DATING APPS AND ATTACHMENT: ANXIETY AND AVOIDANCE IN MODERN ROMANCE

by

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Abstract

This study examined how adult attachment influences dating app behaviors, including usage patterns, motives, self-disclosure, and information-seeking during relationship initiation. Attachment theory suggests that early experiences with caregivers shape relational tendencies in adulthood, particularly in how individuals seek intimacy and manage closeness (Bowlby, 1969). As dating apps increasingly shape how romantic relationships are formed, understanding the role of attachment in digital interactions is essential. Using a standardized attachment measure, this study found that individuals higher in attachment anxiety reported more intense engagement with dating apps and were more likely to use them to seek romantic relationships, gain social approval, practice flirting and move on from previous partners. Attachment anxiety was also significantly positively related to seeking information – both intimate and non-intimate – about others on the apps. In contrast, individuals higher in attachment avoidance were less likely to self-disclose, especially intimate information, and were less likely to use dating apps for relationships or while traveling. Notably, both anxious and avoidant individuals were more likely to use dating apps for social approval, suggesting a shared interest in validation despite offering different relational strategies. These findings highlight how attachment orientations shape engagement with dating platforms and contribute to a more nuanced understanding of romantic behavior in digital contexts.

Keywords: attachment, dating, online dating, dating apps, attachment theory

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Chapter 1 – Introduction

Dating Apps and Attachment: Anxiety and Avoidance in Modern Romance

The rise of dating apps has shifted the way people approach romantic relationships. Furthermore, individual attachment styles, shaped by early childhood experiences (Bowlby, 1969), may influence how these apps are used. Secure individuals, comfortable with intimacy, could approach dating apps differently than those higher in anxious or avoidant attachment. For example, anxious individuals, seeking closeness but fearing rejection, might use dating apps more often or for purposes that differ from other attachment styles. Conversely, avoidant individuals, valuing independence, might be less frequent users or prioritize aspects of the app that emphasize self-sufficiency or sexual/non-committed relationships. The present study explored the relationship between adult attachment (anxious and avoidant) and dating apps by examining how attachment predicts the frequency, intensity and various motives for using dating apps. Additionally, new evidence was sought regarding how attachment may predict the kind of information (intimate or non-intimate) individuals seek and disclose when looking for potential partners.

The Importance of Dating Apps

Dating apps have become a dominant force in how people meet romantic partners, fundamentally changing the way folks form new relationships. According to recent research from the Pew Research Center, about half of adults under 30 have used a dating site or app highlighting the widespread adoption of these platforms, especially among younger generations (McClain & Gelles-Watnick, 2021). Along with their growing popularity, dating apps raise unique questions about how individuals navigate them. Unlike traditional dating contexts, these platforms are structured to prompt rapid assessments of potential matches based on limited

information. Yet, this structure does not dictate a one-size-fits-all experience. In reality, individual differences in perception and relationship management mean that people engage with dating apps in various ways, offering unique insights into the evolving dynamics of modern dating.

One theoretical framework well-suited to understanding these differences is attachment theory. Rooted in Bowlby's (1969) foundational work, attachment theory posits that early experiences with caregivers shape individuals' attachment styles, which continue to influence behaviors in adult relationships. Secure individuals lean towards a balanced approach between intimacy and independence, while those with anxious or avoidant attachment styles often have trouble managing these dynamics effectively (Mikulincer & Shaver, 2016). These individual differences could be particularly salient in the context of dating apps, where users are engaging in relational behaviors that tend to activate the attachment system.

Attachment Theory Background

Attachment has been conceptualized as a close, lasting psychological bond (Bowlby, 1969) which ensures proximity to a protective, comforting, and resourceful caregiver. The attachment system evolved to protect a helpless infant from danger by keeping them close to their primary caregiver (Bowlby, 1973). Critical to this theory is the idea that early interactions with primary caregivers shape an individual's perceptions of, expectations for, and behaviors in close relationships throughout their life (Ainsworth, 2015). Encountering stimuli that increases the odds of danger, environmental threats, and even threats such as separation, can activate the attachment system and motivate an individual to use the primary attachment strategy – proximity seeking (Mikulincer & Shaver, 2016). Proximity seeking involves behaviors that signal to the primary caregiver that one desires proximity and can include (but is not limited to) behaviors

