A Swiping Personality

An experimental study on the influence of personality on profile liking behavior and interaction with a match on online dating apps.

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Preface

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Abstract

Online dating apps have revolutionized the digital approach to romantic relationships. Recent studies have explored the role of personality in shaping online dating behavior, including actions like profile liking and interaction with matches. However, the impact of personality traits on online dating remains largely unexplored, with previous research relying heavily on self-reported data. Therefore, this study aimed to investigate if personality relates to profile liking behavior and interaction with matches using behavioral data. To accomplish this, an online experiment was conducted with 99 participants who interacted with an online dating app prototype (called HeartBeat). Before engaging with the prototype, participants' personalities were assessed using the BFI-10 personality scale. Subsequently, participants interacted with 30 hypothetical profiles within the prototype, expressing their interest through swiping and button clicks to interact with their matches. The results revealed limited evidence supporting the predictive power of personality traits on profile liking behavior and interaction with matches. However, the findings did highlight that extraversion exhibited a significant negative association with profile liking, and neuroticism demonstrated a significant negative association with interaction with matches. These findings suggest that, in general, personality traits may not be reliable predictors of profile liking behavior and interaction with matches on online dating applications. Nevertheless, given that this study represents one of the initial explorations of personality and behavioral data in the context of online dating, future research could use this study as a starting point to further explore personality in relation to online dating.

Keywords: *Online dating, swiping, interaction, matching, Big Five Personality traits, dating app prototype*

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Introduction

The way individuals approach romantic relationships in the digital age has been completely transformed by online dating apps (Finkel et al., 2012). Words like "to swipe" and "to match" are widely accepted in our modern society and the idea that romance is only a swiping movement away has become incorporated into public understanding. Apps, like Tinder, invite users to “like” or “dislike” a person based on their profile by swiping either left (no interest) or right (interest). Swiping, in particular, has been known as one of the most distinctive elements of various dating apps (Thomas et al., 2023). Cummings and Mays (2021) even state that dating app users spend most of their time on dating apps exclusively for swiping. If two users swipe right on each other’s profile, a match is formed, which allows them to get in touch with a match (Tyson et al., 2016).

Previous research has suggested that personality traits may play a significant role in online dating (e.g., Chopik & Johnson, 2021; Clemens et al., 2015; Kroencke et al., 2022). A widely used and extensively researched model of personality has been The Five-Factor model, also known as The Big Five personality traits, consisting of the traits Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism (OCEAN; John & Srivastava, 1999). These personality traits can significantly influence a person's ability to make decisions (Sproles & Kendall, 1986), which might also be a reason it could predict the behavior of online dating app users. For example, extraverted people tend to engage in more hook-up behavior and casual sex (Gute & Eshbaugh, 2008), which might suggest that they are less critical when it comes to partner selection on dating applications. In addition, neurotics might be less likely to interact with a match, since they are known for worrying and feeling anxious and shy (Amichai-Hamburger et al., 2002).

While studies have investigated profile liking behavior, these have mainly focused on the characteristics of the profile owner, such as sex, race, and physical attractiveness (Chopik & Johnson, 2021). Currently not much is known about the characteristics of the dating app user (except for gender) as a predictor of profile liking behavior. Although there has been little research on how all the Big Five personality traits relate to profile liking behavior, Chopik and Johnson (2021) suggest that the users’ differences in characteristics could relate to a person’s overall likelihood of swiping right or left. For example, they found that individuals who score higher on extraversion tended to swipe right

less often, indicating that personality traits might be a predictor of profile liking behavior. However, the reason for this finding remains unclear, and other Big Five Personality traits have not been further explored.

Moreover, a user's interaction with another person after matching may also be determined by the user's personality. Little attention has yet been paid to this relationship in the context of contact initiation in online dating, but previous research on contact initiation in face-to-face (e.g., Peter et al., 2005) and other types of computer-mediated-communication (e.g., Maldonado et al., 2001; Rice, 2007) found such relationships. For example, people who score high on measures of neuroticism and introversion may be more likely to open up online because they feel more comfortable expressing themselves in an online environment (Amichai-Hamburger et al., 2002; Tosun & Lajunen, 2010). Furthermore, research indicates that individuals who score higher on measures of openness to experience tend to use instant messaging more frequently in online settings (Correa et al., 2010). While these associations have been identified, it remains uncertain whether they also apply in the context of online dating.

Overall, research suggests that the characteristics of an individual may predict the profile liking behavior and interaction of a user on an online dating application. However, still not much is known about the relationship between personality and the actual behavior of online daters. Furthermore, most research on personality and online dating has focused on self-reported data and not the actual behavior of online daters. This study aims to close these gaps by identifying the participants' personality traits according to the Five Factor model (John & Srivastava, 1999) and letting individuals swipe and interact with a prototype of a dating app to simulate a real life online dating experience. This way actual behavior, such as swiping to the left or right and choosing to interact with matches can be investigated and linked with personality traits. The following research question will be answered by collecting the behavioral data of the dating app prototype users: "*To what extent do users' personality traits predict their profile liking behavior and interaction with a match when they receive matches on a prototype of an online dating app?*

Theoretical Background

Online dating

Over the last decades, online dating has become a popular trend (e.g., Gibbs et al., 2011; Smith & Duggan, 2013), with Match.com being one of the first well-known platforms dedicated to online dating (Punyanunt-Carter & Wrench, 2017). In today's online dating scene, online dating applications have become more and more popular, with Tinder, Happn, and Bumble being well-known and widely used examples. Statistics show that in 2022 366.6 million people used online dating apps, in Western countries Tinder even had over 7.8 million users (Statista, 2023).

Whereas the initial appeal of online dating platforms was rooted in their "science-based" online matching systems (Finkel et al., 2012), mobile dating apps seem to have gained popularity because of their simplicity of use and accessibility, which is typically regarded as quick and easy (David & Cambre, 2016). Yet, according to Zytko et al. (2018), the rise in the number of people using mobile dating apps can be explained by the Uses & Gratifications Theory (U&G) proposed by Katz et al. (1973). This theory suggests that people use media, like dating apps, because it fulfills their needs and provides them with satisfaction. When we meet our needs and desires through these apps, it creates new desires, leading to a cycle of seeking and obtaining satisfaction (Katz et al., 1973). Examples of sources of satisfaction in online dating app features could be push notifications that inform users about matches, messages, or profile views. These design elements are deliberately incorporated to enhance the user experience and make the app more enjoyable (Blythe & Monk, 2018). These gratifications within online dating apps can create a feeling of being rewarded, which, in turn, motivates users to use the app more frequently as rewards are associated with positive emotions (Wang & Sun, 2012).

Profile liking behavior

Among the various features of dating apps, swiping has become the most addictive and popular feature (Thomas et al., 2023). The addictive nature of dating apps has been well-documented, with users logging in multiple times a day and swiping through profiles for hours at a time (Thomas et al., 2023). In fact, the average Tinder user logs in eleven times a day and spends up to eight minutes

each time (Bilton, 2014). This is largely due to the gamified nature of swiping to approve or reject potential matches.

The “swiping” interface first emerged as a means for users of location-based dating applications like Tinder and Grindr to express their interest or disinterest in a potential partner (Potarca, 2020). The decision-making process is a critical factor, as the interfaces of online dating applications emphasize quick decision-making based on limited information (Ranzini & Lutz, 2017). The interactions on the so called Swipe-Based Dating Applications (SBDAs) are typically characterized by their speed, automation, and ease, which may lead to the assumption that users of dating apps tend to base their decisions primarily on the physical appearance of individuals (Orosz et al., 2016).

However, the decision of a dating app user to swipe right on a profile can be influenced by various factors (e.g., Ellison et al., 2006; Toma, 2016; Van der Zanden et al., 2020). Toma (2016) suggested that online daters form impressions of others based on their profiles. This is supported by Olivera-La Rosa et al. (2019) who suggest that individuals may form particular opinions about a person's intelligence, social appeal, and physical attractiveness by observing visual cues in their profile picture. In addition, research on dating intentions shows that online daters consider both explicit claims, such as photographs (Ellison et al., 2006), and unintentional behavior, such as grammatical ability (Van der Zanden et al., 2020), when analyzing profiles. The impressions that are formed because of a person's profile can influence whether a user wants to explore a match with a potential partner by liking or disliking the profile that is shown (Halversen et al., 2021).

Dating intentions may be a common research topic when it comes to online dating, but not much research is done on the subsequent actions and the actual behavior of users on online dating apps. However, the study of Chopik and Johnson (2021) did provide substantive information about factors that predict romantic attraction in the context of online dating applications. The study examined individual characteristics (such as personality) and the characteristics of the owner of a profile (such as attractiveness, sex, and race) as predictors of physical attraction and the action of a participant to show interest in a profile. For their study, they developed a dating app mockup to resemble existing mobile dating apps like Tinder. Participants viewed multiple profiles and indicated

whether they wanted to show interest in the presented profile by clicking on an arrow to the right (interested) or an arrow to the left (not interested). While Chopik and Johnson (2021) did create a mock-up of a dating app, the participants did not have the possibility to swipe right or left as they do on existing dating apps. A difference in the current study was made by using a more extensive mock-up that included more information on profiles and the actual possibility to swipe the profiles. This made it possible to collect behavioral data instead of the self-reported data Chopik and Johnson (2021) collected.

Results of the study of Chopik and Johnson (2021) showed that surface-level indicators (e.g., physical attraction and race) are a greater predictor of profile liking behavior than individual characteristics such as personality traits. They suggest that personality traits may have less influence in the context of profile liking but more influence in deliberative relational contexts, such as first dates and communication with a potential partner.

While Chopik and Johnson (2021) mainly focused on the influence of characteristics of a profile owner (e.g., attractiveness, sex, and race) they also examined personality. This was done by letting participants complete one personality measure chosen at random (e.g., attachment anxiety and avoidance, sociosexual orientation, the Big Five personality traits, or self-esteem). In the study, there was not a great focus on personality as a predictor as they only partially investigated the relationship between the Big Five Personality traits and profile liking behavior. This may have led to them finding little correlation between individual differences in personality traits and profile liking. However, the study did find that individuals who score higher on attachment avoidance and extraversion were less likely to indicate interest in a profile in general. Chopik and Johnson (2021) suggest that an explanation for the association between attachment avoidance and less interest might be that avoidant individuals tend to avoid relationships in general, but are more drawn to casual sex opportunities (Birnbaum, 2007). Yet, they do not explore possible explanations for their finding on extraversion. Overall, the study of Chopik and Johnson (2021) provided an entry point for the current study to further explore the Big Five Personality traits in relation to profile liking behavior through a dating app mock-up.

