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The Psychological Implications of Dating Apps

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Abstract

Aims: The current cross-sectional study aimed to investigate using self-report measures if the intensity of online dating app usage had a psychological impact on user's mental well-being and self-esteem. Prior findings have focused on the impact of social networking sites on users' mental well-being and self-esteem, but little research has focused solely on the psychological effects of using online dating app. **Method:** Participants (n= 76) within this study were required through convenience sampling where they were instructed to complete an online survey. **Results:** Through Pearsons correlation analysis no significant results were discovered between the intensity of dating app usage and its impacts on mental well-being and self-esteem. **Conclusion:** Despite the fact this study did not produce a significant association between the intensity of dating app usage and its effects on individuals' mental well-being and self-esteem, it can be seen as groundwork for future studies investigating the psychological implications of excessive dating app usage.

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Introduction

Over recent years, the use of online dating applications to find a potential partner has largely increased in popularity. Unlike previous generations, dating in today's society has mainly become controlled by our smartphones (Sumter & Vanderbosch, 2019). Previous ways of meeting partners such as through friends, families, social events, college and activities have been partially displaced (Rosenfeld et al., 2019). It has been shown that finding a partner at present can be done with one swipe right on apps such as Tinder, and other popular dating apps such as Bumble and OKCupid (Holtzhausen et al., 2020). With mobile dating apps becoming notably more popular, Castro and colleges (2020) reported 200 million active users of dating apps in 2019, with Tinder being the most popular dating app for individuals to use.

Many online dating apps are available, for example Tinder, which has become one of the most popular dating apps in recent years with its geographical locator helping individuals find potential love matches close by (Tyson et al., 2016). Tinder was created in 2012 with the intent to help individuals find a partner by presenting images with a short bio alongside their name (Tyson et al., 2016). Users can either swipe right to 'like' someone's profile or swipe left to 'dislike' it. If two users both like each other's image they are matched, and the app allows them to interact together via messages. While many other dating apps such as Bumble and Grinder help find potential matches through common interests and desires, Tinder seeks to find matches that are nearby (Tyson et al., 2016).

Many positive aspects have come from the ever-rising popularity of online dating apps. The success of dating apps is established in their easy access to scan profiles, as mobile phones are at hand day or night in many different settings (Sumter & Vanderbosch, 2019). Through the fun and effective features of dating apps, such as Tinders swiping feature, searching for a partner

on dating apps has become increasingly appealing to individuals (Rochat et al., 2019). This can be seen though Castro and Barrada (2020) research which indicated that users spend up to 90 minutes per day on dating apps. Furthermore, Smith (2018) noted that the popular use of dating apps has led to over 1.5 million dates per week.

The popular use of dating apps has come with many positive benefits to individuals such as a way to socialize with others and explore their sexuality (Sumter & Vanderbosch, 2019). While individuals of all ages can use dating apps, the largest cohort of users are in the age range of 18 to 35 years old's (Stephure et al., 2009). Additionally, Weiser et al. (2018) determined that men accounted for 60% of online dating profiles while women accounted for 40%. With the majority of dating profiles made daily seeking a heterosexual relationship, the privacy of online dating allows users to explore their sexuality if desired without having to meet face to face (Sumter & Vanderbosch, 2019). In addition, it has been observed that men from sexual minorities have found comfort in the privacy of meeting potential partners online (Castro et al., 2020). The easy access to online dating apps and openness to communicate is particularly beneficial to users who want to explore their sexual orientation privately (Sumter & Vanderbosch, 2019). However, the privacy of online dating can also have negative effects.

Dating apps have been seen to impact many areas of individuals lives such as self-esteem, anxiety, sexual permissiveness, and other psychological factors (Sumter et al., 2017). Orosz and colleagues (2018) concluded that individuals used dating apps for reasons such as boredom, to seek sex, and to increase self-esteem. However, with the rising growth of applications being made for online dating apps, many users have been left with a feeling of rejection and loneliness (Andrighetto et al., 2019) due to dating apps increasingly being used for hookups (Petrychyn et al., 2020). Subsequently, Ranzini and Lutz (2017) founded that men often

seek sex and relationships when using dating apps while women seek self-validation and friendship. Moreover, this has further been supported by Castro et al. (2020) who established that men often use dating apps to seek a casual sexual partner rather than a long-term partner.

While it can be difficult to determine the intention of dating app users through the anonymity of these apps, any individual can create whichever online persona they desire. This deception does not stop at making a fake profile as many users continue this into the communicating process (Phan et al., 2021). While the anonymity of talking to strangers online can come with benefits, the number of crimes from dating apps has doubled from 2015 to 2018 in the UK (Phan et al., 2021) with users hiding behind fake accounts. Additionally, with users spending up to 90 minutes a day on dating apps (Castro & Barrada, 2020) there has become an increasing need to research the effects this is having on individuals' well-being. Consequently, previous research has established a negative relationship between the frequency of use of online dating apps and its impacts on users' self-esteem compared to non-users (Strubel & Petrie, 2017). Nonetheless, little research has delved into the impacts excessive use of dating apps can have on individuals' psychological well-being, therefore, this study aims to build upon the current literature on the impacts of dating app usage on mental well-being and self-esteem.

