It's Love, Actually: An Exploration of Dating App Motivations, Usage and Depression

in Australian Emerging Adults

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Statement of Originality

This report contains no material offered for the award of any other degree or diploma, or

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Abstract

In light of the rise of online dating apps and their use amongst emerging adults, concerns have been raised regarding their potential to impact mental health. The limited research on dating apps, especially in an Australian context, considered alongside social media research suggest that motivations for using dating apps and frequency of use may play a role in explaining any mental health outcomes. To address gaps identified in previous research, this study aimed to examine the motivations of Australian emerging adults for accessing dating apps, and how these motivations and frequency of use might explain symptoms of depression. Participants were a sample of first year psychology students at Griffith University with experience of online dating ($N = 187$, 66.3% female, 29.4% male, and 4.2% other), aged $17 - 29$ years ($M = 21.4$, $SD = 3.18$). An exploratory factor analysis identified three motivation factors (Love, Social Connection and Validation/Sex) for accessing dating apps, with Love explaining the greatest variance. Tests of mean differences showed that current dating app users reported significantly higher scores of depressive symptoms than both previous and recent users. Mediation analyses revealed that user motivations were not associated with depression, nor did frequency of use factor in this relationship. Love, however, did show a positive association with frequency of use. This study highlights that any negative impacts of dating app use on depression are likely both small and temporary, and offers potential avenues for future research.

   Keywords: dating apps, dating app motivation, depression, emerging adults, online dating

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Chapter 1: Introduction

Online dating platforms, mobile dating applications, or simply just 'dating apps', have seen a significant and steady increase in usage over recent years, with over 381 million users worldwide in 2023 (Dixon, 2024). This is now to the point that their use is a regular part of daily life for millions of people worldwide regardless of age, sex, income, education, sexual orientation or personality (Castro & Barrada, 2020). Despite the increasingly wide adoption of online dating, it is emerging adults (i.e., those aged 18–29 years; Arnett, 2000), who are the highest users of dating apps, with recent data from the United States (US) suggesting this age group represents 53% of all users (McClain & Gelles-Watnick, 2023). Given the rapid uptake in the use of dating apps, a growing body of research has assessed both the benefits and the possible negative impacts of this highly popular platform. In much the same way that some studies and the media have suggested negative mental health impacts associated with social media use (Hunt et al., 2018; Twenge, 2017), studies investigating the use of dating apps are beginning to raise similar concerns regarding the potential negative impacts of dating app use on mental health, particularly amongst emerging adults (Her & Timmermans, 2021).

To examine these concerns in an Australian context, this thesis will first review the current state of mental health in Australia and its impact on emerging adults. Next, the study will examine the population of concern to understand exactly who emerging adults are, the theory that underpins them as a population, and the possible reasons for their high use of dating apps. This work will then investigate online dating apps themselves, the nature of their usage, and the user motivations that may be involved. Finally, the study will review the literature regarding the potential impact of dating app use on mental health and the

mechanisms that might be responsible. Based on this picture of emerging adulthood in relation to dating apps and mental health, several research questions and hypotheses are proposed relating to motivations for using dating apps, associations with symptoms of depression, and any mediating effect that frequency of use may have in this relationship.

State of Mental Health in Australia

The latest data from the Australian Bureau of Statistics (ABS), makes it clear how widely felt the impacts of various mental health conditions are on Australian society. The most recent survey from the National Study of Mental Health and Wellbeing (ABS, 2020-2022), indicates that 42.9% of Australians aged 16–85 years have experienced some form of mental health condition during their lifetime, with more than 1 in 5 (21.5%) experiencing a mental health disorder in the preceding 12 months. Whilst these figures represent a significant proportion of the Australian population, of particular concern is that almost double the proportion of young people, or 38.8% of those aged 16–24 years, report having experienced a mental disorder during this same period. This figure is closely followed by the next youngest cohort, those aged 25–34 years, who report a 12-month prevalence of mental disorders of 26.3%. This data represents a significant increase from the previous 2007 survey, which showed that only 26.4% of 16–24 year olds had reported a mental disorder in the preceding 12 months (ABS, 2007).

Anxiety is still the most prevalent mental health issue in Australia, with 17.2% of respondents reporting having experienced some kind of anxiety disorder in the previous 12 months. This is in comparison to the 14.4% reported in 2007 (ABS, 2007, 2020). The next highest reported 12-month mental health conditions amongst Australians were affective disorders (7.5%), with depressive episodes (4.9%) representing well over half of this figure. This is an increase from the 6.2% of affective disorders reported in 2007, and once again, younger Australians are heavily represented in these figures.

In terms of the actual impact arising from these mental health conditions, findings from the Australian Burden of Disease Study (Australia Institute of Health and Welfare [AIHW], 2023) show that poor mental health is second only to cancer in terms of years lost due to disease in Australia. Specifically, anxiety and depressive disorders are among the top five specific contributors to burden of disease amongst Australian young adults. Of particular interest to this study are the potential associations with depression based on previous research examined below.

Emerging Adults

Coined by Jefferey Arnett in 2000, 'emerging adulthood' is a term that characterises a relatively new stage of human development experienced primarily in industrialised countries, by people aged roughly between 18 and 29 years (Arnett, 2000). Arnett further describes emerging adulthood as the single greatest opportunity for identity exploration during the life course, specifically in the areas of love, work, and worldviews (Arnett, 2000, 2016). Emerging adulthood is proposed as a distinct demographic stage in which young people know they are no longer adolescents, but do not yet feel they are adults (Arnett, 2000, 2007; Nelson & Barry, 2005). This feeling of being 'in-between' is one of the five key features of emerging adulthood, which also include identity exploration, instability, self-focus, and optimism (Arnett et al., 2014).

This new life stage is attributed to a number of changes arising from the industrialisation of the Western world (Arnett, 2000). Specifically, the age of marriage has steadily increased, a trend Arnett identified in the US population, but one which has been mirrored here in Australia (Arnett, 2000; Arnett et al., 2014; ABS, 2017). Correspondingly, the age at which young people are having children has also increased (Arnett, 2000; Arnett et al., 2014; ABS, 2023). Lastly, young people have begun attending university in far greater numbers than they had previously (Arnett, 2000). This increase is also apparent in Australia,

with data from the Organization for Economic Co-operation and Development (OECD) showing 51% of Australian 25 to 34 year-olds with a tertiary degree, an increase of 9% between 2008 and 2018 (OECD, 2019). What might have previously been considered typical milestones of adulthood (a career, marriage, and parenthood), have become increasingly less relevant to emerging adults, who instead focus more on individually oriented and internal measures to define adulthood (Arnett, 2007; Nelson & Barry, 2005). Consequently, this relatively new, culturally constructed life stage of emerging adulthood presents opportunities for role exploration not previously available to this age group.

Whilst optimism and possibility are key aspects of emerging adulthood, they are also accompanied by considerable instability, such as leaving home, separating from parents and the uncertainty of new living arrangements (Arnett, 2000; S. J. Schwartz, 2016). As a result, poor mental health may be highly prevalent during emerging adulthood (ABS, 2020-2022; Arnett, 2000), with recent studies supporting a relationship between key aspects of this life stage and symptoms of both depression and anxiety. In a large study of Brazilian emerging adults, Brito and Soares (2023) found evidence to suggest that there is a relationship between several characteristics of emerging adulthood, wellbeing and depression. Similarly, Matud et al. (2020) suggest that the stress that can be associated with the instability of emerging adulthood showed a small correlation with psychological distress in a large sample of Spanish emerging adults.