Interaction with a match

In the event that both users swipe right, a match is made (Hobbs et al., 2016). After that, the users will be able to communicate with each other through a chat feature within the application. The purpose of the chat feature is to allow the users to get to know each other before deciding if they want to take the conversation to a more personal level (Hobbs et al., 2016). Users can exchange messages, photos, and videos in order to facilitate a connection.

Little research has been done on interaction on online dating applications, however, Fiore et al. (2008) conducted a quantitative study examining demographic patterns of communication on an online dating site. Their research revealed that men initiated 77% of interactions on the site and older women were contacted less frequently than younger women. Moreover, men who initiated contact with women received a response only 16% of the time, while women who initiated contact with men had a response rate of 26.4%. The study also investigated some factors that predicted receiving a response, including being within a person's age range and having a similar ethnicity. Overall, Fiore's et al. (2008) study provided a descriptive overview of differences between users in contact initiation on online dating platforms. While their research shows that there are differences between men and women, the research did not shed light on other differences between users (e.g., personality). Personality traits are specific to an individual, and thus might also predict users' interaction on dating apps.

Personality, however, plays a significant role in online dating interactions (Kroencke et al., 2022). While multiple studies have suggested personality factors influence social interactions (e.g., Rice & Markey, 2009; Van Zalk et al., 2011), predictions differ between studies due to two distinct theories. *The social enhancement hypothesis* and *the social compensation hypothesis* both shed light on how personality in face-to-face (FtF) communication is associated with computer-mediated communication (CMC) (Peter et al., 2005). However, these theories differ in their ideas and arguments. For the current study, this could lead to contradictory hypotheses.

According to the social enhancement hypothesis, computer-mediated communication is associated with better outcomes for individuals who are also successful in face-to-face interactions (Peter et al., 2005), that is, individuals who score higher on extraversion, agreeableness, and lower on

neuroticism. Due to their better communication skills, these individuals are generally more motivated to interact and more skilled at communicating with others irrespective of the form of communication (Kroencke et al., 2022). It can therefore be expected that individuals who possess these traits will be more likely to interact on online dating applications. In addition, research by Kraut et al. (2002) found that individuals with a high level of extraversion had greater community involvement and felt less lonely if they used the internet more often, whereas individuals with a low degree of extraversion had the opposite outcome (Kroencke et al., 2022). In other words, individuals with higher extraversion scores are probably also more likely to be involved and interact more frequently on online dating apps.

On the other hand, the social compensation hypothesis (Peter et al., 2005) suggests that CMC predicts better outcomes for individuals with difficulties in face-to-face interactions, such as individuals who score lower on extraversion and agreeableness and higher on neuroticism. According to Forest and Wood (2012), these individuals turn to the online environment to compensate for the lack of offline social interactions. A person who lacks confidence when communicating with others in person may feel more comfortable interacting with others when they can take the time to write a response online (Grieve et al., 2017). When using an online dating application, individuals have more time to think about interacting with other people compared to real life situations, which might make them feel more comfortable to interact more on online dating apps. Furthermore, in the online world, worries about appearance in social situations can be easily avoided. Communication technology can offer a secure, less dangerous setting to practice social skills, which might help make up for a lack of enjoyable face-to-face encounters (Forest & Wood, 2012).

Although little is known about what personality factors lead to interactions on online dating platforms, the theories discussed suggest it could go either way. From one point of view, individuals who score higher on extraversion, agreeableness, and low on neuroticism might be more likely to interact on online dating apps due to their better interpersonal skills. While from the other point of view, individuals who score lower on extraversion and agreeableness and higher on neuroticism could also be more likely to interact on online dating apps due to their lack of confidence in face-to-face interactions.

The Big Five Personality traits

A person's personality can be broken down into five core aspects: openness, conscientiousness, extraversion, agreeableness, and neuroticism (John & Srivastava, 1999; McCrae & Costa, 1999). Each of the five broad factors in the Big Five model encompasses a range of specific personality traits (Costa & McCrae, 1992). They have been found to be reliable predictors of an individual's behaviors, emotions, and decision-making processes (Ones et al., 2005; Xu et al., 2016). They are also linked to a person's success in work and relationships. While The Big Five Personality traits have been studied extensively in the field of psychology and communication (e.g., Peter et al., 2005; Rice & Markey, 2009; Van Zalk et al., 2011) for decades, little is known about how personality traits are linked to behavior in online dating.

Extraversion

A high extraversion score is associated with social contact, talkativeness, assertiveness, gregariousness, carefreeness, dominance, and adventure, while a low extraversion score is associated with submissiveness, avoiding close relationships, and controlling impulses (Eysenck, 1991; McCrae & Costa, 1997).

Based on earlier research into personality and online behavior, people who score higher on extraversion may be more likely to swipe right (show interest) on an online dating app. For example, the study of Gute and Eshbaugh (2008) states that when it comes to partner selection behavior, extraverts tend to engage in more hook-up behavior and casual sex. This could imply that extraverted people are less critical when it comes to choosing a partner since they are less likely to look for a serious relationship. This behavior could also be adopted in the current study, making them less critical when liking profiles on a dating application. Contrary to the prediction, the study by Chopik and Johnson (2021) showed that extraverted people actually swipe right less often, indicating that they may be pickier in this context. However, Chopik and Johnson (2021) did not give possible explanations for why this relationship was found.

Furthermore, studies have shown that extraversion is related to impulsiveness (e.g., Lorr & Wunderlich, 1985; Maldonado et al., 2001; Plomin, 1976) and a spontaneous decision-making style (Bayram & Aydemir, 2017). Taking spontaneous decisions and being impulsive are characterized by

rapid and quick decisions that are taken in the heat of the moment. Making spontaneous decisions is characterized by a sense of urgency and a desire to complete the decision-making process as quickly as possible (Rehman & Waheed, 2012; Spicer & Sadler- Smith, 2005). This may imply that extraverts would be more likely to swipe right on online dating profiles since they take less time to think about their decisions. However, it could also be the exact opposite as their impulsiveness and spontaneity might lead them to swipe left faster.

A reason to believe that extraverted individuals are also more likely to initiate interaction with a match is the fact that this trait is often identified by its positive interpersonal tendencies, such as engagement in social behavior, holding someone's attention, and enjoying the company of others. (Ashton et al., 2002; McCrae & Costa, 1988). These qualities could result in more prosocial and cooperative behavior. Furthermore, extraverted individuals tend to be more outgoing and have more confidence which could be beneficial in forming relationships. This prosocial and outgoing nature could result in extraverts interacting with their matches more often than introverted individuals since they enjoy the company of others.

Neuroticism

Neuroticism is described as a person's emotional stability and tendency towards anxiety and worry (Norman, 1963). Moreover, neurotic individuals are described as depressed, tense, irrational, moody, emotional, and low in self-esteem (Eysenck, 1991).

In contrast with extraversion, individuals who score higher on neuroticism may be less likely to swipe right on profiles and interact with their matches. For example, studies have found that neuroticism is associated with a fussy and picky attitude (MacNicol et al., 2003; Xu et al., 2016), making it likely that they are more critical when it comes to the assessment of online dating profiles. Neurotic individuals tend to be pickier in their romantic partner selection, seeking partners who are similar to themselves in terms of personality traits (Xu et al., 2016). These findings may imply that neurotic individuals may be more selective in their mate preferences, seeking partners who share their values and personality traits, and prioritizing emotional compatibility over physical attractiveness. For the current study, this could lead to them liking fewer profiles, as they can mainly go off on the visual cues and limited information presented on the profiles.

A reason to believe that neurotic individuals are less likely to initiate interaction with a match is the fact that neuroticism is a personality trait characterized by feelings of anxiety, shyness, worry, and introversion, which are also associated with an individual's willingness to open up online (Amichai-Hamburger et al., 2002). Even though Stritzke et al. (2004) found shy people to be considerably less shy, less rejection sensitive, and more interpersonally competent when initiating relationships online than offline, it is also noted by Stritzke et al. (2004) that while online environments may be beneficial to shy people, they do not eliminate the experience of shyness. In other words, neurotic individuals might feel more comfortable expressing their true selves with others online, leading them to interact faster, their shyness and worries might still lead them to interact less.

Agreeableness, Conscientiousness, and Openness to experience

The research on agreeableness, conscientiousness, and openness to experience has not received as much attention as their counterpart traits. Extraversion and neuroticism have been well-established in the field of psychology since the mid-twentieth century, with neuroticism being particularly pervasive across various personality measures (Costa & McCrae, 1988). Additionally, extraversion has been extensively studied and observed as a significant personality factor (McCrae & Costa, 2008). However, while agreeableness, conscientiousness, and openness have not received the same level of research attention, these personality traits may still play a significant role in shaping individuals' online behavior.

Agreeableness refers to those who are sympathetic, cooperative, empathetic towards others, considerate, warm, compassionate, and giving (McCrae & Costa, 1997).

Higher scores on agreeableness might lead to higher scores on profile liking behavior and higher scores on interaction with a match. For instance, Costa and McCrea (1992) state that agreeable individuals possess a friendly, trusting, and sympathetic nature, which might indicate that they are also more open and friendly to other individuals on online dating applications. In addition, McAdams et al. (2021) state that agreeable people are motivated to accommodate others and want to maintain smooth interpersonal relationships. Furthermore, a person with an agreeable personality tends to enjoy the company of others and is often more able to relate to others, making it easier to create and maintain relationships (McAdams et al., 2021). This personality type might lead them to swipe right

more often because of their friendly and sympathetic nature, but it also might lead them to interact more often as agreeable individuals enjoy the company of others. However, not much is known about this subject and the current study intends to investigate whether higher scores on agreeableness indeed lead to a higher profile liking behavior and interaction with a match.

Conscientiousness describes people who tend to be organized, responsible, and hardworking (Norman, 1963). Those with high conscientiousness are more aware of themselves and are more capable of resisting urges (Ehrler et al., 1999). Strong-willed and determined are the characteristics associated with this type of individual.