such as overt displays of negative emotion (e.g., anger or sadness) or even explicit requests for support (Mikulincer & Shaver, 2016). If proximity is sought and achieved, then the attachment system deactivates and the individual returns to previous engagements. If proximity is sought and is either consistently unsuccessful or inconsistently successful, individuals will begin to make use of secondary strategies, mainly hyperactivation or deactivation. Hyperactivation is seen when a caregiver inconsistently responds to support-seeking and is characterized by exaggeration of the primary strategy through excessive monitoring of availability and intense efforts to achieve proximity. Conversely, deactivation is seen when a caregiver is consistently unresponsive to bids for proximity or support. This strategy is characterized by denying attachment needs and focusing on self-reliance and independence (Mikulincer & Shaver, 2016).

These repeated interactions with caregivers throughout childhood become stored knowledge that contribute to an individual's belief about the self being worthy of love and others being a reliable source of support, also known as internal working models of self and others (Bowlby, 1969). An attachment figure who consistently responds to support-seeking promotes the development of secure working models of self and others, cultivating confidence in the self as worthy and others as reliable. An inconsistent or unresponsive attachment figure will lead to insecure working models, which makes forming healthy, close, long-lasting relationships more difficult. Though most important during infancy, Bowlby (1969) proposed that the attachment system is active throughout life and that working models developed during early childhood shape the interactions and strategies used as an adult.

Adult Attachment

Hazan and Shaver (1987) expanded on Bowlby's original theory by exploring how attachment styles emerge in adult romantic relationships. They developed a self-report measure

in which adults reflected on their romantic experiences, categorizing themselves as secure, anxious-ambivalent, or avoidant. Their findings supported Bowlby's idea that early attachment behaviors shape later romantic dynamics. For instance, individuals identifying as avoidant often recall having cold and rejecting caregivers, which may lead to a fear of intimacy and skepticism about the durability of love (Hazan & Shaver, 1987). Their work reinforced the concept of a lifelong active attachment system, while providing a robust framework for investigating individual differences in adult relationships.

Building on these ideas, Bartholomew and Horowitz (1991) questioned the three-category model by exploring Bowlby's concept of internal working models. They introduced a four-category framework, outlined in the Relationship Questionnaire (RQ), which distinguishes between how individuals view themselves and others in the context of close relationships. This distinction is key; a positive view of others suggests trustworthiness, while a negative view brings about doubts on dependability (Crowell et al., 1999). Similarly, an individual's self-perception—whether positive or negative—significantly affects their attachment style. Securely attached individuals see themselves as deserving of support and others as reliable; in contrast, those with a preoccupied attachment struggle with self-worth despite viewing others as trustworthy (Crowell et al., 1999). Conversely, those with a dismissing style perceive others as unreliable while maintaining a positive self-image, whereas individuals with a fearful attachment style hold negative views of both self and others. This nuanced understanding illuminates two types of avoidance in adult attachment: fear of intimacy versus a preference for independence (Crowell et al., 1999).

While categorical or prototype models have provided valuable insights, they also revealed certain limitations over time. Researchers noted issues such as lack of test-retest

stability and the problem of treating categories as mutually exclusive, even as continuous measures suggested a more complex reality (Crowell et al., 1999). This spurred a debate on how best to measure adult attachment, with many suggesting that a dimensional approach could offer greater accuracy (Fraley et al., 2015; Griffin & Bartholomew, 1994). Addressing these concerns, Brennan and colleagues (1998) conducted a factor analysis on data from over 1,000 participants across various self-report measures, identifying two underlying constructs: attachment anxiety and avoidance. Their work culminated in the Experiences in Close Relationships (ECR) inventory – a 36-item measure that assesses anxiety and avoidance on continuous scales (Brennan et al., 1998). In this framework, the anxiety dimension captures concerns about the responsiveness of attachment figures, while the avoidance dimension reflects the regulation of attachment behavior (Mikulincer & Shaver, 2016).

Attachment and Relationship Initiation

Building on these foundational ideas, researchers have increasingly examined how attachment influences specific aspects of romantic relationships, including the process of relationship initiation. Relationship initiation refers to the behaviors, attitudes, and strategies individuals use to form new romantic connections (Sprecher et al., 2015). This phase of a relationship is particularly relevant in the context of attachment theory, as it often involves navigating vulnerability, trust, and emotional risk—areas directly shaped by an individual's attachment style. Secure individuals tend to approach this process with confidence and a positive outlook, while those with anxious or avoidant attachment styles may experience challenges that disrupt smooth interactions (Mikulincer & Shaver, 2016). These patterns shape various aspects of relationship initiation, including the desire for a partner, deciding who to approach, engaging in intimacy, seeking information about a potential partner and more.