In examining the instability specifically surrounding emerging adults' explorations of love, research into the nature of emerging adults' romantic and sexual relationships suggest this is a stage where emerging adults work through a new range of issues and relationship skills not previously encountered during adolescence (Shulman & Connolly, 2013). Supported by a reduction in parental oversight and, for many, little burden of responsibility (Arnett, 2000), this period of romantic and sexual freedom sees emerging adults' explorations

of love becoming both more intimate and more serious as they move between intermittent

romantic encounters and committed relationships (Arnett, 2000; Shulman & Connolly, 2013).

Although emerging adulthood is a time where increased freedom allows for the exploration

of different romantic and sexual relationships, these relationships carry with them the

potential for various risks, both positive and negative, physical and psychological (Claxton &

van Dulmen, 2013). With the recent introduction of dating apps adding a novel way for

emerging adults to engage with prospective partners, these platforms should be considered in

light of these risks.

Online Dating Apps

Much in the same way that individuals use social media to connect with old friends or

make new ones, dating apps have become a highly popular method for meeting prospective

romantic and sexual partners. Not unlike social media applications, dating apps have seen a

massive uptake in usage over recent years, with US data showing that 30% of US adults have

used a dating app (McClain & Gelles-Watnick, 2023). Australian data suggests even greater

levels of engagement, with almost half (49%) of Australians aged 18–49 involved in some

form of online dating (Choosi, 2023). Dating apps, primarily used on smartphones, come in a

variety of configurations, but predominantly function in one of two ways: Those that allow

messaging with any number of users selected via a compatibility algorithm, and those that

first require users within geographic proximity to show an interest, or 'match' with each other

before any further communication can take place (Wu & Trottier, 2022). Having made the

move from internet sites to mobile phones, dating apps, like their social media cousins, can

be accessed anywhere, at any time, and with minimal effort (LeFebvre, 2018; Sumter et al.,

2017). Indeed, the most popular apps require users to simply swipe left or right on their

phone screen to indicate their interest in a potential match, based primarily on just a profile

picture (Sumter & Vandenbosch, 2019; Timmermans & De Caluwé, 2017a; Wu & Trottier, 2022).

One particular dating app, Tinder, stands out from the rest. Tinder has seen exponential growth over the past decade and has become the single most popular dating app, with 75 million active users worldwide in 2022 (Samanta, 2024; Vogels & McClain, 2023). Widely regarded as the 'hook up' app (LeFebvre, 2018; Sales, 2015), Tinder has a reputation as the app used primarily for seeking and engaging in casual sexual encounters or 'one-night stands'. However, although Tinder is the most popular dating app, there are many hundreds of online dating platforms worldwide, amounting to over 381 million users in 2023 (Dixon, 2024). In light of these significant numbers, one reality seems clear – dating apps have become a part of everyday life for many single emerging adults (Timmermans & De Caluwé, 2017b).

Dating App Motivations

Over and above the universal human need to relate and interact with others as proposed by self-determination theory (Deci & Ryan, 2012), the exploration of love and sexual experience characteristic of emerging adulthood are likely contributors to this age group's significant use of dating apps. In the research to date, one theoretical model has shown itself to be particularly relevant in examining this behaviour. Uses and gratifications theory (Katz et al., 1973) suggests that individuals access media in order to satisfy specific needs. It further proposes that, having had these needs met, users are encouraged to continue to access that type of media. Some researchers have grounded their dating app research in uses and gratifications theory, examining the specific motivations driving the use of dating apps among emerging adults (Wu & Trottier, 2022). These studies identified several needs, or 'motives' (Bryant & Sheldon, 2017) for emerging adults' use of dating apps, with considerable overlap apparent between them.

In a study of US Tinder users, Ranzini and Lutz (2017) adapted a previous uses and gratifications study of GRINDR (Van De Wiele & Tong, 2014), a dating app targeted specifically at non-heterosexual men, to assess Tinder motives and self-presentation. Of the six motives they examined, entertainment was the most pronounced motivation for Tinder use, closely followed by self-validation and use while travelling. Sumter et al. (2017), using a new but not dissimilar scale, assessed the motivations of Dutch emerging adults, finding six primary motivations to use Tinder: love, casual sex, ease of communication, self-worth validation, thrill of excitement, and trendiness. Of particular interest was their finding that the motivation to find love was stronger than that for casual sex, somewhat refuting Tinder's reputation as the hook up app. During this same period, Timmermans and DeCaluwe (2017a), developed the Tinder Motivations Scale (TMS), finding 13 reliable Tinder motives, including relationship seeking, sexual experience, social approval, socialising, and passing the time/entertainment. In doing so, they also noted that these motives aligned closely to existing uses and gratifications scales for other types of media. Bryant and Sheldon (2017) identified having fun, developing relationships, and hooking up as the primary reasons for dating app use in their study of US college students. Finally, in their development of the Tinder Usage Motivations Scale, Orosz et al. (2018) proposed four overarching motivations for using Tinder: boredom, self-esteem, sex, and love, yet again showing a similar range of dating app motivations as identified in other previous research.

Studies on dating app use have also suggested that whilst dating apps are used by similar numbers of both men and women (Sumter et al., 2017), there are differences in how they are used across genders. Men appear to use dating apps more for casual sex, whilst they are travelling, and for relationships. Women, however, are more motivated by friendship and self-validation (Ranzini & Lutz, 2017; Sumter et al., 2017). Some personality traits, such as extraversion and openness to new experiences have also been associated with the use of

Tinder, with these also potentially influencing both motivations and usage (Timmermans &

De Caluwé, 2017b). Other research has shown a relationship between dating app usage,

attachment styles (Chin et al., 2019), and dating app motivations (Timmermans &

Alexopoulos, 2020). Given Tinder's prevalence and reputation, it is no surprise to see that

this app has been the primary focus for most of the research to date. As a result, it is only

quite recently that studies have begun to examine user motivations across other dating apps,

with existing Tinder motivation scales adapted accordingly (Menon, 2024; Timmermans &

Alexopoulos, 2020).

Impacts to Mental Health

Dating Apps

Much like the previous research into dating app motivations, the majority of studies

on the health impacts of dating apps have also been narrowly focused, in this case primarily

on the physical health implications of men who have sex with men (Jennings et al., 2023;

Obarska et al., 2020). However, the significant increase in dating app use in recent years has

resulted in a greater focus on the potential mental health impacts as well. In a study to assess

the impact of Tinder use on the wellbeing of US emerging adults, Her and Timmermans

(2021) found that wellbeing was negatively impacted by the compulsive use of Tinder. They

proposed that the process of social-comparison, where users self-consciously compare

themselves to others – often in a negative way (Festinger, 1954), was at least partly

responsible, concluding that the more someone uses Tinder for relationship-seeking, the more

they self-consciously compare themselves to others. In one of the very few dating app studies

involving Australian participants, Holzhausen et al. (2020) found that greater frequency and

longer-term use of swipe-based dating apps was associated with greater levels of depression,

anxiety, and psychological distress. The authors suggest that this risk is especially likely if

the user is engaging in daily use, or has been using dating apps for more than a year,

proposing that this association may be dose-dependent. Similarly, in a study of Portuguese university students, results showed that more recent use of dating apps predicted higher scores of depression (Freire et al., 2023). In that study, it was observed that that those who engaged in daily app use and those using apps for more than a year reported significantly higher psychological distress and depression, also suggesting that this relationship may be dose-dependent. Positive associations have also been found between symptoms of social anxiety and depression and the extent of dating app use (Lenton-Brym et al., 2021). Moreover, these results suggested a positive association between both anxiety and depression symptoms and motivations for use. Taken together, all three of these studies suggest there are linkages between either frequency or currency of use and poorer mental health, with the research by Lenton-Brym and colleagues also including motivation for use as a potential factor.