It is expected that higher scores on conscientiousness will negatively relate to profile liking behavior and interaction with a match. People with this personality type tend to pay more attention to long-term plans, as they put a great deal of effort into reflecting and planning (Milfont & Sibley, 2012). This mindset may also apply to their actions in an online dating environment. Because of their focus on long-term plans and their strong-willed character, conscientious people might be more critical when it comes to partner selection leading them to like fewer people on a dating application. Additionally, they tend to be cautious with social contacts online, which may explain why Whitty and Buchanan (2009) suggest that conscientiousness is negatively associated with communication app usage. A consequence of this in the context of online dating might also be that individuals who score higher on conscientiousness are less likely to seek interaction with other individuals.

Research has also shown that conscientiousness is positively associated with the relationship motive in online dating, and individuals who possess this trait tend to view time as a limited resource that should not be wasted (Christopher et al., 2008). However, online dating apps, such as Tinder, often have the reputation of being a “hook-up app” (Kallis, 2020), which would suggest that most people use dating apps to look for something casual. Since conscientiousness is mostly associated with looking for a serious relationship and is typically goal-oriented and efficient in achieving their objectives (Roberts et al., 2014), they may be less likely to use online dating apps as a means of entertainment or distraction. Thus, this could imply that they are more likely to be critical when going through the process of swiping profiles and interacting with their matches, because they may be looking for something more serious.

Lastly, the least might be known about openness to experience, especially in the context of online dating. The trait, openness to experience refers to a person's willingness to explore new ideas, thoughts, and experiences. People high in openness tend to be imaginative, curious, and open-minded (Costa & McCrae, 1988).

For the current study, higher scores on openness are expected to relate positively to profile liking behavior and interaction with a match. The openness trait captures individuals' differences in imagination, curiosity, exploration, and willingness to try new things. People who score high on openness are often broad-minded and independent (Constantiou et al., 2006; McCrae & Costa, 1997; Tuten & Bosnjak, 2001). Despite the significant associations found between certain traits and their consequences, previous research has shown limited consistent connections between openness and love, indicating that openness may have less relevance in this specific domain (Schwaba et al., 2019). However, some researchers have suggested that open individuals tend to delay commitments in romantic relationships to explore new social opportunities (Bleidorn & Schwaba, 2017; Constantiou et al., 2006). This may suggest that people who score higher on openness might be more likely to like more profiles and seek conversations with users on online dating apps because it gives them the opportunity to explore the possibilities with potential partners.

Based on the theoretical framework, the following hypotheses were established to test the connection between the Big Five personality traits and profile liking behavior and between the Big Five personality traits and interaction with a match:

H1: Extraversion (a), Agreeableness (b), and Openness (c) positively relate to users' profile liking behavior

H2: Conscientiousness (a) and Neuroticism (b) negatively relate to users' profile liking behavior

H3: Extraversion (a), Agreeableness (b), and Openness (c) positively relate to users' interaction with a match

H4: Neuroticism (a), and Conscientiousness (b) negatively relate to users' interaction with a match

Method

Design

In this study, it was examined if personality, measured by the Big Five Personality dimensions, predicted the dependent variables profile liking behavior and interaction with a match in online dating. The data for this study was collected in collaboration with two other master thesis students, who were conducting their own research related to information sharing in online dating and the relation between online dating and well-being. For all three studies, a prototype of a dating application was used to make the experience of the participants as realistic as possible. Participants who were open to a relationship and between 18 and 30 years old could participate and had to fill in ten questions related to the Big Five personality traits before swiping on their phone 30 dating profiles a day for five consecutive days. Even though the study was conducted over a period of five days, the current study only analyzed the data from the first day as it did not investigate longitudinal effects (as the other master thesis students did). The prototype consisted of a total of 30 male and 30 female profiles. The profiles that were shown to the participants depended on their sexual preferences. Participants could reject a profile by swiping to the left or like a profile by swiping to the right, which is similar to how popular dating apps like Tinder and Bumble are set up. If a participant had a match, they were given the opportunity to interact with the match by sending them a greeting.

Participants

In total, 286 participants participated in the current study. However, 187 participants dropped out of the study, did not give consent for participating, or did not meet the study requirements. The requirements stated that participants had to be open to a relationship and had to be between 18 to 30 years old. These participants were removed from the dataset. In total, the data of 99 participants could be analyzed. Before swiping, the participants were randomly assigned to the match or no-match condition. In the current study, 47 (47.5%) of the participants were assigned to the no-match condition, while 52 (51.5%) participants were assigned to the match condition. A one-way MANOVA was conducted to examine differences in personality traits between the two conditions (match and no match). There was no significant difference in personality traits between conditions as all *p*s were

above .05. Therefore, the data of participants from both conditions were combined to conduct the analyses. Appendix A gives a more detailed report on the One-way MANOVA.

All 99 participants were between 18 and 30 years old with a mean age of 24.12 (*SD* = 2.50), 60 participants identified as female (60.6%), and 39 participants identified as male (39.4%). Of all participants, 43 of them stated to feel most attracted to males (43.4%) and 56 of them to females (56.6%). Furthermore, participants were asked about their dating platform usage. An overview of the statistics can be found in Table 1.

To conduct the analysis to examine if personality predicts interaction with a match (H3ab and H4abc), only data from 74 participants could be analyzed. Participants who did not have any matches and thus could not interact with any profile were excluded from the analysis.

Table 1

Participants' dating platform usage (n = 99)

Category		Frequency	Percentage
Currently using a dating platform	Yes	47	47.5
	No	51	51.5
	Prefer not to say	1	1
Frequency dating platform usage	once a month	11	2.1
	2-3 times a month	8	17.0
	once a week	10	21.3
	2-3 times a week	12	25.5
	4-5 times a week	6	12.8
	once a day	7	14.9
	2-3 times a day	3	6.4

Note. Only participants who stated that they are currently using a dating platform (n = 47) were asked about the frequency of their dating app usage.

Materials

Prototype evaluation and improvement

Before setting up the experiment, a pre-test was done to evaluate what people thought of the dating app prototype (see Appendix B) that was used in previous studies and to identify what aspects of that first version could be improved for the present study. To accomplish this, a think-aloud study

was conducted. Think-aloud is a method that uses verbal reports as data in which participants speak their thoughts out loud as they occur in their immediate short-term memory (Burbach et al., 2015). This think-aloud study was also in collaboration with the two other master students and was done with 12 individuals. In total, six participants were men and six women. The individuals were required to have experience with a dating app and had to be between the ages of 18 and 30 years. During the study, the participants were recorded to document the evaluation.

To conduct the think-aloud study the participants were asked to fill in a survey that started with a short introduction letter, which explained the purpose of the evaluation (see Appendix C). The introduction letter explained that for this study they were expected to express all their thoughts out loud while using the dating app prototype. After providing informed consent, a short survey started by welcoming the participants. From this moment, the participants had to speak their thoughts out loud They were then asked a few demographic questions, such as age and gender and they were asked if they felt most attracted to males, females, both genders or that they preferred not to indicate their sexual preference. Afterward, the participants were sent to the prototype where they saw 30 profiles from their indicated sexual preference and had to swipe either left (not interested) or right (interested). While the participants were swiping they verbalized their thoughts on the profiles, the interface, and the interactions of the prototype. The last section of the survey asked the participants to fill in 10 questions to reflect on their well-being. This was done because the survey that was used to conduct the think-aloud study was made for a previous master's thesis.

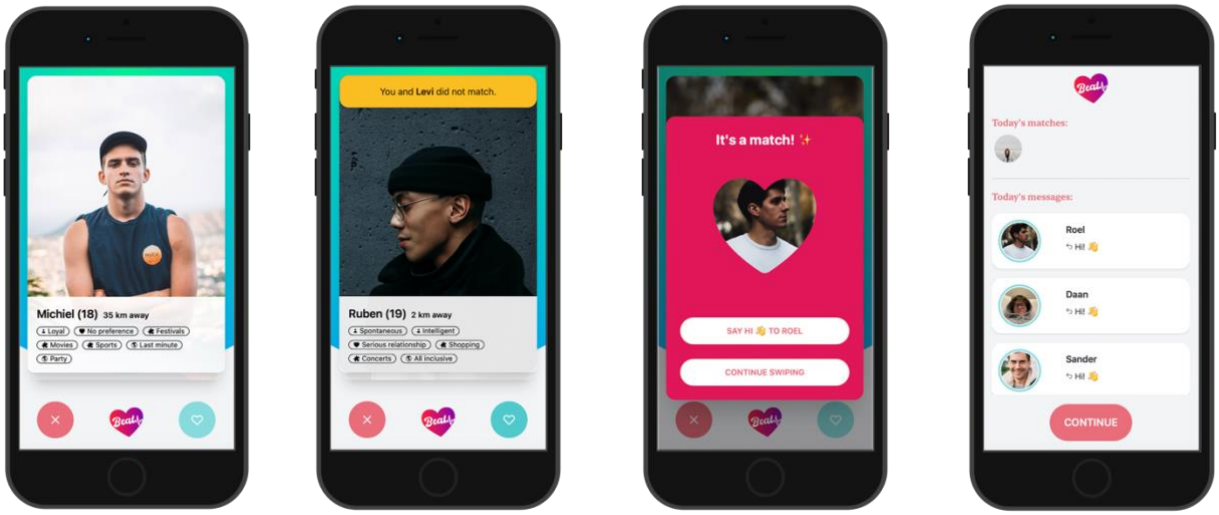
Once the prototype interaction and survey were completed, participants were asked a series of follow-up questions regarding the profiles, the interface, and the interaction with the prototype. The feedback provided valuable insights into the strengths and weaknesses of the prototype. Overall, the participants stated that they thought the prototype was quite realistic and that it reminded them of existing dating apps such as Tinder. A more detailed summary of the evaluations can be found in Appendix D. Below, the most important findings and improvements based on the feedback will be discussed.

Regarding the profiles on the prototype, the participants revealed that they felt that the pictures displayed on the app were “too perfect” and failed to represent reality. The participants noted

that the photos did not depict individuals in everyday situations, such as spending time with friends or engaging in hobbies. Furthermore, participants could only see one picture on a profile and stated that they missed the possibility to view multiple pictures. In addition, the profiles lacked information about the people, such as age, biography, and interests. Taking these remarks into consideration, the prototype was improved by including additional details in user profiles, such as age, location range, and the option to share personal information, such as their interests and personal traits (see Figure 1a). Further improvements were implemented by including a wider variety of photos that portrayed individuals in more common circumstances (e.g., on a holiday or in the gym). However, it was decided to not include multiple pictures on a profile. An illustration of a user profile in the updated prototype is visualized in Figure 1a.