Table 1 (in Appendix A) provides a summary of how attachment orientations influence these aspects of relationship initiation. Secure individuals typically exhibit behaviors that facilitate positive interactions, such as balanced self-disclosure and a focus on emotional intimacy. In contrast, anxious individuals may disclose too much information too quickly, often driven by a fear of rejection, while avoidant individuals minimize emotional disclosure and prioritize independence. Other important differences also emerge, such as the role of sexual attraction. Secure individuals often engage in sex to strengthen emotional bonds, while anxious individuals may use sex to seek reassurance and approval. Avoidant individuals, on the other hand, are more likely to pursue sex for self-serving goals, such as enhancing self-esteem, rather than for emotional closeness.

Attachment patterns also influence how individuals interpret past relationship experiences and apply them to new potential partners. Secure individuals rely on positive working models, expecting partners to be trustworthy and supportive. However, anxious individuals may project attachment anxieties, misinterpret social cues, or anticipate rejection, while avoidant individuals may approach new relationships with skepticism or expect failure. Although the table provides a concise overview of these tendencies, some findings, such as the relationship between attachment anxiety and information-seeking, remain mixed, indicating the need for further research to fully understand these processes.

Online and Offline Dating

Although both online and traditional (or offline) dating represents attempts to foster romantic relationships, the approaches and experiences they offer are markedly different. The initial encounter between two individuals when dating offline typically begins with physical attraction and is limited to people encountered in daily life (Cooper & Sportolari, 1997). Some

research reveals that many individuals using online dating chose to do so after some kind of trigger event, such as moving to a new town or going through a recent break up (Yurchisin et al., 2005). Additionally, when dating online, individuals experience a profile-based introduction and have access to a wider range of potential partners, whereas offline dating is typically limited to individuals' current geographic location (Fraley et al., 2015; Griffin & Bartholomew, 1994). Individuals who date offline report an important role for third parties in discovering whether someone is available or interested in dating and as a connection for meeting (Clark et al., 1999). Online dating removes the need for a third person to be involved, providing immediate access to many individuals who are clearly looking for some type of new connection. Learning information about an individual via offline dating often requires one to initiate conversation and use communication skills, whereas learning information about a potential partner when dating online does not always require communication and is accessible at any time (Finkel et al., 2012).

Self-disclosure is another key feature distinguishing online and offline dating. For example, first impressions are extremely important when dating offline and individuals will typically reveal bits of information about themselves over time as they continue to connect. Online dating gives individuals significant control over their profile, making first impressions less important and giving them the option to misrepresent themselves (Finkel et al., 2012). Similarly, the dating process for online daters begins with self-disclosure through browsing profiles, removing the need for communication and time to gauge compatibility (Rosen et al., 2008). Additionally, some dating apps prompt individuals as they set up their profile, providing them a starting point for how to introduce themselves and what information to include on their profile, which is not an option when meeting someone offline. The novel and unique context of

online dating, compared to traditional offline dating, could change and potentially improve the way insecurely attached individuals initiate new romantic relationships.

Attachment and Dating App Use

Existing research on adult attachment and dating app use has focused on using attachment to predict dating app use, motives for dating app use, and outcomes of dating app use. Some work has found secure attachment to be a significant positive predictor of dating app use and fearful attachment to be a significant negative predictor (George, 2024). Anxious attachment has been found to be moderately positively associated with the frequency of dating app use (Coffey et al., 2022; Jonason & Bulyyk, 2019). However, other work found no significant associations between anxious-attachment and dating app use (Borges, 2017; George, 2024). Regarding motives for use, individuals higher in anxious-attachment are more likely to report using dating apps for the following reasons: out of curiosity, for social approval, to entertain themselves while passing time, for socializing or to practice their social skills, to find a relationship, to travel, and to get over their ex (Timmermans & Alexopoulos, 2020). In contrast, no significant associations have been found between motives for using dating apps and avoidant attachment (Timmermans & Alexopoulos, 2020). Moderate, negative associations have also been found between anxious-attachment and using the dating app Tinder for finding sexual partners, but no significant associations were found between attachment avoidance and using Tinder for sex (Borges, 2017). The research investigating attachment and dating app outcomes has yielded mixed results. For example, Coffey et al. (2022) asked participants about their experiences and feelings following sexual experiences that originated online and found that both the anxious and avoidant attachment dimensions were associated with negative outcomes, such as feelings of guilt or being “used.” Some positive outcomes for dating app use, such as increased romantic

