Love at First Swipe? Explaining Tinder Self-Presentation and Motives

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Abstract

The emergence of Location-Based Real-Time Dating (LBRTD) apps such as Tinder has introduced a new way for users to get to know potential partners nearby. The design of the apps represents a departure from "old-school" dating sites as it relies on the affordances of mobile media. This might change the way individuals portray themselves as their authentic or deceptive self. Based on survey data collected via Mechanical Turk and using structural equation modeling, we assess how Tinder users present themselves, exploring at the same time the impact of their personality characteristics, their demographics and their motives of use. We find that self-esteem is the most important psychological predictor, fostering real self-presentation but decreasing deceptive self-presentation. The motives of use – hooking up/sex, friendship, relationship, traveling, self-validation, and entertainment – also affect the two forms of self-presentation. Demographic characteristics and psychological antecedents influence the motives for using Tinder, with gender differences being especially pronounced. Women use Tinder more for friendship and self-validation, while men use it more for hooking up/sex, traveling and relationship seeking. We put the findings into context, discuss the limitations of our approach and provide avenues for future research into the topic.

Keywords: online identity; social networks; online relationships; self-presentation; impression management

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Back in 1994, around the time when Match.com was registered as the first dating website, online match-making seemed more likely to belong in a Hollywood movie (such as *You've Got M@il*, from 1998) than in the daily experiences of the average citizen. A lot has changed since then. A 2013 study from Pew Research found that an estimated 5 percent of married or committed couples in the US met their significant other online, and that 11 percent of the online adult American population claims to have used a dating site at least once in their lifetime (Lenhart & Duggan, 2014). While less data is available for the rest of the world, the market for online dating has seen a similar trend of dramatic growth in countries such as India (Joshi & Kumar, 2012) and the UK (Kee & Yazdanifard, 2015). As online dating becomes more common, the associated level of negative stigma seems to shrink. Consequently, more and more Internet users claim they consider online dating "a good way of meeting new people" (Smith & Anderson, 2015). Part of this change in attitude could be due to the evolution of dating sites into dating apps. Being mobile, in fact, suggests more flexible boundaries between online and offline, yielding opportunities for a "co-situation", i.e. the parallel existence of two individuals in a place that is both physical and virtual (Van de Wiele & Tong, 2014). LBRTD (Location-Based Real-Time Dating) apps like Tinder or Grindr have this mechanism at their core, employing the geographical distance between users as a key variable on the basis of which

potential partners can be found. Once users have set their demographics of interest, the algorithm can identify potential dates ("matches" in Tinder-lingo) as near as the same block or even building (David & Cambre, 2016; Duguay, 2016). GPS-based dating apps, more so than traditional dating sites, strengthen the connection between online and offline, giving users an incentive to meet "in real life" (Cohen, 2015; Gibbs, Ellison & Lai, 2011). This has reinforced the perception of LBRTD as the cradle of casual, sexual and short-lived relationships. Media have further strengthened this idea, electing Tinder as the flagship of hook-up culture (Sales, 2015).

While the worries of media do not necessarily mean that LBRTD is revolutionary for how individuals meet and fall in love, nonetheless it signals the cultural importance of apps like Tinder and Grindr. Research has so far concentrated on the gay dating app Grindr because of its creation of a community despite the lack of a shared physical geography (Blackwell, Birnholtz & Abbot, 2014; Fitzpatrick, Birnholtz, & Brubaker, 2015). While a few studies have recently emerged (e.g., David & Cambre, 2016; Duguay, 2016), Tinder remains relatively understudied. We wish to cover this gap, approaching Tinder as a platform for self-presentation, and addressing the level of authenticity of users who participate.

The goal of the article is thus to explore Tinder users' self-presentation on the app, shedding light on how they portray themselves and what shapes the different modes of self-presentation. In more detail, we focus on motivational and psychological antecedents

(self-esteem, loneliness, narcissism). Since Tinder is a mobile and location-based app, we will also consider specific mobile affordances that are unique to this type of dating service. We will first discuss literature on the affordances of mobile media and LBRTD as well as previous research on online identity and impression management in a dating context. The theoretical foundation for the empirical parts of this paper is built upon this literature. After presenting the sample, measures and method, we will discuss the results. We will then conclude with a short summary of the results, implications and limitations of our approach.

Theoretical Background

Affordances of Mobile Media and Tinder

LBRTD apps such as Tinder make use of mobile media. They therefore represent a distinct type of online dating, with partly different communicative affordances[2] from traditional online dating via portals such as Match.com and OkCupid (Marcus, 2016).

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[2] We follow Schrock's (2015) definition of communicative affordances here. He defines communicative affordances as "an interaction between subjective perceptions of utility and objective qualities of the technology that alter communicative practices or habits." (p. 1232)

Summarizing the previous literature, Schrock (2015) proposes four affordances of mobile media: portability, availability, locatability and multimediality. Tinder relies on all four of these communicative affordances. The portability of smartphones and tablets permits the use of Tinder in a variety of locations, from private, to semi-public and public spaces. By contrast, the use of traditional desktop-based dating sites is mostly restricted to private spaces. Moreover, the availability affordance of mobile media increases the spontaneity and use frequency of the app. The locatability affordance enables matching, texting and meeting with users in close proximity – one of the key aspects of Tinder. Finally, the multimediality affordance, while seemingly limited on Tinder, relies on at least two modes of communication (texting and photo sharing). Users can also link their Instagram profiles with Tinder, enabling a more sophisticated self-presentation. Once matched, they can then carry the conversation on to other media such as phone calls, video messaging or snapchatting (Marcus, 2016).