Most previous research has been investigating the correlation between social networking sites and individuals' mental well-being. However, previously online dating sites have been considered social networking sites and research on social networking platforms has been extended towards online dating sites. For instance, mobile devices are used by 4.2 billion individuals every day to access social networking sites (Fatima et al., 2015). Furthermore, it can be seen in both Sampasa-Kanyinga and Lewis (2015) and Strubel and Petrie (2017) studies that the frequent use of social media sites has been reported with lower levels of well-being in young

adolescents who interact on social networking sites. However, in response to dating apps, the opposite was observed by Rydahl et al. (2021) where 20% of individuals noted an increase in mental wellbeing after using dating apps during a depressive episode. Contrastingly, research by Strubel and Petrie (2017) has indicated that Tinder can be classified as a platform with physical appearance pressure, which can result in negative thoughts from individuals who engage on such apps and can in succession decrease their levels of self-esteem. This contrast in results between social networking sites and dating apps has further strengthened the need for research to be considered on the psychological impacts dating apps are having on individuals' mental well-being and self-esteem.

With the number of online dating profiles increasing daily, many users have described the ease of connectivity with a large diverse population as the reason they enjoy dating apps so much (Chin et al., 2019). Other popular reasons for app usage included self-esteem, sociability, and sexuality (Phan et al., 2021). During which self-esteem has been shown to be the largest predictor for why individuals create dating profiles (Dunca & March, 2019). This can be illustrated through individuals who have low self-esteem using dating apps in the hope that their profile will gain positive interactions (Sumter et al., 2017). The use of dating apps helps individuals who may have a fear of rejection or meeting new people as it provides a unique way to interact and communicate with strangers (Chin et al., 2019). Additionally, Chin et al. (2019), Alexopoulos and Timmermans, (2020) and Timmermans and colleagues (2021) determined that individuals with an anxious attachment style were more likely to turn to online dating rather than individuals with an avoidant attachment style. Findings revealed that those with a higher reported anxious attachment style frequently engaged with online dating apps to connect with others as it

shielded them witnessing being rejected which furthermore had no detrimental effects on their self-esteem (Chin et al., 2019; Alexopoulos & Timmermans, 2020; Timmermans et al., 2021).

The use of online dating apps can have positive impacts on individuals who engage in such apps (Sumter & Vanderbosch, 2019). However, various research has highlighted the numerous negative effects excessive use of dating apps can have on individuals (Strubel & Petrie, 2017; Kim et al., 2009). Tyson et al. (2016) found that almost 50% of all matches made on dating apps don't interact with the individual they have matched with. Furthermore, individuals within a mock online dating study showed signs of sadness, anxiety and anger when they were rejected by an attractive potential (Andrighetto et al., 2019). This continuous rejection has led to dating app users developing a self-critical image of themselves which leads to a decrease in self-esteem (Strubel & Petrie, 2017). The frequent use of dating apps allows for more profiles to be viewed, however through the excessive profiles available on dating apps and little interactions with potential matches made, self-esteem can rapidly decrease for individuals who feel they are being discarded by potential partners (Kim et al., 2009).

The Current Study

Despite the rising popularity of dating apps, empirical research in this field has commonly focused on why individuals use dating apps (Ranzini & Lutz, 2017) or how dating profiles should be managed for best self-presentation (Andrighetto et al., 2019). As a result, less is known on the psychological impacts dating apps can have on user's mental well-being and self-esteem. Due to the lack of research in this field, it is difficult to comprehend if the frequency to which individuals engage with dating apps is having a psychological impact on them. In consideration of prior research, it seems plausible to hypothesis that the intensity of dating app usage will relate to a psychological impact to individuals' self-esteem and mental well-being.

The aim of the current study is to provide a greater understanding of the psychological impacts of dating apps. This study aims to investigate using self-report measures if the intensity of online dating apps usage has a psychological impact on users. The aims produce the following research questions and hypothesis:

Research question 1: What are the psychological implications of using dating apps? Specifically, does the intensity of use on dating apps (independent variable) relate to a negative psychological impact on individuals' mental well-being (dependent variable). Hypothesis for research question 1: The intensity of dating app usage will relate to individuals' mental well-being.

Research question 2: Does the intensity of use on dating apps (independent variable) relate to a negative perception of an individual's level of self-esteem (dependent variable). Hypothesis for research question 2: The intensity of dating app usage will relate to individual's levels of self-esteem.

Method

Participants

The research sample for this study consisted of 76 participants (n= 76). The age range of participants was 18 years old to 67 years old. Within the study there was 56 females (73%), 19 males (25%) and 1 individual who preferred to not identify their gender (1%). These participants were recruited through convenience and snowball sampling methods. Participants were recruited through the researcher's social media platforms such as Instagram, Facebook and What's App. Participants were eligible to partake in the study if they are current users of online dating apps or have previously used online dating apps. All participants were required to give consent before beginning the survey and each participant was required to be over the age of 18 years old to follow ethical guidelines and considerations. The survey was approved by the National College of Ireland's ethics committee before being administered to participants.