Figure 1(abcd)

Visualization of the online dating app prototype



(Figure 1a) *(Figure 1b)* *(Figure 1c)* *(Figure 1d)*

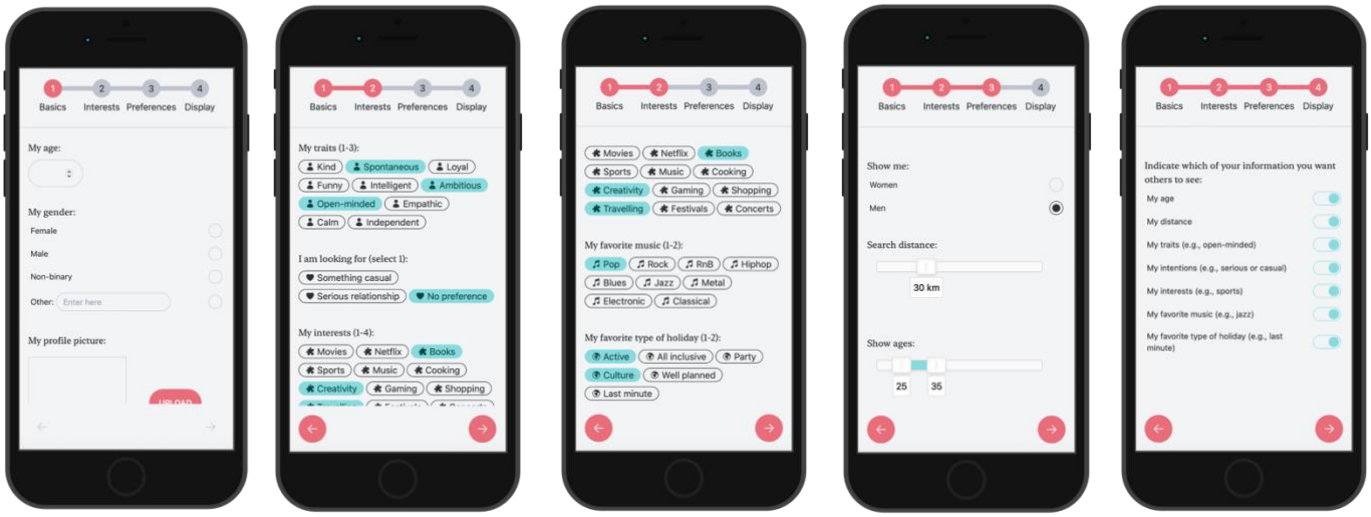
Note. Figure 1a shows an example of a male profile. Figure 1b shows the pop-up message when the user swiped right and did not match with the profile. Figure 1c shows the screen that was presented to a participant when they had a match and finally, Figure 1d shows the overview of matches at the end of the swiping process.

When looking at the interface of the prototype, some participants misunderstood the purpose of the word “discover” located at the top of the screen (see Appendix B, Figure 3ac). They believed it to be either a means of acquiring additional information about the profile or the name of the app. This indicated that the prototype lacked a clear identity. In the updated version of the prototype the word “discover” was removed and replaced by a little logo and the name “HeartBeat” at the bottom of the screen (see Figure 1). Moreover, by removing the word, more space was created for the profiles and allowed for more information to be displayed on the profiles. While one or two participants expressed discontent with the color scheme of the prototype, it was decided not to change the colors as this is merely personal preference.

Lastly, the participants gave feedback on their interaction with the prototype. They stated that the prototype was user-friendly and comparable to that of existing dating apps. Although the prototype was deemed as a simpler version this was not regarded as negative feedback. However, participants were confused by the prominently displayed “no-match” page (see Appendix B, Figure 3d) and thought the page was quite prominent and was not representative of how this looks on actual dating apps (where in most cases no notification of ‘no match’ is indicated). In response, the new prototype included an updated “no-match” pop-up, which is depicted in Figure 1b. Furthermore, participants missed the option to interact with their matches. The updated prototype added a “Hi” button with a wave emoji to provide users with the illusion of messaging their matches (see Figure 1c). Finally, two participants suggested that creating a personal profile would make swiping feel more realistic, and therefore, the new prototype prompts users to provide personal information such as their name, age, and sexual preference, as well as upload a picture (which was, due to ethical considerations, not saved) to allow the participants to make a hypothetical profile. This also helped to make their experience more realistic and authentic. The process of creating a profile in the prototype is visualized in Figure 2.

Figure 2(abcde)

Visualization of the profile creation on the online dating app prototype



(Figure 2a) *(Figure 2b)* *(Figure 2c)* *(Figure 2d)* *(Figure 2e)*

Note. Figure 2a shows the first screen of the profile creation, where participants have to fill in their age, gender and "upload" a profile picture. Figure 2b and 2c show the screen where participants could choose their interests. Figure 2d shows the screen where participants could choose their sexual preference, distance, and preferred age. Lastly, Figure 2e shows the screen where participants could choose which information they wanted to show on their profile.

Profiles

To utilize the prototype, it was necessary to gather materials to create the profiles. In this study, a database comprising 150 images of women and 150 images of men was assembled. A majority of these images had already been collected by previous master's thesis students who researched online dating using a prototype. However, additional images were sourced from free stock image websites to enhance realism, such as images featuring individuals with their pets or individuals engaging in sports activities. The 150 images for each category were distributed randomly across the five days in which participants could swipe. Additionally, the profiles were assigned random names and information. Age and location were determined randomly based on the preferences indicated by each participant while creating their profiles.

Measures

Personality measurement

Personality was measured on the first day of the study, using Big Five Inventory-10 (BFI-10; (Rammstedt & John, 2007), which measured each participant's score on five personality traits: Openness to experience, Conscientiousness, Extraversion, Agreeableness, and Neuroticism. The scale consisted of 10 items asking how well the presented statements described their personality (see Appendix E). For each of the five personality traits there were two related questions. The participants indicated their answers on a 7-point Likert scale, from 1 = strongly disagree to 7 = strongly agree. The scale included items such as: “I see myself as someone who has an active imagination” (Openness), “I see myself as someone who tends to be lazy ” (Conscientiousness), “I see myself as someone who is outgoing, sociable” (Extraversion), “I see myself as someone who is generally trusting” (Agreeableness), and “I see myself as someone who gets nervous easily” (Neuroticism). Rammstedt and John (2007) stated that the BFI-10 scale captured 70% of the variance and maintained 85% of the retest reliability compared to the full BFI. The discriminant and structural validity remained mostly unchanged. Overall, their findings suggested that the BFI-10 retains a considerable amount of reliability and validity from the original BFI-44, supporting its construct validity. It was therefore decided to select the scale with 10 items, the BFI-10, instead of the scale with 44 items (BFI-44).

Behavioral data

Besides personality, the two dependent variables, Profile liking behavior and Interaction with a match were measured. Profile liking behavior was defined as the percentage of profiles an individual liked. Participants were presented with 30 profiles. Thus, the number of profiles a participant saw was divided by their number of likes and then multiplied by 100 to compute the profile liking behavior variable. For example, a participant saw 30 profiles and liked 21 of those profiles. Their profile liking behavior score would be 70% (21/30*100 = 70). Interaction with a match was also defined as the percentage of interactions an individual had with their matches. In this study, interaction was defined by whether the participant chose to interact by sending their match a “hi (wave)” message or not. The number of times a participant chose to interact was divided by their number of matches and then multiplied by 100 to compute the interaction behavior variable. For

example, if a participant had 12 matches and interacted with 2 of those matches, their interaction score would be 16.67% (2/12*100 = 16.67).

Procedure

The participants were recruited via a combination of snowball and convenience sampling methods. Participants were instructed to click on a survey link, which directed them to the Qualtrics survey (see Appendix F). The study was conducted over a period of five consecutive days, since the collaborating thesis students investigated longitudinal differences. However, it should be noted that this specific study did not focus on longitudinal effects, hence only data from the first day of the study was relevant and used for this study.

Once participants started the Qualtrics survey they were greeted with an introduction that provided them with relevant information regarding the research. The introduction also informed the participants that the survey would take approximately five minutes to complete each day. After the introduction letter, the participants had to agree to nine statements, indicating their consent to participate.

After giving their consent, participants were asked to provide information on their age, gender, sexual preference, dating intentions, and dating app usage. Participants were requested to provide their email address to facilitate contact for the study's next four days. Subsequently, they were asked to rate their level of agreement with the 10 BFI-10 statements concerning their personality. Additionally, they were required to answer a set of 14 questions regarding their current state of well-being and four questions regarding dating confidence, which were constructs assessed for a different master thesis research.

Prior to entering the dating app prototype, the participants were randomly assigned to the "match" or "no-match" condition and were given a brief introduction of how the prototype functioned and what was expected of them while using the prototype. Once they read the introduction, they were redirected to the prototype and instructed to create a hypothetical dating profile. This step was taken to provide a more realistic experience, however, the finished profile was not shown to them. During the profile creation process, participants were asked to enter their name, age, gender, sexual preferences, interests and upload a photo of themselves. At the end of the profile creation, participants

were presented with the option to share the information they provided on their profile by checking one or more boxes. Profile information sharing was also a construct assessed for another master thesis research. Following the completion of their profile, participants started the swiping process. The profiles shown to the participants were pre-made and fictitious profiles, meaning participants did not see each other's profiles. If the participants matched with the individual they swiped to the right, they were shown a screen displaying 'Congratulations, it's a match!' and were given the opportunity to interact with their match by clicking the button to send a greeting of "Hi" with a wave emoji. If there was no match, a pop-up appeared displaying 'Sorry, it's not a match'. The swiping process ended with a window that showed an overview of all the matches the participant had that day. If the participants did not have any matches, the screen displayed the text "No matches today" (see Figure 1d). Before finishing the process in the dating app prototype, the participants were asked one last question about their well-being and once again had the opportunity to check the boxes with the profile information they wanted to share for the next day. After doing this the survey for day one came to an end.

Data analysis

To test the hypotheses, the data collected in Qualtrics and the data collected in the dating app prototype were combined and analyzed with SPSS. To investigate the relationship between the Big 5 personality traits and profile liking behavior and/or interaction with a match, two multiple regression analyses were done. In both regression models, the predicting variables were the Big 5 personality traits (Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism). The outcome variables were profile liking behavior (scale variable of the number of likes divided by number of profiles seen multiplied by 100) and interaction with a match (scale variable of contact initiation divided by the number of matches multiplied by 100).