Next to these generic communicative affordances of mobile media, Tinder has a number of more specific affordances (David & Cambre, 2016; Duguay, 2016; Marcus, 2016). The requirement for users to access Tinder via a Facebook profile is a constraining element mentioned in all Tinder studies. According to Marcus (2016), this affordance of "convergenceability" decreases the effort for users in that they do not have to invest as much time in creating a profile as with traditional online dating. In addition to the Facebook login requirement, the strong reliance on visual self-presentation through

photos is a strong communicative affordance of Tinder (David & Cambre, 2016). Because

of the heavy emphasis on photos, users typically rely on limited cues to make swiping

decisions (Marcus, 2016).

Marcus (2016) also discusses a mobility affordance and a synchronicity

affordance. The mobility affordance is in line with Schrock's (2015) portability

affordance of mobile media: Tinder is suitable for use in trains, buses, bars, restaurants

and other public and semi-public places. Thus, this affordance seems to invite more social

uses than traditional dating, for example by making swiping and gossiping about profiles

a fun activity among friends (GQ, 2015; Sales, 2015). Finally, the synchronicity

affordance describes "the short amount of time in which messages are sent" (Marcus,

2016, p. 7). This affordance requires spontaneity and availability from users, who need

to make quick judgments and display specific self-presentation skills. The affordances of

Tinder – especially synchronicity and limited information availability – pose particular

constraints on the users, leading to issues like information overload, distraction from "real

life" and a feeling of competition due to the large numbers of users (Marcus, 2016).

Online Together: Identity and Dating Sites

Since their emergence, social network sites (SNS) have represented a space for

individuals to express and experiment with their identities (Kendall, 1998; Manago,

Graham, Greenfield, & Salimkhan, 2008; Valkenburg, Schouten, & Peter, 2005). While some researchers find elements of self-presentation also in forms of digital communication previous to social media (Bechar-Israeli 1995; Manago et al., 2008; Smahel & Subrahmanyam, 2007), the establishment of nonymous online profiles has strengthened the bond between online identities and offline individuals (Zhao, Grasmuck, & Martin, 2008). In fact, as SNS like Facebook or LinkedIn have become a norm in personal communication, online self-expression seems to have lost some of its potential for identity experimentation (Strano, 2008; Zhao et al., 2008), favouring instead the tension between the portrayals of actual and ideal selves (Ellison, Hancock, & Toma, 2012; Lampe, Ellison, & Steinfield, 2007; Manago et al., 2008).

Dating sites are similar to social networks in their aim to foster connections between users, and in how they affect their priorities when it comes to their self-presentation (Toma, Hancock & Ellison, 2008; Whitty, 2008). However a substantial difference remains between dating and social network sites: while the nature of e.g. Facebook incentivises users' "anchored relationships", i.e., relationships that already exist outside of the medium (Zhao et al., 2008), dating sites pressure users to project an identity that is desirable for persons they do not know yet, and wish to attract (Ellison, Heino, & Gibbs, 2006). Behind their online impression management therefore is a relational objective that crosses the online/offline barrier, and this substantially changes the type and amount of self-disclosure (Gibbs, Ellison & Heino, 2006).

Previous research on dating sites suggests that part of this more strategic impression management might derive from the structure of the website itself: Users must summarize their identity through the "reduced cues" offered by the platform (Ellison et al., 2012). On the basis of such cues, the choices of potential partners are made (Antheunis & Schouten, 2011; Lampe et al., 2007; Walther, Anderson, & Park, 1994), estimating the success of an encounter before it even takes place.

Because of this marked strategic drive to self-presentation, research on dating sites has concentrated on users' degrees of authenticity and deception. The work of Bargh, McKenna and Fitzsimmons (2002), for example, building on Higgins (1987) and Rogers (1951), has identified four types of self-presentation on dating sites: true selves, actual selves, ought-to selves and ideal selves. In a qualitative study conducted by Whitty (2008), actual selves were found as prevailing, signalling a precarious equilibrium between authenticity and self-promotion as the interaction of couples moves from the website to a real meeting offline. This seems to match the several quantitative studies that have highlighted a generalised authenticity from users of dating sites (Ellison et al., 2012; Ellison et al., 2006; Fahimy, 2011; Hancock, Toma & Ellison, 2007; Toma, Hancock & Ellison, 2008). According to Ellison and colleagues (2012), it is precisely the potential of a future encounter that drives individuals towards an authentic self-presentation. The profiles of dating sites users draft a promise (Ellison et al., 2012, p. 12): Users promise

to each other that "*future face-to-face interaction will take place with someone who does not differ fundamentally from the person represented by the profile*".

Tinder, together with all other LBRTD apps, brings an interesting perspective into this framework, as its co-situational potential hints at a further incentive to authentic self-presentation (Blackwell et al., 2014). The app's reliance on login, network and picture data from Facebook, and hence its adoption of Facebook's strict name requirements, would suggest a minimization of the opportunities for deception (Duguay, 2016). Research on Grindr, however, confirms this finding only for users looking for a long-term relationship. Motivations might therefore still be more important than the app design when it comes to influencing how individuals present themselves (Van de Wiele & Tong, 2014).

