Would You Date Him? The Role of Persuasion on Dating Applications

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Abstract

The rapid advancement and increasing use of mobile technology in recent years has seen the successful development of dating applications such as Tinder. By using these apps, users engage in the practice of persuasion by manipulating their profiles to present the best version of themselves with the objective of persuading other users to connect with them. While swiping through the hundreds of profiles, users also unknowingly become susceptible to the same persuasion tactics they have used themselves.

The purpose of this study was to investigate how people react and respond to Cialdini's (2009) persuasion principles on the dating app Tinder. As previous research indicates individual differences can influence persuasion effectiveness, as well as how individuals use Tinder, the potential moderation of individual differences on responses was also investigated. Specifically, anxiety, impulsivity, self-esteem and general trust were of focus. The study adopted a between-measures design where female participants (N = 138) were randomly assigned to one of three survey conditions displaying a Tinder profile. Each condition gradually increased in persuasiveness by manipulating the persuasion principles likability, reciprocation and social proof.

Results suggested no significant differences in responses of participants between the conditions, indicating the persuasion principles had no influence on responses. Additionally, limited support was found in regards to influence of individual differences on participant responses. The inability to produce minimal significant findings can be attributed to the limitations of the study.

Declaration

This thesis contains no material which has been accepted for the reward of any

other degree or diploma in any University, and, to the best of my knowledge, this

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I give consent to this copy of my thesis, when deposited in the University Library,

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Chapter 1: Introduction

Romantic relationships play a pivotal role in the physical and emotional wellbeing of individuals (Finkel, Eastwick, Karney, Reis & Sprecher, 2012). The more traditional ways of meeting potential partners include introductions via family and friends, meeting in bars, clubs or various other social situations (Ward, 2017). Through the establishment of the Internet, dating websites (sites) were introduced, and this revolutionised the way people initiate and maintain relationships. Users of dating sites have previously been stigmatized under the assumption they used these sites to compensate for a lack of relationship success in the regular world (Gatter & Hodkinson, 2016; Valkenberg & Peter, 2007). However, the rapid advancement and increasing access to mobile technology has resulted in the successful development of mobile dating applications (apps) and a reduction in stigma around the search for potential partners online. Dating apps require users to present themselves in a self-enhancing manner that persuades other users to match and connect with them. In this sense, many users unknowingly employ a range of persuasion techniques while creating and updating their profiles.

Although the use of persuasion techniques is evident in online dating environments, it is an area that is under researched due to the recency of these developments. With more people now using dating apps and the fact that this is a potentially risky behaviour involving strangers, it is important to understand the types of people using these apps and how they are using them. The purpose of this study is to examine the influence of persuasion tactics on dating apps, with a focus on the potential role of individual attributes, including impulsivity, anxiety, self-esteem and general trust. The following review will summarise what is presently known about

these variables and of the potentially important role of persuasion and susceptibility to persuasion in relation to the use of dating apps.

1.1 Dating Apps: Tinder

The vast majority of dating apps available on the market are free to download with the option of purchasing versions that offer added functions to enhance the user's experience (Albury, 2017). During 2015, 22% of adults aged 18-24 in the US reported using a dating app, an almost four fold increase from 5% in 2013 (Smith, 2016). The success of these apps can be attributed to the utilization of the Global Positioning System (GPS) to geographically locate users and allow connections with other users in close proximity. A few of the commonly used apps available include Tinder, Bumble and Hinge for heterosexual populations, and Grindr for male homosexual populations. Of these apps, Tinder has dominated the dating app market since its introduction in 2012 with more than 50 million users and 9.6 daily users as of 2015 (Ward, 2017).

Upon account set up, Tinder provides the option for users to connect their Facebook profile, enabling the transfer of key details such as photos, interests and friend lists. This not only offers convenience, but also a sense of safety for users because this connection verifies users as real people (Ward, 2017). Users choose what photos to include on their profile and the information featured in their biography section. The app then prompts users to specify the gender, age range and geographical proximity of users they wish to connect with. Based on this criterion, Tinder randomly presents profiles where users can 'swipe right' to show interest in the profile, or they can 'swipe left' to discard the profile and view the next person. In the

case where two users mutually swipe right, they are notified with a match and can connect via message within the app.

1.2 Risk Factors

As Tinder introduces a new method of connecting with strangers, risks also arise. An area of concern with all forms of online dating is how users choose to meet with others face-to-face (FtF). For increased safety users are recommended to meet in populated public areas; however, depending on motivations to use the app, users may prefer to meet privately at home due to the perceived higher likelihood of a sexual encounter (Carpenter & McEwan, 2016). Although, Smith and Anderson (2016) estimate only two thirds of those who have used a dating app or site have met with others FtF, thus not all users will necessarily expose themselves to the risks involved with dating apps each time they use them.

Dating apps are recognized as a means for individuals to connect with hundreds of possible sexual partners and increasing the opportunity to engage in sexually at-risk behaviours. Studies have found that users of dating apps are more likely to engage in sexual risk behaviours such as unprotected sex, having a casual sex partner in their previous sexual encounter, as well as having more lifetime sexual partners (Choi, Wong, Lo, Wong, Chio & Fong, 2016; Sawyer, Smith & Benotsh, 2018). Additionally, Shapiro et al. (2017) found a significant positive correlation between Tinder use, nonconsensual sex and having more sexual partners. The increased exposure to possible sex partners also increases a users probability of experiencing sexual abuse and harassment. One study found dating apps as a risk factor for sexual abuse (Choi, Wong & Fong, 2016) and another estimated that approximately 57% of users experienced sexual harassment in the past year

(Douglass, Wright, Davis & Lim, 2018). These risks can have far reaching consequences. Studies show experiences of harassment can lead to increased feelings of depression, anxiety, and engagement in other risk-related behaviours such as binge drinking, substance use and self-harm (Bucchianeri, Eisenberg, Wall, Piran & Neumark-Sztainer, 2014; McGinley, Wolff, Rospenda, Liu & Richman, 2016).

1.3 Personal Branding and Persuasion on Tinder

The process of swiping through hundreds of profiles involves users forming immediate judgments of others based on few images and minimal information. Through this process, users understand the importance in manipulating their own profile in a way that persuades other users to connect with them. In this sense, Tinder users adopt iconographic conventions of personal branding (David & Cambre, 2016). Wee and Brooks (2010) describe personal branding as the self becoming a marketable commodity to be consumed, where constant reflection of success is required to improve the self and relationships with others. Hearn (2008) states that central to this process of personal branding is the practice of persuasion. This is evident in any online dating environment, where users are constantly reviewing the images and text on their profiles to present the best version of themselves in order to persuade other users to connect and form a relationship with them.

1.3.1 Principles of Persuasion

Persuasion can be defined as the practice of manipulating messages for the purpose of altering the knowledge, beliefs, and interests of an individual or group (Murphy, Long, Holleran & Esterly, 2003). Persuasion is an effective method that can be employed by users of dating apps to alter other users perception of them and take interest in them. Cialdini (2009) proposes there are six principles central to the

practice of persuasion. The first, reciprocation, suggests that a person repays what they have received as a result of feeling obliged to return favours. The second, commitment and consistency, suggests people have a desire to be and appear consistent with their words, beliefs, attitudes and actions. That is, once they make a prior commitment, they are more likely to comply with requests that uphold that commitment. The next principle social proof suggests we observe the beliefs and behaviours of others to determine how we should act or what to believe in a novel situation. The fourth principle *liking* suggests we are more likely to comply with the requests of those we know and like. Qualities relevant to the likability of an individual include physical attractiveness, intelligence, kindness and similarity. The fifth principle of authority suggests we are more likely to comply with requests made by those who are in a position of power (ie. doctor or lawyer). Finally, scarcity suggests people attribute more value to opportunities when they are less available and are therefore more likely to comply with the request when the opportunity is scarce. Research suggests that not all principles are equally as persuasive and individual characteristics can make some people more or less susceptible to persuasion attempts.

1.4 Effectiveness of Cialdini's (2009) Persuasion Principles

The incorporation of Cialdini's (2009) persuasion principles in a persuasive message can greatly strengthen its influence, thus increasing compliance with the request. Investigating the effectiveness of Cialdini's (2009) principles in a persuasive request, Kaptein, Markopoulos, Ruyter and Aarts (2009) conclude that the principles do successfully enhance persuasion attempts. However, some principles are more influential than others and their effectiveness can vary depending on the environment and the individual differences of the recipient. As will be explained presently, the

current study examines the principles social proof, likability and reciprocation because these are ones most relevant to, and which can be manipulated, by popular dating apps such as Tinder.