Measures and Materials

The anonymous questionnaire was created on Google Forms, a survey builder, which consisted of four questionnaires, the first was a demographic questionnaire, the second was the Online Dating Intensity Scale (Bloom, 2016), the third was the Mental Health Short Continuum Scale (Keyes et al., 2008) and the fourth was the Rosenberg Self-Esteem Scale (Rosenberg, 1965). The questionnaires were made available publicly online, and instructions were bolded for clearer reading.

Demographic Questionnaire

A questionnaire designed for this study was created with four questions to gain a loose profile of the participant. The participants were asked to answer questions on their age, for this

they must have specified their age, their gender, their sexual orientation and if they had used

dating apps. All questions asked had no trace to the participant to allow anonymity within the

survey.

The Online Dating Intensity Scale

The Online Dating Intensity Scale (Bloom, 2016) was used to measure the intensity of

dating app usage of participants. The questionnaire seeks to determine the level of an individual's

dating apps usage through a 10-item scale that accesses attitudes and intensity of online dating

services. A 5-point Likert scale format is used for the first three questions ranging from strongly

disagree to strongly agree to assess an individual's attitude towards dating services. Such

questions consisted of "Using online dating services is part of my everyday activity". During

scoring "Strongly Disagree" was scored 1, "Disagree" was scored 2, "Neither Agree nor

Disagree" was scored 3, "Agree" was scored 4 and "Strongly Agree" was scored 5. The

following 7 questions were self-report measures used to assess an individual's intensity of dating

service usage. Such questions consisted of "How long have you used dating services for". The

total scores were obtained by summing all 10 items for each participant. The Cronbach Alpha

coefficient for the Online Dating Intensity Scale in this study was ($a = .83$) which indicates a

good level of internal consistency with the current sample.

The Mental Health Short Continuum Scale

The Mental Health Short Continuum Scale (Keyes et al., 2008) was used to measure the

mental well-being of participants. The questionnaire seeks to determine the level of an

individual's mental well-being through a 14-item scale that assesses emotional, social and

psychological well-being. Three questions assessed emotional well-being consisting of "In the

past month, how often have you felt satisfied with life", 5 questions assessed social well-being consisting of "In the past month, how often have you felt you belong to a community" and 6 questions assessed psychological well-being consisting of "In the past month, how often have you felt that you liked most parts of your personality". A 6-point Likert scale format was used ranging from never to everyday. During scoring "Never" was scored 1, "Once or Twice" was scored 2, "About Once a Week" was scored 3, "2 to 3 Times a Week" was scored 4, "Almost Every Day" was scored 5 and "Everyday" was scored 6. Each answer was summed for all 14 items. The lowest possible score was 10, and the highest possible score was 80. A score of 10 indicated the participant had a negative level of well-being and a score of 80 indicated the participant had a positive level of well-being. The Cronbach Alpha coefficient for the Mental Health Short Continuum Scale in this study was (a = .93) which indicates an excellent level of internal consistency with the current sample.

The Rosenberg Self Esteem Scale

The Rosenberg self-esteem scale (Rosenberg, 1965) was used to measure the self-esteem of participants. The questionnaire seeks to determine the level of an individual's self-esteem through a 10-item scale that asked questions on both positive and negative feelings of self-esteem. Such questions consisted of "on the whole, I am satisfied with myself". A 4-point Likert scale format was used ranging from strongly agree to strongly disagree. During scoring "Strongly Disagree" was scored 1 point, "Disagree" was scored 2 points, "Agree" was scored 3 points, and "Strongly Agree" was scored 4 points. Each answer was summed for all ten items keeping scores on a continuous scale. Items 2,5,6,8 and 9 were reverse scored. The lowest score possible was 10 and the highest score possible was 40. A score of 10 indicated that the participant had a low level of self-esteem and a score of 40 indicated the participant had a high

level of self-esteem. The Cronbach Alpha coefficient for the Rosenberg Self-esteem scale in this study was (a = .82) which indicates a good level of internal consistency with the current sample.

Design and Analysis

The research design was a cross sectional online survey using convenience sampling where all data was collected at one time point. The design was implemented with one independent variable, intensity of dating app usage and two dependent variables, mental well-being and self-esteem. A Pearsons correlation was used to test both hypotheses. This investigated the association of intensity of dating app usage between 1) mental well-being and 2) self-esteem.