In a large study of US college students, Jennings (2023) found potential negative mental health impacts, albeit with small effect sizes, specifically associated with dating app use for sex, noting that such use might contribute to sexual risk-taking behaviours. Another very recent study of German users aged 16–25, partly based on the principles of social comparison theory, noted that research on specific patterns of excessive dating app use was lacking (Thomas et al., 2023). This study indicated that dating app use was associated with the mechanism of excessive swiping. This was in turn linked to upward social comparison, where one compares themself with those they think are somehow superior (Vogel et al., 2014), and negative impacts on wellbeing. The researchers also made the observation that whilst some studies link excessive use to negative psychological impacts, it remains unclear as to how this occurs. Again, these findings suggest the potential associations between user motivations and poor mental health, possibly associated with excessive use. On this last point however, Bonilla-Zorita et al. (2021) highlight that there is currently insufficient research in

the area of excessive dating app use, and that whilst greater use of dating apps is not necessarily symptomatic of problematic use, it should be considered a factor in future research. Further, there is a general dearth of research exploring the potential impact of dating apps on mental health. Whilst the few studies available suggest that links do exist between recency or frequency of use, motivations, and poorer mental health, it is difficult to draw many conclusions on the basis of this limited data.

Social Media Parallels

Due to the limited research surrounding online dating apps and their associations with symptoms of mental health or problematic use (Bonilla-Zorita et al., 2021; Her & Timmermans, 2021; Strubel & Petrie, 2017), researchers have drawn parallels with the considerable body of social media research in an attempt to bridge this gap. These parallels have been justified on the basis of two factors. Firstly, that the two technologies are very closely related (Bonilla-Zorita et al., 2021), and secondly, that quite similar mechanisms are likely to be at play (Orosz et al., 2016).

Several studies and meta-analyses have been conducted to determine if social media use poses a risk to mental health, particularly that of adolescents and young adults. The findings of these studies, however, are decidedly mixed (Griffioen et al., 2020; Kross et al., 2021; Tang et al., 2021; Yuen et al., 2019). Whilst some research suggests that social media use does have a negative impact on both wellbeing and symptoms of depression, effect sizes are consistently small (Coyne et al., 2019; Huang, 2017; Meier & Reinecke, 2021; Yoon et al., 2019). In contrast, several studies have shown no significant associations between social media use and mental health symptoms at all (Berryman et al., 2018; Coyne et al., 2020; Sewall et al., 2022).

Despite these inconsistencies, there are a number of themes apparent in the research. Firstly, how social media platforms are used seems to be of greater significance in

understanding the association between use and poor mental health than *how much* they are used, particularly in relation to symptoms of depression (Berryman et al., 2018; Clark et al., 2018; Kross et al., 2021; Shensa et al., 2017). Indeed, several authors suggest that frequency of use is a more significant factor in relation to poor mental health, especially symptoms of depression, than the overall time spent on social media (Lin, 2016; Shensa et al., 2017; Yoon et al., 2019). Further, a number of studies identified that social comparison likely plays a role in the negative associations between social media use and low mood (Meier & Reinecke, 2021; Yoon et al., 2019). Lastly, some longitudinal studies suggest that whilst social media use may predict symptoms of depression, there is little evidence to support the reverse effect (Coyne et al., 2019; Tang et al., 2021). Whilst there appears to be little consensus regarding the impact of social media use on mental health, there does seem to be general agreement that the relationship is far more nuanced than most studies suggest (Kross et al., 2021). As a result, recommendations for future research propose an investigation of other factors that may be involved, such as frequency of use (Coyne et al., 2020; Rasmussen et al., 2020).

The Current Study

In light of the substantial incidence of poor mental health amongst Australian emerging adults (ABS, 2020-2022), an understanding of any factors that might play a role in shaping mental health is particularly valuable. Whilst emerging adults' high levels of dating app use are not surprising given their inherent exploration of love and sexual experience (Arnett, 2000; Claxton & van Dulmen, 2013), previous research suggests that a link may exist between dating app use and their mental health (Freire et al., 2023; Her & Timmermans, 2021; Holtzhausen et al., 2020). Due to the limited dating app research, it is difficult to identify what mechanisms might be at play in such a relationship; however, there is some evidence to suggest that motivations for use are a potential factor (Lenton-Brym et al., 2021; Ranzini & Lutz, 2017; Sumter et al., 2017). There are also findings suggesting that recency of

use might also play a role (Freire et al., 2023; Holtzhausen et al., 2020). To try and bridge the

gap in dating app research, previous social media studies have been used as a guide, and

whilst this research provides mixed results (Griffioen et al., 2020; Kross et al., 2021; Tang et

al., 2021; Yuen et al., 2019), it does support the notion that frequency of use, particularly in

relation to depression, warrants further investigation.

   The current study had two main aims. First, this study aimed to extend our knowledge

of dating app motivations and gender differences to the Australian context, using an

Australian sample of emerging adults due to their minimal representation in dating app

research to date. The following research questions were proposed:

   RQ1. What motivations are endorsed by Australian emerging adults for using dating

   apps?

   RQ2. Are there differences in emerging adults' motivations for dating app use based

   on gender?

Second, based on the available research, and the knowledge gaps identified in relation to the

mechanisms that might explain the impact of dating apps on depression, this study aimed to

examine the associations between the identified motivations for using dating apps, frequency

of dating app use, and symptoms of depression in emerging adults. The following hypotheses

were proposed:

   H1(a). Emerging adults who currently use dating apps (*current users*) will have

   higher scores of depressive symptomology than those who have ever used dating apps

   (*previous users*).

   H1(b). Current users of dating apps will have higher scores of depressive

   symptomology than those who have used dating apps within the past six months

   (*recent users*).

H2. The motivations identified for Australian emerging adults' use of dating apps

would be associated with higher scores of depressive symptomatology.

H3. The relationship between dating app motivations and scores of depression would

be mediated by the frequency of dating app use.

A diagram of the proposed mediation model for H3 is shown in Figure 1.

Figure 1

Proposed Simple Mediation Model
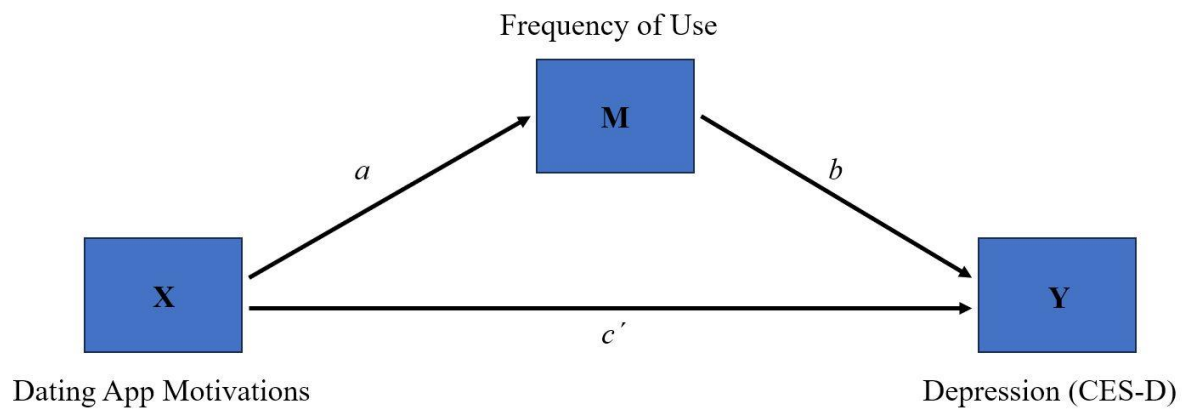
Note. Adapted from Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (2nd ed.). The Guilford Press. Copyright 2017 by The Guilford Press.