An early study by Postmes, Spears, Sakhel and de Groot (2001) investigated the effectiveness of social proof specifically in online environments. They primed participants with a particular social behaviour by making common group norms salient. Interestingly, they found that, when individuals could remain anonymous, they were more likely to adhere to group norms. This suggests when individuals remain anonymous, as they often do online, they look for group norms to establish how they should act. A more recent study by Guadagno, Muscanell, Rice and Roberts (2013) examined the effect of social proof and likability on compliance and willingness to volunteer to requests made online. They discovered social proof was influential but likability was not. Additionally they found a significant positive relationship between level of social proof and time participants were willing to volunteer.

Although the study did not conclude likability to be influential, likability is one of the most critical elements to persuasion in online dating, as users are unlikely to connect with an individual who does not possess likable traits. A study by Orji, Mandryk and Vassileva (2015) examined the overall effectiveness of each persuasive strategy, concluding likability was the third most effective strategy of the six.

Research has found reciprocation to be one of the most effective persuasive strategies, as individuals feel inclined to return favours out of kindness. Orji et al. (2015) concluded from their study that reciprocation is the most effective strategy of the six. An early study by Cialdini, Green and Rusch (1991) demonstrated the power of reciprocation by presenting participants with an argument by a persuader, after the

persuader had previously yielded to the participants' argument on a prior topic. The participants reported the greatest persuasion when the persuader had agreed with their argument on a prior topic. Furthermore, reciprocation was still effective when personal relevance to the topic, strength of argument, and likability and intelligence of persuader were controlled for.

The current literature suggests that Cialdini's (2009) persuasion tactics are effective, although susceptibility to persuasion can be moderated by particular individual traits. For example, studies have established a gender difference between susceptibility to persuasion. Guadagno and Cialdini (2002) examined persuasive messages in email compared to FtF and found women are less likely to adhere to persuasive messages through email than FtF, whereas men demonstrated no difference. Guadagno and Cialdini (2007) then replicated their study, producing similar results. They propose that women respond in a stereotypical manner; they are more interested in relationship formation and cooperation, and therefore can align their attitudes with the persuader in a FtF interaction as relationship goals become more salient. However, as the main goal of a dating app is relationship formation, females may become more susceptible to persuasion in a dating app. A later study (Orji et al., 2015) also demonstrated gender differences and concluded women were more persuasive than males. After commitment, liking and social proof appear to be the next most effective persuasive strategies for females.

Research further shows that personality attributes can enhance or reduce effectiveness of persuasion techniques. Alkis and Temizel (2015) investigated the relationship between the Big Five personality traits and Cialdini's (2009) persuasion strategies and concluded that people with particular personality traits were more susceptible to each persuasion strategy, with those higher on agreeableness in

particular found to be the most susceptible. Other results showed that liking is an effective strategy for agreeable and extraverted people and for also those low in openness and conscientiousness. Moreover people higher on all traits except openness were more susceptible to the reciprocation principle.

1.5 Tinder: Motivations and Individual differences

The media has continuously branded Tinder as a meaningless hook up app, despite developers claiming it is simply another social networking app to meet new people (David and Cambre, 2016; Sumter, Vandenbosch & Ligtenberg, 2017).

Although Tinder can be used to search for a meaningless hook up, several studies have discovered multiple underlying motivations for use. It is important to acknowledge the motivations for Tinder use as they can predict users subsequent and related behaviours and ultimately increase or decrease their susceptibility to risks.

Sumter et al. (2017) revealed six motivations for Tinder use: love, casual sex, ease of communication, self-worth validation, thrill of excitement and trendiness.

Additional studies have had similar findings in support of love/romantic relationship and casual sex, as well as fun and convenience (Bryant & Sheldon, 2017; Gatter & Hodkinson, 2016; Griffin, Canevello & McAnulty, 2018). Motivations differ between genders with men more likely to report motivations for casual sex and hooking up, whereas women more likely to report relationship aspects and self-worth validation (Bryant & Sheldon, 2017; Gatter & Hodkinson, 2016; Ranzini & Lutz, 2017; Sumter et al., 2017). In addition to gender differences, Ranzini and Lutz (2017) discovered age differences with older Tinder users reporting to use the app more for friendship seeking and less for personal validation in comparison to younger users.

In addition to motivations, the likelihood of individuals using dating apps and engaging in subsequent risk behaviours can be moderated by individual attributes. There are two opposing hypotheses that propose how individual differences can determine use of dating apps. The first, or social compensation hypothesis (SCH), states that individuals who are low in social competence and experience anxiety and other related traits, will use dating apps and social media to compensate for deficits they experience in the offline world (Poley & Luo, 2012). On the other hand, the richget-richer hypothesis (RGRH) proposes that those who are socially competent and low in anxiety and other related traits will use dating apps and social media simply as another strategy to meet new people and strengthen relationships (Valkenberg & Peter, 2007). Based on these hypotheses and the literature on online dating, the individual attributes included in this study are anxiety, impulsivity, self-esteem and trust. As dating apps are relatively new and there is limited research, research examining other forms of computer-mediated communication (CMC) may also be relevant. The factors that draw some people to use CMC may draw the same people to use dating apps. Furthermore once people are comfortable using CMC, they may feel comfortable using a dating app (Blackhart, Fitzpatrick & Williamson, 2014).

1.5.1 Anxiety

Studies examining anxiety, specifically in online dating settings, have produced inconsistent findings. Poley and Luo (2012) investigated SCH and RGRH hypotheses and found no support for either. They found that individuals who were high in dating anxiety and lacking social skills had a greater preference for FtF dating, despite being aware of the possible benefits of online dating. However, results from a later study by Chin, Edelstein and Vernon (2018) suggest individuals with an anxious

attachment style are more likely to use a dating app, perhaps because they increase the odds of finding a partner while being unaware of rejection.

Further supporting the SCH, research has shown anxious people often use CMC, as FtF communication often induces increased feelings of anxiety. It is proposed CMC is less anxiety provoking as it offers reduced cues, anonymity and control over the speed of interaction (Peter & Valkenberg, 2007; Rice & Markey, 2009). A study by Rice and Markey (2009) examined anxiety levels after communication via CMC and FtF, and concluded that individuals felt less anxious following CMC. A study by Weidman et al. (2012) also investigated the use of online CMC by anxious people and concluded that those high in social anxiety feel more comfortable using and disclosing themselves in online CMC.

In further support of the SCH, Koc and Gulyagci (2013) examined psychological predictors of Facebook addiction and concluded that anxiety positively predicts Facebook addiction. Moreover, Cleland Woods and Scott (2016) investigated anxiety and social media use and found a positive correlation. Anxious people may develop negative feelings towards themselves and this encourages the excessive use of social media for social support and validation (Koc & Gulyagci, 2013).

1.5.2 Impulsivity

Impulsivity is a multifaceted concept that describes an individual's "inability to wait, a preference for risky outcomes, a tendency to act without forethought, insensitivity to consequences, and/or an inability to inhibit inappropriate behaviours" (Evenden, 1999; Reynolds et al., 2006; in Stevens, 2017, pp.1). Impulsiveness is also related to an increased propensity for seeking sex and engaging in sexual risk behaviours (Sawyer et al., 2018).

Tinder is an environment that offers the immediate sexual encounters and high-risk situations that appeal to impulsive individuals. Studies examining the relationship between individual attributes and Tinder have confirmed users are higher in impulsiveness (Carpenter & McEwan, 2016; Sawyer et al., 2018). Additionally, a study by Hahn et al. (2018) investigating use of dating apps among gay men and sexual risk behaviours, found those scoring high in impulsiveness met with other users in a shorter period of time. Although this study examined gay men specifically, the results can be generalized to heterosexual populations as impulsivity in general is related to engaging in sexual risk behaviours (Sawyer et al., 2018).

Investigating the individual attributes of victims to online romance scams, Whitty (2018) discovered victims scored higher on impulsiveness. This suggests that impulsive individuals are more likely to comply with the requests of those they meet online, thus increasing their exposure to possible risks.

1.5.3 Self-esteem

Self-esteem is defined as the positive or negative attitude an individual has towards themselves (Rosenberg, Schooler, Schoenbach & Rosenberg, 1995).

Baumeister, Tice and Hutton (1989) describe individuals scoring high in self-esteem as having a tendency to present themselves in a self enhancing manner, a willingness to accept risk, focus on good qualities, strategic ploys and calling attention to oneself. Based on the nature of dating apps, which require users to take risks when communicating and meeting with others, and present themselves in a positive manner, it would be logical to assume those with low self-esteem would be less inclined to use dating apps. However as mentioned earlier, a recurring motivation to use dating apps is for self-worth validation (Gatter & Hodkinson, 2016; Ranzini & Lutz, 2017;

Sumter et al., 2017), suggesting that dating apps have self-esteem enhancing features that appeal to those with low self-esteem.