Procedure

Participants were recruited through the researcher's social media platforms such as Instagram, Facebook and What's App. Prior to starting the survey participants had the opportunity to read an information sheet (appendix A) giving a summary of the research project, the aims of the study and the risks and benefits of completing this survey. All participants were informed of their confidentiality throughout the study and of the right to withdraw their information at any point during the survey. Participants who were willing to take part in this survey pressed the 'next' button that brought them to a consent sheet (appendix B). Each participant had to digitally tick a consent form that they agreed to participate in and understood the benefits and risks of participating in the study as they proceeded. Following the consent form participants were instructed on how to answer the questions presented in the survey. Participants were first asked to give demographic information such as their gender, age and sexual orientation (appendix C). Additionally, participants were asked to fill out the Online Dating Intensity Scale (Bloom, 2016) (appendix D). Next the participants were asked to fill out the Mental Health Short

Continuum Scale (Keyes et al., 2008; Keyes, 2006) (appendix E) and the Rosenberg Self-Esteem

Scale (Rosenberg, 1965) (appendix F). The Online Dating Intensity Scale is a 10-item scale that

accesses attitudes and intensity of online dating services (Bloom, 2016). A three-point Likert

scale format is used for the first three questions ranging from strongly disagree to strongly agree.

The following 7 questions are self-report measures. The total scores are obtained by summing all

10-items together. The Mental Health Short Continuum Scale is a 14-item scale that assesses

emotional, social and psychological well-being (Keyes et al., 2008). A 6-point Likert scale

format is used ranging from never to everyday. The higher the scores recorded will indicate a

higher level of emotional well-being. The Rosenberg Self-Esteem Scale is a 10-item scale that

uses questions on both positive and negative feelings of self-esteem to determine an individual's

global level of self-esteem (Rosenberg, 1965). A 4-point Likert scale format is used ranging from

strongly agree to strongly disagree. When scoring participants items 2, 5, 6, 8, 9 will be reversed

scored. "Strongly Disagree" will be scored1 point, "Disagree" will be scored 2 points, "Agree"

will be scored 3 points, and "Strongly Agree" will be scored 4 points. The researcher then

summed the scores for all ten items keeping scores on a continuous scale. The higher the scores

will indicate a higher level of self-esteem. In total the survey took approximately 10 minutes to

complete. After completion participants were brought to a debriefing sheet (appendix G) where

they were thanked for their participation and given resources if they felt any distress after the

survey.

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Results

Descriptive Statistic

A total of 76 participants (n = 76) took part in this study. The sample consisted of 19 males (25%) and 56 females (73%). Descriptive statistics for gender, sexual orientation and dating app usage are presented in Table 1 below.

Table 1

Frequencies for categorical variables, N=76

Variable	Frequency	Valid %
Gender		
Male	19	25
Female	56	73
Prefer not to say	1	1
Sexual orientation		
Heterosexual	67	88.2
Gay/lesbian	6	7.9
Bi-sexual	2	2.6
Other	1	1.3
Dating app usage		
Yes, I use them currently	29	38.2
Yes, I have used them in the past	47	61.8
No, I have never used them	0	0

The descriptive details from the primary continuous variables involved in the study, age, the intensity of dating app usage scale, the mental health scale and the self-esteem scale are presented in Table 2. The mean (M), median (MD), standard deviation (SD) and range for all continuous variables were achieved alongside tests of normality. A preliminary analysis was run on the data set to ensure each continuous variable followed the assumption of normality. With respect to the intensity of dating app usage scale, the mental health scale and the self-esteem scale both the histogram and Normal Q-Q Plot suggest that the data approximates a normal distribution. In the case of the age, scores overall displayed a positive skewed histogram with evidence of several outlying cases at the lower end of the distribution.

Table 2

Descriptive statistics for continuous variables, N= 76

Variable	*M* [95% CI]	*Median*	*SD*	Range
Age	31.34 (28.88-33.81)	29.50	10.79	49
Intensity of app usage	20.25 (18.60-21.90)	19.50	7.21	30
Mental health	55.76 (52.43-59.09)	59.50	14.57	55
Self-esteem	29.04 (27.88-30.20)	28.00	5.06	21

Inferential Statistics

A Pearson product moment correlation coefficient test was run to investigate whether there is a relationship between the intensity of dating app usage and mental well-being. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity. There was a non-significant relationship between the variable's

intensity of dating app usage and mental well-being ($r = -.19$, $n = 76$, $p = .105$). Results

indicated that there is no association between intensity of dating app usage and mental well-

being. (see Table 3).

A Pearson product moment correlation coefficient test was run to investigate whether

there is a relationship between the intensity of dating app usage and self-esteem. Preliminary

analyses were performed to ensure no violation of the assumptions of normality, linearity and

homoscedasticity. There was a non-significant relationship between the variable's intensity of

dating app usage and self- esteem ($r = -.12$, $n = 76$, $p = .301$). Results indicated that there is no

association between intensity of dating app usage and self-esteem (see Table 3).