confidence and perceived partner availability, have been found for those higher in anxious attachment; however, these same positive outcomes were not significantly associated with avoidant attachment (Alexopoulos & Timmermans, 2020). Alternatively, other work reports negative outcomes of dating app use (e.g., lower commitment, intimacy, and satisfaction) being positively associated with both anxious and avoidant attachment (Goodcase et al., 2018).

The existing research provides some valuable information on the relationship between attachment and dating app use, however, more research grounded in the attachment literature is needed to understand this potentially impactful relationship. While some of these studies explore how anxious or avoidant attachment is linked to using dating apps, they often focus on the frequency of use or broad motives. Much of the research to date uses different measures of attachment and some even include modified scales, which can make comparing the information across studies more challenging. Additionally, there is a critical gap in understanding how insecure attachment impacts self-disclosure and information-seeking within relationship initiation. Further research that addresses these concerns can not only add valuable information to the attachment literature but also spark research for ways that insecure individuals can use dating apps to their advantage to improve their dating experience and find the kind of relationship they need. The present study addresses these issues.

Study Hypotheses

The current study explored the following hypotheses.

Hypothesis 1: Attachment and Dating App Frequency

$H1_A$: Attachment anxiety will be positively associated with the frequency of use of dating apps. Specifically, based on previous research (Coffey et al., 2022) individuals who rate

themselves higher in attachment anxiety are expected to report greater daily use of dating apps than individuals who rate themselves lower in attachment anxiety.

Hypothesis 2: Attachment and Dating App Intensity

$H2_A$: Attachment anxiety will be positively associated with intensity of dating app use. Specifically, individuals who rate themselves higher in attachment anxiety are expected to report an increased intensity of dating app use compared to individuals who rate themselves lower in attachment anxiety.

This hypothesis was derived from studies suggesting that individuals higher in anxious attachment often seek external validation and reassurance in determining their self-worth (Mikulincer & Shaver, 2016). Previous studies have found that attachment anxiety positively predicts increased romantic confidence, perceived partner availability, and willingness to initiate contact on dating apps (Alexopoulos & Timmermans, 2020). These findings suggest that dating apps provide a source of connection and approval, which may alleviate feelings of insecurity and loneliness, and reduce activation of the attachment system.

$H2_B$: Attachment avoidance will be negatively associated with intensity of dating app use. Based on findings that individuals higher in attachment avoidance are less likely to use and engage with online dating (Chin et al., 2019), as participants' attachment avoidance increases, the intensity of their dating app use is expected to decrease.

Hypothesis 3: Attachment and Dating App Motives

$H3_A$: Attachment anxiety will predict nine motives for dating app use based on previous findings (Timmermans & Alexopoulos, 2020). Specifically, compared to individuals who rate themselves lower in attachment anxiety, individuals who rate themselves higher in attachment anxiety will report greater use of dating apps for the following reasons: seeking a relationship,

for sexual experience, for social approval, to practice flirting or social skills, to forget their ex, while traveling, for socializing, as entertainment, and out of curiosity. The strongest associations, however, will be observed between attachment anxiety and relationship-seeking motives and forgetting their ex.

$H3_B$: Attachment avoidance is expected to predict only one of the nine motives for dating app use (Timmermans & Alexopoulos, 2020). Specifically, compared to individuals who rate themselves lower in attachment avoidance, individuals who rate themselves higher in attachment avoidance will be more likely to report using dating apps to have sex.

While Timmermans and Alexopoulos (2020) did not find evidence for this, this hypothesis is based on past research that has consistently demonstrated strong associations between individuals who rate themselves higher in avoidance focusing on sex motives for new relationship formation (Birnbaum, 2015, 2023; Zayas et al., 2015).

Principal Component Analyses

Principal component analyses will be conducted to determine whether the information-seeking and self-disclosure measures can be used to create separate scores for intimate and non-intimate information-seeking and self-disclosure. If the analysis reveals distinct factors for intimate and non-intimate then, hypotheses 4 and 5 will be tested.