By achieving matches, users achieve instant positive feedback. Given that this can enhance their self-esteem, this may be an additional motivator to use Tinder excessively or problematically. Orosz et al. (2018) examined the role of self-esteem in problematic Tinder use and found those who used Tinder as a method of self-esteem enhancement are more inclined to problematic Tinder use. However, the study did not detect an association between general levels of self-esteem and Tinder use. This suggests that people are motivated to validate their self-worth, but not necessarily out of desire to elevate their self-esteem. Similar findings were reported by Blackhart et al. (2014) and Gatter and Hodkinson (2016) who also found no relationship between levels of Tinder use and self-esteem.

By contrast, a study by Kim, Kwon and Lee (2009) examined self-esteem and individual importance in romantic relationships towards use of online dating and concluded that people's intent to use online dating is influenced by self-esteem.

Interestingly they found in participants who considered romantic relationships to be important, those with high self-esteem were more likely to use online dating. On the other hand, when participants considered romantic relationships less important, those with low self-esteem were more likely to use online dating. This suggests self-esteem levels do influence intent to use online dating which depends on whether or not they have motivations towards relationship formation. The role of self-esteem therefore appears contextual and more of a moderating factor rather than an influence in its own right.

1.5.4 Trust

A concern expressed by users of dating apps is often in relation to the trustworthiness and credibility of other users. Chin, Edelstein and Vernon (2018) found the most common reason for individuals not using a dating app is the inability to trust people online. Online CMC is a difficult environment to gain trust and credibility as they offer minimal social presence. Social presence refers to the degree of sense of human contact, which is highest in FtF contact and lowest in text based contact (Vilani-Yavets & Tifferet, 2015). Based on the low social presence in dating apps, it can be expected that those with low levels of trust will be less likely to use dating apps. To test this assumption, Chan (2017) examined the relationship between trust towards people online and intent to use dating app and concluded that a greater degree of trust is associated with dating app use. However, a contrasting study by Kang and Hoffman (2011) found that individuals more trusting of others are less likely to use an online dating site. This is possibly because they feel they can trust people they meet in person but feel differently about trusting people online.

1.6 The Present Study

The rapidly changing and increasing popularity of online forms of CMC such as Tinder highlight the importance of conducting research in order to understand how aspects of online CMC influence social interactions (Guadagno et al. 2013). As Tinder is a new modality of initiating relationships, the area remains underresearched. As some users simply use the app for entertainment with no intentions of meeting others FtF, it is important to understand the personality traits of the people who do actively use Tinder as a way of relationship initiation and increase subjection to involved risks (Carpenter & McEwan, 2016; Timmermans & Caluwe, 2017).

Additionally, previous research examining individual attributes and online dating focuses on intent to use these mediums rather than how they use it. Therefore, this study is unique as it examines the activity of users on Tinder.

Although Tinder users may not purposely employ persuasive strategies, the strategies included in the present study are naturally integrated into Tinder due to its design. Cialdini's (2009) persuasion principles have been researched extensively in various contexts including online environments, but not specifically within online dating environments. Moreover it is possible Cialdini's (2009) principles can have varied effectiveness on Tinder as opposed to previously researched contexts, due to the intentions and motivations for use. Additionally, there is very little literature on the relationship between the personal attributes anxiety, impulsivity, self-esteem, trust, and susceptibility to persuasion. It is hoped, therefore, that this study can provide the groundwork for future research in this field.

The purpose of the present study is to address dating apps as an underresearched topic, more specifically the use of Cialdini's (2009) persuasion principles
likability, social proof and reciprocation on the popular app Tinder. Using a between
measures design, the personality attributes anxiety, impulsiveness, self-esteem and
trust will be measured to determine the moderating influence of susceptibility to
persuasion and subsequent behaviours.

1.6.1 Aims and Hypotheses

In order to assess the relationship between individual attributes and persuasion in Tinder, participants were randomly assigned to one of three conditions, each with different levels of persuasion. The first condition (Condition 1) is the base profile that contains basic minimal information. The second condition (Condition 2) manipulates

the principles likability and reciprocation, and lastly Condition 3 manipulates likability, reciprocation and social proof. The aims and hypotheses are listed below.

Aim 1: To determine the effectiveness of Cialdini's (2009) persuasion principles on Tinder. It was hypothesized that:

H1: Participants will respond more favourably to the profile as the level of persuasion increases, ie. more likely to swipe right, more likely to go on a date. Thus, Condition 3 is expected to be more persuasive than Condition 1 and 2, and Condition 2 is expected to be more persuasive than Condition 1.

Aim 2: To determine the potential moderating influence of individual differences on persuasion effectiveness on Tinder, the study will test for interactions between individual difference scores and the Condition manipulations. It was hypothesized that:

- **H2**: Participants scoring higher in anxiety will respond more favourably to the profiles with higher persuasion than participants scoring lower in anxiety.
- **H3:** Participants scoring higher in impulsiveness will respond more favourably to the profiles with higher persuasion than participants scoring lower in impulsiveness.
- **H4:** Participants scoring lower in self-esteem will respond more favourably to the profiles with higher persuasion than participants scoring lower in self-esteem.

- **H5:** Participants scoring higher in general trust will respond more favourably to the profiles with higher persuasion than participants scoring lower in general trust.
- **H6:** Participants scoring higher in susceptibility to persuasion or general trust will respond more favourably to the Conditions with higher levels of persuasion.

Chapter 2: Method

2.1 Participants

A total of 141 participants completed the online survey. Three cases were removed from the dataset because their survey responses were incomplete and this left a final sample of 138 responses. All participants were recruited via Prolific, an online research recruitment system and comprised entirely of young women. Demographic characteristics are detailed below in Table 1. As indicated, majority of participants were aged between 18 and 21 (93.5%) and were from the United Kingdom (71%).

Table 1

Demographic characteristics of the sample

Variable	Frequency	%			
Age					
18-21	129	93.5			
22-25	2	1.4			
26-29	1	0.7			
30-34	2	1.4			
35-39	1	0.7			
40-44	2	1.4			
50+	1	0.7			
Country of residence					
Australia	4	2.9			
United Kingdom	98	71.0			
United States	32	23.2			
Canada	2	1.4			
Ireland	2	1.4			
Employment status					
Full-time employment	11	8.0			
Part-time employment	17	12.3			
Student/studying	103	74.6			
Retired	1	0.7			
On pension or welfare support	1	0.7			
Other	5	3.6			
Education					
Year 10 only	6	4.3			
Finished high school	103	74.6			
Diploma or technical qualification	22	15.9			
Bachelors degree	5	3.6			
Higher degree	2	1.4			
Relationship status					
Single	87	63.0			
In a relationship	48	34.0			
Engaged/married	3	2.2			
Disason married	5	4.4			

2.2 Materials

The self-report survey was administered through Survey Monkey. The survey obtained information regarding demographics (Appendix A), social media and dating app usage (Appendix A), and the following measures:

2.2.1 Influence of Cialdini's (2009) Persuasion Strategies

Participants were randomly assigned to view one of three Tinder profiles (Appendix B). Each profile contained varying amounts of information and images, increasing in level of persuasiveness by manipulating Cialdini's (2009) persuasion principles likability, reciprocation and social proof.

2.2.2 Generalised Trust Scale (Couch, Adams & Jones, 1996)

This scale contained a total of 20 items measuring general levels of trust and each question was rated on a 4-point likert scale (1 = "Strongly Disagree" to 4 = "Strongly Agree"). The internal reliability was high with an Alpha reliability of .85.

2.2.3 Rosenberg Self-Esteem Scale (Rosenberg, 1965)

This scale contained a total of 10 items measuring global self-esteem and each question was rated on a 4-point likert scale (1 = "Strongly Disagree" to 4 = "Strongly Agree"). The internal reliability was high with an Alpha reliability of .89.

2.2.4 Behavioural Inhibition and Behavioural Activation Scale (Carver & White, 1994)

This scale contains two sub-scales measuring Behavioural Inhibition System (BIS) sensitivity and Behavioural Activation System (BAS) sensitivity. The BIS/BAS theorises two dimensions of personality: anxiety and impulsivity. The BIS sub-scale contained a total of 7 items measuring anxiety and each question was rated on a 4-point likert scale (1 = "Strongly Disagree" to 4 = "Strongly Agree"). Internal

reliability was high, producing an Alpha reliability of .8. The BAS sub-scale contained a total of 13 items measuring impulsivity and each question was rated on a 4-point likert scale (1 = "Strongly Disagree" to 4 = "Strongly Agree"). Internal reliability was high with an Alpha reliability of .82.