Impression Management, Personality and Gender

Among the metaphors used to describe self-presentation online, Erving Goffman's depiction of human interaction as a theatre stage (1959) has perhaps been the most successful. Several authors have stated how an individual's digital interactions, as well as physical ones, are actual performances in which the self is constructed through both strategized ("given") elements and spontaneous ("given off") manifestations (Hewitt & Forte, 2006; Tufekci, 2008; Vitak, Lampe, Gray, & Ellison, 2012; Zhao et al., 2008).

Impression management takes place differently online and offline. However, in a similar fashion, strategy is employed in directing identities towards how individuals want others to see them (Ellison et al., 2006; Rosenberg & Egbert, 2011). Even unintentionally shared information, such as bad grammar, is interpreted by a person's network contextually (Walther & Bunz, 2005). This is similar to what happens offline to gaffes falling into Goffman's *given-off* category (Goffman, 1959).

In the context of dating sites and apps, impression management takes an even more important role as it allows users to highlight information that can be desirable to potential partners. Users appear to be employing strategic authenticity (Gaden & Dumitrica, 2014). Rather than openly lying, users put their best face forward (Weisbuch, Ivcevic, & Ambady, 2009), even literally by altering personal photos to hide characteristics making them feel anxious or insecure (Kapidzic & Herring, 2015; Reich, 2010).

Surprisingly, the volume of research on personality traits and impression management on dating sites does not (yet) match its social network-based counterpart. While narcissism has been extensively connected to photographic self-presentation on Facebook (Mehdizadeh, 2010; Eftekhar, Fullwood & Morris, 2014), its study in connection with online dating is very limited (Zerach, 2016). Similarly, while a connection has been found between (low) self-esteem and strategic self-presentation on Facebook (Mehdizadeh, 2010; Bareket-Bojmel, Moran & Shahar, 2016), research has

only established a connection between higher self-esteem and use of dating sites (Kim, Kwon & Lee, 2009). The relationship of individual personality to impression management within online dating remains therefore understudied.

Gender has been substantially more studied in its relation to impression management on dating sites, with a primary focus on its impact on authenticity (Ellison et al., 2006; Toma et al., 2008; Hancock & Toma, 2009). Studies in deceptive self-presentation have found minor differences in how men and women misrepresent themselves. Women tend to be more strategic about their visual appearance (Hancock & Toma, 2009) and lie about their weight (Hancock et al., 2007; Hall, Park, Song & Cody, 2010). Men, on the other hand, are more deceptive around their relationship status (Whitty, 2008) and relationship goals (Hall et al., 2010). Because of the predominantly hetero-normative nature of most dating sites, sexual orientation has never been studied in connection with gender and online self-presentation.

In order to provide a broad exploration of self-presentation practices on Tinder, we will find empirical answers to the following research questions: *How authentically do individuals present themselves on Tinder? How are authentic and deceptive self-presentation techniques influenced by demographic, motivational and personality characteristics?*

Figure 1 shows the overarching research model.

INSERT FIGURE 1 HERE

Methodology

Data and Sample

We conducted an online survey of 497 US-based respondents recruited through Amazon Mechanical Turk in March 2016. The survey was programmed in Qualtrics (2016) and took an average of 13 minutes to fill out. We posted the link to the survey on Mechanical Turk and had the desired number of respondents within 24 hours. We consider the recruiting of participants on Mechanical Turk appropriate as these users are known to "exhibit the classic heuristics and biases and pay attention to directions at least as much as subjects from traditional sources" (Paolacci, Chandler, & Ipeirotis, 2010, p. 417). Table 1 shows the demographic profile of the sample. The average age was 30.9 years, with a standard deviation of 8.2 years, which indicates a relatively young sample composition. The median highest degree of education was 4 on a 1-6 scale, with relatively few participants in the extreme categories 1 (no formal educational degree) and 6 (post-graduate degrees). Despite not being a representative sample of individuals, the findings allow limited generalizability and go beyond mere convenience and student samples.

INSERT TABLE 1 HERE

Measures

The measures for the survey were mostly taken from previous studies. We used four items from the Narcissism Personality Inventory (NPI)-16 scale (Ames, Rose, & Anderson, 2006) to measure narcissism and five items from the Rosenberg Self-Esteem Scale (Rosenberg, 1979) to measure self-esteem. Loneliness was measured with five items out of the 11-item De Jong Gierveld scale (De Jong Gierveld and Kamphuls, 1985), one of the most established measures for loneliness (see Table A3 in the Appendix for the wording of these constructs). We used a slider with fine-grained values from 0 to 100 for this scale. The narcissism, self-esteem and loneliness scales reveal sufficient reliability and validity (Cronbach's α is 0.78 for narcissism, 0.89 for self-esteem and 0.91 for loneliness; convergent and discriminant validity given), so that we can proceed to interpret the structural model. Table A2 in the Appendix reports the full measurement model and Table A4 the discriminant validity test (Fornell & Larcker, 1981).

For the dependent variables of self-presentation we used a scale by Michikyan, Dennis and Subrahmanyam (2014) that was originally developed to measure self-presentation on Facebook[3]. We adapted this scale to the Tinder context. Michikyan et al.

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[3] Their "Self-Presentation on Facebook Questionnaire" (SPFBQ) includes 17 items and is itself

derived from previous work on multiple facets of the self and self-presentation (Harter,

(2014) distinguish five modes of self-presentation on Facebook: real self, ideal self, false self - deception, false self - compare/impress, and false self - exploration. We decided to compare only two of these five modes: real self and false self - deception. Due to the partial use of the scale, the sub-scale false self – deception was re-named deceptive self. The categories of ideal self, false self - compare/impress and false self - explore were excluded from the analysis because they resulted hard to distinguish between and highly correlated (Michikyan et al., 2014, p. 5). These three scales also exhibited low reliability in our sample (Cronbach's α below 0.7). Table A3 in the Appendix shows the wording of the two self-presentation scales used. Both scales revealed good reliability (Cronbach's α of 0.84 for real self and 0.86 for deceptive self).

