

Attached at the *Hinge*: Relationship Initiation in Dating Apps

Erin Arruda¹, Jordan Dubyk¹, Alyssa Mulholland¹, Amber O'Pray¹, Alyssa Ventresca¹, and Jaime White¹

Abstract

The increased use of online dating apps presents an alternative way for individuals to seek out and initiate relationships that can differ from face-to-face interactions. Previous research has found that attachment orientation can offer insight into the characteristics that lead to differences in behaviour on dating apps. This research aims to explore how undergraduate university students' attachment orientations can influence their initiation of relationships on online dating apps. We hypothesized that participants who score higher in attachment anxiety would be more likely to engage in relationship initiation on dating apps, whereas participants who score higher in attachment avoidance would be less likely to engage in relationship initiation on dating apps. Data was collected from 130 participants currently enrolled in university through a quantitative survey hosted on Qualtrics. Multiple regression analyses found that anxious attachment was significantly associated with greater relationship initiation on dating apps. Dating apps may reflect a unique context that nullifies associations between attachment orientation and initiation behaviours found in previous research. Our findings propose important considerations for future research and encourage further investigation into the influence that attachment orientation can have on the initiation of relationships on online dating apps.

Attached at the *Hinge*: Relationship Initiation in Dating Apps

Previous research has found a correlation between an individual's attachment orientation and their behaviours while initiating or within relationships, including their willingness to make the first move or ask someone out (Hazan & Shaver, 1987; Mikulincer & Shaver, 2016). This study aims to explore the relationship between attachment orientation and relationship initiation behaviours on dating apps. In particular, this study hopes to find distinctions between anxious and avoidant attachment and how this might influence one's likelihood of initiating relationships through dating apps.

Attachment Orientation

Attachment theory, developed by John Bowlby and later expanded by Mary Ainsworth, is widely used in psychology (Ainsworth, 1985; Bowlby, 1969; Mikulincer & Shaver, 2016). Attachment illustrates how an individual's model of self and others develops based on childhood interactions with attachment figures (Mikulincer & Shaver, 2016). While

¹ Undergraduate Student, Honours Social Psychology Program, Faculty of Social Sciences, McMaster University, Hamilton, Ontario, Canada

attachment is a complex spectrum, we specify two main categories for observation, collectively called attachment insecurity: anxious attachment and avoidant attachment. Anxious attachment is characterized by strong worries about relationships, a strong need for closeness, and using hyperactivation strategies (Mikulincer & Shaver, 2016). Avoidant attachment is characterized by maintaining emotional distance from partners and decreasing vulnerability, referred to as deactivation strategies (Mikulincer & Shaver, 2016). When both anxiety and avoidance are low, one would be considered securely attached (Mikulincer & Shaver, 2016).

Attachment Orientation in Young Adults and University Students

Attachment orientations play an important role in determining how we connect and form relationships with one another. Young adulthood is a time of many novel experiences that transition a person into adult attachment orientations (Bartholomew & Horowitz, 1991). Research shows that for this demographic, attachment anxiety tends to be more prevalent compared to the rest of the population (Chopik et al., 2013; Segal et al., 2009). Furthermore, other research has found that individuals who self-reported having an avoidant attachment orientation determinately had more difficulty forming close relationships and relying on others (Bartholomew & Horowitz, 1991). These characteristics of avoidant adolescents are corroborated by Oztürk and Mutlu (2010), whose research found that avoidant university students are not as successful in intimate relationships as their securely attached peers. Students who self-reported having a secure attachment orientation were determined to put in more effort to maintain their romantic relationships and had more willingness to work through issues with their partner rather than break up (Oztürk & Mutlu, 2010). Studies in this field posit that avoidant young adults may use casual sex as a defense mechanism to shield themselves from serious and potentially vulnerable relationships (Bartholomew & Horowitz, 1991; Oztürk & Mutlu, 2010; Snapp et al., 2014). The reason for forming close relationships was primarily due to insecurity and feelings of self-consciousness for avoidant students (Oztürk & Mutlu, 2010; Snapp et al., 2014). When faced with issues within their relationships, both avoidant and anxious students were more likely to break up (Matsuoka et al., 2005; Oztürk & Mutlu, 2010).

Dating App Use by University Students

Given the pivotal role of attachment orientations in shaping relationship behaviours among university students, it is important to consider how these patterns manifest in modern contexts such as dating apps. Dating apps such as *Tinder*, *Hinge*, and *Grindr* foster communication between online users. Whether you “swipe” or “like,” these algorithms promote user satisfaction and retention (Hobbs et al., 2017). Although the intention of all dating app users differs, these applications aim to allow users to browse online profiles and communicate through text messaging systems. Estimations of dating app prevalence are rough, as privacy agreements between many applications do not allow this information to be shared (Wu & Trottier, 2022). In 2019, it was estimated that more than 200 million people worldwide were active users of dating apps (Statista Market Forecast, 2019). Vogels and McClain (2023) reported that, in 2019, three in ten U.S. adults had used a dating application. Current literature often focuses on the effectiveness of dating apps in comparison to non-mobile methods of meeting a partner (Alexopoulos

et al., 2020; Yeo & Fung, 2016). Many elements of dating applications have been considered in studies, such as the use of geolocation (Blackwell et al., 2015), algorithms (Zhang, 2016), and gender and sexual orientation (Castro et al., 2020). Of interest to the current research, the literature has also begun to delve into the connections between attachment and dating app use.