Results

To test the hypotheses, two separate analyses were conducted in the SPSS statistical software package. For both analyses, a multiple regression analysis was performed to test if participants' personality traits influenced a user's profile liking behavior (H1abc and H2ab) or/and interaction with a match (H3abc and H4ab).

Before conducting the tests, the descriptive data was analyzed. For an overview of the mean scores of the participants' personality traits see Table 2. As mentioned before participants were randomly assigned to the match or no-match condition before starting their swiping process. However, the data of both conditions were combined as conditions did not make a difference in the distribution of personality traits. Overall, the participants saw 30 profiles, of which in general 29.71% (M = 9.06, SD = 7.80) were liked. On average, participants had 4.48 (SD = 5.35) matches. Out of these matches, 26.43% (SD = 39.87) was interacted with.

Table 2

Means (Standard Deviations) of Participants' Big Five Personality scores (n = 99)

Factor	Average	Participants (n =99)	
		Men (n = 39)	Women (n = 60)
Extraversion	4.87 (1.15)	4.59[a] (1.30)	5.06[b] (1.02)
Neuroticism	4.27 (1.31)	4.81[a] (1.14)	3.92[b] (1.30)
Agreeableness	4.99 (1.11)	4.83[a] (1.18)	5.09[a] (1.06)
Conscientiousness	4.92 (1.04)	4.72[a] (1.23)	5.05[a] (0.88)
Openness	4.79 (1.15)	5.00[a] (1.29)	4.65[a] (1.04)

Note. All five personality traits were measured on a scale from 1 (Strongly Disagree) to 7 (Strongly Agree). Superscripts indicate differences between the two groups.

Analysis 1: Personality as predictor of Profile liking behavior

To determine how the Big Five Personality traits (Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism) predict an individual's profile liking behavior, a multiple linear regression analysis using the enter method was conducted. It was hypothesized that Extraversion, Agreeableness, and Openness would positively predict a user's profile liking behavior (H1abc), while Conscientiousness and Neuroticism would negatively predict profile liking behavior (H2ab).

Multiple Regression Analysis

Before running the regression, the relevant assumptions were checked, which were all met. See Appendix G for the extensive rapport on the assumptions.

The results showed that the regression model with the Big Five Personality traits was a significant predictor of profile liking behavior ($F(5,93) = 2.68$, $p = .026$), with a R^2 of .13, suggesting that 13% of the variation is predicted by the five personality traits. Table 3 gives an overview of the means, standard deviations, and correlations between profile liking and the Big Five Personality traits. A closer look at the different personality traits showed that one specific personality trait predicts profile liking behavior, which is extraversion, $\beta = -4.67$, $t = -2.17$, $p = .033$. This negative significant association indicates that the higher an individual scores on extraversion, the fewer profiles were liked by this individual. In other words: the more introverted an individual, the more profiles were liked. The other personality traits, Neuroticism ($\beta = -3.20$, $t = -1.71$, $p = .091$), Agreeableness ($\beta = -3.33$, $t = -1.51$, $p = .134$), Conscientiousness ($\beta = -2.86$, $t = -1.25$, $p = .215$), and Openness ($\beta = 2.75$, $t = 1.33$, $p = .187$) did not predict profile liking behavior. This suggests that higher or lower scores on Neuroticism, Agreeableness, Conscientiousness, and Openness were not a predictor of profile liking behavior.

Overall, these results suggest that only Extraversion is a significant predictor of individuals' profile liking behavior. Thus, H1bc and H2ab were not supported by the results. The findings did show that Extraversion is a negative predictor of profile liking, which is contradictory to what was expected for H1a. Overall, H1abc and H2ab were not supported by the data.

Table 3

Means, standard deviation and Pearson correlation matrix profile liking (n = 99)

	Mean	*SD*	1	2	3	4	5
1. Profile liking	29.71	24.40	--				
2. Extraversion	4.87	1.15	-.22*	--			
3. Neuroticism	4.27	1.31	-.09	-.23*	--		
4. Agreeableness	4.99	1.11	-.18	.21*	-.18	--	
5. Conscientiousness	4.92	1.04	-.16	.10	.01	.05	--
6. Openness	4.79	1.15	.12	.06	.03	-.02	-.05

* Correlation is significant at the 0.05 level

Note. SD = standard deviation. Mean profile liking is expressed in percentages

Furthermore, research suggests that gender could make a difference in the context of partner selection (Guadagno et al., 2012). Therefore, to test whether gender influences profile liking behavior an independent t-test was performed. The data for women was not normally distributed (z-score skewness = 4.27, z-score kurtosis = 2.71). Therefore the *p*-value may not be reliable and more weight should be placed on the bootstrapped 95% confidence interval that will be provided. On average, men liked almost half of the profiles shown to them (49.42%; *SD* = 25.40), which was significantly more than the 18.97% of the profiles liked by the women (*SD* = 15.01). This difference was significant (*Mdif* = 27.25, $t(97) = 6.46$, $p < .001$) and generalizable to the population (95% CI [18.36, 35.98]). The difference represents a large-sized effect $d = 1.25$.

Analysis 2: Personality as predictor of Interaction with a match

To determine how the Big Five Personality traits predict a participant's interaction with a match, another multiple linear regression analysis using the enter method was conducted, but this time with users' interaction with a match as the outcome variable. It was hypothesized that Extraversion, Agreeableness, and Openness would positively predict a user's interaction with a match (H3abc), while Neuroticism and Conscientiousness would negatively predict interaction with a match (H4ab).

Multiple Regression Analysis

Before running the analysis the relevant assumptions were checked, which were all met. See Appendix H for the extensive rapport on the assumptions.

The results showed that the regression model with the Big Five Personality traits was not a significant predictor of interaction with a match, $F(5,74) = 1.62$, $p = .165$, with a R^2 of .10, suggesting that 10% of the variation is predicted by the five personality traits. On average, participants interacted with 26.43% of their matches ($SD = 39.87$). A closer look at the different personality traits showed that only one specific personality trait predicts interaction behavior, that is, Neuroticism, $\beta = -8.95$, $t = 2.52$, $p = .014$. This negative significant association indicates the higher an individual scores on Neuroticism, the fewer matches were interacted with. The other personality traits, Extraversion ($\beta = -3.21$, $t = -.84$, $p = .405$), Agreeableness ($\beta = 3.04$, $t = .75$, $p = .458$), Conscientiousness ($\beta = -1.56$, $t = -.35$, $p = .725$), and Openness ($\beta = -.97$, $t = -.26$, $p = .794$) did not predict interaction with a match. This suggests that higher or lower scores in Extraversion, Agreeableness, Conscientiousness, and Openness were not a predictor of interaction with a match.

Overall, these results suggest that only Neuroticism is a significant predictor of an individual's interaction behavior. The expectation that Neuroticism would negatively predict interaction with a match (H4a) has been supported by the data. However, the expectation that Extraversion, Agreeableness, and Openness would positively predict interaction with a match (H3abc) has not been supported by the data, nor has the expectation that Conscientiousness would negatively predict interaction with a match (H4b).

Additionally, Fiore et al. (2008) also suggested that there is a difference between males and females in the context of interacting with potential partners on online dating apps. To test whether

gender influences interaction behavior an independent t-test was performed. The data for men and women were not normally distributed (men: z-score skewness = 2.23, z-score kurtosis = -1.34; women: z-score skewness = 3.90, z-score kurtosis = 0.26). Therefore, the *p*-value may not be reliable and more weight should be placed on the bootstrapped 95% confidence interval that will be provided. On average, men interacted with 31.42% of their matches (*SD* = 41.61), while women interacted with 22.34% of their matches (*SD* = 38.38), which was not a significant difference, *Mdif* = 9.08, *t*(78) = 1.01, *p* = .324. Furthermore, the 95% Confidence Interval crosses 0 and can thus not be generalized to the population (95% CI -8.53, 27.03). In other words, gender does not significantly influence whether an individual interacts with a match.

Finally, independent t-tests were performed to investigate if the differences between men and women with regard to personality traits (as shown in Table 2) were significant. Overall, only significant differences between men and women were found for Extraversion (*Mdif* = -.47, *t*(97) = -2.00, *p* = .048), with women scoring significantly higher on Extraversion. This represents a medium-sized effect *d* = 0.40. And Neuroticism (*Mdif* = -.89, *t*(97) = -3.49, *p* < .001), on which men scored significantly higher. This represents a medium-sized effect *d* = 0.73. The traits Agreeableness, Conscientiousness, and Openness did not show a significant difference between men and women, with all *p*‘s > .122.

Discussion

This study aimed to examine whether an individual's personality can predict their behavior on an online dating application, specifically in terms of profile liking and interaction with matches. It was hypothesized that the Big Five Personality traits, Extraversion (H1a), Agreeableness (H1b), and Openness (H1c) would positively predict profile liking behavior, and Conscientiousness (H2a) and Neuroticism (H2b) would negatively predict profile liking behavior. Concerning interaction with a match, operationalized as clicking a button to say “Hi” after a match has been formed, it was expected that Extraversion (H3a), Agreeableness (H3b), and Openness (H3c) would positively predict interaction with matches, while a negative relationship was expected for Neuroticism (H4a), and Conscientiousness (H4b). Within this study, people’s actual behavior of liking profiles and interacting with matches was measured by letting them interact with a mock-up dating application which was designed based on evaluations of a think-aloud study.

Overall, the results do not reveal many relationships between participants’ personalities and both profile liking behavior and interaction with a match. This suggests that personality traits in general do not have a large effect on the way they interact with an online dating application in the initial stages of assessing profiles of potential partners. A likely explanation is that other factors are more decisive in these initial online dating phases. For example, previous studies have shown that factors such as physical attractiveness (Olivera-La Rosa et al., 2019), race (Chopik & Johnson, 2021), and dating intentions (Ellison et al., 2006) influence decision-making on online dating applications. The characteristics of the profile owner, such as attractiveness or race, seem to play a more important role than the personality of the user, when it comes to making the decision to swipe right or not.

However, there were two exceptions, as two significant relationships were found. More specifically, results showed that people who scored higher on extraversion liked fewer profiles, or to put it differently, introverted people liked more profiles. This is contradictory to what was hypothesized in H1a. That Extraversion would positively relate to profile liking was based on earlier findings that argued that extraversion is related to a spontaneous decision-making style (Bayram & Aydemir, 2017). This way of making decisions is known for making decisions as quickly as possible,

which could have led to them swiping right more often. An explanation for the contradictory results could potentially be consistent with the findings that women score significantly higher on extraversion than men and women are known to be pickier in the context of partner selection (Ranzini & Lutz, 2016). Moreover, the findings of the current study indeed showed that women swiped fewer profiles than men.