We included a wide range of variables on the motives for using Tinder. The use motives scales were adapted to the Tinder context from Van de Wiele and Tong's (2014) uses and gratifications study of Grindr. Using exploratory factor analysis, Van de Wiele and Tong (2014) identify six motives for using Grindr: social inclusion/approval (5 items), sex (4 items), friendship/network (5 items), entertainment (4 items), romantic relationships (2 items), and location-based searching (3 items). Some of these motives cater to the affordances of mobile media, especially the location-based searching motive.

Marold, Whitesell, & Cobbs, 1996; Higgins, 1987; Manago et al., 2008; see the description in Michikyan et al., 2014, p. 4 for more details about the original SPFBQ scale).

However, to cover more of the Tinder affordances described in the previous chapter, we adapted some of the items in Van de Wiele and Tong's (2014) study. Appendix A3 shows the use motive scales in our study. These motives were assessed on a five-point Likert scale (completely disagree – completely agree). They reveal good reliability, with Cronbach's α between 0.83 and 0.94, except for entertainment, which falls slightly short of 0.7. We decided to retain entertainment as a motive because of its relevance in the Tinder context. Finally, we used age (in years), gender, education (highest educational degree on an ordinal scale with 6 values, ranging from "no schooling completed" to "doctoral degree") and sexual orientation (heterosexual, homosexual, bisexual and other) as control variables.

Method of Analysis

Structural equation modeling (SEM) was used to answer the research questions. SEM is superior to other explanatory approaches, such as linear regression, because it allows the inclusion of latent constructs, the easy testing of indirect effects and the specification of measurement errors. In our case, the inclusion of latent constructs made this method suitable.

Results and Discussion

Table A1 in the Appendix shows construct descriptives and Table A3 presents the arithmetic mean and standard deviation for each item of the dependent constructs. The respondents in our sample score higher on authentic self-presentation than deceptive self-presentation, with an arithmetic mean of close to 4 (on a 1-5 Likert scale) for real/authentic self-presentation and of between 2 and 3 for deceptive self-presentation. Thus, users report relatively authentic self-presentation. However, arithmetic means of close to 3 and a substantial number of "somewhat agree" and "strongly agree" for two deceptive self-presentation items (*I sometimes feel like I keep up a front on Tinder* – 37 percent agreement, *I sometimes try to be someone other than my true self on Tinder* – 36 percent agreement) indicate a certain propensity to present deceptive selves[4]. Concerning the motives, we find that Tinder is used for a variety of purposes, with all six motive factors reaching above average agreement, i.e., arithmetic means larger than 3.

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[4] The agreement rates for the other three forms of self-presentation we did not use in the SEM (Michikyan et al., 2014) are even higher. For example, the arithmetic mean for the "ideal self" item *I post things on my Tinder to show aspects of who I want to be* is 3.42, indicating agreement rather than disagreement. Similarly, the average agreement to the items for "false self - compare/impress" and "false self - explore" (Michikyan et al., 2014) ranges from 3.35 to 3.67.

Entertainment is the most pronounced motivation for the respondents and self-validation the weakest. That entertainment and traveling – both motivations which tap strongly into the affordances of Tinder – have high agreement values points to the usefulness of considering aspects of mobility in the context of LBRTD.

INSERT TABLE 2 HERE

Table 2 shows the results of the SEM. Real/Authentic self-presentation is positively influenced by the friendship motive and negatively influenced by the self-validation motive. The other motives do not have a significant effect on real/authentic self-presentation. Thus, having a relational motivation in the use of Tinder might represent an incentive for a more authentic self-presentation. This would be coherent with previous findings on dating sites (Ellison et al., 2012; Hancock et al., 2007; Toma et al., 2008). Sexual orientation has a small negative effect: Homosexuals and bisexuals tend to portray themselves in a less authentic manner than heterosexuals. This might be due the fact that Tinder is perceived as a largely heterosexual app, and hence might come with pressures to limit visibility and try to contain stigma (Boulden, 2001; Kirby & Hay, 1997). Neither narcissism nor loneliness exerts a significant effect on real/authentic self-presentation. However, self-esteem affects real/authentic self-presentation significantly and positively. Users with more self-esteem portray themselves in a more authentic

fashion. Of the demographic characteristics, only education has a significant effect. Higher educated users score lower on real/authentic self-presentation.

Deceptive self-presentation is significantly influenced by self-esteem, education and sexual orientation. Higher educated users scoring low on self-esteem and identifying as homosexual, bisexual or "other" are most likely to exhibit deception in self-presentation. Respondents with higher levels of self-esteem seem to present themselves in a less deceptive way on Tinder. More confidence in their real/authentic self-presence might explain this finding. At the same time, actions aimed at improving the likelihood of attracting a match, including presenting a deceptive version of oneself, could be beneficial for users with low self-esteem (Krämer & Winter, 2008). Concerning the motives, we find that both hooking up/sex and self-validation have a strongly positive and significant impact on deceptive self-presentation. Thus, the reasons for deceptive self-presentation can vary from more explicit strategic considerations (presenting a deceptive self-image to attract sexual partners) to more implicit emotional motives (presenting a deceptive self-image to get self-validation). Finally, we find that relationship-seeking negatively influences deceptive self-presentation. Individuals who use Tinder for relationship-seeking might be more authentic in their self-presentation because of their long-term perspective and the likelihood that deceptive self-presentation could backfire on them.