Anxious Attachment and Dating App Usage

Attachment orientation influences how individuals use dating apps, shaping their motivations, behaviours, and emotions (Coffey et al., 2022; Kajzer, 2023). Anxiously attached individuals experience heightened distrust, fear of abandonment, and general anxiety in romantic relationships (Alexopoulos & Timmermans, 2021; Ormonde, 2013). These fears contribute to high rejection sensitivity, making them seek stable partners for reassurance (Ormonde, 2013; Torrence, 2014). Since rejection-sensitive individuals are generally less likely to pursue relationships due to fear of rejection, dating apps provide a favourable format (Alexopoulos & Timmermans, 2021; Chin et al., 2018; Coffey et al., 2022; George, 2024; Kajzer, 2023; Ormonde, 2013; Timmermans & Alexopoulos, 2020). The design of these apps, which only notifies users of matches, helps anxiously attached individuals by concealing rejection and boosting confidence (Alexopoulos & Timmermans, 2021; Chin et al., 2018; Coffey et al., 2022; George, 2024; Kajzer, 2023; Ormonde, 2013; Timmermans & Alexopoulos, 2020).

Anxiously attached individuals are more likely to pursue online relationships, eager for emotional validation and stability (Alexopoulos & Timmermans, 2021; Atkins, 2019; Chin et al., 2018; Goodcase et al., 2018). They also prefer dating apps due to the ability to meet many potential partners quickly, increasing their chances of finding reassurance (Alexopoulos & Timmermans, 2021; Coffey et al., 2022).

Avoidant Attachment and Dating App Usage

Avoidantly attached individuals prefer emotional distance, which influences their dating app behaviours (Alexopoulos & Timmermans, 2021). While some scholars assume they would avoid dating apps to maintain detachment, they still engage in online dating, particularly when travelling, as it provides low-commitment interactions (Chin et al., 2018; Coffey et al., 2022). Studies show avoidant individuals are more likely than anxious or secure users to engage in spontaneous, low-commitment hookups, minimizing emotional intimacy (Alexopoulos & Timmermans, 2021; Atkins, 2019; Timmermans & Alexopoulos, 2020; Torrence, 2014). They also tend to avoid initiating conversations to maintain emotional distance, even when interested in someone (Alexopoulos & Timmermans, 2021; Torrence, 2014).

Avoidant individuals often feel bored, apathetic, or stressed while using dating apps, as online relationships can develop quickly, making them uncomfortable (Torrence, 2014). To prevent emotional bonds, they inhibit self-expression, appear detached, and overemphasize sexuality, leading to more casual encounters than anxious or secure individuals (Alexopoulos & Timmermans, 2021; Coffey et al., 2022; Kajzer, 2023; Torrence, 2014).

Current Research

The rise of online dating apps has transformed how individuals initiate and develop romantic relationships, offering an alternative to traditional face-to-face interactions. While prior research has examined the role of attachment orientation in relationship formation (Hazan & Shaver, 1987; Mikulincer & Shaver, 2016), little is known about how attachment orientations influence behaviours specific to digital dating environments. As discussed, attachment theory suggests that individuals with anxious attachment tendencies seek greater intimacy and reassurance, whereas those with avoidant attachment tendencies may be more hesitant to engage in close relationships (Bartholomew & Horowitz, 1991). Understanding these dynamics in the context of dating apps can offer deeper insight into how individual differences in attachment orientation influence relationship initiation processes.

This research is significant as it contributes to the growing body of literature on online dating behaviours among university students, a population particularly engaged with digital relationship-seeking platforms (Harrison et al., 2022; Smith & Duggan, 2013). By identifying how attachment orientation influences relationship initiation on dating apps, we hope our findings provide valuable implications for both psychological theory and practical applications. For instance, mental health professionals and relationship counsellors could use these insights to support individuals in navigating their attachment orientation through their online dating app behaviours. Additionally, dating app developers may consider incorporating features that cater to users with different attachment orientations to foster healthier online dating experiences. Ultimately, this research aims to deepen the understanding of how dating app technologies influence modern romantic interactions.