Chapter 2: Method

Participants

Participants for this project were a convenience sample of first year psychology students, recruited at Griffith University as part of the Understanding Internet Use and Relationships in the Digital Era survey between November 2022 and June 2023. The original sample was made up of 574 participants (72.6% female, 25.3% male, and 2.1% non-binary or another gender identity). The sample had an age range of 17 to 69 years, with a mean age of 23.68 years ($SD = 8.37$).

Inclusion criteria for the original data collection was that participants actively used the internet in their day-to-day life. However, inclusion criteria for this study were also based on the population of interest (emerging adults), and that they had experience using dating apps. Whilst emerging adulthood is typically considered to start at 18 years, Arnett (2000) makes the point that the age range for emerging adulthood is by nature, approximate. Given the structure of the Queensland education system, where students often begin university at age 17 and so meet key criteria for emerging adulthood, the decision was made to retain these participants in the dataset. As such, this study included a subsample of 187 emerging adults (66.3% female, 29.4% male, and 4.2% non-binary or another gender identity), aged 17 to 29 years ($M_{age} = 21.41$, $SD = 3.18$). All included participants were Australian citizens from a mixed, but predominantly white Australian background (76.5%), and/or Indigenous (1.6%), Asian (8%), Middle Eastern (1.6%), African (3.7%) or an ethnicity not specified (15%). Specific details of how the subsample was reached are provided in Chapter 3.

Psychology students at Griffith University receive research credits toward their studies for participating in various research projects throughout the academic year and are able to choose which projects they would like to take part in. Participants for this project

were compensated for their time in the same manner, each receiving 0.5 research credits for

taking part. No other incentives or inducements were provided.

Materials

Demographic Questionnaire

The initial section of the survey included a number of standard demographic questions

including age, gender, ethnicity, employment status, and education. Gender was the

demographic question of most relevance to this study.

Dating App Use

To identify those participants who had experience using dating apps, the survey asked

the question: "Do you currently use dating sites/apps, or have you used dating sites/apps in

the past?" Responses were provided using a 4-point Likert-like scale (1 = 'Yes, currently', 2

= 'Yes, in the past 6 months', 3 = 'Yes, but not in the past 6 months', 4 = 'No').

Dating App Frequency

To determine the frequency with which users accessed dating apps, participants were

asked "How often do you access dating apps?" on a single 7-point Likert-like scale (1 = 'Less

than once a month' to 7 = 'Multiple times a day').

Dating App Motivation Scale

To determine what motivated emerging adults to use dating apps, a reduced dating

app motivation questionnaire was developed based on the Tinder Motives Scales (TMS)

developed by Timmermans and De Caluwe (2017a) and subsequently adapted by Her and

Timmermans (2021). Due to the length of the overall survey, and based on previous

literature, the items included for the dating app motivation scale were a compromise between

the extensive length of the TMS (58 items), and the brevity of Her and Timmermans adapted

scale (four items). As a result, the dating app motivation scale developed for this data

collection comprised 12 items. Following the stem "When I use dating apps, it is because I

want to…", participants answered items including "Fall in love", "Receive compliments", and "Find a one night stand", measured on a 5-point Likert-type scale (1 = 'Strongly disagree' to 5 = 'Strongly agree'). As this is a new scale, developed specifically for this data collection, an Exploratory Factor Analysis (EFA) was conducted to establish the underlying structure of the scale prior to any further analyses. Outcomes of the EFA are detailed in the results below and details of the full scale are provided in Table 1.

Centre for Epidemiologic Studies Depression Scale

The Centre for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977), was used to measure the participants' symptoms of depression in the previous week. The CES-D is a 20-item self-report instrument that measures current levels of depressive symptomatology using a four-point Likert-type scale from 0 = 'Rarely or none of the time (less than one day)' to 3 = 'Most or all of the time (5–7 days).' The measure asks "How often have you felt the following during the last week" against statements such as "I felt depressed" and "I felt that everything I did was an effort". The scores for all items are added together to provide a total score from 0 to 60, with higher scores indicating a greater frequency of depressive symptomology. The CES-D has good discriminate validity, moderate test-retest stability and high internal consistency, reporting a coefficient $\alpha > .80$ across various age groups and populations during development (Radloff, 1977), and .93 in this study.

Radloff (1977) recommended the use of a cut-off value, with scores of 16 or greater indicating a risk of clinical depression. More recent studies, however, suggest a cut-off score of 20 may be more appropriate (Vilagut et al., 2016). The data in this study indicated that approximately half of the participants (52.9%) scored at or above 20 on the CES-D.

Procedure

Approval for the original 'Understanding Internet Use and Relationships in the Digital Era' project data collection was obtained by the current project supervisor, Dr Riley Scott,

from the Griffith University Human Research Ethics Committee (HREC No. 2022/832).

Additional ethical approval for this project was obtained from the University of Southern

Queensland Human Research Ethics Committee (HREC No. ETH2024-0098).

The Understanding Internet Use and Relationships in the Digital Era project was

conducted via Qualtrics and made available to first year psychology students at Griffith

University between November 2022 and June 2023. A participant information sheet was

provided to interested students outlining the nature and purpose of the data collection,

including its potential use for future psychology honours theses. To address any concerns

regarding conflicts of interest or prior relationships, it was made clear that there would be no

impact to students' relationship with the university, their education, or their grades, should

they choose not to participate or to withdraw from the survey for any reason. It was also

made clear that their involvement was voluntary, anonymous, and that no personally

identifying information would be collected as part of the project. A completely separate

survey was used after the main survey was completed to allow students to record their details

for the purpose of assigning research credit. Participants were further advised that the data

from the second survey would be deleted once credit had been awarded. Due to the routine

presence of students aged 17 years at Queensland universities, no parental consent was

required for these participants. As a result of their tertiary education age and enrolment at

university, they were deemed capable of providing free and informed consent with negligible

risks either to themselves or the project. Individual consent was required however, and all

participants were advised that clicking the link at the end of the information sheet to continue

to the survey was considered consent.

No risks were identified as part of this project beyond any inconvenience incurred due

to the time taken to complete the survey (approximately 30 minutes). However, the contact

details of various support services, such as Lifeline and the Griffith University psychology

clinic were provided in the participant information sheet. The contact details of the lead

researchers were also provided should potential participants have any questions. In addition,

if participants had any concerns regarding the conduct of the project, they were advised to

contact the manager of the Griffith University Human Research Ethics Committee. The same

support resources that were made available to participants were also made available to

researchers involved in the project.

The quantitative survey data collected via Qualtrics began with standard demographic

questions including age, gender, ethnicity, employment status, and education. The survey was

then broken up into several blocks of questions: social media use and literacy; friendship

measures; online dating measures (including sexual orientation); online disinhibition and

perceptions; and lastly, several mental health and wellbeing scales. A list of all measures used

in the survey can be found at Appendix A. An attention check was also included part-way

through the survey; participants who failed the attention check were unable to complete the

remainder of the survey (including the mental health and wellbeing scales), and their data

subsequently removed. Once the main survey was completed, participants were referred to a

second short survey to provide relevant details for the allocation of research credit.