Hypothesis 4: Attachment and Self-Disclosure on Dating Apps

$H4_A$: Attachment anxiety will be positively associated with disclosing higher levels of intimate information. Specifically, compared to individuals who rate themselves lower in attachment anxiety, individuals who rate themselves higher in attachment anxiety are expected to report disclosing higher levels of intimate information while using dating apps.

This hypothesis is based on research consistently demonstrating attachment anxiety is related to a stronger desire for high-intimacy disclosures with a romantic partner (Mikulincer & Shaver, 2016).

$H4_B$: Attachment anxiety will be positively associated with disclosure of non-intimate information. Specifically, compared to individuals who rate themselves lower in attachment anxiety, it is expected that individuals who rate themselves higher in attachment anxiety will report disclosing higher levels of non-intimate information.

This hypothesis is based on numerous studies revealing that individuals higher in attachment anxiety report more self-disclosure, in general, than avoidant individuals (Mikulincer & Shaver, 2016)**.** Additionally, research suggests that attachment anxiety is related to social engagement and that individuals higher in attachment anxiety tend to disclose more information during relationship formation (Brumbaugh & Fraley, 2010).

$H4_C$: Attachment avoidance will be negatively associated with disclosing intimate information. Specifically, it is expected that individuals who rate themselves higher in attachment avoidance will disclose significantly less intimate information than individuals who rate themselves lower in attachment avoidance.

This hypothesis is based on research suggesting that that individuals with higher attachment avoidance are less likely to disclose intimate information (Mikulincer & Shaver, 2016). Additionally, they tend to conceal personal details and may find it mentally taxing to engage in deep conversations. This avoidance behavior is likely to extend to their interactions on dating apps, leading them to disclose less intimate information compared to those with lower attachment avoidance.

Hypothesis 5: Attachment and Information-Seeking on Dating Apps

$H5_A$: Attachment anxiety will be positively associated with intimate information-seeking. Specifically, compared to individuals who rated themselves lower in attachment anxiety, it is expected that individuals who rate themselves higher in attachment anxiety will report seeking higher levels of intimate information while using dating apps.

This hypothesis is based on research revealing that individuals higher in attachment anxiety wanted to learn significantly more information related to intimacy and the future of their relationship with their partner than individuals lower in attachment anxiety (Carmichael & Tyler, 2012; Mikulincer & Shaver, 2016).

$H5_B$: Attachment anxiety will not significantly predict non-intimate information-seeking. Specifically, only weak associations are expected between attachment anxiety and non-intimate information-seeking.

This hypothesis is based on research revealing that individuals who rated themselves higher in attachment anxiety only sought more intimate, relationship-related information and did not seem interested in their partner's non-relationship material interests (Rholes et al., 2007).

$H5_C$: Attachment avoidance will be negatively associated with intimate information-seeking. Specifically, compared to individuals who rate themselves lower in attachment avoidance, it is expected that individuals who rate themselves higher in attachment avoidance will seek lower levels of intimate information.

This is supported by research suggesting that individuals with higher attachment avoidance are less likely to seek intimate information from their relationship partners (Mikulincer & Shaver, 2016). Moreover, studies have shown that they require less time, affection, and disclosure to perceive their relationship as "close" (Hudson & Fraley, 2017),

implying that the pursuit of intimate information may not be a primary factor in their use of dating apps.

$H5_D$: Attachment avoidance will be negatively associated with non-intimate information seeking. Specifically, compared to individuals who rate themselves lower in attachment avoidance, it is expected that individuals who rate themselves higher in attachment avoidance will seeking lower levels of non-intimate information.

This hypothesis is based on research revealing individuals higher in attachment avoidance sought less intimate information, less future-oriented information, and even less information about their partner's non-relationship material interests (Rholes et al., 2007).