By examining attachment orientations in the context of online dating, we can expect correlations between attachment orientations and online dating behaviours. Alexopoulos and Timmermans (2021) found connections between anxious and avoidant attachment and one's online dating confidence. Building on this, we hypothesize that university students who are higher in anxious attachment will be more likely to engage in relationship initiation behaviours on dating apps. Additionally, we expect to find that university students who are higher in avoidant attachment will utilize a more passive approach to dating app usage and will be less likely to engage in relationship initiation behaviours, such as "swiping right" or sending the first message.

Methods

Participants

The participants were 213 university students recruited through an online SONA study, Instagram posts, and physical posters on the McMaster campus. Inclusion in this study required participants to be (a) 18-25 years of age, (b) capable of reading and writing in English fluently, (c) currently in university pursuing an undergraduate, Master's, or PhD degree, and (d) a past or current dating app user. Participants who did not complete the survey or meet these criteria were excluded from the analysis. Of the 212 recruited participants, 83 were excluded; 24 participants did not meet the inclusion criteria, and 58 did not complete the survey. Therefore, the final sample consisted of 130 individuals. Of our participants, 79.2% identified as female, 16.9% identified as male, and 3.8% identified

as non-binary/genderqueer/preferred to self-identify. Participants were an average of 20.5 years old ($SD = 1.44$).

Procedure

On behalf of the student researchers, Dr. Kiersten Dobson received approval for this study from the McMaster Research Ethics Board (MREB). This study was conducted via an online survey hosted by Qualtrics and included 60 quantitative questions. Before beginning the survey, participants were provided with a letter of information, including information about the researchers, possible risks of completing the survey, the right to withdraw consent, and information surrounding confidentiality. Participants were told that the study examined students' attachment orientation concerning dating apps. After consenting to participate, participants completed the 30-minute online survey measuring their anxious and avoidant attachment, dating app behaviours, and relationship initiation on online dating apps. Participants who completed the study through SONA received half a SONA credit (0.5) for their participation, while those who were recruited through alternative methods did not receive compensation.

Measures

Demographics and Screening Questions

Participants first provided demographic information, including their age, gender and current university status. They then answered screening questions assessing English fluency and whether they had ever used online dating apps. Following this, participants were asked if they were current or past dating app users and to specify which apps they had used.

Attachment Orientation

The *Experiences in Close Relationships-Revised* (ECR-R) Questionnaire created by Fraley et al. (2000) measures the extent to which someone is related to attachment anxiety ($M = 3.80$, $SD = 1.22$, $\alpha = .92$) and attachment avoidance ($M = 3.13$, $SD = 0.99$, $\alpha = .93$) through 36 items (e.g., "I am afraid I will lose my partner's love", "My romantic partner makes me doubt myself"). The scale is marked on a 7-point Likert scale (1 = *strongly disagree*, 7 = *strongly agree*), and relevant items are reverse-scored with the average taken across the items of each subscale, such that higher scores indicate higher attachment anxiety or avoidance.

Dating App Behaviours

The *Perceived Dating App Behaviours Scale* created by Alexopoulos and Timmermans (2020) measures an individual's active engagement on dating apps and the extent to which they engage in them (e.g., "How many dating app profiles do you "like" or "swipe right on" out of every 10 profiles you see?", "How many conversations do you start for every 10 users you match with?"). The scale consists of three items marked on a scale of 0-10 (e.g., 0 *profiles* or 10 *profiles*) measuring how many profiles on average an individual interacts with ($M = 3.20$, $SD = 1.45$, $\alpha = .21$). The scale suggests low reliability in measuring participants' dating app behaviours, which may be due to the scale's limited number of questions.

Relationship Initiation

The *Online Relationship Initiation Scale* (ORIS), created by Harris and Aboujaoude (2016), measures an individual's frequency of online relationship initiation using nine self-report items (e.g., “Were you ever looking/hoping to make new friends online?”, “Did you make any new romantic relationships online?”). The first six items are measured on a 5-point scale (1 = *never*, 5 = *frequently*) measuring engagement and perceived success in online relationship initiation ($M = 1.92$, $SD = 1.02$, $\alpha = .71$). The following three items are measured on a 5-point scale (1 = *not at all*, 5 = *much easier*) measuring online vs offline relationship development ($M = 2.62$, $SD = 1.19$, $\alpha = .61$). Higher scores show a greater likelihood of searching for and developing new relationships online.

Participants also answered three “yes or no” questions regarding their relationship initiation behaviours (e.g., “Would you consider yourself someone who often 'swipes right' or 'likes' profiles on dating apps?”, “Would you consider yourself someone who often starts conversations with other people/profiles on dating apps?”, “Would you consider yourself likely to ask a match to meet in person?”). Upon reviewing the data from our other initiation measure, it was determined that this measure was not needed and was therefore excluded from our final data analysis ($M = 0.91$, $SD = 0.94$, $\alpha = .49$).