Analysis Plan

Using a quantitative cross-sectional research design, this study sought to examine a

number of research questions and hypotheses. The analyses for each are detailed below:

RQ1. To examine what motivations were endorsed by Australian emerging adults for

using dating apps, an exploratory factor analysis (EFA) was conducted. This was initially

performed on the full 12-item dating app motivation scale to determine the underlying factor

structure of dating app motivations prior to further analyses. In order to achieve a reliable

exploratory analysis, a minimum of five cases per measured item and a sample of at least 100

participants are recommended (Allen et al., 2018; Fein et al., 2022). The current sample

included 187 valid cases for the variables of interest and therefore achieved adequate power.

RQ2. To assess differences in emerging adults' motivations for dating app use based

on gender, a series of independent samples *t*-tests were conducted. Due to the very low

percentage of non-binary and other gender identities in this sample (4.2%), the decision was

made to recode gender to male = 1, and female = 0, with all other genders coded as 'missing'.

This resulted in a sample of $n = 179$ for those analyses which included gender as a variable.

Three independent samples *t*-tests were used to measure any statistically significant

differences between genders (male/female; the independent variable) and the three motivation

factors for dating app use identified in the EFA (the dependent variables). A power analysis

using G*Power version 3.1 (Faul et al., 2009) was conducted with the intent of achieving

power of 80% to detect a medium effect . Due to the need to perform three independent

samples *t*-tests for this particular research question, a Bonferroni correction was applied to

mitigate the risk of a Type I error, reducing the required alpha level to .017. As a result, the

power analysis recommended a minimum sample of 172 participants.

H1(a) and H1(b). To understand whether current users of dating apps have higher

scores of depressive symptomology than either previous or recent users, a one-tailed

independent samples *t*-test was conducted for each condition. The *t*-tests were used to

measure any statistically significant differences between dating app use (the independent

variable), and scores of depression (the dependent variable). G*Power recommended a

minimum of 102 participants to find a medium effect (alpha = .05) at a power of 80%.

H2. To test whether motivations for dating app use would be associated with greater

symptoms of depression amongst Australian emerging adults, a Pearson's bivariate

correlation was conducted on the variables of interest. To find a medium effect (alpha = .05)

at a power of 80%, G*Power recommended a minimum sample size of 67 participants.

H3. To test the hypothesis that greater motivations to use dating apps would be associated with more frequent dating app use, and in turn, higher scores of depression, a simple mediation was conducted using the PROCESS macro (Hayes, 2017). The motivation for online dating factors identified in the EFA provided the three predictor variables (detailed below), whilst frequency of use and scores of depression were included as the mediator and outcome variables, respectively. After considering previous research, gender (male, female) was included as a control variable. To determine the appropriate sample size to conduct a simple mediation analysis, this study relied upon previous empirical power simulations conducted by Fritz and McKinnon (2007). Based on previous social media and online dating research that suggests small to moderate effect sizes, this study aimed to detect an effect half-way between small and medium on both the *a* and *b* paths. To this end, Fritz and McKinnon recommend a minimum sample of 162 participants, with the data for this study providing 179 relevant cases.

Chapter 3: Results

Data Screening

Initial data screening identified a number of cases where participants had failed the attention check, the survey had been completed in less than 6 minutes, or less than 80% of the survey had been attempted resulting in key missing data. As a result, 104 cases were removed from the original 678 survey submissions. Due to the survey only being made available internally to Griffith University students, the risk of bot responses was considered low and no additional screening was conducted in this regard. Of the remaining 574 cases, 107 were identified as falling outside the population of interest (i.e., were not aged 17–29), and an additional 279 had never used dating apps. Of the remaining 188 cases, one did not complete any of the CES-D items and was also removed. Three other cases each contained a single missing value in the CES-D and these were substituted using individual mean imputation (Shrive et al., 2006). The final overarching data set ($N = 187$), was then analysed using SPSS version 29 and Hayes (2017), PROCESS macro, with an alpha level of .05 unless indicated otherwise. For each of the below analyses, assumption checks are presented prior to the results of the particular tests.

Exploratory Factor Analysis

RQ1. To understand Australian emerging adults' motivations to undertake online dating, an exploratory factor analysis (EFA) was conducted to assess the structure of the dating app motivation scale. All 12 items as answered by the sample of dating app users ($n = 187$) were included in the EFA, with the full list of items provided in Table 1. Prior to running the factor analysis, assumption testing (Allen et al., 2018; Field, 2017), revealed a Kaiser–Meyer–Olkin Measure of Sampling Adequacy (KMO) of .70. In addition, Bartlett's Test of Sphericity was found to be significant ($p < .001$) and item level KMO values were all

above 0.50, indicating that the EFA should produce sufficiently clear and reliable factors. The

data also produced a Determinant of 0.033, ruling out any significant multicollinearity.

Table 1

Original Items for the Dating App Motivation Scale and Stage Removed

Item	Factor
Develop a lasting/meaningful relationship	Love
Fall in love	Love
Connect with others	Social Connection
Meet people outside my regular network	Social Connection
Find people who share similar hobbies and interests	Social Connection
Share the good parts of my life	Social Connection
Receive compliments	Validation/Sex
Give compliments to others	Validation/Sex
Control other peoples' impressions of me	Validation/Sex
Find a one-night stand	Validation/Sex
Item	**Stage Removed**
Pass the time	Removed Step 1
Have fun	Removed Step 2

Note. The stem for the above items was 'When I use dating apps, it is because I want to…'

Using a maximum likelihood extraction method and direct oblimin (oblique) rotation (Costello & Osborne, 2005), the EFA initially yielded a 3-factor solution explaining a total of 56.09% of the variance. Selection of the three factors was based on eigenvalues > 1 and examination of the scree plot. One item ("Pass the time"), was removed as it did not load onto any of the initial factors and the model re-run. The remaining 11 items produced a 3-factor solution that now explained 58.30% of the variance. There was however cross-loading present on one item ("Have fun"), and as these loadings were quite low (.33 and .30), the decision was made to also remove this item and run the model again. The final 10 items produced a 3-factor solution with no cross-loadings, explaining a total of 61.38% of the variance. The first factor, labelled *Love*, explained 28.58% of the variance and comprised two items, "Develop a lasting/meaningful relationship," and "Fall in love" (Eigenvalue = 2.86, α = .87, *r* = .78). The second factor, labelled *Social Connection*, explained 20.95% of the variance and included four items such as "Connect with others," and "Meet people outside my regular network" (Eigenvalue = 2.10, α = .71). The third factor, labelled *Validation/Sex* comprised four items, such as "Receive Compliments," and "Find a one-night stand" and explained 11.85% of the variance (Eigenvalue = 1.19, α = .61). The pattern matrix for the final EFA solution is presented in Table 2 and shows that the motivations endorsed by Australian emerging adults for using online dating apps are Love, Social Connection and Validation/Sex. These factors are mostly consistent with past research and have been labelled in accordance with this work.

Table 2

Maximum Likelihood Pattern Matrix and Communalities of the Dating App Motivation Scale (N = 187)

Item	Factor 1	Factor 2	Factor 3	Communalities
Develop a lasting/meaningful relationship	**.95**			.89
Fall in love	**.84**			.67
Connect with others		**.82**		.66
Meet people outside my regular network		**.71**		.45
Find people who share similar hobbies and interests		**.58**		.39
Share the good parts of my life		**.39**		.28
Receive compliments			**.66**	.45
Give compliments to others			**.61**	.44
Control other peoples' impressions of me			**.54**	.30
Find a one-night stand			**.38**	.22
Eigenvalues	2.86	2.10	1.19	

Note. Factor loadings less than .3 are not presented.

