship between dismissive and preoccupied style, the fearful attachment style is the antithesis of the secure attachment style. Secure individuals have a positive view of self and others and are comfortable on their own or in relationships (Bartholomew & Horowitz, 1991). Conversely, fearful individuals have a negative self-view and relationships with others can cause anxiety (Bartholomew & Horowitz, 1991). The results of the current study are consistent with existing research about the relationship these two attachment styles have.

Surprisingly, preoccupied individuals also had a small but significant positive correlation to secure individuals. This can be explained by the fact that individuals often exhibit characteristics of multiple attachment styles. It is unlikely that an individual would exhibit characteristics of only one of the four styles, given their dynamic relationship and ability to change over time. This is why the current study examined attachment styles as a continuum rather than categorically. Preoccupied and secure individuals both have a positive view of others in relationships. Individuals who exhibit both attachment styles are likely to identify with the overlapping positive view of other in both styles' descriptions.

One of the most significant contribution his study can make to the study of attachment styles is providing insight into the dismissive, preoccupied, and fearful attachment styles. When

studying attachment styles, researchers often privilege and look for relationships to the secure attachment style while labeling the remaining three attachment styles as “insecure”. These studies likely privilege the secure attachment style because it is arguably the most desirable attachment style to have. The insecure attachment styles are treated as undesirable. Deviations or results that do not provide context for the secure attachment styles are listed as limitations instead of further exploring the remaining three styles. However, the current study found the dismissive style to be the most prevalent amongst participants and the only attachment style that is likely to result in a real or authentic self-presentation. It also explored relationships between MDA users’ motivations and the dismissive, preoccupied, and fearful attachment styles. Future research should explore whether these attachment styles still relate to variable the way they have in the past.

The current study explores MDA users’ motives from the perspective of UGT. This assumes that users decide to use a specific medium that they feel will fulfill a specific need (Katz, et al., 1973; Papacharissi, 2009; Rubin, 2002). This study examined six previously identified motives for using MDA (Ranzini & Lutz, 2017). These motives can be thought of as situationally directed actions that are used to explain users anticipated consequence of using MDA (Mills, 1940). It is important to understand that these motives are contextually situated and can change between and during interactions between MDA users. The motives for using MDA, as conceptualized by the current study, are explanations for the action of using MDA, rather than a label for an intrinsic urge or desire. Understanding this helps explain the inclusion of the motives like entertainment and travel, which are both motives that capitalize on the geolocate function inherent to MDA (Ranzini & Lutz, 2017).

In Ranzini and Lutz (2017), the motives of entertainment and travel were both popular amongst respondents, but ultimately did not influence users' likelihood of presenting a real/authentic self or intentionally deceptive self. In the present study, the motive of travel was correlated with the variables of hooking up or finding casual sexual partners, making friends, and self-validation. To a lesser extent, travel was also positively correlated with seeking a relationship or romantic partner, and seeking entertainment. This implies that while users are using MDA to travel, they have a variety of intended actions they use MDA for. Traveling MDA users appear to be seeking a variety of relationships with varying levels of intimacy. They also seek validation from other users that are outside of their typical geolocate environment.

While traveling correlated with several other motives, entertainment only had significant positive relationships with traveling and, to a greater extent, self-validation. Using MDA for self-validation was the only motive shown to influence user's likelihood of presenting an intentionally deceptive self. The relationship between self-validation and entertainment implies that users who use MDA for entertainment may also have narcissistic characteristics. They find enjoyment out of the attention or validation provided by MDA. Ranzini and Lutz (2017) also found the motive of self-validation to have the strongest influence on users' self-presentation. Individuals seeking self-validation from MDA are seeking the approval and attention of others. The current study found self-validation to have a negative relationship with presenting a real/authentic self. This makes sense considering users seeking self-validation on MDA likely value others' opinions more than their own perceptions of self. Dismissive individuals are primarily concerned with their own perception of self and are not likely to use any ICTs to seek others approval. They do not value others' perceptions and are not going to exert effort to influence them.