Chapter 2 – Method

Participants

A final sample of 137 participants who were living in the United States and primarily spoke English were recruited via Prolific, an online research platform. The participants' ages ranged between 18 and 44 (M = 24.78, SD = 3.42). Within the sample, 44.8% identified as Caucasian, 25.4% as African American, 8.2% as Hispanic, 6% as East/South-East Asian, 4.5% as South-Asian American, 5.2% as Multi-Ethnic, and .7% as Native-American. Regarding gender identity, 40.3% identified as cisgender male, 48.5% as cisgender female, 4.5% as non-binary, 2.2% as transgender male, and .7% as transgender female. Concerning sexual orientation, 64.9% reported being heterosexual/straight, 13.4% as pansexual, 9% as gay/lesbian/same gender, 6.0% as bisexual, 1.5% as questioning, and the remaining 1.8% asexual or fluid. Relationship status of the participants was 58.2% reporting single, 21.6% dating but not cohabitating, 7.5% dating and cohabitating, 7.5% married, and the remaining 1.7% separated or divorced. With respect to highest level of education completed by participants, 15.7% earned a high school diploma/GED, 14.2% attended college but did not complete a degree, 6.7% earned an associate's degree, 41.8% earned a bachelor's degree, 15.7% earned a master's degree, and the remaining 1.4% either did not complete high school or earned a doctoral/professional degree. Regarding the education level of the participants' mother, 5.2% indicated that their mother did not complete high school, 17.9% a high school diploma/GED, 13.4% attended college but did not complete a degree, 11.9% with an associate's degree, 25.4% with a bachelor's degree, 17.2% with a master's degree, and 4.5% with a doctoral or professional degree. Regarding the education level of the participants' father, 6.7% indicated their father did not complete high school, 21.6% a high school diploma/GED, 9.7% attended college but did not complete a degree, 9% with an

associate's degree, 27.6% with a bachelor's degree, 13.4% with a master's degree, and 7.5% with a doctoral or professional degree.

Measures

Attachment

Attachment was measured using the Experiences in Close Relationships Scale (ECR; Brennan et al., 1998). This scale assesses discomfort with closeness and dependency (avoidance) and concerns about abandonment (anxiety) in a two-dimensional space (Brennan et al., 1998). Participants rated 36 items on a 7-point scale of agreement ranging from 1 (disagree strongly) to 7 (agree strongly). Sample items included "I prefer not to show others how I feel deep down" and "I find it relatively easy to get close to others." A complete list of items can be found in Appendix B. Separate avoidant attachment and attachment anxiety scores were formed by averaging respective items, with higher scores indicating greater avoidance and anxiety.

Dating App Use Frequency

Frequency of dating app use was measured by asking participants, "On average, how many times a day do you open or check your dating app(s)?" Answer choices ranged from 0 to 10 or more (Coffey et al., 2022). See Appendix C.

Dating App Intensity

Dating app intensity was measured using the Online Dating Intensity Scale (ODIS; Bloom & Dillman Taylor, 2020). The ODIS is a 10-item self-report measure, designed to capture the extent to which individuals are actively engaged and emotionally connected with online dating, as well as the extent to which online dating is integrated into their everyday life. Participants rated items 1, 2, and 3 on a 5-point rating scale of agreement ranging from 1 (strongly disagree) to 5 (strongly agree). Sample items included "I feel out of touch when I

haven't logged into my dating app(s) for a week" or "I would miss dating apps if I suddenly had to stop using them." For the remaining items, participants selected from various multiple-choice options which assessed the degree to which they were engaged with their dating apps. Sample items included "How often do you edit your online dating app profile? or "On average, how many messages or contacts do you send to different potential dates in a week?" See Appendix D for a complete list of items and option responses. Scores were formed by standardizing all responses and then averaging across standardized items, with positive scores indicating a higher intensity with dating app use and negative scores indicating less intensity.

Dating App Motives

Dating app motives were measured using an adapted version of the Tinder Motives Scale (TMS; Timmermans & Caluwé, 2017). This scale is designed to measure nine motives for using dating apps (out of curiosity, as entertainment, for socializing, for social approval, to practice flirting/social skills, seeking a relationship, for sexual experience, while traveling, and to get over ex). Participants rated 45 items on a 7-point rating scale of agreement ranging from 1 (strongly disagree) to 7 (strongly agree). Sample items included "I use dating apps to build an emotional connection with someone" and "I use dating apps to meet other travelers/locals when in a new place." See Appendix E for a complete list of items. Scores were formed by averaging respective items such that higher greater endorsement of each respective motive.

Information-Seeking Within Dating Apps

Information-seeking within dating apps was measured using an author constructed scale. This was a 24-item scale designed to measure the extent to which individuals seek intimate or non-intimate information before deciding whether to connect outside of a dating app. Participants rated items on a 7-point rating scale of agreement ranging from 1 (*disagree strongly*)

to 7 (*agree strongly*). Sample items include "I seek non-intimate information about people" and "I seek information that reveals an individual's moral compass or life philosophies." See Appendix F for a complete list of items. Separate intimate information seeking and non-intimate information seeking scores were formed by averaging across respective items, with higher scores indicating greater information seeking.