Table 3

Pearson's correlation between continuous variables, N= 76

Variable	*1*	*2*	*3*
1. Intensity of app usage	1		
2. Mental well-being	-.19	1	
3. Self-esteem	-.12	.40*	1

Note Statistical significance: *p< .001

Discussion

The current study aimed to provide a greater understanding of the psychological impacts of dating apps. The study investigated using self-report measures if the intensity of online dating apps usage had a psychological impact on users. Prior findings have suggested that self-esteem has been shown to be the largest predictor for why individuals create dating profiles (Dunca & March, 2019). Previous research has revealed that the frequent use of social media sites has been reported with lower levels of well-being in young adolescents who interact on such sites (Sampasa-Kanyinga & Lewis, 2015; Strubel & Petrie, 2017). However, the forefront of this research has been on social media sites such as Facebook and less on internet dating sites such as Tinder or Bumble (Holland & Tiggemann, 2016). Strubel and Petrie (2017) noted that those who used Tinder had a lower level of self-esteem than individuals who had never used dating apps before. Additionally, Coduto and colleagues (2020) identified that the obsessive use of dating apps had a positive association with feelings of worthlessness when being off the app. Through this research, two hypotheses were derived to investigate the aims of this study.

It was hypothesized, from prior literature, that (H1) the intensity of dating app usage will relate to individuals' mental well-being. This hypothesis was examined using a Pearsons correlation analysis, results from this indicated that there was a non-significant relationship between the variable's intensity of dating app usage and mental well-being. Similarly, hypothesis 2 sought to investigate if the intensity of dating app usage will relate to individual's levels of self-esteem. This hypothesis was examined using a Pearsons correlation analysis, results from this also indicated that there was a non-significant relationship between the variables intensity of dating app usage and self-esteem.

Unexpectantly, these results conflict with prior research that demonstrates a lower level of self-esteem in dating app users than non-users (Strubel & Petrie, 2017). Furthermore, it conflicts findings on excessive options provoking negative effects on individuals' well-being (Schwartz et al., 2002). Importantly, findings in this study add a novel effect to the literature on the intensity of dating app usage effects on mental well-being and self-esteem. Due to the increased popularity of dating profiles, it could be considered that high-frequency dating app users develop a tolerance to self-rejection and self-criticism, which increases the development of an impact occurring in mental well-being and self-esteem. Thus, future research should consider investigating if over a period of time does the excessive exposure to numerous dating profiles have the same effects on mental well-being and self-esteem as a minor exposure.

Within hypothesis 1 it was expected that the intensity of dating app usage will impact individuals' levels of mental well-being. However, the findings of this study produced a non-significant relationship between the variable's intensity of dating app usage and mental well-being. Surprisingly this conflicts earlier findings that the overuse of dating apps has led individuals to develop a self-critical image of themselves which has influenced a decrease in their mental well-being (Strubel & Petrie, 2017). This contrast in research could be due to the fact that self-objectification was not assessed within his study. As reported within the objectification theory, self-objectification can induce shame and anxiety around one's body type which can result in depressed mood and sexual disfunction (Fredrickson et al., 1998). In consequence, self-objectification could have posed a larger threat to individuals mental well-being than the intensity of their use on dating apps that was hypothesized in this study.

Additionally, within hypothesis 2 it was expected that the intensity of dating app usage will impact individual's levels of self-esteem. Similarly, to hypothesis 1 a non-significant

relationship was produced between the variable's intensity of dating app usage and self-esteem. Such findings contradict the results of Blomfield-Neira and Barber (2013) that an increased frequency of social applications will produce lower level of self-esteem and a higher depressed mood. Additionally, the present study also contradicts the results of Strubel and Petrie (2017) that demonstrates a lower level of self-esteem in dating app users than non-users. Despite that, findings from this study can be compared to the results of Orosz et al. (2018) study that infers that the lack of association between the intensity of dating app usage and self-esteem may have a relatively small effect on one's self-esteem due to a temporary fluctuation in levels of self-esteem but does not cause an overall affect to their self-esteem.

Furthermore, the use of a qualitative study rather than a quantitative study could have given a further insight into the responses of participants. A qualitative study by Hobbs and colleagues (2017) distinguished through interviews that some participants felt dating apps were only favorable for attractive individuals. The results within Hobbs and colleagues (2017) study can be combined with results from quantitative studies such as Strubel and Petrie (2017) to give a greater understanding of time point where the positive impacts of using dating apps begin to diminish and the negative effects start to manifest. Future studies would benefit from a mixed methods approach to further investigate the association of the intensity of online dating app usage on individuals' mental well-being and self-esteem as it enables a larger detailed response from participants.

Implications

Despite the findings of the current study not supporting the hypothesis that the intensity of dating app usage will have an impact on individuals' mental well-being and self-esteem, the current study supports the fact that much more research is needed in the area of psychological

impacts on individuals due to online dating services. Further consideration is required to understand if online dating apps are having the same effects on mental well-being and self-esteem as other social networking sites. Social networking sites are positively related to lower self-esteem (Vogel et al., 2014) and decreased mood (Wang et al., 2018) when overused. Based on the current study, the broader implications from this research show that individuals need to be educated on both the positive and negative impacts of extreme dating app usage. Despite the fact that this study did not find an association between the intensity of dating app usage and its impacts on mental well-being and self-esteem, this study encourages individuals to evaluate the benefits and limitations of joining dating apps. Moreover, creators of online dating apps must evaluate the risks to users' psychological health when engaging with such apps. Therefore, a suggestion could be made to create a disclaimer, when downloading a dating app, that excessive exposure to profiles could possibly impact users' psychological well-being.