Looking at the social structuration of the motives, we find a range of significant demographic effects. Gender significantly affects five of the six motives. Men score higher on using Tinder for hooking up/sex, traveling and relationship-seeking. Women score higher on self-validation and friendship-seeking. No significant gender difference is detected for entertainment. These findings reveal that Tinder is used in strongly gendered ways, possibly re-affirming patterns displayed in the popular media and in previous research on online dating. Other variables reveal noteworthy tendencies. Older individuals use Tinder significantly more for friendship-seeking and significantly less for self-validation than younger users. Higher educated users score higher on self-validation than less educated ones. Finally, sexual orientation influences the hooking up/sex motive, with homosexual and bisexual users scoring higher than heterosexual ones. With the psychological drivers, we find that self-esteem is significant for four out of six motives, narcissism for two and loneliness for three. Narcissism positively influences the traveling and self-validation motives. Self-esteem promotes the use of Tinder for hooking up/sex, traveling, finding a relationship and entertainment. The range of these motives shows that self-esteem is a driver of motives across the board, indicating its importance in the Tinder context. Finally, loneliness affects self-validation and entertainment positively and significantly. Lonely users tend to use Tinder especially for these two purposes, showing that Tinder can be a means to distract them from their loneliness in immediate ways (not

so much for making new contacts but more for the quick gratification of diverting them from their loneliness).

Overall, we are able to explain 28 (real) and 31 (deceptive) percent in the variance of self-presentation and between 4 (traveling) and 19 (hooking up/sex) percent in the motives. This leaves room for the inclusion of additional variables in the future. Considering personality traits, we are slightly better able to predict deceptive self-presentation. Self-esteem and the motives of use were the strongest elements to define users' self-presentation. This points to the value of including motivational aspects in the analysis of online dating. As for the demographic predictors, the most remarkable finding is the strong gender effect for the various motives. However, the education effects also reveal interesting – and somehow counterintuitive – patterns.

Conclusion

This contribution has investigated self-presentation on Tinder with a sample of almost 500 users recruited through Amazon Mechanical Turk and covering a broad age spectrum and demographic profile. Going back to previous research on online dating and impression management in computer-mediated communication, as well as the affordances of mobile media, we distinguished two modes of self-presentation: real/authentic and deceptive. We then attempted to explain self-presentation by testing

the influence of motivational, psychological and demographic predictors for both modes. By applying SEM, we could show that self-esteem and the motive or purpose of Tinder use are the strongest predictors of self-presentation. Users with high self-esteem tend to reveal more authentic and less deceptive selves. In terms of motives, self-validation turned out to be the antecedent with the strongest effect on self-presentation. Hooking up/sex, friendship and relationship-seeking were (partly) significant predictors as well, whereas traveling and entertainment were not. These findings points to how dating apps might extend the motives of use traditionally associated with dating sites. In our case, the "new" and playful motives (traveling, entertainment), which make special use of the mobile affordances of Tinder, were popular among the respondents but did not affect their self-presentation. While these "new" and playful motives might be a main reason to start using the app and to use it in a broader range of settings than traditional dating sites, users' overarching – and maybe overriding – motives for presenting themselves in an authentic or deceptive way come with a strongly social connotation: finding new contacts (be it for casual dating, friendship or long-term relationships) and leaving a certain impression with them.

Moreover, we found noteworthy demographic and psychological effects on the structuration of the motives. Most notably, clear gender patterns emerged, with men using the app more for hooking up/sex, traveling and relationships, and women rather for friendship and self-validation. This connects well to the literature on self-objectification

and social media (e.g., De Vries & Peter, 2013). Moreover, heterosexual users – the presumed core target group for Tinder – present themselves in a more authentic fashion compared with homosexual, bisexual and "other" users. A possible interpretation for this can be attributed to Tinder's perceived heteronormativity (Shaw & Sender, 2016), which could make LGBT users more self-conscious over their presentation. Furthermore, there exist other platforms that specifically target these groups (e.g., Grindr for homosexual daters), where it might be easier to present an authentic self.

Our study is one of the first to empirically investigate Tinder and to shed light on the relatively new phenomenon of LBRTD. Moreover, most previous research on Tinder (David & Cambre, 2016; Duguay, 2016; Marcus, 2016) has used qualitative methods that do not allow for the quantification of certain aspects, like self-presentation and use motivations. We think that the lens of self-presentation with a quantitative research design is a useful one and that the results have several implications for research on online dating and impression management. In particular our results on deceptive self-presentation, which emphasize a predominance of personality traits, motivation and sexual orientation over gender and age, might reveal something about the nature of the LBRTD apps, which we hope is further investigated in the future.