In addition, exploratory analyses showed that men like significantly more profiles than women. This could be explained by the findings that men are more affected by visual information because they place greater value on physical attractiveness than women (Feingold, 1990; Fink et al., 2023; Sprecher et al., 1994). Women on the other hand focus more on verbal information because they value non-physical qualities such as intelligence and socio-economic factors. This could suggest that men like more profiles because the online dating prototype mainly focused on visual information. The verbal information on the profiles may not have been enough for women to swipe more often.

Moreover, in line with H4a, the results showed that individuals who scored higher on Neuroticism were less likely to interact with their matches. It was expected that neurotics would interact less with their matches because they are found to be more anxious (Rice & Markey, 2009). Anxiety is often linked with shyness and worry, which may lead neurotics to feel scared to interact with others online. Furthermore, neuroticism is associated with a picky attitude (MacNicol et al., 2003), suggesting that they may be more critical when it comes to starting a conversation with another person. Surprisingly, though, evidence for this pickier attitude was not found when it comes to liking profiles.

Although research (Fiore et al., 2008) suggested that gender could also make a difference in the context of interaction with a match, the results of exploratory analyses showed no significant difference between men and women. However, results did show that men interacted more than women with their matches, yet this was not a significant difference. That men interact more with their matches could also be explained by the finding that they are more introverted and would feel more comfortable online.

Implications

The current study has several theoretical implications. First, the results of this study suggest that the personality traits of users alone do not directly relate to their profile liking and the willingness to interact with a match. In fact, the results of the current study may imply that characteristics of the individuals in the profiles that are shown have a greater predictive value than the characteristics of the user on their profile liking behavior and interaction with a match. It could be suggested that characteristics such as physical attractiveness are more important to users when it comes to looking for a potential partner. Furthermore, this could also imply that the personality of a user does not relate to whether they find a person attractive or not and in turn does not relate to their actions on an online dating application. Future research could study whether the characteristics of a profile owner have a greater predictive value than the characteristics of the users when it comes to making decisions on online dating apps.

Second, the results showed only significant relationships between extraversion and profile liking and between neuroticism and interaction with a match. This would imply that just extraversion and neuroticism predict actual actions (e.g., swiping and starting conversations) on online dating applications, while the other three traits are not great predictors of this behavior. This finding implies that characteristics of extraversion (such as impulsiveness) and neuroticism (such as anxiety, shyness, and introversion) are more important when it comes to someone's behavior in online dating. In turn, characteristics of agreeableness (such as friendliness and sympathy), conscientiousness (such as self-discipline and successfulness), and openness (such as imagination and being independent) might not be as important in online dating. Additionally, not a lot of variations were found for some of the personality traits. For example, most of the participants scored between 4.00 and 6.00 on Agreeableness, indicating a relatively high level of agreeableness in general. This could explain why for some traits no significant differences were found in online dating actions. However, the finding of a relationship for only extraversion (with profile liking) and neuroticism (with interaction with a match) could suggest that these are the two personality traits that are most predictive in this initial phase of online dating.

Thirdly, the findings seem to suggest that gender is an important factor when it comes to different scores in the Big Five personality traits. More specifically, results showed that there are significant differences between men and women when it comes to their personality traits. In addition, previous studies have shown that women tend to score higher on neuroticism and agreeableness (Costa et al., 2001). While studies on extraversion, conscientiousness, and openness are inconsistent on whether there is a significant difference between genders (Weisberg et al., 2011). This raises the question if specific personality traits are linked to certain genders and if this has an influence on online dating behavior. Since the current study showed that men score significantly lower on extraversion, but also significantly higher on neuroticism it would be interesting to investigate how men and women differ in personality and how this could be linked to behavior on online dating applications.

This study also has a methodological implication. To conduct the current study a prototype dating app was used to collect data. This prototype was improved by conducting an evaluation, which was done in collaboration with two other master students. This evaluation made it possible to improve the original prototype and make the experience as realistic as possible. Overall, the participants of the evaluation study were quite positive about the prototype, and they even compared it to existing dating applications. This may imply that participants had the feeling they were using an actual dating app, which makes it more likely that their actions corresponded with how they would normally act on a dating app. Previous studies mainly collected self-reported data, while the prototype dating app in the current study made it possible to collect behavioral data in the context of online dating. Using these prototypes in the future could make it possible to collect data that corresponds with reality.

Lastly, the results of this study also have practical implications for dating app users and designers of dating apps. Findings suggest that some personality characteristics influence a user's behavior on an online dating app, but previous studies have also shown that the characteristics of the profile owner have an influence on whether another user wants to show interest. There are dating apps that allow users to put their personality traits on their profile, but it might also be interesting for dating apps to give users more information about how specific personality traits relate to their actions

in online dating or dating in general. This way users learn about how different personalities might act in the context of dating and they could apply this knowledge to their dating process. This could mean that users know that neurotics tend to worry more and are more anxious, which might motivate them to send them a message first when they have a match.

Limitations and Future Research

The current study provides important insights into the relationship between personality traits and profile liking behavior and interaction with a match on online dating applications. However, several limitations are worth acknowledging. As stated before, not a lot of variations were found for some of the personality traits. A possible explanation for not finding large variations between scores on a specific personality trait could be the sample size. Future studies could further explore whether personality traits predict profile liking behavior and interaction with matches by collecting a bigger sample. It might be possible that more variations in personality traits can be found when a bigger sample size is studied. However, another possible explanation for not finding many variations in personality traits might be the variations in the sample size itself. The sample size might have consisted of individuals from a particular age range, educational background, or other demographic group. It might be possible that individuals of these specific groups score somewhat similarly on personality traits, causing little variations in personality traits. Future research could consider this by collecting a more diverse sample.

Another limitation of the study is that the experiment only looked at two behavioral measures, while online dating applications have more possibilities than swiping profiles and the opportunity to start a conversation. These two actions are both a way for users to express their interest in another user. Future research could expand this by looking at more ways users can express their interest, such as using a “super-like”. However, there are also more behavioral aspects of online dating that could be investigated besides expressing initial interest in an early stage of the online dating process. Future research is therefore recommended to investigate whether personality influences how users behave at later stages of the dating process, for instance during the stages of app conversations or meeting offline. For example, they could investigate if people who score higher

on neuroticism take longer to reply to messages due to their anxiety, or if individuals with higher scores on certain personality traits take longer to meet in person.

The last limitation of the study is that it mainly focused on two behavioral measures that are typical for 'fast dating'. This concept is known for apps that force users to make fast decisions without much involvement (Lenton & Stewart, 2008). The prototype that was used for this study was based on 'fast dating' applications, as it did not have the option to see extensive profiles. Additionally, users had to make fast decisions by swiping right or left based on a profile that consisted of one screen. It might be possible that one's personality is more influential when interacting with a 'slow' dating app, such as Hinge or Once. Such slow dating applications are more focused on showing fewer, more extensive profiles, which are also selected more carefully by an algorithm, making the profiles a better fit for the user (*DPG Media Privacy Gate*, n.d.). With these types of dating apps, it is possible that people take more time to think about their decisions. Due to this, the personality of the user could start to play a bigger role as individuals don't have to base their decisions on surface-level indicators anymore. This could be an interesting topic for future research to investigate. They could do this by creating and using a similar but more extensive prototype as the current study. Using a version of a 'slow' dating app prototype might make a difference in the results.

Conclusion

In conclusion, the current study was one of the first to use a dating app prototype to investigate whether personality was a predictor of the actual behavior of online daters. The results seem to indicate that generally, a person's personality does barely predict this person's profile liking behavior and interaction with a match. However, higher scores on extraversion were associated with fewer liked profiles. Furthermore, higher scores on neuroticism were associated with fewer interactions with a match. Even though this study did not show substantial evidence that personality is a significant predictor of behavior in online dating, future research is encouraged to gain a more in-depth understanding of the actions of online daters and how personality could relate to these actions. This could be done by investigating a bigger sample, considering more behavioral measures, and looking into slow-dating apps.

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Appendices

Appendix A

One-way MANOVA - differences between conditions

A one-way MANOVA was conducted to examine differences in personality traits between the two conditions (match and no-match). There were five dependent variables: Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism. Preliminary checks were performed to assess normality, outliers, linearity, homogeneity, and multicollinearity. The output of the test showed that none of the assumptions were violated. There was no significant difference between the two conditions on personality traits, $F(5, 93) = 0.65$, $p = .663$, Wilks' $\lambda = .97$, $\eta p^2 = .03$. The results showed there was no significant difference of condition in Openness ($F(1, 97) = 0.76$, $p = .387$, $\eta p^2 = .01$), Conscientiousness ($F(1, 97) = 0.02$, $p = .878$, $\eta p^2 = .00$), Extraversion ($F(1, 97) = 0.13$, $p = .721$, $\eta p^2 = .00$), Agreeableness ($F(1, 97) = 0.67$, $p = .415$, $\eta p^2 = .01$), and Neuroticism ($F(1, 97) = 1.13$, $p = .290$, $\eta p^2 = .01$).

Appendix B

Prototype before improvement

The examples down below are retrieved from the thesis of a previous master's student, Tjarda Waleson. The study used the prototype of the dating app before it was improved for the current study.

Figure 3abcd

(Figure 3a) *(Figure 3b)*

(Figure 3c) *(Figure 3d)*

Appendix C

Introduction letter prototype evaluation

Inleiding

Bedankt voor je deelname aan deze hardopdenk studie!

Voor onze masterscriptie aan Tilburg University onderzoeken we de gebruikerservaring van een mock-up van een online dating app. In deze hardopdenk studie vragen we je dit mock-up dating app te gebruiken en zijn we vooral benieuwd in hoeverre jij als gebruiker de dating app als realistisch ervaart en waarom je ervoor kiest om iemand naar links of rechts te swipen. Uiteindelijk willen we jouw inzichten gebruiken om de gebruikerservaring van deze mock-up te optimaliseren, zodat we de mock-up verder kunnen verbeteren om online datinggedrag in de toekomst beter te begrijpen.

Hoe werkt het?