2.2.5 Susceptibility to Persuasion Scale (Kaptein, Markopoulos, Ruyter & Aarts, 2009)

This scale contains six sub-scales measuring susceptibility to each of Cialdini's (2009) six persuasive principles. The scale contains a total of 12 items and each question was rated on a 4-point likert scale (1 = "Strongly Disagree" to 4 = "Strongly Agree"). Internal reliability was moderate, producing an Alpha reliability of .64. Although this is slightly below the generally accepted level of .7, this scale was considered useful as it measures susceptibility specifically to Cialdini's (2009) persuasion principles.

As the Tinder profile presented in the study was fictitious, the profile was not as realistic or persuasive as a real profile, thus may not have the intended influence on participants. Therefore, the Susceptibility to Persuasive Strategies Scale was included as a way to assess participants' general susceptibility to persuasion.

2.3 Procedure

Ethical approval was received before the commencement of the study. To participate in the study, participants were required to be female and aged 18 years or over. Before participating in the study, participants were required to read the information sheet (Appendix C) and provide consent.

A between-subject design was used where participants were randomly assigned to one of three conditions displaying a Tinder profile (Appendix B). The

profile in each condition displayed the same individual but with varying amounts of information and images to manipulate Cialdini's (2009) persuasion principles. Condition 1 was the control condition that displayed a minimal amount of information, one image and no manipulation of persuasion principles. Condition 2 manipulated the likability principle by providing additional information in the biography section to increase likability, as well as the reciprocation principle by including the 'super like' feature. Condition 3 increased in persuasion by also manipulating social proof. This was done by displaying various images and information from Facebook and Instagram to present the individual as popular and well liked amongst society.

There were 41 participants in Condition 1; 45 in Condition 2; and 52 in Condition 3. Each of the conditions contained identical demographic questions (Appendix A), social media and dating app/site usage questions (Appendix A), the Generalised Trust Scale, the Rosenberg Self-Esteem Scale, the BIS/BAS Scale and the Susceptibility to Persuasion Scale. After viewing the profile, participants were asked a series of follow up questions (Appendix D):

Question 1 (Q1) – "Would you swipe right to James' profile?"

Question 2 (Q2) - "Do you think James is suitable for a long-term romantic relationship?"

Question 3 (Q3) – "Do you think James would be someone your friends would like?"

Question 4 (Q4) – "Do you think James would be someone your family would like?"

Question 5 (Q5)— "Would you send James a message to get to know him?"

Question 6 (Q6) – "How much to you trust James?"

Question 7 (Q7) – "What is the likelihood of going on a date with James?"

Question 8 (Q8) – "What is the likelihood of hooking up with James on the first date?"

Q's 1-5 were measured using a binary (Yes/No) response, and Q's 6-8 were measured using a 5-point likert scale (Q6 – 1 ="Not at all" to 5 ="A great deal"; Q7-8 – 1 = "Very unlikely" to "Very likely").

Chapter 3: Results

3.1 Social Media and Dating App Usage

Table 2 summarises participants' use of social media. As indicated, the majority of participants reported using Instagram (62.3%) and Snapchat (60.9%) daily as well as Facebook (44.9%). Use of dating apps is summarized in Table 3 and these figures indicated that 46.6% of participants had used a dating app within the previous 6-12 months. Of these, the most common motivation reported was "just for fun" (38.1%) and "long-term romantic relationship" (34.9%). A total of 21% of the sample reported they had been on a date with someone they had met on a dating app or dating site.

Table 2
Social Media usage

	Never N(%)	<1 month N(%)	2-3 times a month N(%)	Weekly N(%)	2-6 p/w N(%)	Daily N(%)
Facebook	19(13.8)	16(11.6)	9(6.5)	12(8.7)	20(14.5)	62(44.9)
Instagram	22(15.9)	2(1.4)	3(2.2)	6(4.3)	19(13.8)	86(62.3)
Twitter	40(29.0)	11(8.0)	12(8.7)	7(5.1)	17(12.3)	51(37)
Snapchat	21(15.2)	2(1.4)	5(3.6)	21(15.2)	21(15.2)	84(60.9)
Tumblr	63(45.7)	18(13)	13(9.4)	17(12.3)	8(5.8)	19(13.8)

Table 3

Dating app usage

Variable	Frequency	%			
Use of dating app					
In the past 6 months?	29	21			
In the past 12 months?	34	24.6			
Never	75	54.3			
If yes, motivation to using $(N=63)$					
Long-term romantic relationship	22	34.9			
Short-term romantic relationship	4	6.3			
Casual hook up	3	4.8			
Make new friends	10	15.9			
Just for fun	24	38.1			
Have you ever been on a date with someone from a					
dating app/site?					
Yes	29	21			
No	109	79			

3.2 Effectiveness of Persuasion Principles on Tinder

The main experimental aims of the study were to determine the potential role of Cialdini's (2009) persuasion principles on people's reactions to scenarios modeled on the dating site, Tinder, and to ascertain if the influence of these persuasion principles were moderated by individual differences. Individual difference variables were also examined in their own right as potential predictors of how respondents might react to the scenarios.

3.2.1 Experimental Manipulations

It was hypothesized that, as the level of persuasion increased across conditions, people would be more likely to respond favourably to the dating profile. Thus, Condition 3 was hypothesized to be more persuasive than Condition 1 and 2, and Condition 2 to be more persuasive than Condition 1. Chi-Square analyses were used to examine persuasion effectiveness across conditions, measured using the 5 questions that were scored in a binary format. The results are presented below in Table 4. Analyses suggested no significant difference between conditions in relation to respondent's likelihood responding favourable to each question. This, none of the hypotheses relating the experimental manipulations were supported for these questions.

A One-way ANOVA was used to examine persuasion effectiveness of each condition for the series of questions scored on metric scales. The results are presented below in Table 5. Once again, the analyses suggested no significant differences between conditions or support for the hypotheses relating to the experimental persuasion manipulations.

Table 4

Proportion of participants who responded "Yes"

	Condition 1	Condition 2	Condition 3	
Variable	N = 41	N = 45	N = 52	$\chi 2(df)$
	N(%)	N(%)	N(%)	
Q1	34(82.9)	35(77.8)	38(73.1)	1.28(2)
Q2	36(87.8)	36(80)	37(71.2)	3.87(2)
Q3	38(92.7)	41(91.1)	46(88.5)	.50(2)
Q4	34(82.9)	40(88.9)	43(82.7)	.87(2)
Q5	34(82.9)	33(73.3)	33(63.5)	4.38(2)

Note. Q1 = "Would you 'swipe right' to James' profile?"; Q2 = "Do you think James is suitable for a long-term relationship?"; Q3 = "Do you think James would be someone your friends would like?"; Q4 = "Do you think James would be someone your family would like?"; Q5 = "Would you send James a message to get to know him?".

Table 5

Mean scores across conditions

Variable	Condition 1 $N = 41$ $M(SD)$	Condition 2 $N = 45$ $M(SD)$	Condition 3 $N = 52$ $M(SD)$	F(df)
Q6	2.66(.79)	2.8(.92)	2.6(.86)	<1(2, 135)
Q7	3.3(.98)	3.3(1.14)	3.04(1.22)	<1(2, 135)
Q8	2.32(1.11)	2.44(1.16)	2.1(1.21)	1.12(2, 135)

Note. Q6 = "How much do you trust James?"; Q7 = "What is the likelihood of going on a date with James?"; Q8 = "What is the likelihood of hooking up with James on the first date?".

3.2.2 Influence of Individual Differences on Effectiveness

It was hypothesized that persuasion effects (and manifested in people's responses to the questions) would be stronger for those who score higher in anxiety, impulsivity and general trust, and for those who score lower in self-esteem. To investigate this, a series of independent samples t-tests compared individual difference scores across the responses provided for Q's 1-5 (the binary scored items). The results are presented in Table 6. On the whole, the scores did not differ significantly depending on whether participants responded favourably. The only significant difference was found for self-esteem scores between participants who answered "Yes" (M = 23.9, SD = 6) and "No" (M = 26.23, SD = 4.62) on Q1, t(136) = 2.0, p < .05. This suggests that individuals with lower self-esteem are more likely to swipe right to the profile.

A correlation analysis was used to examine the relationship between individual differences and responses to Q's 6-8. Results are presented in Table 6. Trust was the only variable that yielded a significant result. A small significant positive correlation was detected with Q6 (p<.01) and Q7 (p<.05) which suggested that participants scoring higher in trust are more likely to trust the individual in the profile, and more likely to go on a date with him. Trust also had a small significant correlation with self-esteem, susceptibility to persuasion and impulsivity (p<.01). These results indicate more trusting individuals score higher in self-esteem, impulsivity and more susceptible to persuasion which generally are hypothesised.