Our study is subject to a number of limitations, providing ample opportunities for future LBRTD research. Firstly, our sample was relatively small, cross-sectional and recruited via Mechanical Turk. This limits the generalizability of the results and might

explain some of the findings. Future research is encouraged to use a larger sample and, if possible, with a user base that is representative of the current Tinder user population. Secondly, we relied on self-reported data, which is subject to a number of problems, such as social desirability, memory bias and response fatigue (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Unfortunately, we could not collect observational or trace data from the respondents. Future research might use mixed-methods approaches and combine different data sources to investigate the phenomenon more holistically. This could be done by conducting qualitative interviews and including users' data in this process (Dubois & Ford, 2015), e.g., by securing informed consent to use the profile picture and/or descriptions. Other promising approaches are big data analyses of user profiles, ethnographic inquiries of specific user groups – such as obsessive Tinder users – and experimental studies that manipulate the constraints and opportunities of self-presentation. Thirdly, with narcissism, self-esteem and loneliness we only considered three psychological antecedents. Future research should rely on a more holistic set. Finally, we could not do justice to contextual factors, such as the cultural background and location of users. A recommendable next step would be to systematically compare different countries and/or regions within a country (e.g., rural vs. urban areas) in terms of Tinder use and self-presentation. Such comparative analyses might shed light on the cultural contingencies of LBRTD and provide useful guidance and much needed empirical material to better understand the phenomenon.

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Figures
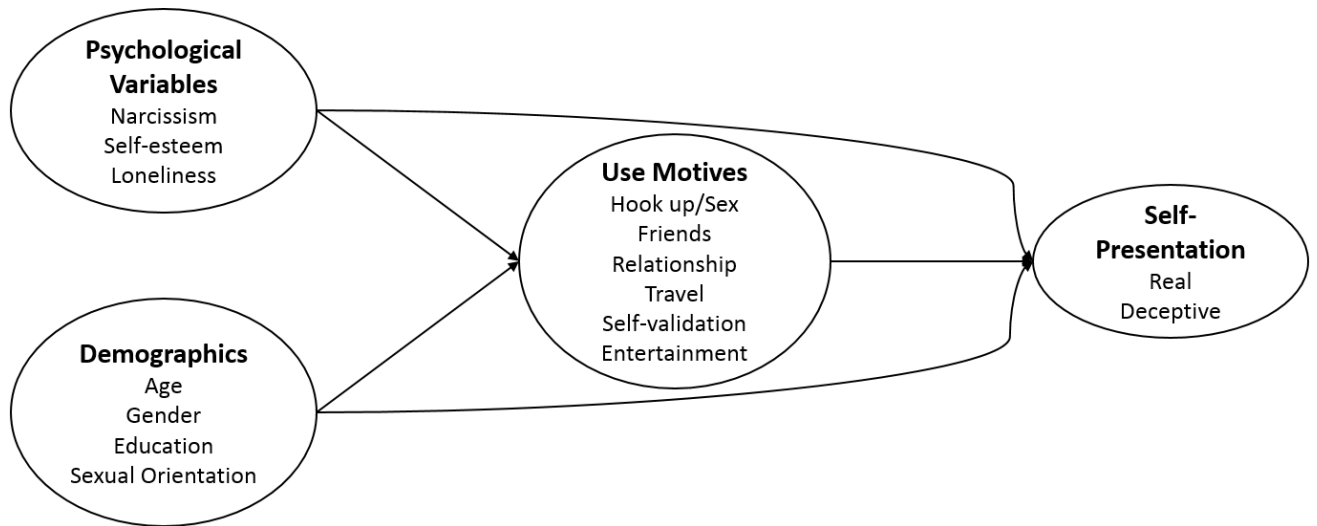
Figure 1: Structural model tested

Tables

Table 1: Demographic composition of the sample

	Absolute Numbers	**Percent**
Gender		
Male	278	55.9
Female	218	43.9
Other	1	0.2
Total	497	100
Age		
19-20	13	2.6
21-30	272	54.7
31-40	158	31.9
41-50	39	7.8
51 or older	15	3.0
Total	497	100
Education (current or highest school completed)		
High school graduate	57	11.5
Some college	173	34.9
Bachelor's degree or equivalent	203	40.9
Master's degree or equivalent	46	9.3
Doctoral degree or equivalent	12	2.4
Other	5	1.0
Total	496	100
(Missing)	(1)	
Sexual orientation (self-identified)		
Heterosexual	419	84.5
Homosexual	15	3.0
Bisexual	49	9.8
Other	13	2.6
Total	496	100
(Missing)	(1)	

Table 2: SEM path coefficients

	Real/authentic self-presentation	Deceptive self-presentation
Motive: Hooking up / Sex	-0.11	0.18***
Motive: Friends	0.16**	-0.03
Motive: Relationship	0.09	-0.10*
Motive: Traveling	0.04	-0.01
Motive: Self-validation	-0.27***	0.38***
Motive: Entertainment	0.04	-0.12
Age	0.02	-0.01
Gender	-0.05	0.00
Education	-0.08*	0.11**
Sexual orientation	0.10**	-0.16***
Narcissism[5]	-0.04	0.09
Self-esteem	0.38***	-0.32**
Loneliness	0.07	-0.07
	Motive: Hooking up / Sex[6]	

[5] Because we measured narcissism with reverse coded items (see Table A3), we changed the sign for this SEM table. The effects can be interpreted as in the table, i.e., positive effects denote a positive effect of narcissism on self-presentation and negative effects denote a negative effect. For example, the self-validation motive increases significantly with higher narcissism.

[6] The effects of the demographics and personality characteristics on the motives are the same in size and statistical significance for the real/authentic and the deceptive self-presentation model (except for the effect of loneliness on the relationship motive, which is significant at 0.1 level in the deceptive but not significant in the real/authentic SEM). Therefore, we decided to report these effects only once.