Self-Disclosure within Dating Apps

Self-disclosure within dating apps was measured using an author constructed scale. This was a 24-item scale designed to measure the extent to which individuals disclose intimate or non-intimate information before deciding whether to connect outside of the dating app. Participants rated items on a 7-point scale of agreement ranging from 1 (*disagree strongly*) to 7 (*agree strongly*). Sample items include "I share basic information or facts about myself" and "I share information that is more intimate or personal." See Appendix G for a complete list of items. Separate intimate self-disclosure and non-intimate self-disclosure scores were formed by averaging across respective items, with higher scores indicating greater self-disclosure.

Procedure

Participants were recruited via Prolific (Prolific Academic Ltd., London Egland), an online research platform. Individuals over the age of 18 who currently use a dating app or have used a dating app within the last six months were eligible to participate in the study. The survey was administered online via Qualtrics (Qualtrics Inc., Provo, UT). Once participants were redirected to the Qualtrics link, they read the informed consent (see Appendix H) with information about the study before agreeing to participate. If consent was provided, participants were asked "What is your experience with the use of dating apps?" with multiple choice options: "I have never used a dating app," "I used a dating app within the last 2 years," "I used a dating

app within the last year," "I used a dating app within the last 6 months," and "I currently use a dating app." Approximately 279 participants which selected anything other than currently using or use in the last six months were directed to a custom end-of-survey message containing a unique completion code at which they received a payment of .14 cents. Participants who were invited to complete the remainder of the survey answered the Experiences in Close Relationships Scale (ECR; Brennan et al., 1998), Dating App Use Frequency (Coffey et al., 2022), the Online Dating Intensity Scale (ODIS; Bloom & Dillman Taylor, 2020), the adapted version of the Tinder Motives Scale (TMS; Timmermans & Caluwé, 2017), and two author constructed scales (information-seeking and self-disclosure within dating apps) in a randomized order to avoid response sets. Demographic information (see Appendix I) was collected as the last set of questions answered by participants. Upon completion of the survey, participants were given a completion code for a payment of $2.67, thanked for their time, and reminded to contact the primary investigator with questions and/or concerns (see Appendix J).

Data Analysis Plan

Preliminary Analysis

The initial data screening included the following criteria. Any participant who is missing more than 40% of the overall data are excluded from the data analysis. Any participant who spent less than 5 minutes completing the survey will be removed from the data analysis and participants who had three or more measures with zero variability in responses and/or failed attention check items.

Exploratory Component Analysis

Prior to conducting the additional analyses, a principal components analysis (PCA) was conducted for scale refinement. Specifically, the goal was to confirm whether the author

constructed scales effectively captured measures of intimacy and non-intimacy within self-disclosure and information-seeking on dating apps. The PCA was conducted with oblique rotation on the two scales using the oblimin procedure in SPSS 29. The intent was to confirm two components (intimacy and non-intimacy) with Eigenvalues above 1.0. In order to determine which items were to be removed, factor loadings were evaluated retaining any items with .40 and above. Additionally, items that cross-loaded onto multiple factors were removed.

Descriptive Analyses

Descriptive analyses containing the means, standard deviations, and correlations were calculated for the main variables in this study.

Demographic Analyses

In order to identify potential covariates, the current study also examined whether the main variables (attachment, frequency of app use, intensity of app use, information-seeking, and self-disclosure) varied as a function of the demographic variables (age, gender identity, sexual orientation, relationship status, ethnicity, highest level of education completed, and the highest level of education completed by the participant's mother and father and average level of household income). Any demographics variables that were consistently associated with the main study variable would be included as a covariate in the regression analyses.

Regression Analyses

Hypotheses 1-5 were tested using a hierarchical multiple regression framework with 14 total analyses. In the first step, potential covariates would be entered. In the second step, the predictor variables, attachment anxiety and attachment avoidance were entered. Anxiety and avoidance, together, would be considered significant predictors when the R^2 change for the second step is significant ($p < .05$). To examine whether anxiety and avoidance independently

contribute to the model, standardized beta within step two of the model should reach significance ($p < .05$). Further, the unique contribution of anxiety and avoidance will be examined through squaring the semi-partial correlation within step 2 of the regression model.