Mean Differences

Prior to analysis, the assumption of normality was assessed for all relevant variables. Whilst some variables showed skewness and a violation of the Shapiro-Wilk statistic, visual inspection of histograms and Q-Q plots showed approximately normal distributions for most variables. However, given the relatively large sample size, central limit theorem suggests that normality can still be assumed (Field, 2017). Whilst some outliers were apparent in the social connection factor for dating app motivations, none of these scores represented unexpected values and an examination of trimmed means suggested minimal impact in retaining them. Levene's test was non-significant in all cases ($p > .05$), thus homogeneity of variances was also assumed.

RQ2. Three independent samples *t*-tests (alpha = .017) were conducted to compare the identified motivation factors for dating app use between men and women ($n = 179$). In comparing the differences between men and women against the three dating app motivation factors, none of the three *t*-tests were found to be significant ($p > .05$), as per the results in Table 3. This result suggests that amongst Australian emerging adults, there are no differences in the motivations to use dating apps between those who identified as male or female.

Table 3

Gender Differences in Dating App Motivation Factors (N = 179)

Dating App Motivation	Male (*n* = 55)		Female (*n* = 124)		*df*	*t*	*p**	95% CI
	M	*SD*	*M*	*SD*				
Factor 1 (Love)	3.27	1.24	3.33	1.26	177	-0.29	.78	-0.46, 0.34
Factor 2 (Social Connection)	3.47	0.86	3.67	0.76	177	-1.60	.11	-0.46, 0.05
Factor 3 (Validation/Sex)	2.97	0.69	2.79	0.85	177	1.35	.18	-0.08, 0.43

Note. CI = Confidence Interval.
* *p* value two-tailed.

H1(a). A one tailed, independent samples *t*-test (alpha = .05) was conducted to test the hypothesis that current users of dating apps (*n* = 54), would have higher mean scores of depression than previous users (*n* = 133). The *t*-test showed that scores of depression amongst current users (*M* = 24.63, *SD* = 12.36), were indeed significantly higher $t(185) = 1.96$, $p = .026$, than previous dating app users (*M* = 20.59, *SD* = 12.97). However, the effect size was small (*d* = 0.316).

H1(b). A second one tailed, independent samples *t*-test (alpha = .05) was conducted to test the hypothesis that current users of dating apps (*n* = 54), would have higher mean scores of depression than recent users (*n* = 51). The *t*-test showed that scores of depression amongst current users (*M* = 24.63, *SD* = 12.36), were also significantly higher $t(103) = 2.15$, $p = .017$, than recent users (*M* = 19.39, *SD* = 12.62). Whilst the effect size for this test was slightly higher, it was still only small (*d* = 0.419).

Correlations and Mediations

Prior to undertaking the correlation or mediation analyses, additional assumption testing (Allen et al., 2018; Field, 2017) was undertaken. When screening for outliers, standardised residuals and Mahalanobis distance for univariate and multivariate outliers were

assessed respectively. Cook's distance and centred leverage were also examined, and a small number of outliers identified. Initial analysis was conducted both with and without these specific cases to assess their influence. It was determined that these four cases did influence the model and were subsequently removed. This resulted in a slightly reduced sample for the final analyses ($n = 175$). Whilst the social connection factor was slightly negatively skewed, as stated previously, all scores were valid and within the expected range of responses. Further, inspection of histograms, normal Q-Q plots and scatterplots of standardized predicted values against standardized residuals confirmed that all variables of interest were reasonably normally distributed. Assumptions of linearity and homoscedasticity were also met. Lastly, tolerance and variance inflation factor were examined to assess multicollinearity and both found to be acceptable.

H2. To test whether motivations for dating app use were associated with greater symptoms of depression, a Pearson's bivariate correlation was conducted across the variables of interest and is presented in Table 4. Few significant correlations were identified; motivations for dating app use related to Love and Social Connection were significantly positively correlated, and age showed a weak, positive correlation with frequency of dating app use. However, none of the dating app motivations showed any significant correlation with scores of depression. Although H2 was not supported at the bivariate level, it was possible that with all other variables held constant, mediation analysis might still detect a significant effect.

Table 4

Descriptive Statistics and Bivariate Correlations Among Variables of Interest (N = 175)

Variable	1.	2.	3.	4.	5.	6.	7.	*M*	*SD*
1. Love	-							3.34	1.23
2. Social Connection	.309***	-						3.46	0.76
3. Validation/Sex	-.135	.059	-					2.84	0.79
4. Frequency	.128	-.071	.046	-				3.82	1.78
5. Depression	..089	.042	.146	.111	-			21.12	12.50
6. Age	.130	.112	-.091	.153*	-.042	-		21.50	3.19
7. Gender [a]	.008	.065	-.118	-.065	-.130	-.226**	-	0.70	0.46

Note. [a] Male = 0, Female = 1.

* $p < .05$, ** $p < .01$, *** $p < .001$.

H3. Three separate models were run to examine the relationship between the three identified dating app motivations and symptoms of depression, and whether this relationship was mediated by frequency of dating app use. As a result of the correlation between age and frequency of use identified above, the decision was made to include age as a covariate in the models in addition to gender. Because the PROCESS macro only allows the inclusion of one predictor at a time, the other two motivation factors were also included in each model as covariates. Standardised effects coefficients are presented in Table 5. Only one significant direct pathway was identified in the three models; the use of dating apps motivated by Love was significantly associated with greater frequency of use. None of the three models found any direct or indirect effects of dating app motivations or frequency of use on scores of depression.

Table 5

Bootstrapped Standardized Direct, Indirect, and Total Effects and 95% Confidence Intervals of the Simple Mediation Models (N = 175)

	Direct				Indirect		Total	
	Frequency		Depression		On Depression via Frequency		Depression	
	β	95% CI	β	95% CI	β	95% CI	β	95% CI
Love	.16*	.01, .47	.10	-.64, 2.61	.02	-.01, .06	.11	-.45, 2.77
Frequency	-		.10	-.36, 1.77				
Covariates								
Gender [a]	-.01	-.64, .55	-.13	-7.80, .60				
Age	.15	-.001, .17	.09	-.97, .25				
Social Connection	-.14	-.70, .03	.03	-2.12, 3.10				
Validation/Sex	.09	-.14, .54	.13	-.37, 4.46				
Social Connection	-.14	-.70, .03	.03	-2.12, 3.10	-.01	-.05, .01	.02	-2.34, 2.85
Frequency	-		.10	-.36, 1.77				
Covariates								
Gender [a]	-.01	-.64, .55	-.13	-7.80, .60				
Age	.15	-.001, .17	.09	-.97, .25				
Love	.16*	.01, .47	.10	-.64, 2.61				
Validation/Sex	.09	-.14, .54	.13	-.37, 4.46				
Validation/Sex	.01	-.14, .54	.13	-.37, 4.46	.01	-.01, .04	.14	-.23, 4.60
Frequency	-		.10	-.36, 1.77				
Covariates								
Gender [a]	-.01	-.64, .55	-.13	-7.80, .60				
Age	.15	-.001, .17	.09	-.97, .25				
Love	.16*	.01, .47	.10	-.64, 2.61				
Social Connection	-.14	-.70, .03	.03	-2.12, 3.10				

Note. [a] Gender: 0 = *Male*, 1 = *Female*. CI = Confidence Interval.
* *p* < .05. ** *p* < .01. *** *p* < .001.

Chapter 4: Discussion

Summary of Results

Given emerging adults' high rates of poor mental health and their high use of dating apps, this study aimed to examine the motivations for dating app use, and their association with both frequency of use and symptoms of depression amongst Australian emerging adults. A number of research questions and hypotheses were proposed in support of these aims. The study found three distinct motivations for using dating apps: Love, Social Connection and Validation/Sex. However, no significant differences in dating app motivations between men and women were identified. Interestingly, the data did show significantly higher scores of depression in emerging adults who are current users of dating apps in comparison to both previous and recent users. Despite this result, the study did not find any significant associations between dating app motivations and depression. Further, even when all other variables were held constant, no direct or indirect effects were found between dating app motivations, frequency of use, and depression. Love, however, did show a significant positive association with frequency of use. These findings are explained in detail below, including consideration of the study limitations and directions for future research.