Results

We present the correlations between key variables in Table 1, examining the relationships among anxious and avoidant attachment orientations, relationship initiation on dating apps and dating app behaviours. Results show a positive correlation between attachment anxiety and attachment avoidance, as well as a positive correlation between dating app behaviours and relationship initiation. No other variables were significantly correlated.

Table 1

Correlation Matrix Among Key Study Variables

		Anxious Attachment	Avoidant Attachment	Online Relationship Initiation Scale (ORIS Scale)	Dating App Behaviours	Relationship InitiationQ
Anxious Attachment	Pearson's r	—				
	df	—				
	p-value	—				
Avoidant Attachment	Pearson's r	0.414	—			
	df	98	—			
	p-value	< .001	—			

Online Relationship Initiation Scale (ORIS Scale)	Pearson's r	0.165	-0.138	—		
	df	89	88	—		
	p-value	0.119	0.194	—		
Dating App Behaviours	Pearson's r	0.147	0.076	0.286	—	
	df	105	102	98	—	
	p-value	0.130	0.446	0.004	—	
Relationship InitiationQ	Pearson's r	0.012	-0.026	0.155	0.434	—
	df	107	104	99	121	—
	p-value	0.899	0.790	0.122	< .001	—

We conducted a multiple regression model analysis to examine whether anxious and avoidant attachment orientations predicted relationship initiation on dating apps among university students. The independent variables ($F(2, 83) = 3.09, p = 0.05$) accounted for 7% of the variance in relationship initiation. Table 3 shows that anxious attachment significantly predicted relationship initiation on dating apps ($b = .19, t(130) = 2.31, p = 0.023$), whereas avoidant attachment did not ($b = -.18, t(130) = -1.76, p = 0.082$).

Table 2

Model Fit Measures

Model	R	R ²	Overall Model Test			
			F	df1	df2	p
1	0.263	0.0692	3.09	2	83	0.051

Table 3

Model Coefficients - Online Relationship Initiation Scale (ORIS Scale)

Predictor	Estimate	SE	t	p
Intercept	1.884	0.3539	5.32	< .001
Anxious Attachment	0.190	0.0821	2.31	0.023

Avoidant Attachment	-0.180	0.1025	-1.76	0.082
---------------------	--------	--------	-------	-------

We conducted a multiple regression analysis to examine whether anxious and avoidant attachment orientations predicted dating app behaviours among university students. The independent variables ($F(2, 95) = 1.41, p = 0.25$) accounted for 3% of the variance in dating app behaviours. Table 5 shows that neither anxious attachment ($b = .17, t(130) = 1.29, p = 0.2$) nor avoidant attachment ($b = .07, t(130) = 0.42, p = 0.68$) significantly predicted dating app behaviours.

Table 4

Model Fit Measures

Model	R	R ²	Overall Model Test			
			F	df1	df2	p
1	0.170	0.0288	1.41	2	95	0.250

Table 5

Model Coefficients - Dating App Behaviours

Predictor	Estimate	SE	t	p
Intercept	2.2140	0.564	3.927	< .001
Anxious Attachment	0.1725	0.133	1.294	0.199
Avoidant Attachment	0.0689	0.166	0.416	0.678

Discussion

Although many studies have examined the relationship between one's attachment orientation and its effect on close relationships, there is a lack of research on how an individual's attachment orientation can influence their initiation of relationships through online dating apps. University students, in particular, are an under-explored population, despite the rising popularity of dating apps among this group. Given this information, the present research aimed to fill this gap by exploring the role of attachment orientation in relationship initiation on dating apps among university students.

Based on prior research, we hypothesized that participants who scored higher in anxious attachment would be more likely to engage in relationship initiation behaviours on dating apps, whereas those who scored higher on avoidant attachment would be less likely to engage in relationship initiation behaviours online. Consistent with the hypothesis on anxious attachment, the study's findings were supported as anxious attachment significantly predicted relationship initiation on dating apps. However, the findings

regarding avoidant attachment did not produce notable results. These results contribute to the growing body of literature on attachment orientation and relationship initiation, underscoring the significance of individual differences in attachment and the effects of the unique environment that dating apps present.

Interpretation of Results

University students with higher levels of anxious attachment significantly predicted greater relationship initiation on dating apps, whereas those higher in avoidant attachment did not. Additionally, neither high attachment anxiety nor high attachment avoidance significantly predicted dating app behaviours. The study's results align with previous research that suggests individuals high in attachment anxiety exhibit increased relationship fixation and actively seek reassurance from close relationships (Mikulincer & Shaver, 2016). However, those high in attachment avoidance prioritize independence and being detached (Bartholomew & Horowitz, 1991). Such individuals are typically understood to be averse to initiating relationships (Bartholomew & Horowitz, 1991).