De hardopdenk studie start nadat je de inleiding hebt gelezen en je toestemming hebt gegeven. Deelname aan dit onderzoek zal ongeveer 15 minuten duren. Je krijgt een mock-up online dating app te zien, en je krijgt 30 profielen te zien van potentiële partners in deze app. Vind je iemand leuk? Swipe dan naar rechts. Vind je iemand niet leuk? Swipe dan naar links. Ondertussen vragen we je om je gedachten hardop uit te spreken. We zijn vooral geïnteresseerd in (1) hoe realistisch je de mock-up van de dating app vindt, en waarom (niet), en (2) de redenering achter je swipe-keuzes. Houd dit in gedachten terwijl je je gedachten hardop uitspreekt. Aan het eind stellen we je misschien nog een paar vragen over je ervaring.

Jouw deelname aan dit onderzoek is geheel vrijwillig en je kunt je te allen tijde terugtrekken. Er zijn geen goede of foute gedachten of antwoorden op de vragen. Probeer mee te gaan met de eerste gedachten die je hebt.

Veel plezier met swipen en veel succes!

Participant code _____

Consent Form

Dating app prototype - evaluation

I agree to participate in the think-aloud interview study to evaluate the dating app prototype, conducted by Dick Verhoeven, Esmay Deleij, and Janiek Bont of Tilburg University who have discussed the study with me and who have answered the questions I had.

I consent to participation in this study and agree with the following statements:

- I have read the information above carefully;
- I am 16 years or older;
- I have had the opportunity to ask the researcher any questions I had, and know that I can contact the researcher for later questions;
- I agree that the interview will be audio-taped and that this recording will be stored for 10 years;
- I know that my participation is completely voluntary and that I have the right to withdraw from the study at any time without a reason and without negative consequences;
- I know that the anonymized written transcripts of my interview might be shared with others (for non-commercial purposes);
- I agree that my data will be used for potential future studies and/or scientific publications.

Participant

Name participant: _____

Signature participant: _____

Date: _____

Researcher

Name researcher: _____

Signature researcher: _____

Date: _____

Appendix D

Summary prototype evaluations

Om de gebruikerservaring van een mock-up van een online dating app te onderzoeken, hebben we een hardopdenkstudie uitgevoerd. Participanten werden gevraagd een mock-up dating app te gebruiken en hardop aan te geven hoe zij, als gebruiker, de dating app als realistisch ervaarden en waarom zij ervoor kozen om iemand naar links of rechts te swipen. In totaal hebben we 12 respondenten geïnterviewd in de leeftijdscategorie 18 tot 30 jaar.

Belangrijkste bevindingen

De belangrijkste bevindingen hebben we kort samengevat aan de hand van drie onderwerpen: profiel, interface en interactie.

Profiel

Met betrekking tot de weergegeven profielen is er duidelijk naar voren gekomen dat er een verschil in mening zit over hoe realistisch de profielen gepresenteerd werden. Zo zeiden er een aantal dat ze het goede en nette fotos vonden waarvan ze duidelijk konden beamen tegenover wie ze werden gezet. In tegenstelling tot een wat grotere hoeveelheid mensen die de profielen ver van realistisch vond. Deze mensen waren het er over eens dat de profielen aanvoelen als nep accounts. De reden hiervoor was dat de fotos “te perfect” waren en dat ze een natuurlijke foto van iemand ook miste. Iemand die op de foto met een karper staat mist hier nu gewoon. Daarnaast vonden 2 deelnemers dat de profielen veel te knap waren en dat dit twijfels opbracht bij de participanten omdat ze van mening waren niet binnen deze categorie te vallen. Tot slot mocht er nog wat gezegd worden over de persoonsinformatie. Hier was veel op aan te merken. Het grootste deel van de participanten vermelde dat ze het erg jammer vonden dat ze maar zo weinig te zien kregen over elke deelnemer. Ze zeiden “Ik kan hier moeilijk een keuze in maken omdat ik echt nul informatie heb over de persoon”. Zo zouden ze graag meerdere fotos willen zien, hobbies en leeftijden. Door het ontbreken van deze factoren vonden ze het realisme wat achteruit gaan. Een duidelijke aanpassing zou dus zijn om meer realistische profielen toe te voegen aan het prototype. Tot slot vond iemand fijn dat het prototype wel

gefocust was op hoe je naar de interface en profielen bekijken en dat het dus geen afspiegeling van de maatschappij werd.

Interface

Over het algemeen waren de deelnemers van de studie vrij positief over de uitstraling van het prototype. Het kwam duidelijk naar voren dat de meeste de app er realistisch uit vonden zien en sommige vergeleken het prototype met al bestaande apps zoals Tinder en Hot or Not. Echter gaven veel deelnemers wel aan dat de interface vrij simpel was en dat het echt een basisontwerp is. Een persoon zei dan ook: "Het voelt niet speciaal aan, maar het doet wel wat het zou moeten doen." Dit geeft dus aan dat het prototype niet veel poespas heeft, maar dat het wel net zo werkt als dat andere al bestaande datingapps. Het is daarom voor de deelnemers ook vrij vanzelfsprekend en duidelijk wat er verwacht wordt. Zo werd ook meerdere keren aangegeven dat de werkende knoppen met het hartje en het kruisje voor zich spreken en dat dit realistisch overkomt. Toch waren er ook een aantal participanten die het prototype niet realistisch vonden en het zelfs "nep" vonden overkomen vergelijken met bijvoorbeeld Tinder. Dit zorgt ervoor dat je niet echt het idee hebt dat je echt aan het swipen bent, maar dat je het gevoel hebt dat je meedoet aan een experiment. Daarnaast waren de deelnemers het niet eens over de kleuren van de interface. De een vond de kleuren een fijne uitstraling hebben, die niet afleiden van de profielen. Terwijl de ander de kleuren juist niet mooi en gaf aan dat de app daardoor een minder professionele uitstraling kreeg. Verder werd de "no-match" pagina door veel deelnemers als vreemd ervaren. Dit zie je eigenlijk bij geen een bestaande app, waardoor het nu raar aanvoelt om gelijk te kunnen zien dat je geen match hebt. Daarnaast werd de pagina door verschillende deelnemers als erg "in your face" ervaren. Als laatste werden er een aantal opmerkingen gemaakt over de tekst "discover" boven de profielen. Een participant vroeg zich af of dit de naam van de app was en sommige probeerden ook op de tekst te klikken om zo meer te kunnen zien, waarna ze erachter kwamen dat dit eigenlijk niks deed. Dit laat zien dat de app eigenlijk geen duidelijke identiteit heeft.

Interactie

Over het algemeen waren de participanten van de studie erg positief over de interactie van het prototype. Alle respondenten gaven aan het gevoel hadden dat het swipen op de dating app realistisch aanvoelde. Dit is een belangrijk aspect van een dating app, omdat het gebruikers in staat stelt om op een eenvoudige manier door potentiële matches te bladeren. Het kruisje en het hartje waren duidelijk genoeg en niemand ondervond problemen. Enkele gebruikers gaven aan dat het swipen soms lastig ging omdat een foto bleef hangen. Dit was te wijten aan het feit dat een foto ook omhoog kon worden geswiped.Verder gaven enkele gebruikers aan dat het niet heel realistisch aanvoelde om na iedere keer swipen te worden geconfronteerd met een match of no-match. Vooral in de no-match conditie werden mensen ontmoedigd om verder te swipen. Dit kan een negatieve invloed hebben op de gebruikerservaring en uiteindelijk leiden tot minder actief gebruik van de app.

Appendix E

Big Five Inventory-10 (BFI-10)

English version

Instruction: How well do the following statements describe your personality?

I see myself as someone who ….	Strongly disagree	Disagree	Somewh at disagree	Neither disagree nor agree	Somewh at agree	Agree	Strongly agree
… is reserved (E)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
… is generally trusting (A)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
… tends to be lazy (C)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
… is relaxed, handles stress well (N)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
… has few artistic interests (O)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
… is outgoing, sociable (E)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
… tends to find fault with others (A)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
… does a thorough job (C)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
… gets nervous easily (N)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
… has an active imagination (O)	(1)	(2)	(3)	(4)	(5)	(6)	(7)

Appendix F

Qualtrics Survey

Introduction

Welcome,

Thank you very much for participating in this study of Tilburg University! In this text you can read all the information that is necessary to start with this study, so please read it carefully.

With this research, we want to gain insights into people's behavior when using a prototype of an online dating app for a longer period of time. Therefore, we would like to ask you to interact with the mock-up online dating app HeartBeat for **five consecutive days on your phone**. Please make sure that you have a steady **WIFI connection**. You are asked to swipe some profiles in HeartBeat every day. If you have swiped right (thus liked) a profile, you will receive a notification indicating whether you have a match with this person or not. You may thus also be rejected, which may cause discomfort.

On the first and fifth (last) day, you are asked to answer a set of additional questions. On average, partaking in this study will take around 5 minutes a day. The first day will take around 15 minutes as it consists of more questions. To recognize you in subsequent days, a cookie with your unique participant ID will be installed on your device on the first day. On this first day, you'll also be asked to share your email address, which we will use to send you an e-mail every day at 8 am with the participation link for that day. Please check your spam folder when participating the study, as the follow up e-mails may end up there. Make sure you swipe the profiles of that day before 23:59pm. Your email address will be removed as soon as the data collection has been finished.

There are no risks for participating in this study. All data collection will be done according to the General Data Protection Regulations (GDPR). The Research Ethics and Data Management Committee (REDC) of Tilburg School of Humanities and Digital Sciences (TSHD) has given permission for conducting this study (REDC.2022.16ab). The collected data will be anonymized and

treated with utmost confidentiality. By no means, your email address can be associated with the results after data collection has been finished. The anonymized data of this study will be stored for 10 years and can be shared with other researchers (for non-commercial purposes).

Participating in this study is completely voluntary and during this study you have the right to withdraw at any time, for any reason and without negative consequences. If you have any questions about this study at a later time, you can contact the researchers on datingappresearch@tilburguniversity.edu. For comments or complaints about this study, you can also contact the REDC of TSHD via tshd.redc@tilburguniversity.edu.

Click on the arrow to continue.