Additional relationships were also detected between individual differences. Anxiety had a small significant negative relationship with self-esteem (p<.01). This indicates participants scoring higher in anxiety score lower in self-esteem. Self-esteem had a small significant positive relationship with impulsivity (p<.05) and

susceptibility to persuasion (p<.01), suggesting participants scoring higher in selfesteem also score higher in impulsivity and susceptibility to persuasion. Susceptibility to persuasion had a small significant positive relationship with impulsivity (p<.01), indicating participants higher in impulsiveness are more susceptible to persuasion.

There were also relationships detected between the responses to the questions. Q6 had a small significant positive relationship with Q7 and Q8 (p<.01), suggesting those who had more trust in the individual in the profile, were more likely to go on a date with him, and hook up with him on the first date. Q7 also had a small significant positive relationship with Q8 (p<.01), indicating that participants who are likely to go on a date with the individual, are also more likely to hook up with him on the first date.

Table 6

Mean scores on individual difference scales between participants who responded with "Yes" and "No".

	Trust		Anxiety		Self-esteem		Persuasion		Impulsivity	
	Yes $M(SD)$	No $M(SD)$	Yes M(SD)	No M(SD)	Yes $M(SD)$	No $M(SD)$	Yes M(SD)	No M(SD)	Yes $M(SD)$	No M(SD)
Q1	56.27(7.7)	56.26(8.47)	22.53(3.66)	22.35(4)	23.9(6)	26.23(4.62)	36.41(3.71)	35.94(3.13)	38.91(4.74)	37.77(6.05)
Q2	56.49(7.75)	55.45(8.26)	22.83(3.81)	21.24(3.12)	24.25(5.53)	25.1(6.59)	36.28(3.7)	36.41(3.12)	38.5(4.99)	39.24(5.38)
Q3	56.3(7.68)	56(9.57)	22.53(3.74)	22.15(3.67)	24.26(5.84)	26.08(4.73)	36.3(3.64)	36.38(3.1)	38.71(5.03)	38.08(5.57)
Q4	57.02(7.69)	52.1(7.54)	22.46(3.88)	22.67(2.8)	24.66(5.95)	23.14(4.37)	36.44(3.72)	35.52(2.56)	38.71(5.05)	38.33(5.26)
Q5	56.86(7.37)	54.71(8.87)	22.25(3.59)	23.13(4.04)	24.54(6.05)	24.13(4.95)	36.39(3.49)	36.08(3.84)	39.24(4.84)	37.11(5.38)

Note. Q1 = "Would you 'swipe right' to James' profile?"; Q2 = "Do you think James is suitable for a long-term relationship?"; Q3 = "Do you think James would be someone your friends would like?"; Q4 = "Do you think James would be someone your family would like?"; Q5 = "Would you send James a message to get to know him?".

Persuasion = susceptibility to persuasion.

Table 7

Correlations between individual difference scores and nominal dependent variables

Anxiety08 Self-esteem .33**35** Persuasion .35** .07 .17* Impulsivity .28**09 .3** .47** Q6 .34** .05 .16 .26 .11 Q7 .21* .111 .11 .07 .32*		Trust	Anxiety	Self-esteem	Persuasion	Impulsivity	Q6	Q7
Persuasion .35** .07 .17* Impulsivity .28**09 .3** .47** Q6 .34** .05 .16 .26 .11	Anxiety	08						
Impulsivity .28**09 .3** .47** Q6 .34** .05 .16 .26 .11	Self-esteem	.33**	35**					
Q6 .34** .05 .16 .26 .11	Persuasion	.35**	.07	.17*				
	Impulsivity	.28**	09	.3**	.47**			
Q7 .21* .111 .11 .07 .32*	Q6	.34**	.05	.16	.26	.11		
	Q7	.21*	.1	11	.11	.07	.32**	
Q802 .0716 .05 .06 .25*	Q8	02	.07	16	.05	.06	.25**	.5**

Note. Q6 = "How much do you trust James?"; Q7 = "What is the likelihood of going on a date with James?"; Q8 = "What is the likelihood of hooking up with James on the first date?".

Persuasion = susceptibility to persuasion.

^{*} correlation is significant at the 0.05 level, ** correlation is significant at the 0.01 level.

3.3.3 Susceptibility to Persuasion and Trust Interaction

It was hypothesized that participants scoring higher in susceptibility to persuasion or general trust will respond more favourably to the persuasion manipulations. A final analysis examined whether the influence of the experimental manipulation might be moderated by any the individual difference variables measured in the study. To examine this possibility, an ANCOVA was conducted. Each metric outcome variable (Qs 6-8) were used as dependent measures and the between group factor was the Condition with its 3 levels. The aim was to examine whether there were any significant Condition x Individual difference variable interactions, i.e., whether the effect of Condition varied according to the level of the individual difference score. These analyses indicated no significant influence of individual differences on persuasive effectiveness across groups. This suggests the individual differences examined in this study did not influence persuasion effectiveness on the simulation of Tinder scenarios used in this study.

Chapter 4: Discussion

The main purpose of this study was to investigate how people react and respond to Tinder profiles. Tinder is a relatively new modality of meeting people that involves a range of risks. As research indicates the app can be used for entertainment purposes rather than meeting new people, it is important to understand the individual characteristics of those who do have intentions of meeting others through the app and increasing subjection to involved risks. By using dating apps, users unknowingly become susceptible to a range of persuasion tactics as other users convince them to match and connect with them. Therefore, this study focused specifically on the manipulation of Cialdini's (2009) persuasion principles likability, reciprocation and social proof on Tinder, and the potential moderating influence of individual differences on persuasion effectiveness. The individual differences measured in the study were anxiety, impulsivity, self-esteem and general trust.

The data revealed that manipulation of Cialdini's (2009) persuasion principles had no significant effect on the responses of participants. Furthermore, there were limited significant influences produced by the individual differences measured in the study. More specifically, levels of self-esteem and general trust appear to play a role in the way individuals respond to Tinder profiles. The results of this study are discussed in further detail in relation to the literature and strengths and limitations of the study will also be discussed along with some recommendations for future studies conducted in this area.

4.1 Findings

4.1.1 Aim 1: Determining the Effectiveness of Cialdini's (2009) Persuasion Principles on Tinder

The first aim of this study was to determine the potential influence of Cialdini's (2009) persuasion principles on people's responses to a Tinder profile. It was hypothesized that as persuasion manipulation increased, participants were more likely to respond favourably to the profile, ie. more likely to swipe right or be more likely to go on a date. Specifically, participants were expected to respond more favourably to Condition 3 than to Condition 1 and 2, and more favourably to Condition 2 than to Condition 1. The data revealed that participants in Conditions 2 and 3 were no more likely to respond favourably than participants in Condition 1 and so the first hypothesis was not supported. These findings do not support previous research that suggests Cialdini's (2009) persuasion principles increase effectiveness of a persuasion attempt (Cialdini et al., 1991; Kaptein et al., 2009; Orji et al., 2015). Additionally, it does not support findings that these principles are effective in online environments (Guadagno et al., 2013; Postmes et al., 2001) in this particular context.

The failure to find any meaningful results may be due to this study consisting entirely of females, and females are less likely to adhere to persuasion attempts made online as opposed to face-to-face (FtF) (Guadagno & Cialdini, 2002; 2007). It is suggested that females are more likely to comply with persuasion attempts FtF as they are more relationship oriented and relationship formation is more attainable in FtF interactions. However, as the primary goal of Tinder is relationship formation, it would be expected that females would become more susceptible to persuasion. Therefore, more research should be conducted to determine if gender effects also extend to online dating.

4.1.2 Aim 2: Determining the Potential Moderating Effect of Individual Differences

The second aim of the study was to determine if the individual differences anxiety, impulsivity, self-esteem and general trust have a moderating effect on persuasion effectiveness on Tinder. The study found limited support for any influence. It was hypothesized that participants scoring higher in anxiety would respond more favourably to the profile, however no significant effect was detected. This result is inconsistent with previous research that indicates highly anxious individuals are more likely to use dating apps and other forms of online computermediated communication (CMC) (Chin et al., 2018; Koc & Gulyagci, 2013; Peter & Valkenberg, 2007; Rice & Markey, 2009; Weidman et al., 2012). Furthermore, this result provides no support for the rich-get-richer hypothesis (RGRH) or the social compensation hypothesis (SCH), similarly to Poley and Luo (2012) who also found no relationship between anxiety and use of online dating. Their findings suggested that anxious people preferred FtF dating, which could also be a possible explanation for the participants in this study. Over half of participants in this study had never used a dating app (54.3%), therefore making them unfamiliar with the services they provide. As a result, the use of a dating app may instead induce increased feelings of anxiety in those already high in anxiety.