Anxious Attachment

These results are consistent with prior research, which highlights that individuals with higher attachment anxiety exhibit high motivation to form connections through online dating platforms (Goodcase et al., 2018; Timmermans & Alexopoulos, 2020). Various studies have established that this may be a means of obtaining emotional and relational security, proximity, and validation while alleviating their fears of abandonment from potential romantic partners (Goodcase et al., 2018; Mikulincer & Shaver, 2016; Timmermans & Alexopoulos, 2020). The observed relationship supports research by Simpson et al. (2012) regarding relational distress. Individuals who are high in attachment anxiety experience lower relationship satisfaction due to heightened awareness of a partner's responsiveness and increased sensitivity to perceived relational threats (Mikulincer & Shaver, 2016; Simpson et al., 2012). Given that anxiously attached individuals exhibit hyperactivating strategies, they may have a penchant for dating apps as a means of continuously seeking both reassurance and romantic relationships (Mikulincer & Shaver, 2016).

The insignificant relationship found between individuals high in anxious attachment and dating app behaviours might suggest that they may not necessarily engage in more diverse or extensive behaviours on dating apps, even though they initiate relationships more frequently. Such behaviours might indicate that the driving force behind their motivation to engage in dating apps consists of their need to secure emotional connections rather than frequent app usage or unsubstantial brief exchanges.

Avoidant Attachment

In contrast, avoidant attachment did not significantly predict relationship initiation on dating apps nor dating app behaviours. While prior studies have suggested that avoidantly attached individuals may use dating apps for casual interactions rather than committed and romantic relationships (Chin et al., 2018), the present findings suggest that higher attachment avoidance does not necessarily drive relationship initiation behaviours in this context. Previous research postulates that attachment avoidance is associated with lower levels of emotional investment, prioritizes self-reliance over

intimacy, and minimizes dependence on others (Bartholomew & Horowitz, 1991; Fraley & Shaver, 2000). Considering their tendency to use the previously listed qualities as a deactivating strategy as it relates to the formation of close relationships, avoidantly attached individuals may be less motivated to seek romantic relationships (Bartholomew & Horowitz, 1991). Bartholomew and Horowitz (1991) expressed that such deactivating strategies are used as a defense mechanism which aids these individuals in maintaining emotional distance and independence. The aforementioned tendencies for those high in attachment avoidance to suppress attachment needs and maintain emotional distance have been thoroughly documented in an abundance of literature, supporting Bartholomew and Horowitz's (1991) understanding of avoidant attachment functioning as a defense mechanism (Fraley & Shaver, 2000).

The absence of a significant correlation between attachment avoidance and dating app behaviours contrasts with previous research that suggested that individuals high in attachment avoidance may engage with online dating platforms for self-affirmation or casual relationships and interactions (Timmermans & Alexopoulos, 2020). Although not explored, a possible explanation for this discrepancy could be that the present study's university-aged participants may not be reliant on dating apps to fulfill their casual relational needs or have dating apps but do not actively utilize them. There is a possibility that there is a preference towards alternative methods, such as meeting people organically, as this may mitigate their feelings of actively seeking out potential partners purposely through online dating platforms. This could be explained through individuals high in avoidant attachment having less inclination to pursue romantic relationships (Bartholomew & Horowitz, 1991). These findings highlight the complexity of avoidant attachment processes and accentuate the need for further research exploring the intricate ways in which attachment avoidance manifests in various relational contexts, with a particular emphasis on dating apps, considering its prevalence today and the lack of research in this area.

Correlation Between Anxious and Avoidant Attachment

Most researchers' findings in this field often report anxious and avoidant attachment as being negatively correlated (Bartholomew & Horowitz, 1991; Chopik et al., 2013; Goodcase et al., 2018; Hazan & Shaver, 1987; Mikulincer & Shaver, 2016). Unlike prior research, the present study found a positive correlation between anxious and avoidant attachment orientations. These findings can be understood through modern research that identified attachment orientation as existing on a continuum, where individuals can exhibit various qualities that are associated with attachment anxiety and avoidance, rather than fitting neatly into one specific style (Bartholomew & Horowitz, 1991; Chopik et al., 2013; Mikulincer & Shaver, 2016). This can be further explained by Bartholomew and Horowitz's (1991) four-category model. Individuals categorized as fearful-avoidant, who rank high in both anxious and avoidant attachment qualities, present a possible exception where both attachment orientations co-exist (Bartholomew & Horowitz, 1991; Mikulincer & Shaver, 2016).