Understanding Dating App Motivations

In examining the motivations for dating app use amongst Australian emerging adults (RQ1), an exploratory factor analysis (EFA) identified three distinct factors that reflect previous research (Orosz et al., 2018; Sumter et al., 2017; Timmermans & De Caluwé, 2017a): Love, Social Connection and Validation/Sex. Love was the first and strongest motivating factor to use dating apps, in keeping with previous research (Sumter et al., 2017; Timmermans & De Caluwé, 2017a), and explained the greatest amount of variance. When performing subsequent correlation analysis, Love and Social Connection were also shown to be significantly positively correlated, suggesting that those who are more motivated to use

dating apps to find Love, may also be more motivated by a need for Social Connection. Validation/Sex did not show any such relationship however, suggesting that this motivation to use dating apps is quite distinct from either Love or Social Connection. Although we should consider that the inclusion of 'one night stand' as an item in this factor may have had an impact on the results.

Unfortunately, a lack of items around the use of dating apps for casual sex may have resulted in a separate factor for this motivation not being identified as it has been in other research (Bryant & Sheldon, 2017; Orosz et al., 2018). It may also be the case, that as some of the previous research suggests (Sumter et al., 2017), casual sex is not as strong a motivation for using dating apps the media might lead you to believe (Sales, 2015). In contrast to previous research (Ranzini & Lutz, 2017; Timmermans & De Caluwé, 2017a), the motivation of 'entertainment' was not identified as a factor. Although this is most likely a result of the reduced motivation scale used for this study. In light of these limitations, future research should consider including additional items related to using dating apps for casual sex or brief encounters. This will assist in identifying if the 'one night stand' motivation holds true in an Australian context as it does in much of the overseas research. In the same vein, additional items regarding the use of dating apps purely for entertainment, or as driven by boredom, would assist in providing greater insight into the motivations for dating app use among Australian emerging adults.

When testing to see whether there were differences in the identified motivations for dating app use between those who identified as male and female (RQ2), this study found no significant differences. This is contrary to previous research that has detected differences between men and women's motivations to use dating apps. These differences included men using dating apps whilst travelling and for casual sex, whilst women seemed to use them more for self-validation and friendship (Ranzini & Lutz, 2017; Sumter et al., 2017). It should

be noted, however, that women represented 66.3% of the current study's sample, whereas in both previous studies, gender was more evenly distributed. Another possible explanation for this difference in findings is that previous research was conducted when dating apps on mobile devices were still relatively new, having really only begun with the creation of Tinder in 2012 (LeFebvre, 2018; Wu & Trottier, 2022). Current dating app motivations between men and women may have simply become more aligned, potentially as a result of the significant increase in usage over the past decade (McClain & Gelles-Watnick, 2023). Nevertheless, future research should endeavour to procure more evenly distributed gender samples to accurately determine whether motivation differences are present amongst Australian emerging adults, and what implications this might have.

Dating App Usage

The hypotheses that current dating app users would have a higher level of depressive symptomology than previous users (H1a), and recent users (H1b) were supported, albeit with only small effects. This finding is in keeping with previous research which suggests that recency of use is associated with higher rates of depression (Freire et al., 2023; Holtzhausen et al., 2020). It also supports the suggestion that this relationship may be dose-dependent, although based on these findings, this dependency may be associated more with recency of use as opposed to frequency of use. Another possible interpretation is that those who are currently using dating apps have not yet had their needs met (i.e., Love or Social Connection), which may be reflected in their depressive symptomology. Previous users, however, may have ceased their engagement with dating apps because they have found what they were looking for, either online or in some other way, resulting in their needs being met. Alternatively, there is research to suggest that dating app fatigue, or burnout may be a factor for some users ceasing to engage with dating apps (Prendergast, 2024; P. Schwartz &

Velotta, 2018), This in turn, may have resulted in a reduction in any depressive symptoms associated with that fatigue.

Uses and gratifications theory (Katz et al., 1973), would suggest that when needs are met, media users are more inclined to use these same media again (Bryant & Sheldon, 2017; Ranzini & Lutz, 2017; Timmermans & De Caluwé, 2017a). However, if the intended purpose of most users is to find love or a long-term relationship, as this study and much of the previous research suggests, then users would only need to utilise dating apps again, should a relationship not work out. Although this interpretation seems somewhat counterintuitive, it does present further avenues for research regarding people's satisfaction with dating apps more broadly, and their willingness to use them again as a result. Other research contends that relatedness need frustration has links to self-esteem related motivations to use dating apps, and this in turn is proposed as a predictor of problematic use (Orosz et al., 2018). Given the limited research in this area (Bonilla-Zorita et al., 2021), problematic dating app use does present itself as another worthwhile avenue for further research, especially as a potential explanation for depression's association with recency of use.

Correlations and Mediations

Although H1a and H1b were supported, the related hypothesis that the specific motivations for dating app use would be associated with symptoms of depression (H2), was not. The lack of any association between these variables suggests that motivations for dating app use are not a factor in higher scores of depression among Australian emerging adults. The only significant correlations between variables of interest were a weak positive association between two of the dating app motivation factors (Love and Social Connection) as mentioned above, and a weak positive correlation between age and frequency of use. The positive association between age and frequency of use suggests that as emerging adults get older, they appear to use dating apps more often. This is an interesting finding, proposing a number of

possible theories. Perhaps as emerging adults get older, they become more serious in their search for love and connection. Alternatively, the success they have had with dating apps in the past has emerging adults returning to them more often in keeping with uses and gratifications theory (Katz et al., 1973). Finally, maybe there is an addictive element to dating app use as proposed by Orosz and colleagues (2016), and this becomes more apparent over time.

The final mediation hypothesis (H3) proposed that motivations for dating app use would be associated with greater frequency of use, and in turn, higher scores of depression. This hypothesis was not supported, however, with none of the motivations for using dating apps or frequency of use having a significant association with depressive symptomatology. As a result, this study did not support links to depression from either motivation or frequency of use as suggested by previous research (Ranzini & Lutz, 2017; Sumter et al., 2017). Similarly, the mechanism of social comparison, particularly upward social comparison, often associated with poorer mental health amongst social media users (Meier & Reinecke, 2021; Yoon et al., 2019), may not be a factor in the use of dating apps as social media research suggests. Whilst there are distinct parallels drawn between dating apps and social media platforms in the previous research (Bonilla-Zorita et al., 2021; Orosz et al., 2016), this study may highlight some differences. Whilst both platforms allow users to view profiles and profile pictures in very similar ways, dating apps are theoretically showing users potential partners they may wish to meet, rather than a variety of social connections with whom they might compare themselves. This might also explain why validation seeking was not associated with scores of depression in this study as may have been expected. It would be worthwhile then, to incorporate more social comparison based items into future research on dating app motivations to confirm any parallels between social media use and dating apps.

Possibly the most interesting result in this study is that despite there being no linkages between dating app motivations or frequency of use and depression, the motivation Love, did show a positive association with frequency of use. Thus, where Love is the stronger motivation to use dating apps, people report a greater frequency with which dating apps are used. However, instead of this increased frequency having a negative impact on depression, it would appear there is no association at all, or at least if one does exist, it was too small to detect. Although not the finding this study proposed, some consolation can be taken from not finding linkages to depression from either dating app motivations or frequency of use. It would be interesting, however, to understand if there is anything the association between the motivation to find Love and frequency of use does predict. As previously mentioned, research on problematic dating app use is limited (Bonilla-Zorita et al., 2021), and this potential research question reiterates the importance of future research this area. Alternative outcomes more closely related to the dating app experience might also be worthy of future consideration, and could include variables such as overall satisfaction with dating apps, and the aforementioned dating app fatigue.