Several of the motives and attachment styles were shown to relate to one another. However, ultimately, users' attachment styles and motives were not found to work together to influence their presentation of an authentic or deceptive self. Replacing Ranzini and Lutz's (2017) psychological characteristics of narcissism, self-esteem, and loneliness with adult attachment styles did not have the intended results of identifying a relationship between users' authentic self-presentation, motives, and attachment styles. There are a number of potential explanations for why this may have happened. It is possible that the adapted measures were not set up to properly for the context of MDA. These measures were originally intended for Facebook and may not adequately account for the nuances of MDA. Several of the measures were removed to improve internal validity. This may indicate a flaw in the measures prior to the current study. Additionally, it is possible that the difference in sample populations from Ranzini and Lutz (2017) to the current study may account for difficulties replicating the original studies results. The current study targeted members of the 2DG, while Ranzini and Lutz (2017) surveyed a large and varied population recruited through Amazon Mechanical Turk. These populations may have different usage patterns and motives for using MDA. This may explain the differences in the current studies results.

While the current study could not replicate the results of Ranzini and Lutz (2017), it does provide interesting insight into the antecedents to MDA users' likelihood to present an authentic or deceptive self. The current study found support that adult attachment styles can predict users' presentation of an authentic self. Interestingly, the dismissive attachment style is shown to positively relate to the likelihood of presenting an authentic self. This provides support for the notion that the "insecure" attachment styles are just as worthy of study as the secure attachment style and are currently underexplored. Users' motives were also found to influence their

likelihood of presenting an intentionally deceptive self. Self-validation was shown to predict the presentation of a deceptive self. Users motives can vary across and during interactions. The measures for MDA user motives should continue to be explored refined. Curiously, the measure of user self-disclosures did not help provide context for either presenting an authentic or deceptive self. However, it was shown to relate to motive of friendship, suggesting it is not out of place when considering MDA users' motives. These insights provide as many questions as they do answers leaving ample room for future researchers to expand on the study of MDA users' motives, attachment styles, and authentic self-presentation.

Limitations of the Present Study

The current study had a number of limitations, providing abundant space for future research. One of the biggest limitations of the current study was the sample size. The relatively small sample makes it difficult to generalize results. This also likely contributed to the inconsistencies within the measure of the entertainment motive and real/authentic self-presentation. A larger sample would allow for more accurate testing and reliability of measures. The current sample was also largely homogenous when considering ethnicity and sexual orientation. This also affects its generalizability.

Another limitation of the current study is the operationalization of the attachment style measures. Assessing users' attachment styles as a continuum allowed for the attachment styles to be included in the stepwise multiple regression framework. Measuring attachment styles in this way provided a more accurate view of respondents' attachments styles by allowing them to identify with each attachment style. However, not requiring respondents to categorically identify with a single attachment meant that the current study could not make comparisons across the different attachment styles. Future researchers may wish to reconsider how to operationalize

respondents' attachment styles to provide further insight into the motivations and self-presentation of each attachment style.

There were several measures in the current study that had to be adjusted to improve reliability. This may be the result of using measures that were adapted from a previous study of a different medium. The measures used by Ranzini and Lutz (2017) had previously been used in a study of Facebook users. It is possible that these measures are not as well adapted to MDA as previous research had indicated. Future researchers may benefit from finding alternative measures or creating new measures for the variables of MDA users' motives and self-presentation.

The current study was also unable to replicate the same relationship between motives, attachment styles, and self-presentation that Ranzini and Lutz (2017) found between motives, the psychological variables of self-esteem, narcissism, and loneliness, and self-presentation. Previous research has identified a clear relationship between these psychological variables and adult attachment styles (Oldmeadow, Quinn, & Kowert, 2013; Pistole, 1995). Future researchers may wish to explore the relationship between attachment styles and these psychological variables within the context of MDA. It is possible that the current measures of motives are not adequately adapted for the context of MDA. Further, it is possible that there is a confounding variable like contextual age that influences motives, attachment styles, and the psychological variables considered.

Only MDA user responses were considered in the current study. Future studies may wish to explore the differences between non-MDA users' perceptions of MDA. This could help provide a better understanding of existing stigmas for MDA use. For instance, Ward (2017) found that some individuals were hesitant to use MDA because they felt they were for hookups

or individuals who were desperate and could not find a relationship in a face-to-face setting. It would be interesting to see how MDA users perceive or experience these stigmas.