Two particular mechanisms have been highlighted by Mikulincer and Shaver (2016) that can drive both attachment anxiety and avoidance: fear of rejection and past relational trauma. Individuals who fear rejection may exhibit feelings of desperately seeking validation (associated with anxious attachment) while simultaneously avoiding

vulnerability and intimacy (associated with avoidant attachment) (Mikulincer & Shaver, 2016). Those who have experienced past relational trauma can develop both hyperactivation (anxiety) and deactivation (avoidance), which are utilized as defensive strategies (Mikulincer & Shaver, 2016). Dating apps make it effortless for users who are high in both attachment anxiety and avoidance to actively seek connections while subsequently withdrawing due to fears of intimacy. Timmermans and Alexopoulos' (2020) research could provide a possible behavioural explanation for the positive correlation found. Those high in anxious attachment frequently engaged with dating apps for reassurance, though individuals high in avoidant attachment tended to use these applications for casual relationships and avoidance of intimate relationships (Timmermans & Alexopoulos, 2020).

The study's findings on the positive correlation between anxious and avoidant attachment orientations challenge traditional views and research that label the two as opposites. Rather, it supports a dimensional approach where attachment traits exist on a spectrum. Furthermore, the results suggest that in niche contexts, such as online dating, attachment orientation is not necessarily mutually exclusive but mutually inclusive. Such divergence from prior research warrants further investigation.

Strengths, Limitations, and Future Directions

As a study that examined a relatively novel concept, such as relationship initiation in dating apps, it did not come without its limitations. While our survey produced a fair turnout for a short-term study, the sample size was reduced from 230 participants to 130 to ensure that the responses reflected the entire scope of the present study. This included excluding those who did not complete the survey and participants who did not fit the inclusion criteria. While we did produce some significant findings, a larger sample size may have allowed us to detect smaller effects and provided this study with greater confidence in its results.

Future research should look more closely at demographics such as age, sexuality, ethnicity, etc., to further determine the significance of relationship initiation. Subsequent studies on this topic should take a longitudinal approach to assess the long-term effects of attachment and relationship initiation on the individual's relationship outcomes. Further, studies have shown that attachment orientation can change in an individual over time (Chopik et al., 2013). This means that while we were able to determine that anxious attachment correlates with relationship initiation in university students aged 18-25, we cannot predict this as a long-term behaviour across the lifespan for the participants of this study or dating app users over the age of 25. This research, coupled with the possibilities of future research regarding attachment and relationship initiation, may seek to improve existing dating apps and assist in the development of new dating apps to fit the needs of its target audience.

Relationship initiation, especially in terms of dating apps, is not a universally defined term. Without a standardized understanding, interpretations may vary across researchers, disciplines, and cultural contexts, leading to inconsistencies in how the concept is applied and measured. This lack of definitional clarity poses challenges in developing reliable measurement tools, making it difficult to compare findings across studies. While we used relevant scales, we encourage the further creation of scales tailored to this particular concept, looking at relationship initiation on dating apps, and

taking into consideration the different features of dating apps that may influence initiation behaviours, such as limitations on how many likes you can give per day, or if a message must be sent to match with someone. Additionally, the absence of a common framework affects the reproducibility of the research, as future studies may operationalize the concept differently. To address this, further research should aim to refine and standardize the concept to enhance clarity and consistency in future investigations.

The culture surrounding dating apps for university students between the ages of 18-25 has also shifted. Young adults are experiencing a delay in long-term commitment and sexual debut compared to older generations. “Hookup culture” is increasingly common, where young adults are seeking more casual encounters (Shulman & Connolly, 2013). This could explain increased “relationship initiation” such that swiping, liking, and messaging are not behaviours intended to produce a long-term relationship, relieving any pressure associated with initiation. Contrarily, some studies have found that young adults are delaying sexual debut and relationships entirely, which could mean that there may be an alternative reason for dating app usage (South & Lei, 2021). 11.1% of the participants of this study reported seeking friendships on dating apps. Perhaps this differentiation may explain initiation behaviours by seeking a lower-stakes relationship. Further research should seek to understand if “hookup culture” and the decline in long-term romantic relationships for today’s young adults affect relationship initiation. It could be that relationship initiation may not lead to entering a long-term relationship or that initiation is different depending on the individual’s relationship goals and intentions.

Lastly, this study was conducted as a self-report, retrospective study that relied on the participants’ memory for data on their dating app usage and relationship initiation behaviours. This approach, while the most accessible for a study of this nature, may lead to memory bias, affecting the reliability of the data and limiting the depth of analysis, as memories may be inaccurate or influenced by external factors. Future research could use real dating app data to avoid this problem; not only would this produce more reliable data, but it would also allow us to better define initiation behaviours in the context of a specific app.

Conclusion

The current findings suggest that attachment anxiety is associated with increased relationship initiation on dating apps among undergraduate students. Although no significant relationship was found between attachment avoidance and initiation behaviours, this may be due to the unique context of online dating, which differs from traditional face-to-face interactions. Given the growing influence of digital platforms on modern dating, further research should refine the conceptualization of relationship initiation, particularly in the context of dating apps. A more precise understanding of this process could enhance the reliability of studies in this area and provide deeper insights into how attachment orientations influence romantic interactions in online settings.