Contrary to the third hypothesis, the data revealed no meaningful influence of impulsiveness on responses. These results do not align with previous findings that indicate highly impulsive people use Tinder and engage in other related risk behaviours, ie. meeting with other users in a short period of time (Carpenter & McEwan, 2016; Hahn et al., 2018; Sawyer et al., 2018). This result is also inconsistent with findings that impulsive individuals are more likely to comply with

the requests of those they meet online (Whitty, 2018). The inability to find any significant results may be due to the hypothetical nature of the study (discussed further in the limitation section below), thus participants may not have responded as they would in a real Tinder situation.

Minimal support was found for the fourth hypothesis, which predicted individuals scoring lower in self-esteem would respond favourably to the profile. A significant relationship was detected between self-esteem scores and responses to Q1, which suggests individuals scoring lower in self-esteem, were more likely to swipe right to the profile. This finding provides support for the SCH and the notion that dating apps can be used as a form of self-worth validation (Gatter & Hodkinson, 2016; Rinzini & Lutz, 2017; Sumter et al., 2017). Furthermore, it supports findings that indicate individuals with lower self-esteem are more likely to use online dating when they do not consider romantic relationships important (Kim et al., 2009). As over half of the participants in the study were single (63%), and more than half of participants who had used a dating app did so for reasons other than romantic relationship formation (58.8%), it is possible the participants in this study do not prioritise romantic relationships. Therefore, their lower level of self-esteem may influence them to swipe right. However, as this study provides limited support, further research should be conducted to support or refute this.

Although these results align with those from particular studies, they do not align with other research that indicates self-esteem has no influence on Tinder use (Blackhart et al., 2014; Gatter & Hodkinson, 2016; Orosz et al., 2018). Given the contradictory findings from this study and previous research, this highlights the necessity for further research on the potential influence of self-esteem.

In regards to general trust, the data revealed limited support. It was hypothesized that participants with a higher degree of general trust would respond more favourably to the profile. A significant relationship was detected between general trust scores and responses to Q7 and Q8, which suggests individuals scoring higher in general trust are more likely to go on a date with the person from the profile, and more likely to hook up with them on the first date. These findings align with previous research that suggests a higher level of general trust increases intent to use dating apps (Chan, 2017).

The final hypothesis predicted that participants scoring higher on susceptibility to persuasion or trust would produce the most favourable responses across the conditions. An ANCOVA analysis revealed no significant interaction on responses by any of the variables measured in the study. The inability to find any significant interaction may indicate the dependent measures used in this study did not accurately capture persuasion effectiveness, or the manipulation of persuasion was not effective. As the Susceptibility to Persuasion Scale (Kaptein et al., 2009) used in this study is tailored specifically to Cialdini's (2009) persuasion principles, a significant moderation should be expected if persuasion was adequately measured and manipulated.

4.2 Methodological Limitations

The failure to find any meaningful results can be attributed to the limitations of the study. First, it should be acknowledged that the Tinder profile presented in the study is not a real profile and was created for the sole purpose of this study. Due to this, the profile may not be as persuasive or have the intended influence on participants. Furthermore, the artificiality of the study may not produce accurate responses by the participants. As the responses by participants did not result in a

match or a date, they may not have responded in the same manner they would in a real Tinder situation.

The inability to detect any significant differences or moderations may also be attributed to an inadequate manipulation of persuasion. Alternatively, the dependent measures used in the study may not adequately capture persuasion effectiveness.

Attempts were made to maximise the validity of the study and the dependent measures; however, time constraints only enabled a small pilot study prior to commencement.

Furthermore, over a third (36.2%) of the participants in the study were either in a relationship, or engaged/married. These participants may not be interested in relationship formation and therefore, may not interpret the profile in the same manner as a single person. Additionally, attractiveness is a critical element in romantic relationship formation and being in a relationship could potentially minimize the perceived attractiveness of the person in the profile. Although efforts were made to maximize the attractiveness of the profile, not all participants may have perceived the profile as attractive. A further limitation of the study is that over half of the participants (54.3%) had never used a dating app. It is possible some participants may have an inaccurate or negative perception of dating apps and responded less favourably.

4.3 Methodological Strengths

Although this study produced minimal significant findings, it is the first study to examine the use of persuasion in dating apps. Additionally, this study focused on how people use Tinder rather than why they use it, which previous research has tended to focus on. This study can contribute to the limited literature on dating apps and hopefully provide the groundwork for future studies in this area.

An additional strength of the study is the reasonable sample size and representative sample. Majority of participants (93.5%) were aged between 18-21, which is consistent with the population of Tinder users. Furthermore, participants were recruited from various countries making the findings from this study more generalizable to the wider population.

4.4 Recommendations and Future Directions

The findings from this study highlight areas of focus that need to be considered in future research. Tinder and other related services will continue to expand and transform through technological advances, therefore research needs to be conducted at multiple time points to monitor behavioural and attitudinal change around these apps.

Future studies should continue to examine the potential influence of individual differences on dating app behaviours as the current literature on relationships between individual differences and dating apps is scarce and often contradictory. More specifically, the inconsistent results produced by this study and previous studies in regards to self-esteem, highlights the necessity for further investigation.

Researchers should also continue to investigate the use and effectiveness of persuasion on dating apps. Previous research indicates Cialdini's (2009) persuasion principles are effective in a range of environments, but it was difficult to conclude whether persuasion was not effective in this particular study, or if persuasion is simply ineffective on dating apps. Additionally, researchers should examine the possibility of gender effects in persuasion effectiveness on Tinder. Although research suggests females are less persuasive than males through online forms of CMC (Guadagno & Cialdini, 2002; 2007), the goal of relationship formation within dating apps may influence susceptibility to persuasion.

Future studies in this area should also aim to reduce the artificiality of the study. Researchers should examine the behaviours and attitudes of those who actively use Tinder, and present them with real Tinder profiles. The investigation of actual Tinder users in response to real profiles will provide researchers with a more valid understanding of how users behave on these apps. Additionally, as research in this area examines Tinder users specifically, the exclusion of non-users will reduce potential unwanted effects in the data.

4.5 Conclusion

As technology continues to advance and introduce new ways to initiate relationships with strangers, it is important for researchers to continuously conduct research to understand how social interactions are influenced. This study intended to address dating apps as an under-researched topic and although limited significant findings were produced, these findings can provide meaningful insight into the influence of individual characteristics on particular behaviours within these apps.

Additionally, the study highlights the necessity of further research in regards to the effectiveness of persuasion across various contexts. Despite lack of significant findings, the study contributes to the current limited literature and can provide a foundation for future studies in the area. Future research is needed to address the various shortcomings of this study and advance our understandings of those who search for potential partners online.

References

- Albury, K. (2017). From free love to Tinder. *The Routledge Companion to Media, Sex and Sexuality*.
- Alkis, N., & Temizel, T. T. (2015). The impact of individual differences on influence strategies. *Personality and Individual Differences*, 87, 147-152. doi: 10.1016/j.paid.2015.07.037.
- Baumeister, R. F., Tice, D. M., & Hutton, D. G. (1989). Self-presentational motivations and personality differences in self-esteem. *Journal of personality*, *57*(3), 547-579.
- Blackhart, G. C., Fitzpatrick, J., & Williamson, J. (2014). Dispositional factors predicting use of online dating sites and behaviors related to online dating. *Computers in Human Behavior*, *33*, 113-118. doi: 10.1016/j.chb.2014.01.022.
- Bryant, K., & Sheldon, P. (2017). Cyber Dating in the Age of Mobile Apps: Understanding Motives, Attitudes, and Characteristics of Users. *American Communication Journal*, 19(2), 1-15.
- Bucchianeri, M. M., Eisenberg, M. E., Wall, M. M., Piran, N., & Neumark-Sztainer, D. (2014). Multiple types of harassment: associations with emotional well-being and unhealthy behaviors in adolescents. *Journal of Adolescent Health*, *54*(6), 724-729. doi: 10.1016/j.jadohealth.2013.10.205.
- Carpenter, C. J., & McEwan, B. (2016). The players of micro-dating: Individual and gender differences in goal orientations toward micro-dating apps. *First Monday*, 21(5). doi: 10.5210/fm.v21i5.6187.
- Carver, C. S., & White, T. L. (1994). Behavioral inhibition, behavioral activation, and affective responses to impending reward and punishment: the BIS/BAS scales. *Journal of personality and social psychology*, 67(2), 319.
- Chan, L. S. (2017). Who uses dating apps? Exploring the relationships among trust, sensation-seeking, smartphone use, and the intent to use dating apps based on the Integrative Model. *Computers in Human Behavior*, 72, 246-258. doi: 10.1016/j.chb.2017.02.053.
- Chin, K., Edelstein, R. S., & Vernon, P. A. (2018). Attached to dating apps: Attachment orientations and preferences for dating apps. *Mobile Media & Communication*. doi: 10.1177/2050157918770696.
- Choi, E. P. H., Wong, J. Y. H., & Fong, D. Y. T. (2018). An emerging risk factor of sexual abuse: the use of smartphone dating applications. *Sexual Abuse*, *30*(4), 343-366. doi: 10.1177/1079063216672168.
- Choi, E. P., Wong, J. Y., Lo, H. H., Wong, W., Chio, J. H., & Fong, D. Y. (2016). The association between smartphone dating applications and college students' casual sex encounters and condom use. *Sexual & Reproductive Healthcare*, 9, 38-41. doi: 10.1016/j.srhc.2016.07.001.
- Cialdini, R. B. (2009). Influence Science and Practice (Vol. 5th). United States of America: Person Education, Inc.