Consent form

When you want to participate in this study, you agree with the following statements:

- You have read the information above carefully;
- You are 18 years or older;
- You know that if you have any questions, you can contact the researchers;
- You know that you may be rejected when liking profiles in the mock-up dating app HeartBeat;
- You accept that a cookie will be installed on your device that will only store your unique participant ID;
- You know that you can withdraw from this study at any times without reason and without negative consequences;
- You agree that your anonymized data will be stored for 10 years;
- You agree that your anonymized data will be used for potential future studies or a scientific publication;
- You agree that your anonymized data can be shared with others (for non-commercial purposes).
- I agree with this and I would like to start with the study. (1)
- I do not agree with this and I do not want to participate in this study. (2)

Demographic Questions

We start with some general questions.

What is your age? (fill in your age in numbers)

_____

What gender do you identify most with?

Male (1)

Female (2)

Non-binary (3)

Other, namely (4) _____

Prefer not to say (5)

Which gender do you feel most attracted to?

- Males (1)
- Females (2)
- Both (3)
- Other, namely: (4) _____
- Prefer not to say (5)

Are you currently open for a relationship?

- Yes (1)
- No (2)

Are you currently using one or more dating platforms?

- Yes (1)
- No (2)
- Prefer not to say (4)

Display This Question:

If Are you currently using one or more dating platforms? = Yes

Approximately how often do you use this/these platforms per month?

- Once a month (1)
- 2-3 times a month (2)
- Once a week (3)
- 2-3 times a week (4)
- 4-5 times a week (5)
- Once a day (6)
- 2-3 times a day (7)
- More than 2-3 times a day (8)

E-mail

In order to contact you the upcoming days, we need your email address.*

**This email address will only be used to contact you during the five-day study, will not be linked to your answers, and will be removed from our database as soon as we're done with data collection.*

*** Please make sure you **check your spam mailbox** every day as the emails we send may end up in your spam folder.*

Personality scale

We will now ask you to answer some statements about your personality. Indicate to what extent you agree with the following statements.

I see myself as someone who ...

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
... is reserved (1)	o	o	o	o	o	o	o
… is generally trusting (2)	o	o	o	o	o	o	o

… tends to be lazy (3)	o	o	o	o	o	o	o
… is relaxed, handles stress well (4)	o	o	o	o	o	o	o
… has few artistic interests (5)	o	o	o	o	o	o	o
… is outgoing, sociable (6)	o	o	o	o	o	o	o
… tends to find fault with others (7)	o	o	o	o	o	o	o
… does a thorough job (8)	o	o	o	o	o	o	o
… gets nervous easily (9)	o	o	o	o	o	o	o

… has an active imaginati on (10)	o	o	o	o	o	o	o

Well-being scale

Below are some statements about your feelings and thoughts. Please tick the box that best describes your experiences.

Over the past 5 days...

	Totally disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Totally agree (5)
I've been feeling relaxed (3)	o	o	o	o	o
I've been feeling interested in other people (4)	o	o	o	o	o
I've had energy to spare (5)	o	o	o	o	o
I've been dealing with problems well (6)	o	o	o	o	o

I've been thinking clearly (7)	o	o	o	o	o
I've been feeling good about myself (8)	o	o	o	o	o
I've been feeling close to other people (9)	o	o	o	o	o
I've been feeling confident (10)	o	o	o	o	o
I've been feeling loved (12)	o	o	o	o	o
I've been interested in new things (13)	o	o	o	o	o
I've been feeling cheerful (14)	o	o	o	o	o

Dating Confidence scale

Indicate to what extent you agree with the following items

	Totally disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Totally agree (7)
I lack confidence in my ability to find romantic connections in real life or on online dating apps (1)	o	o	o	o	o	o	o
I often feel that I am a failure at dating (2)	o	o	o	o	o	o	o
In general I feel satisfied with my dating life (3)	o	o	o	o	o	o	o
I often worry about my future dating life (4)	o	o	o	o	o	o	o

Prototype Link

Click here to open the prototype

(After you finished the prototype please click the arrow button below.)

End of Survey

You are done with swiping for today. See you tomorrow!

Appendix G

Assumptions Analysis 1

Before performing the multiple regression, various assumptions were tested. To ensure that the data met the assumption of collinearity indicating that multicollinearity was not a concern, a Pearson correlation coefficient was calculated to examine the relationship between predictors (Extraversion, Tolerance = .90, VIF = 1.11; Neuroticism, Tolerance = .93, VIF = 1.08; Agreeableness, Tolerance = .94, VIF = 1.07; Conscientiousness, Tolerance = .99, VIF = 1.01; Openness, Tolerance = .99, VIF = 1.01). These values did not indicate a violation of this assumption. For the second assumption, a Durbin-Watson statistic was calculated to assess the assumption that the values of the residuals are independent, which suggested that this assumption was not violated (1.72). Furthermore, a scatterplot was created to assess the assumption that the variance of the residuals was constant (homoscedasticity). The plot did not indicate a violation of this assumption (see Figure 1). A P-P plot was created to assess the assumption that the values of the residuals were normally distributed. The plot tends to exaggerate differences in the middle. The plot did not indicate a violation of this assumption (see Figure 2). Finally, Cook's Distance values were calculated to ensure that no influential cases were biasing the model. All values were below 1 (0.17), suggesting that no cases were biasing the model, which meant that this assumption was not violated.

Figure 1

Scatterplot profile liking behavior (n = 99)

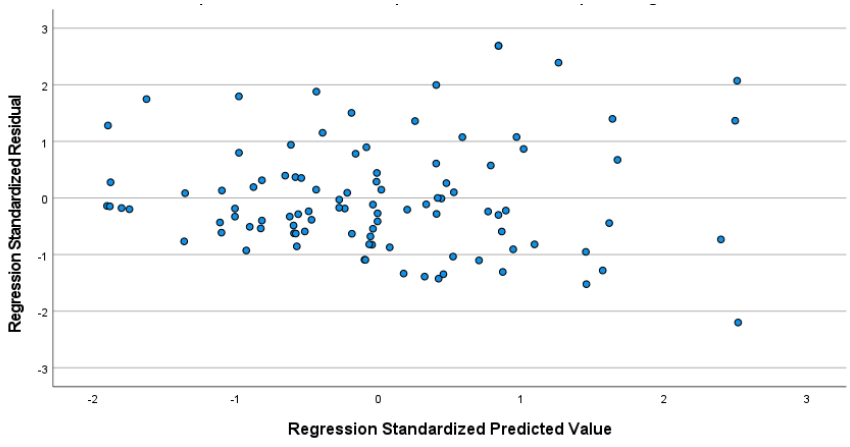
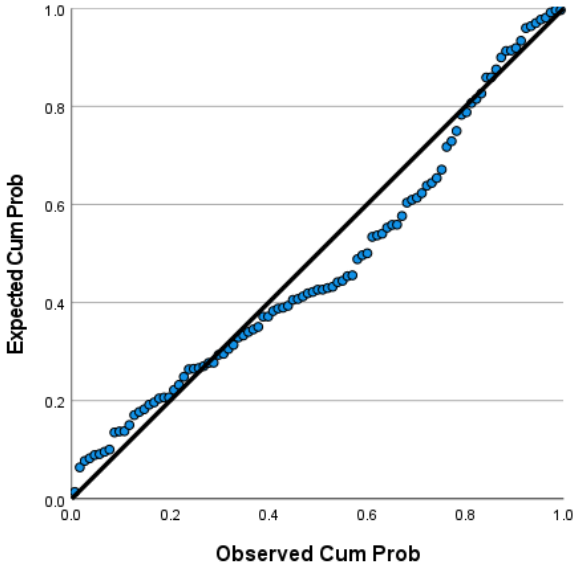


Figure 2

P-P Plot of Regression Standardized Residual profile liking behavior (n = 99)



Appendix H

Assumptions Analysis 2

Before performing the multiple regression, various assumptions were tested. To ensure that the data met the assumption of collinearity indicating that multicollinearity was not a concern, a Pearson correlation coefficient was calculated to examine the relationship between predictors (Extraversion, Tolerance = .92, VIF = 1.10; Neuroticism, Tolerance = .91, VIF = 1.10; Agreeableness, Tolerance = .94, VIF = 1.07; Conscientiousness, Tolerance = .98, VIF = 1.02; Openness, Tolerance = .99, VIF = 1.01). These values did not indicate a violation of this assumption The second assumption was tested by calculating a Durbin-Watson statistic to assess the assumption that the values of the residuals are independent, which suggested that this assumption was not violated (2.18). A scatterplot was created to assess the assumption that the variance of the residuals was constant (homoscedasticity). The plot did not indicate a violation of this assumption (see Figure 3). A P-P plot was created to assess the assumption that the values of the residuals were normally distributed. The plot tends to exaggerate differences in the middle. The plot did not indicate a violation of this assumption (see Figure 4). Finally, Cook's Distance values were calculated to ensure that no influential cases were biasing the model. All values were below 1 (0.20), suggesting that no cases were biasing the model, which meant that this assumption was not violated.

Figure 3

Scatterplot interaction with a match (n = 99)

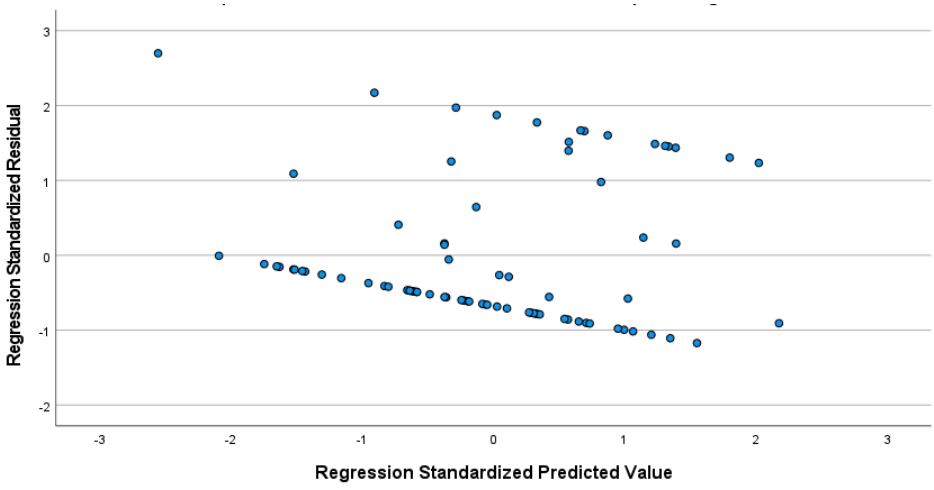


Figure 4

P-P Plot of Regression Standardized Residual interaction with a match (n = 99)