Authors' Contributions

Conceptualization: AM (lead), AV (equal), AO (equal), EA (equal), JW (equal), JD (equal)

Data curation: JW (lead), JD (equal)

Formal analysis: JW (lead), JD (equal)

Investigation: EA (lead), JW (equal), JD (equal)

Methodology: AM (lead), AV (equal), AO (equal)

Project administration: AO (lead), AM (supporting), AV (supporting), EA (supporting), JW (supporting), JD (supporting)

Resources: KD

Supervision: KD

Visualization: AM (lead), AV (equal), AO (equal), EA (equal), JW (equal), JD (equal)

Writing – original draft (Introduction): AV (lead), JW (equal), AM (supporting), AO (supporting), EA (supporting), JD (supporting)

Writing – original draft (Methods and Results): AM (lead), JD (equal), JW (supporting)

Writing – original draft (Discussion): EA (lead), AO (equal)

Writing – review & editing (Introduction): AV (lead), JW (equal), JD (supporting)

Writing – review & editing (Methods and Results): AM (lead), JD (equal)

Writing – review & editing (Discussion): EA (lead), AO (equal)

References

- Ainsworth, M. D. (1985). Attachments across the life span. *Bulletin of the New York Academy of Medicine*, 61(9), 792–812.
- Alexopoulos, C., & Timmermans, E. (2021). Sexy and I know it: Attachment orientation and romantic confidence on dating apps. *Human Communication & Technology*, 1(2), 60–72. <https://doi.org/10.17161/hct.v1i2.13687>
- Alexopoulos, C., Timmermans, E., & McNallie, J. (2020). Swiping more, committing less: Unraveling the links among dating app use, dating app success, and intention to commit infidelity. *Computers in Human Behavior*, 10(2), 172–180. <https://doi.org/10.1016/j.chb.2019.08.009>
- Atkins, S. (2019). *Online dating versus face-to-face dating: A comparison of attachment style and relationship success* (Publication No. 3620292) [Doctoral dissertation, The Chicago School of Professional Psychology]. ProQuest Dissertations & Theses Global.
- Bartholomew, K., & Horowitz, L. M. (1991). Attachment styles among young adults: A test of a four-category model. *Journal of Personality and Social Psychology*, 61(2), 226–244. <https://doi.org/10.1037/0022-3514.61.2.226>
- Blackwell, C., Birnholtz, J., & Abbott, C. (2015). Seeing and being seen: Co-situation and impression formation using Grindr, a location-aware gay dating app. *New Media & Society*, 17(7), 1117–1136. <https://doi.org/10.1177/146144481452159>
- Bowlby, J. (1969). *Attachment and loss volume one*. Basic Books.
- Castro, Á., Barrada, J. R., Ramos-Villagrasa, P. J., & Fernández-Del-Río, E. (2020). Profiling dating apps users: Sociodemographic and personality characteristics. *International Journal of Environmental Research and Public Health*, 17(10), 3653. <https://doi.org/10.3390/ijerph17103653>
- Chin, K., Edelstein, R. S., & Vernon, P. A. (2018). Attached to dating apps: Attachment orientations and preferences for dating apps. *Mobile Media & Communication*, 7(1), 41–59. <https://doi.org/10.1177/2050157918770696>
- Chopik, W. J., Edelstein, R. S., & Fraley, R. C. (2013). From the cradle to the grave: Age differences in attachment from early adulthood to old age. *Journal of Personality*, 81(2), 171–183. <https://doi.org/10.1111/j.1467-6494.2012.00793.x>
- Coffey, J. K., Bond, D. K., Stern, J. A., & Van Why, N. (2022). Sexual experiences and attachment styles in online and offline dating contexts. *International Journal of Sexual Health*, 34(4), 665–678. <https://doi.org/10.1080/19317611.2022.2110349>
- Fraley, R. C., & Shaver, P. R. (2000). Adult romantic attachment: Theoretical developments, emerging controversies, and unanswered questions. *Review of General Psychology*, 4(2), 132–154. <https://doi.org/10.1037/1089-2680.4.2.132>
- George, S. R. (2024). *An examination of relationships between adult attachment, rejection sensitivity, dating app use* (Publication No. 30818374) [Doctoral dissertation, Walden University]. ProQuest Dissertations & Theses Global.
- Goodcase, E. T., Nalbone, D. P., Hecker, L. L., & Latty, C. (2018). The role of attachment anxiety and avoidance in communication modality and relationship quality of romantic relationships initiated online. *The American Journal of Family Therapy*, 46(2), 168–183. <https://doi.org/10.1080/01926187.2018.1461032>
- Harrison, M. G., McAnulty, R. D., & Canevello, A. (2022). College students' motives for in-person meetings with dating application matches. *Cyberpsychology, Behavior, and Social Networking*, 25(2), 100–106. <https://doi.org/10.1089/cyber.2021.0031>