Strengths and Limitations

When considering sampling techniques for a research study, the aim is to find a broad and extensive subset to generalize about a population (Acharya et al., 2013). When the results of an entire population are unable to be collected, convenience sampling is a practical and effective application (Jager et al., 2017). The participants within this study were recruited through convenience sampling from the researcher's social media platforms such as Instagram, Facebook and What's App. Therefore, the results of this investigation may not be generalized to an entire population due to a limited variation in participants' characteristics. Furthermore, majority of participants within this study were females (73%) and thus caution must be taken when generalizing the results to a wider population. Therefore, future studies should look at a wider

sampling measure that could access a wider subset of the population and produce results that are better reflective of an entire population.

Furthermore, within this study a cross sectional study design was used to investigate if the intensity of dating app uses had a negative impact on an individual's mental well-being and self-esteem. A limitation formed from the use of a cross sectional study design was that participants were only assessed at one time point. Within this study the results illustrated by participants were obtained on one occasion which implied that results were subjected to participants attitudes during the assessment and hence different results could be obtained if the survey was completed at a different time. Consequently, future research should investigate if the intensity of dating app usage has a negative effect on mental well-being and self-esteem over a period through a longitudinal study to assess if there is a fluctuation in participants results at different time points.

A further limitation of this study was the validity of the Online Dating Intensity Scale (Bloom, 2016). Due to this scale being adapted from the Facebook Intensity Scale (Ellison et al., 2007) for a dissertation its validity has not presently been established. The Online Dating Intensity Scale was deemed appropriate for this study due to its measures and criteria. However, due to uncertainty on the validity of the scale it is unclear if the results represent the appropriate measures. As a result, future research should assess other scales that have a high reported validity to ensure there is no hesitation on the strength of the scale being used.

A strength of the current study is that it was one of the first to test the association between the intensity of dating app usage and its impacts on individuals' mental well-being and self-esteem. Pervious literature has focused on the intensity of social media use on mental well-being (Bashir & Bhat, 2017) and self-esteem (Jan et al., 2017). However, little research has

looked directly at the impacts dating apps are having on individuals' levels of mental well-being and self-esteem due to their intensity of use on such apps. Consequently, this study has extended the literature on the association between the intensity of online dating apps and their impacts on individual's mental well-being and self-esteem.

Conclusion

Overall, the present study found no significant relationship between the intensity of dating app usage and its impact on mental well-being and self-esteem. While prior research has indicated a lower level of self-esteem in individuals who engage in online dating apps than individuals who do not engage in dating app, the results of the current study did not note a correlation in levels of self-esteem within users who engaged with online dating apps. Although this study did not produce significant results to support its hypothesis it can be seen as groundwork for future studies investigating the impact of excessive dating app usage on individuals' mental well-being and self-esteem. While this study sought to build upon the novel topic of the psychological implications that can arise from using dating apps, future research is needed to understand both the positive and negative impacts of dating apps so individuals have a clear understanding of both features that can occur during the use of dating apps.

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Appendix A

Participant Information Sheet

Dear participants,

You are being invited to participate in a research study about the psychological implications of dating apps. Before you decide whether to take part in this study, please take the time to read this document, which explains why the research is being done and what it would involve for you. If you have any questions about the information provided, please do not hesitate to contact me using the details at the end of this sheet.

I am a final year student in the BA in Psychology programme at the National College of Ireland. As part of our degree me must carry out an independent research project. For my project I aim to investigate if the frequency of dating app usage will have a psychological impact on users. My project will be supervised by Dr Caoimhe Hannigan.

If you decide to take part in this research, you will be asked to complete an online survey. You will be asked questions such as your age, gender and sexual orientation. You will also be asked to complete a questionnaire on your mental well-being in the past month and a questionnaire on your self-esteem. This survey will take approximately 20 minutes to complete. You can take part in this study if you are over 18 years old and are currently or have previously used any form of online dating apps.

Your participation in this study is entirely voluntary and a decision not to take part will have no consequences for you. If you decide to take part, you may withdraw at any point throughout the survey by exiting the browser. Once you have submitted your survey, it will not be possible to

withdraw your data from the study because the survey is anonymous and individual responses

cannot be identified.

There are no direct benefits to you taking part in this research. However, the information

gathered will contribute to research that helps to understand if there is a psychological impact to

dating apps. There is truly little risk in participating in this study. However, during this study you

will be asked to report upon your own mental well-being and levels of self-esteem. If you feel

that at this moment your mental well-being is unstable to not participate in this research.