Strengths and Limitations

Despite the main hypotheses proposed in this study not being supported, there were still strong foundations to the research. Firstly, the use of a valid and reliable measure of depressive symptomology should be considered a strength. The CES-D (Radloff, 1977) is a widely used scale, specifically designed to assess the relationship of depression with other variables in research, making it well suited to this type of study (Vilagut et al., 2016). In addition, whilst the use of a university student sample is often criticised, it should be noted that as the majority of dating app research relies on similar cohorts, it does serve as a basis for meaningful comparison between studies. Whilst it is not unreasonable to suggest that this cohort is limited in terms of its generalisability to the broader population, there is an

argument to be made that it is indeed representative of the study's population of concern, namely Australian emerging adults.

Although this study has solid foundations, there are limitations that must be considered. The use of cross-sectional data limits our ability to draw conclusions as to causality, particularly when proposing a direction of effect via a mediation model (Schoemann et al., 2017). Another potential limitation is the nature of the original data collection. Whilst the overall survey did include a number of variables relating to dating app use, it was not specifically designed to focus on online dating, and future research would likely benefit from a more targeted study. For example, the various mental health scales in the data collection were all placed at the end of what was a reasonably long survey (approx. 30 minutes). As such, we might wish to consider briefer surveys in the future to limit the risk of survey fatigue which may have potentially influenced the data (Egleston et al., 2011). Given the CES-D asks people how they have been feeling in the previous week (Radloff, 1977), future studies might also include a broader range of questionnaires to allow researchers to take into account any differences between state versus trait measures of psychological symptomology. Similarly, in light of this study's findings regarding currency of use and depression, future surveys might also include more nuanced questioning around dating app usage, such as how long the participant has been using dating apps, in addition to how frequently they are used.

Possibly the most significant limitation in the current study was that of power as this study only engaged a subsample of survey respondents. Despite still maintaining a respectable sample size ($n = 175$), mediation analyses rely on quite large samples. Although meeting the requirements to detect a small to medium effect (Fritz & MacKinnon, 2007), this study simply may not have had sufficient power to detect any significant small effects present in the data.

Implications

This study provides the first investigation into the dating app motivations of Australian emerging adults and strengthens the basis for future research in this area. As is often the case in psychology research, assumptions and associations are made based on similarities between contexts. Specifically, research in a US or Western context is often inferred or applied to the Australian context. Given previous research in a Chinese sample suggests that there are indeed differences in dating app motivations between cultural contexts (Ren & Wang, 2022), this research does provide assurances for when dating app research is inferred from a Western context to an Australian one in the future.

In this research it was also determined that current users of dating apps have higher scores of depression than either previous or recent users; this result has potential implications for clinicians managing the mental health of emerging adults. Specifically, knowing that a client is currently using dating apps may provide additional context to any scores of depression, and prompt clinicians to raise this usage as a potential factor the client should be aware of. Similarly, these findings would be worthwhile sharing with dating app users more broadly so that they are aware of the potential impacts of active dating app use on their mental health.

Despite the lack of any findings in relation to either motivation or frequency of use on scores of depression, this study does serve to increase the body of knowledge regarding the impacts of dating app use. If, as appears to be the case, the variables focused upon in this study are not those responsible for previously detected impacts on depression (Freire et al., 2023; Holtzhausen et al., 2020; Lenton-Brym et al., 2021), or their involvement is so small as to be difficult to detect (Huang, 2017; Meier & Reinecke, 2021; Yoon et al., 2019), future research should consider other factors of potentially greater significance. This could include

variables such as loneliness or social support that might be associated with emerging adults'
move away from more traditional forms of dating.

Finally, we must consider the potential implications of the large number of
participants identified in this study (52.9%) whose CES-D score suggests them to be at risk of
clinical depression (Vilagut et al., 2016). Future research should examine what other factors
may be impacting this groups mental health, and whether the effect is localised, or is actually
present more broadly in the population. We should also consider that at least some proportion
of this cohorts poor mental health (ABS, 2020-2022) may be due to aspects of their emerging
adulthood. Arnett (2000, 2014) does highlight key features of this life stage, such as identity
exploration, instability, and feeling 'in-between' as having the potential to negatively impact
mental health. If this is indeed the case as some previous research suggests (Brito & Soares,
2023; Matud et al., 2020), then one practical means to address this would be to provide
additional investment in university services to better support emerging adults through this life
stage.

Conclusion

Dating apps represent an increasingly utilised technology enabling emerging adults to
meet their needs for love and intimacy (Arnett, 2000; Shulman & Connolly, 2013). This
study provides the first real insight into Australian emerging adults' motivations for using
dating apps, and shows that these motivations are generally consistent with their global peers.
In the current study, Love was identified as the strongest motivation for dating app use
among Australian emerging adults. Relatedly, when emerging adults in the current study
reported that their motivation for using dating apps was to find love, they also reported a
higher frequency of dating app use. Importantly, although past research suggested users of
dating apps might experience greater depressive symptomology, the present findings suggest
that this effect is both weak and limited to current users only. Given the widespread adoption

and use of dating apps in an age group with a particularly high incidence of poor mental

health (ABS, 2020-2022), it is encouraging to note that where dating apps are concerned, it

would appear 'that love actually is all around' (Curtis, 2003).

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Appendix A

List of All Survey Items

- Block 1 - Information Sheet and Consent

- Block 2 - Demographic Questions

- Block 3 - Social Media Use and Social Media History

  o Internet Use/Frequency

  o Types of Social Media Used

  o Frequency of Social Media Use

  o Excessive Internet Use Scale - Adapted from Skarupova et al., (2015)

- Block 4 - Friendship Scales

  o Friendship Distribution

  o Face-to-Face Frequency

  o Online Frequency

  o Friendship Across Contexts

- Block 5 - Online Dating

  o Sexual Orientation

  o Current Romantic Relationships

  o Sexual Risk Survey - Adapted from Turchik and Garske (2009)

  o Dating App Use

  o Types of Dating Apps

  o Dating App Frequency

  o Dating App Motivation - Expanded from Herr and Timmermans (2021)

  o Dating App Emotions - PEW Research Centre (2020)

  o Online Sexual Behaviours – Adapted from Baumgartner et al. (2012) and Patrick et al. (2015)

  o Relationship Outcomes

  o Relationship Worry

  o Overall Experience

- Block 6 - Online Disinhibition/Internet Perceptions

  o Online Disinhibition Scale - Stuart and Scott (2021)

  o Internet Perceptions - Scott et al. (2022)

- Block 7 - Mental Health and Wellbeing Scales

  o Flourishing Scale - Diener et al. (2010)

- o Revised UCLA Loneliness Scale - Hays and DiMatteo (1987)
- o The Sexual Satisfaction Scale for Women (SSS-W) - Contentment Subscale - Meston and Trapnell (2005)
- o Centre for Epidemiologic Studies Depression Scale (CES-D) - Radloff (1977)
- o Multidimensional Scale of Perceived Support - Zimet et al. (1988)
- o Social Interaction Anxiety Scale - Mattick and Clarke (1998)
- o Social Connectedness Scale (Revised) - Lee et al. (2001)
- Block 9 - Survey Close
  - o Research Credit Survey