- Hazan, C., & Shaver, P. R. (1987). Romantic love conceptualized as an attachment process. *Journal of Personality and Social Psychology*, 52(3), 511–524. <https://doi.org/10.1037/0022-3514.52.3.511>
- Hobbs, M., Owen, S., & Gerber, L. (2017). Liquid love? Dating apps, sex, relationships and the digital transformation of intimacy. *Journal of Sociology*, 53(2), 271–284. <https://doi.org/10.1177/1440783316662718>
- Kajzer, T. A. (2023). *Exploring the role of personality traits and attachment styles in shaping dating app user experience* [Master's thesis, Aalborg University]. https://projekter.aau.dk/projekter/files/536281796/MA_DatingAppsBig5AttTheory_TrinaAnaKajzer.pdf
- Matsuoka, N., Uji, M., Hiramura, H., Chen, Z., Shikai, N., Kishida, Y., & Kitamura, T. (2005). Adolescents' attachment style and early experiences: A gender difference. *Archives of Women's Mental Health*, 9(1), 23–29. <https://doi.org/10.1007/s00737-005-0105-9>
- Mikulincer, M., & Shaver, P. R. (2016). *Attachment in adulthood: Structure, dynamics, and change* (2nd ed.). The Guilford Press.
- Ormonde, A. R. (2013). *One click away: A study of stigma, attachment, and personality traits in online dating compared to face-to-face dating in heterosexual individuals* (Publication No. 3601315) [Doctoral dissertation, Alliant International University]. ProQuest Dissertations & Theses Global.
- Öztürk, A., & Mutlu, T. (2010). The relationship between attachment style, subjective well-being, happiness, and social anxiety among university students. *Procedia - Social and Behavioral Sciences*, 9, 1772–1776. <https://doi.org/10.1016/j.sbspro.2010.12.398>
- Shulman, S., & Connolly, J. (2013). The challenge of romantic relationships in emerging adulthood: Reconceptualization of the field. *Emerging Adulthood*, 1(1), 27–39. <https://doi.org/10.1177/2167696812467330>
- Segal, D. L., Needham, T. N., & Coolidge, F. L. (2009). Age differences in attachment orientations among younger and older adults: Evidence from two self-report measures of attachment. *International Journal of Aging & Human Development*, 69(2), 119–132. <https://doi.org/10.2190/AG.69.2.c>
- Simpson, J. A., Rholes, W. S., Campbell, L., & Wilson, C. L. (2012). Adult attachment, the transition to parenthood, and depressive symptoms: A developmental systems perspective. *Journal of Personality and Social Psychology*, 102(3), 543–560. <https://doi.org/10.1037/a0025289>
- Smith, A., & Duggan, M. (2013). *Online dating & relationships*. Pew Research Center. <https://www.pewresearch.org/internet/2013/10/21/online-dating-relationships-3/>
- Snapp, S., Lento, R., Ryu, E., & Rosen, K. S. (2014). Why do they hook up? Attachment style and motives of college students. *Personal Relationships*, 21(3), 468–481. <https://doi.org/10.1111/pere.12043>
- South, S. J., & Lei, L. (2021). Why are fewer young adults having casual sex? *Socius*, 7(1), Article 2378023121996854. <https://doi.org/10.1177/2378023121996854>
- Statista Market Forecast. (2019) *eServices Report 2019—Dating Services*. <https://www.statista.com/study/40456/dating-services-report/>
- Timmermans, E., & Alexopoulos, C. (2020). Anxiously searching for love (among other things): Attachment orientation and mobile dating application users' motives and

- outcomes. *Cyberpsychology, Behavior, and Social Networking*, 23(7), 447–452.
<https://doi.org/10.1089/cyber.2019.0702>
- Torrence, N. S. (2014). *Effect of Attachment Style on Seeking a Romantic Partner in Online Dating* (Publication No. 3620292) [Doctoral dissertation, Alliant International University]. ProQuest Dissertations and Theses database.
- Vogels, E. A., & McClain, C. (2023). *Key findings about online dating in the U.S.* Pew Research Center. <https://www.pewresearch.org/short-reads/2023/02/02/key-findings-about-online-dating-in-the-u-s/>
- Wu, S., & Trottier, D. (2022). Dating apps: a literature review. *Annals of the International Communication Association*, 46(2), 91–115.
<https://doi.org/10.1080/23808985.2022.2069046>
- Yeo, T. E. D., & Fung, T. H. (2016, July). Relationships form so quickly that you won't cherish them: Mobile dating apps and the culture of instantaneous relationships. *Proceedings of the 7th 2016 international conference on social media & society*, 1–6.
<https://dl.acm.org/doi/10.1145/2930971.2930973>
- Zhang, M. (2016). *Building Tinder*. Tinder Engineering. <http://tech.gotinder.com/building-tinder/>