- Cialdini, R. B., Green, B. L., & Rusch, A. J. (1992). When tactical pronouncements of change become real change: The case of reciprocal persuasion. *Journal of Personality and Social Psychology*, 63(1), 30.
- Couch, L. L., Adams, J. M., & Jones, W. H. (1996). The assessment of trust orientation. *Journal of personality assessment*, 67(2), 305-323.
- David, G., & Cambre, C. (2016). Screened intimacies: Tinder and the swipe logic. *Social media* + *society*, 2(2). doi: 10.1177/2056305116641976.
- Douglass, C. H., Wright, C. J., Davis, A. C., & Lim, M. S. (2018). Correlates of inperson and technology-facilitated sexual harassment from an online survey among young Australians. *Sexual health*. doi: 10.1071/SH17208.
- Finkel, E. J., Eastwick, P. W., Karney, B. R., Reis, H. T., & Sprecher, S. (2012). Online dating: A critical analysis from the perspective of psychological science. *Psychological Science in the Public Interest*, *13*(1), 3-66. doi: 10.1177/1529100612436522.
- Gatter, K., & Hodkinson, K. (2016). On the differences between TinderTM versus online dating agencies: Questioning a myth. An exploratory study. *Cogent Psychology*, *3*(1). doi: 10.1080/23311908.2016.1162414.
- Griffin, M., Canevello, A., & McAnulty, R. D. (2018). Motives and Concerns Associated with Geosocial Networking App Usage: An Exploratory Study Among Heterosexual College Students in the United States. *Cyberpsychology, Behavior, and Social Networking*, 21(4), 268-275. doi: 10.1089/cyber.2017.0309.
- Guadagno, R. E., & Cialdini, R. B. (2002). Online persuasion: An examination of gender differences in computer-mediated interpersonal influence. *Group Dynamics: Theory, Research, and Practice*, 6(1), 38. doi: 10.1037//1089-2699.6.1.38.
- Guadagno, R. E., & Cialdini, R. B. (2007). Persuade him by email, but see her in person: Online persuasion revisited. *Computers in Human Behavior*, 23(2), 999-1015. doi: 10.1016/j.chb.2005.08.006.
- Guadagno, R. E., Muscanell, N. L., Rice, L. M., & Roberts, N. (2013). Social influence online: The impact of social validation and likability on compliance. *Psychology of Popular Media Culture*, 2(1), 51. doi: 10.1037/a0030592.
- Hahn, H. A., You, D. S., Sferra, M., Hubbard, M., Thamotharan, S., & Fields, S. A. (2018). Is it Too Soon to Meet? Examining Differences in Geosocial Networking App Use and Sexual Risk Behavior of Emerging Adults. *Sexuality & Culture*, 22(1), 1-21. doi: 10.1007/s12119-017-9449-3.
- Hearn, A. (2008). Meat, Mask, Burden: Probing the contours of the brandedself. *Journal of consumer culture*, 8(2), 197-217. doi: 10.1177/1469540508090086.
- Kang, T., & Hoffman, L. H. (2011). Why would you decide to use an online dating site? Factors that lead to online dating. *Communication Research Reports*, 28(3), 205-213. doi: 10.1080/08824096.2011.566109.

- Kaptein, M., Markopoulos, P., de Ruyter, B., & Aarts, E. (2009). Can you be persuaded? Individual differences in susceptibility to persuasion. In *IFIP Conference on Human-Computer Interaction*, 115-118. Springer, Berlin, Heidelberg.
- Kim, M., Kwon, K. N., & Lee, M. (2009). Psychological characteristics of Internet dating service users: The effect of self-esteem, involvement, and sociability on the use of Internet dating services. *CyberPsychology & Behavior*, *12*(4), 445-449. doi: 10.1089.cpb.2008.0296.
- Koc, M., & Gulyagci, S. (2013). Facebook addiction among Turkish college students: The role of psychological health, demographic, and usage characteristics. *Cyberpsychology, Behavior, and Social Networking*, *16*(4), 279-284. doi: 10.1089/cyber.2012.0249.
- McGinley, M., Wolff, J. M., Rospenda, K. M., Liu, L., & Richman, J. A. (2016). Risk factors and outcomes of chronic sexual harassment during the transition to college: Examination of a two-part growth mixture model. *Social science research*, 60, 297-310. doi: 10.1016/j.ssresearch.2016.04.002.
- Murphy, P. K., Long, J. F., Holleran, T. A., & Esterly, E. (2003). Persuasion online or on paper: A new take on an old issue. *Learning and Instruction*, *13*(5), 511-532. doi: 10.1016/S0959-4752(02)00041-5.
- Orji, R., Mandryk, R. L., & Vassileva, J. (2015). Gender, age, and responsiveness to Cialdini's persuasion strategies. In *International Conference on Persuasive Technology* (pp. 147-159). Springer, Cham. 10.1007/978-3-319-20306-5_14.
- Orosz, G., Benyo, M., Berkes, B., Nikoletti, E., Gal, E., Toth-Kiraly, I., & Bothe, B. (2018). The personality, motivational, and need-based background of problematic Tinder use. *Journal of behavioral addictions*, 1-16. doi: 10.1556/2006.7.2018.21.
- Peter, J., & Valkenburg, P. M. (2007). Who looks for casual dates on the internet? A test of the compensation and the recreation hypotheses. *New Media & Society*, *9*(3), 455-474. doi: 10.1177/1461444807076975.
- Poley, M. E., & Luo, S. (2012). Social compensation or rich-get-richer? The role of social competence in college students' use of the Internet to find a partner. *Computers in Human Behavior*, 28(2), 414-419. doi: 10.1016/j.chb.2011.10.012.
- Postmes, T., Spears, R., Sakhel, K., & De Groot, D. (2001). Social influence in computer-mediated communication: The effects of anonymity on group behavior. *Personality and Social Psychology Bulletin*, 27(10), 1243-1254.
- Ranzini, G., & Lutz, C. (2017). Love at first swipe? Explaining Tinder self-presentation and motives. *Mobile Media & Communication*, *5*(1), 80-101. doi: 10.1177/2050157916664559.
- Rice, L., & Markey, P. M. (2009). The role of extraversion and neuroticism in influencing anxiety following computer-mediated interactions. *Personality and individual differences*, 46(1), 35-39. doi: 10.1016/j.paid.2008.08.022.
- Rosenberg, M. (1965). Rosenberg self-esteem scale (RSE). *Acceptance and commitment therapy. Measures package*, 61, 52.