Age	-0.07
Gender	-0.40***
Education	0.07
Sexual orientation	0.14***
Narcissism	0.08
Self-esteem	0.11*
Loneliness	0.04
Motive: Friends	
Age	0.10**
Gender	0.20***
Education	-0.03
Sexual orientation	0.00
Narcissism	0.07
Self-esteem	0.11
Loneliness	0.01
Motive: Relationship	
Age	-0.02
Gender	-0.11**
Education	0.06
Sexual orientation	-0.06
Narcissism	-0.02
Self-esteem	0.15**
Loneliness	0.10
Motive: Traveling	
Age	-0.02
Gender	-0.13***
Education	0.03
Sexual orientation	-0.02
Narcissism	0.14**
Self-esteem	0.22***
Loneliness	0.19***
Motive: Self-validation	
Age	-0.13***
Gender	0.14***
Education	0.13***
Sexual orientation	-0.09

Narcissism	0.17***	
Self-esteem	0.04	
Loneliness	0.20***	
	Motive: Entertainment	
Age	-0.02	
Gender	0.02	
Education	0.08	
Sexual orientation	0.07	
Narcissism	-0.05	
Self-esteem	0.34***	
Loneliness	0.18***	
R^2 *Self-presentation*	0.28	0.31
R^2 *Hooking up / Sex*	0.18	0.19
R^2 *Friends*	0.07	0.07
R^2 *Relationship*	0.09	0.09
R^2 *Traveling*	0.04	0.04
R^2 *Self-validation*	0.10	0.10
R^2 *Entertainment*	0.10	0.10
Fit Values		
CFI	0.94	0.94
TLI	0.93	0.93
RMSEA	0.041	0.040
SRMR	0.050	0.052

N=492; standardized regression coefficients with robust standard errors are shown;* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Appendix

Table A1: Descriptive summary of the constructs

Construct	**Arithmetic mean (1-5, except for Loneliness)**	**Median**	**Standard deviation**
Self-esteem	3.96	4.00	0.98
Narcissism (reverse)	3.45	4.00	1.20
Loneliness (0-100)	35.83	29.50	31.08
Self-presentation: real	3.75	4.00	1.02
Self-presentation: deceptive	2.36	2.25	1.19
Motives: Hooking up	3.26	3.50	1.38
Motives: Friends	3.23	3.75	1.26
Motives: Relationship	3.46	3.67	1.24
Motives: Traveling	3.32	4.00	1.27
Motives: Self-validation	3.06	3.50	1.30
Motives: Entertainment	3.96	4.00	0.98

Table A2. Measurement model

Construct	Item	Std. loading	t-values	R^2	α	C.R.	AVE
Self-esteem	se_1	.71	18.50***	.51	.89	.88	.60
	se_2	.81	28.77***	.66			
	se_3	.77	23.44***	.60			
	se_4	.81	24.94***	.66			
	se_5	.76	25.33***	.57			
Narcissism	narc_1	.66	16.22***	.43	.78	.78	.47
	narc_2	.69	16.79***	.47			
	narc_3	.54	11.96***	.30			
	narc_4	.83	24.14***	.69			
Loneliness	lon_1	.82	34.27***	.67	.91	.91	.71
	lon_2	.85	36.80***	.72			

	lon_3	.85	42.89***	.72			
	lon_4	.86	38.36***	.74			
Self-presentation: real	real_1	.82	30.27***	.67	.84	.85	.59
	real_2	.56	13.68***	.32			
	real_3	.91	52.67***	.82			
	real_4	.73	22.99***	.53			
Self-presentation: deceptive	dec_1	.90	47.93***	.82	.86	.86	.62
	dec_2	.79	33.28***	.62			
	dec_3	.71	24.85***	.51			
	dec_4	.72	21.80***	.52			
Motive: Hooking up / Sex	sex_1	.92	65.47***	.84	.94	.94	.79
	sex_2	.92	62.80***	.84			
	sex_3	.84	32.76***	.70			
	sex_4	.89	55.30***	.79			
Motives: Friends	friend_1	.75	24.08***	.57	.83	.83	.56
	friend_2	.76	23.48***	.57			
	friend_3	.85	32.48***	.72			
	friend_4	.60	14.58***	.37			
Motives: Relationship	rel_1	.89	37.85***	.79	.86	.86	.68
	rel_2	.73	22.25***	.53			
	rel_3	.85	31.73***	.72			
Motives: Traveling	travel_1	.69	17.68***	.47	.86	.86	.67
	travel_2	.90	42.82***	.81			
	travel_3	.86	35.69***	.74			
Motives: Self-validation	valid_1	.82	18.58***	.68	.85	.85	.73
	valid_2	.89	18.08***	.79			
Motives: Entertainment	enter_1	.61	10.02***	.37	.68	.67	.40
	enter_2	.64	11.28***	.40			
	enter_3	.66	11.70***	.44			
Criterion		≥ 0.5	min*	≥ 0.4	≥ 0.7	≥ 0.6	≥ 0.5