The current study was able to successfully target members of the 2DG as they are the largest users of MDA across all age ranges. However, future researchers might wish to study other generations to explore potential similarities and differences amongst users of different generations. The second digital generation are the heaviest users of SNS; however, SNS use has increased across generations (Perrin, 2015). When replicating the current study, it would be interesting to explore the relationship between motives and attachment styles across different generations.

Another interesting comparison would be the differences between users in rural and urban settings. Urban settings typically provide a higher density of users (Birnholtz et al., 2014). This may result in a heightened sense of immediacy provided by the feeling of co-presence created by MDA geolocate function (Hjorth, 2013). Contrastingly, rural users may have a lower density of matches requiring them to expand their search range and have a decreased sense of immediacy. Exploring the similarities and differences between urban and rural users could provide further insight into the effect the geolocate feature has on MDA users.

The current study encompassed all MDA instead of focusing on a specific app. Each MDA has its own unique affordances and twists on the matching patterns of users. For instance, Bumble requires that users that identify as female initiate conversation with users who identify as males (Bumble, 2019). Focusing future research on a specific app may allow the exploration of the impact different affordances on MDA users and the matching process. This may also provide context for how different affordances affect users' self-presentation.

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Appendix A

Self-presentation: Real/authentic (4 items)

1. Who I am on mobile dating apps is similar to who I am offline.
2. I have a good sense of what I want in life and using mobile dating apps is a way to express my views and beliefs.
3. The way I present myself on mobile dating apps is how I am in real life.
4. I like myself and I am proud of what I stand for and I show it on mobile dating apps

Self-presentation: Deceptive (4 items)

1. I sometimes try to be someone other than my true self on mobile dating apps.
2. I am a completely different person when using mobile dating apps than when I am not using mobile dating apps.
3. I post information about myself on mobile dating apps that is not true.
4. Sometimes I feel like I keep up a front on mobile dating apps.

Motives: Hooking up/sex (4 items)

How much do you use mobile dating apps to . . .

1. . . find new sexual partners?
2. . . hook up with men/women?
3. . . satisfy your sexual curiosity?
4. . . have casual sex?

Motives: Friends/social network (4 items)

How much do you use mobile dating apps to . . .

1. . . find new friends?
2. . . talk to your friends?

3. . . .build your social/friendship network?
4. . . .plug in the existing network around you?

Motives: Relationship/partner (3 items)

How much do you use mobile dating apps to . . .

1. . . .find someone to date?
2. . . .find a long-term relationship, partner, or boyfriend/ girlfriend?
3. . . .meet a potential partner in the area?

Motives: Traveling (3 items)

How much do you use mobile dating apps to...

1. . . .meet new people when you are travelling?
2. . . .go on a date in a different place?
3. . . .explore the dating scene in a new city/town?

Motives: Self-validation (2 items)

How much do you use mobile dating apps to . . .

1. . . .get self-validation from others?
2. . . .get an ego-boost?

Motives: Entertainment (3 items)

How much do you use mobile dating apps to . . .

1. . . .satisfy your social curiosity
2. . . .look at pictures of men/women?
3. . . .alleviate my boredom?

Attachment Styles

Secure

- It is easy for me to become emotionally close to others. I am comfortable depending on others and having others depend on me. I don't worry about being alone or having others not accept me.

Dismissive

- I am comfortable without close emotional relationships. It is very important to me to feel independent and self-sufficient, and I prefer not to depend on others or have others depend on me.

Preoccupied

- I want to be completely emotionally intimate with others, but I often find that others are reluctant to get as close as I would like. I am uncomfortable being without close relationships, but I sometimes worry that others don't value me as much as I value them.

Fearful

- I am uncomfortable getting close to others. I want emotionally close relationships, but I find it difficult to trust others completely, or to depend on them. I worry that I will be hurt if I allow myself to become too close to others.

Self-disclosures

It is important for me to share... in my MDA profile

Age

Weight

Height

Race

Ethnicity

Goals

Relationship status

Locational Identifiers

Educational Status

Profession

Other SNS (Instagram, Spotify, Shared Friends)