- Rosenberg, M., Schooler, C., Schoenbach, C., & Rosenberg, F. (1995). Global self-esteem and specific self-esteem: Different concepts, different outcomes. *American sociological review*, 141-156.
- Sawyer, A. N., Smith, E. R., & Benotsch, E. G. (2018). Dating application use and sexual risk behavior among young adults. *Sexuality Research and Social Policy*, *15*(2), 183-191. doi: 10.1007/s13178-017-0297-6.
- Smith, A. (2016). 15% of American adults have used online dating sites or mobile dating apps. *Pew Research Center*.
- Smith, A., & Anderson, M. (2016). 5 facts about online dating. *Pew Research Center*, 29.
- Stevens, J. R. (Ed.). (2017). *Impulsivity: How Time and Risk Influence Decision Making* (Vol. 64). Springer.
- Sumter, S. R., Vandenbosch, L., & Ligtenberg, L. (2017). Love me Tinder: Untangling emerging adults' motivations for using the dating application Tinder. *Telematics and Informatics*, *34*(1), 67-78. doi: 10.1016/j.tele.2016.04.009.
- Timmermans, E., & De Caluwe, E. (2017). To Tinder or not to Tinder, that's the question: An individual differences perspective to Tinder use and motives. *Personality and Individual Differences*, *110*, 74-79. doi: 10.1016/j.paid.2017.01.026.
- Valkenburg, P. M., & Peter, J. (2007). Who visits online dating sites? Exploring some characteristics of online daters. *CyberPsychology & Behavior*, *10*(6), 849-852. doi: 10.1089/cpb.2007.9941.
- Vilnai-Yavetz, I., & Tifferet, S. (2015). A picture is worth a thousand words: segmenting consumers by facebook profile images. *Journal of Interactive Marketing*, 32, 53-69. 10.1016/j.intmar.2015.05.002.
- Ward, J. (2017). What are you doing on Tinder? Impression management on a matchmaking mobile app. *Information, Communication & Society*, 20(11), 1644-1659. doi: 10.1080/1369118X.2016.1252412.
- Wee, L., & Brooks, A. (2010). Personal branding and the commodification of reflexivity. *Cultural Sociology*, *4*(1), 45-62. doi: 10.1177/1749975509356754.
- Weidman, A. C., Fernandez, K. C., Levinson, C. A., Augustine, A. A., Larsen, R. J., & Rodebaugh, T. L. (2012). Compensatory internet use among individuals higher in social anxiety and its implications for well-being. *Personality and individual differences*, 53(3), 191-195. doi: 10.1016/j.paid.2012.03.003.
- Whitty, M. T. (2018). Do you love me? Psychological characteristics of romance scam victims. *Cyberpsychology, Behavior, and Social Networking*, 21(2), 105-109. 10.1089/cyber.2016.0729.
- Woods, H. C., & Scott, H. (2016). # Sleepyteens: social media use in adolescence is associated with poor sleep quality, anxiety, depression and low self-esteem. *Journal of Adolescence*, *51*, 41-49. doi: 10.1016/j.adolescence.2016.05.008.

Appendices (A – D)

Appendix A: Demographic Information

1.	What	t is your age?
	0	18-21
	0	22-25
	0	26-29
	0	30-34
	0	35-39
	0	40-44
	0	45-49
	0	50 and over
2.	What	is your current relationship status?
	0	Single
	0	In a relationship
	0	Engaged
	0	Married
3.	Lang	uage other than English spoken at home? (Comment box provided)
4.	How	often do you use the following social media sites?
	0	Facebook
	0	Instagram
	0	Twitter
	0	Snapchat
	0	Tumblr
	0	Other
		- Never
		- < 1 month
		- 2-3 times per month
		- Weekly
		- 2-6 times p/w
		- Daily
5.	Have	you ever used a dating site/app?
	0	In the past 6 months?
	0	In the past 12 months?

o Never?

- 6. If yes, what is your motivation to use a dating site/app?
 - o To find a long term romantic relationship
 - o To find a short term romantic relationship
 - o For casual hook up
 - o To make new friends
 - o Just for fun
- 7. Have you ever been on a date with someone you met on a dating app/sites?
 - o Yes
 - o No

Appendix B: Influence of Cialdini's (2009) Persuasion Principles

Participants were randomly assigned to one of the following three conditions (each condition shown on following pages):

Condition 1: Base profile displaying basic information, such as name, age, education, employment and interests, and one photo. This condition did not manipulate any persuasion principles.

Condition 2: This profile provided additional information to manipulate the likability principle, and the 'super like' feature to manipulate reciprocation.

Condition 3: This profile provided additional information by including Facebook and Instagram information to manipulate the social proof principle.

Prior viewing the profile, participants were provided with the following information to understand how Tinder works:

The next page will show you a dating profile such as one you might see on Tinder. For those who have never used Tinder and are unsure how it works, here is a brief overview of how it is used:

Tinder is a location based dating mobile application that allows you to swipe through dating profiles of others within the area. To show interest in a profile you simply 'swipe right', or if you have no interest in the profile you 'swipe left' to be shown the next profile.

If there is a mutual like between two profiles, they are 'matched" and given the option to contact via message within the app. There is also the option to 'super like' a profile where that person will be informed you have liked them when they come across your profile.

Tinder gives the option for users to connect their Facebook and Instagram profiles where several of their Instagram photos can be featured on their profile and you can view mutual Facebook friends.

By checking the box below, you are stating you understand the purpose of Tinder and its main features as stated above (check box provided).

Condition 1



James, 24

Part time Firefighter

O University of Adelaide

I consider myself a down to earth guy with a good sense of humour. I spend a lot of my spare time hanging out with family, friends and my two dogs. I am currently completing a law degree at the University of Adelaide and am interested in travel, watching live music and playing sports.



Condition 2



Super liked you!

James, 24 🚖

Part time Firefighter

University of Adelaide

I consider myself a down to earth guy with a good sense of humour. I spend a lot of my spare time hanging out with family, friends and my two dogs. I am interested in travel, watching live music and playing sports.

When I complete my law degree, I hope to do human rights work involving people living in Arica and assist refugees fleeing war torn regions. I currently volunteer some of my time to charities to gain experience helping others







Condition 3



587 Mutual friends on Facebook 6,537 Instagram followers

119 Instagram Photos









.

Share your Instagram photos as well















James, 24 🚖

Part time Firefighter

O University of Adelaide

I consider myself a down to earth guy with a good sense of humour. I spend a lot of my spare time hanging out with family, friends and my two dogs. I am interested in travel, watching live music and playing sports.

When I complete my law degree, I hope to do human rights work involving people living in Arica and assist refugees fleeing war torn regions. I currently volunteer some of my time to charities to gain experience helping others



Appendix C: Participant Information Sheet and Consent Form

Dear Participant,

You are invited to participate in the research project described below.

What is the project about?

This project is examining how people respond to online dating profiles and what factors make some dating profiles more popular than others. The study is also looking at how people's preferences relate to their personality and other beliefs which they may have about themselves and the world.

Who is undertaking the project?

This project is being conducted by Tylah Knights. This research will form the basis for the degree of Honours degree of Bachelor of Psychological Science at the University of Adelaide under the supervision of Paul Delfabbro.

Why am I being invited to participate?

You are being invited as you are a female aged 18 years or over

What am I being invited to do?

You are being invited to view an online dating profile similar to what you might see on applications such as Tinder. You will then be asked to complete a few simple questions as well as several short measures of personality and other individual differences.

How much time will my involvement in the project take?

The survey will take approximately 15-20 minutes to complete. You are able to complete the survey in your own time and at your own pace

Are there any risks associated with participating in this project?

There are no risks associated with participation in this project

What are the potential benefits of the research project?

The research may result in contribution to current literature relating to how people respond to online material presented in social media.

Can I withdraw from the project?

Participation in this project is completely voluntary. If you agree to participate, you can withdraw from the study at any time. However, withdrawing from the study will prevent participants receiving course credit for their Psychology IB course.

What will happen to my information?

Confidentiality and privacy: Student IDs provided by the University of Adelaide will be required to provide students will course credit however, results will be de-identified prior to data analysis

Storage: The data from this project will be kept in a secure data room and password protected computer in group form. No individuals will be identifiable.

Only the researcher will have permission to access this information.

Publishing: Results of the survey will be reported in an honours thesis and participant results will be de-identified prior to data analysis

Sharing: If participants would like access to survey results, they will need to contact lead researcher Paul Delfabbro or student researcher Tylah Knights

Your information will only be used as described in this participant information sheet and it will only be disclosed according to the consent provided, except as required by law.

Who do I contact if I have questions about the project?

If participants have any questions, they can contact the project manager

By giving your consent below, you affirm that:

- You have read and fully understand the information of the study
- You agree to take part in the study as described above
- You are a female aged 18 years or over
- Procedures and potential risks have been described to your satisfaction

Appendix D: Dependent Measures

After viewing one of the three conditions, the participants were asked the following:

1.	Would	l you 'swipe right' to James' profile?
	0	Yes
	0	No
2.	Do yo	u think James is suitable for a long-term relationship?
	0	Yes
	0	No
3.	Do yo	u think James would be someone your friends would like?
	0	Yes
	0	No
4.	Do yo	u think James would be someone your family would like?
	0	Yes
	0	No
5.	Would	l you send James a message to get to know him?
	0	Yes
	0	No
6.	How r	nuch do you trust James?
	0	5 point Likert scale ranging from 1 = "Not at all" to 5 = "A great
		deal"
7.	What	is the likelihood of you going on a date with James?
	0	5 point Likert scale ranging from 1 = "Very unlikely" to 5 = "Very
		likely"
8.	What	is the likelihood of hooking up with James on the first date?
	0	5 point Likert scale ranging from 1 = "Very unlikely" to 5 = "Very
		likely"