*** p ≤ 0.001; α = Cronbach's α; C.R. = composite reliability; AVE = average variance extracted

Table A3. Wording of scales used

Question wording	Item number	Average and (/) standard deviation (1-5)
Self-presentation: real/authentic *(4 items)*		
Who I am on Tinder is similar to who I am offline.	real_1	3.87 / 1.01
I have a good sense of what I want in life and using Tinder is a way to express my views and beliefs.	real_2	3.49 / 1.08
The way I present myself on Tinder is how I am in real life.	real_3	3.80 / 1.03
I like myself and I am proud of what I stand for and I show it on Tinder.	real_4	3.84 / 0.97
Self-presentation: deceptive *(4 items)*		
I sometimes try to be someone other than my true self on Tinder.	dec_1	2.58 / 1.26
I am a completely different person on Tinder than when I am not on Tinder.	dec_2	2.18 / 1.11
I post information about myself on Tinder that is not true.	dec_3	1.98 / 1.13
Sometimes I feel like I keep up a front on Tinder.	dec_4	2.69 / 1.27
Self-presentation: false - exploration *(3 items)*[7]		
On Tinder I can try out many aspects of who I am much more than I can in real life.	exp_1	3.39 / 1.10
I change my photos on Tinder often to show people the different aspects of who I am.	exp_2	3.34 / 1.23
I feel like I have many sides to myself and I show it on Tinder.	exp_3	3.49 / 1.04
Self-presentation: false - compare *(3 items)*[8]		
I compare myself to others on Tinder.	com_1	3.35 / 1.27
I try to impress others with the photos I post of myself on Tinder.	com_2	3.67 / 1.13

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[7] Not used in SEM (see page 15)

[8] Not used in SEM (see page 15)

I only show the aspects of myself on Tinder that I know people would like.	com_3	3.66 / 1.09

Self-presentation: ideal *(1 item)*[9]

I post things on my Tinder to show aspects of who I want to be.	id_1	3.43 / 1.06

Self-esteem *(5 items)*

On the whole, I am satisfied with myself.	se_1	3.74 / 1.11
I feel that I have a number of good qualities.	se_2	4.16 / 0.84
I am able to do things as well as most other people.	se_3	4.04 / 0.93
I feel that I'm a person of worth, or at least on an equal plane with others.	se_4	4.05 / 0.94
I take a positive attitude toward myself.	se_5	3.83 / 1.08

Narcissism *(3 items)*

When people compliment me I sometimes get embarrassed. (reverse)	narc_1	3.40 / 1.24
I prefer to blend in with the crowd. (reverse)	narc_2	3.38 / 1.18
I try not to be a show off. (reverse)	narc_3	3.72 / 1.08
It makes me uncomfortable to be the center of attention. (reverse)	narc_4	3.31 / 1.28

Loneliness *(4 items, range from 0 to 100)*

I miss having a really close friend.	lon_1	39.95 / 32.67
I miss the pleasure of the company of others.	lon_2	35.32 / 30.59
I find my circle of friends and acquaintances too limited.	lon_3	40.35 / 31.60
I miss having people around.	lon_4	27.71 / 29.44

Motives: Hooking up / Sex

How much do you use Tinder to…

…find new sexual partners?	sex_1	3.34 / 1.35
…hook up with men/women?	sex_2	3.36 / 1.37
…satisfy your sexual curiosity?	sex_3	3.22 / 1.36
…have casual sex?	sex_4	3.10 / 1.44

Motives: Friends / Social network

How much do you use Tinder to…

…find new friends?	friend_1	3.52 / 1.18
…talk to your friends?	friend_2	2.90 / 1.37
…build your social/friendship network?	friend_3	3.31 / 1.29

---

[9] Not used in SEM (see page 15)

…plug in the existing network around you?	friend_4	3.19 / 1.18

Motives: Relationship / Partner

How much do you use Tinder to…

…find someone to date?	rel_1	3.52 / 1.23
…find a long-term relationship, partner or boyfriend/girlfriend?	rel_2	3.23 / 1.28
…meet a potential partner in the area?	rel_3	3.64 / 1.20

Motives: Traveling

How much do you use Tinder to…

…meet new people when you're travelling?	travel_1	3.28 / 1.29
…go on a date in a different place?	travel_2	3.30 / 1.26
…explore the dating scene in a new city/town?	travel_3	3.37 / 1.27

Motives: Self-validation

How much do you use Tinder to…

…get self-validation from others?	valid_1	2.98 / 1.29
…get an ego-boost?	valid_2	3.13 / 1.31

Motives: Entertainment

How much do you use Tinder to…

…satisfy your social curiosity?	enter_1	3.92 / 0.96
…look at pictures of men/women?	enter_2	3.95/ 1.03
…alleviate your boredom?	enter_3	4.02 / 0.95

Table A4. Discriminant validity test (Fornell Larcker Criterion)

	1	2	3	4	5	6	7	8	9	10	11
Self-esteem (1)	**0.60**										
Narcissism (2)	0.07	**0.47**									
Loneliness (3)	0.21	0.02	**0.71**								
Self-presentation: real (4)	0.13	0.00	0.02	**0.59**							
Self-presentation: Deception (5)	0.06	0.01	0.01	*	**0.62**						
Motives: Hooking up (6)	0.00	0.02	0.00	0.06	0.05	**0.79**					
Motives: Friends (7)	0.02	0.00	0.00	0.00	0.01	0.05	**0.56**				
Motives: Relationship (8)	0.01	0.00	0.00	0.10	0.00	0.21	0.00	**0.68**			
Motives: Traveling (9)	0.03	0.03	0.00	0.10	0.00	0.22	0.07	0.24	**0.67**		
Motives: Self-validation (10)	0.00	0.02	0.03	0.10	0.14	0.04	0.01	0.01	0.24	**0.73**	
Motives: Entertainment (11)	0.05	0.00	0.00	0.10	0.00	0.05	0.05	0.11	0.01	0.15	**0.40**

Squared correlations between the constructs shown; AVE on diagonal in bold; * not used in the same model