However, if you do participate and begin to feel minor distress, you are free to discontinue

participation and exit the questionnaire. Contact information for relevant support services is also

provided at the end of the survey. If you are a student at the National College of Ireland, you can

seek help from the student counselling and wellness service. Appointments can be made in

person or online through counselling@ncirl.ie. If you are not a student at the National College of

Ireland, you may find support by contacting self-help hotlines such as Grow at info@grow.ie

The survey is completely anonymous, it is not possible to identify a participant based on their

response to the questionnaires. All data collected for the study will be treated in the strictest

confidence. Only the researcher and academic supervisor will have access to the data collected.

Study contact details for further information:

Sophie Byrne, x20365353@student.ncirl.ie

Dr Caoimhe Hannigan, caoimhe.hannigan@ncirl.ie

Appendix B

Consent Form

In agreeing to participate in this research I understand the following:

- The method proposed for this research project has been approved in principle by the Departmental Ethics Committee, which means that the Committee does not have concerns about the procedure itself as detailed by the student. It is, however, the above-named student's responsibility to adhere to ethical guidelines in their dealings with participants and the collection and handling of data.

- If I have any concerns about participation, I understand that I may refuse to participate or withdraw at any stage by exiting the browser.

- I understand that once my participation has ended, that I cannot withdraw my data as it will be fully anonymised.

- I have been informed as to the general nature of the study and agree to voluntarily to participate.

- All data from the study will be treated confidentially. The data from all participants will be compiled, analysed and submitted in a report to the Psychology Department in the School of Business.

- I understand with my data retained and managed in accordance with the NCI data retention policy, and that my anonymised data may be archived on an online data repository and may be used for secondary data analysis. No participants data will be identifiable at any point.

- At the conclusion of my participants, any questions or concerns I have will be fully addressed.

Please digitally tick the box to consent to participate.

- ❑ Yes, I do consent to participate

Appendix C

Demographics

What is your age?

_____

What is your gender?

- o Male

- o Female

- o Prefer not to answer

- o Other

What is your sexual orientation?

- o Heterosexual

- o Gay/Lesbian

- o Bi-sexual

- o Other, namely

- o Prefer not to answer

Do you use dating apps?

- o   Yes, I use them currently

- o   Yes, I have used them in the past

- o   No, I have never used them

Appendix D

The Online Dating Intensity Scale

Below is a list of statements about online dating apps. Please think about your typical use of online dating account(s) in an average week. If you do NOT currently use online dating services, please answer the following items in regard to your typical use in an average week when you did use an online dating service.

Please refer to the following scale for the first three items.

1= Strongly Disagree, 2= Disagree, 3= Neither Agree nor Disagree, 4= Agree, 5= Strongly Agree

1. Using online dating services is part of my everyday activity.

   o 1

   o 2

   o 3

   o 4

   o 5

2. I feel out of touch when I haven't logged into my online dating account for a week.

   o 1

   o 2

   o 3

   o 4

   o 5

3. I would miss online dating if I had to suddenly stop using online dating services.

- o   1

- o   2

- o   3

- o   4

- o   5

Please select the response that best describes your previous or current use of online dating

services.

4. How long have you used online dating services for?

- o   Less than one month

- o   1 month to less than 3 months

- o   3 months to less than 6 months

- o   6 months to less than 9 months

- o   9 months or longer

5. On average, how many times a day do you log on to your online dating service?

- o   One time or less per day

- o   2 times per day

- o   3 times per day

- o   4 times per day

- o   5 or more times per day

6. On average, estimate how much time do you spend per day using online dating services (e.g.,

browsing, messaging, editing your profile)

- o Less than 0.5 hours per day

- o 0.5 to 1 hours per day

- o 1 to 1.5 hours per day

- o 1.5 to 2 hours per day

- o More than 2 hours per day

7. How often do you edit your online dating services profile?

- o 1 time or less per month

- o 2 to 3 times per month

- o 3 to 4 times per month

- o 4 to 5 times per month

- o 6 or more times per month

8. On average, how many messages or contacts (e.g., like, wink) do you send (with or without) a

response to different potential dates in a week?

- o Less than 10 messages or contacts a week

- o 11 to 20 messages or contacts a week

- o 21 to 30 messages or contacts a week

- o 31 to 40 messages or contacts a week

- o 41 or more messages or contacts a week

9. On average, how many different people do you communicate with from online dating (e.g., messaging, emailing, texting and talking by phone or video chat)?

- o 5 people or less

- o 6 to 10

- o 11 to 15

- o 16 to 20

- o 21 or more people

10. Since using online dating service or applications, how many people have you met online and then gone on a face-to-face date with in total?

- o 5 people or less

- o 6 to 10

- o 11 to 15

- o 16 to 20

- o 21 or more people

Appendix E

The Mental Health Short Continuum Scale

Below is a list of statements about emotional well-being. Please indicate during the past month how often did you feel about each statement using the following scale: 0= Never, 1= Once or Twice, 2= About Once a Week, 3= 2 to 3 Times a Week, 4= Almost Every Day and 5= Every Day.

1. Happy

2. Interested in life

3. Satisfied with life

4. That you had something important to contribute to society

5. That you belonged to a community (like a social group, or your neighbourhood)

6. That our society is a good place, or is becoming a better place, for all people

7. That people are basically good

8. That the way our society works makes sense to you

9. That you liked most parts of your personality

10. Good at managing the responsibilities of your daily life

11. That you had warm and trusting relationships with others

12. That you had experiences that challenged you to grow and become a better person

13. Confident to think or express your own ideas and opinions

14. That your life has a sense of direction or meaning to it

Appendix F

The Rosenberg Self Esteem Scale

Below is a list of statements dealing with your general feelings about yourself. Please indicate how strongly you agree or disagree with each statement using the following scale: 1= Strongly Disagree, 2= Disagree, 3= Agree and 4= Strongly Agree

1. On the whole, I am satisfied with myself.

2. At times I think I am no good at all.

3. I feel that I have a number of good qualities.

4. I am able to do things as well as most other people.

5. I feel I do not have much to be proud of.

6. I certainly feel useless at times.

7. I feel that I'm a person of worth, at least on an equal plane with others.

8. I wish I could have more respect for myself.

9. All in all, I am inclined to feel that I am a failure.

10. I take a positive attitude toward myself.

Appendix G

Debriefing form

Dear participants,

Thank you for contributing as a research participant in the present study concerning the psychological impacts of dating apps.

Again, I thank you for your participation in this study. If you know any friends or acquaintances that are eligible to partake in this study, I ask that you do not discuss the questions prior to the individual participating in the survey. Prior knowledge of questions asked in the survey can invalidate the results. I greatly appreciate your cooperation.

If you have any further questions or queries of the study do not hesitate to contact myself at x20365353@student.ncirl.ie or my supervisor Caoimhe at caoimhe.hannigan@ncirl.ie
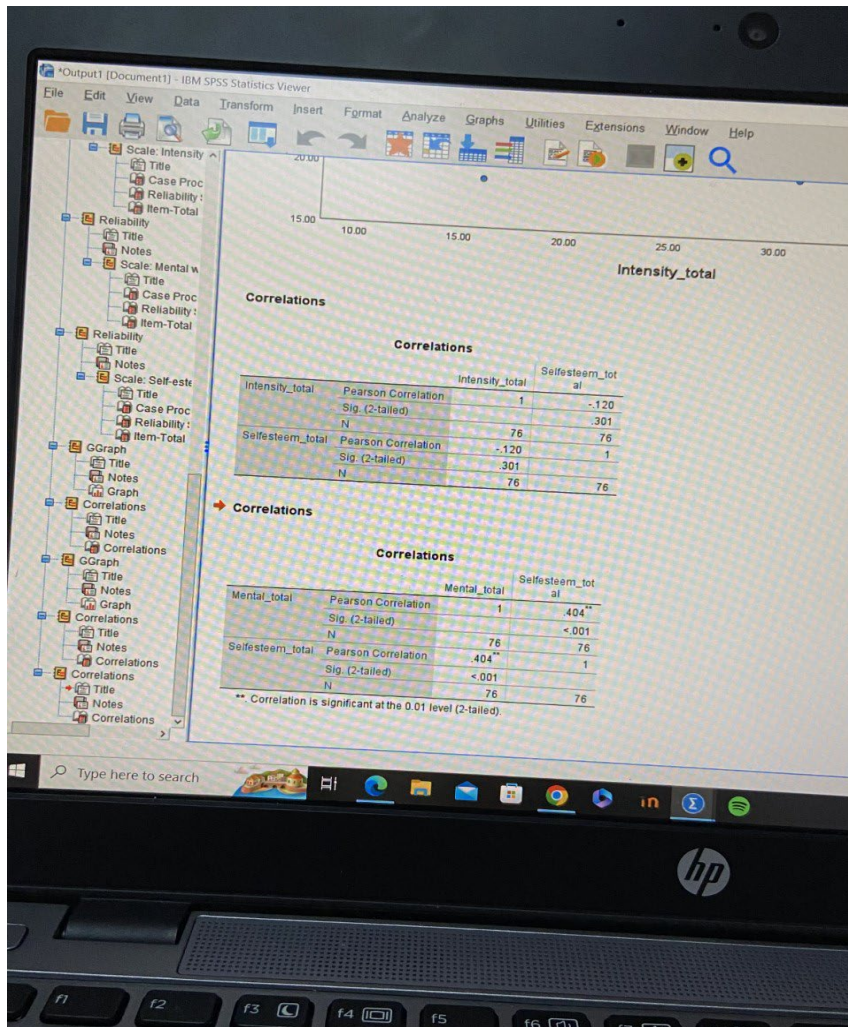
In the event that you feel psychologically distressed by the participation in this study, I encourage you to seek support through the student counselling and wellness services at counselling@ncirl.ie if you are a student at the National College of Ireland. If you are not a student at this college, you may find support in help lines such as Grow at info@grow.ie

Thank you for your participation.

THE PSYCHOLOGICAL IMPLICATIONS OF DATING APPS

Appendix H

SPSS Data Set and Output File

THE PSYCHOLOGICAL IMPLICATIONS OF DATING APPS