Chapter 3 – Results

Data Screening

Before conducting any analyses, we applied a series of data screening rules to ensure data integrity. Participants were excluded based on three criteria. First, those with more than 40% of the data were removed. Second, any responses completed in less than five minutes were excluded as the survey was estimated to take about 10-15 minutes to complete. Finally, participants who showed no variability on three or more measures or failed attention check items were also removed. A total of 154 participants passed the initial screener and proceeded with the study. After applying the exclusion criteria, 137 participants remained in the final sample.

Exploratory Component Analyses

Two separate Principal Component Analyses (PCA) were conducted – one for self-disclosure and one for information-seeking – to examine their underlying factor structures in the context of communication with potential partners on dating apps. The analyses used oblimin rotation since the factors were expected to be correlated. The Kaiser-Meyer-Olkin (KMO) measure confirmed sampling adequacy for both analyses (Self-Disclosure: KMO = .728, Information-Seeking: KMO = .704) and Barlett's test of sphericity was significant for both ($p <$ .001), confirming factorability.

To improve clarity and interpretability of the factor structures, an iterative item removal process was applied. This process was guided by both quantitative criteria and qualitative insights to ensure retention of conceptually coherent factors. Initially, items with high cross-loadings (i.e., loadings of .40 or higher on multiple factors) were excluded, as were items that formed factors with fewer than three items, given their limited reliability. Further qualitative assessments were also used with the item selection strategy to enhance the conceptual alignment

and face validity. For each scale, this included the exclusion of factors predominantly comprised of items that were negative worded and contained a mix of both intimate and non-intimate items. This approach simplified the factor structure into an interpretable two-factor model of intimate and non-intimate self-disclosure. The analysis for information-seeking revealed two factors, which together explained 59.43% of the total variance. Factor 1 consisted of three items and accounted for 41.78%, while Factor 2 consisted of 3 items and explained 17.65%. As expected, these factors represented the seeking of non-intimate (factual/surface-level) information and more intimate (emotional/relational) information, respectively. See Appendix K Table 2.

The analysis for self-disclosure within dating apps identified two factors that together accounted for 58.85% of the total variance. Factor 1 consisted of three times and explained 37.83% of the variance, while Factor 2 consisted of three items and explained 21.02%. Factor 1 represents non-intimate (surface-level) self-disclosure, such as personal references or factual details. Factor 2 captures the more intimate self-disclosure, including emotional or relational topics. See Appendix K Table 3.

Both self-disclosure and information-seeking behavior scales were best represented by two distinct factors – one related to non-intimate, surface level interactions and the other to intimate, emotionally deeper engagement. These findings align with the study's hypotheses, allowing for the testing of hypotheses 4 and 5.

Preliminary Analyses

Correlation and frequency analyses were conducted for descriptive purposes. Appendix K Table 4 reports the means and standard deviations for each variable and the correlations between scores for ECR anxiety and avoidance, dating app use, dating app intensity, the nine dating app

motives, intimate and non-intimate self-disclosure, as well as intimate and non-intimate information-seeking. Cronbach's alpha values for each scale are presented on the diagonal.

Attachment anxiety and attachment avoidance demonstrated exemplary reliability with values for Cronbach's alpha over .90. Additionally, the social approval motive, sexual experience motive, and getting over ex motive had exemplary Cronbach's alpha over .90. Alphas for most of the rest of the scales, excluding the author constructed measures, reached acceptable reliability between .70 and .80.

For the author constructed scales, reliability varied. The intimate information-seeking scale reached acceptable reliability at .73. Non-intimate self-disclosure was approaching acceptable internal consistency at .69. The non-intimate information seeking (a = .53) and the intimate self-disclosure (a = .55) had lower alpha values. However, given that each of these subscales contained only three items, their lower reliability partially reflects scale length rather than a fundamental issue with internal consistency, as Cronbach's alpha is affected by scale length. To further evaluate internal consistency, we examined the corrected item-total correlations (CITC). The average CITC values for non-intimate information-seeking, intimate information seeking, non-intimate self-disclosure, and intimate self-disclosure scales were .43, .97, .27, and .50, respectively. While the non-intimate self-disclosure CITC was lower than desired, the CITC values for the other three scales were above .40, suggesting that the items were still meaningfully related. Future research incorporating additional items within each subscale may improve reliability.

Several strong correlations emerged between the main study variables. Attachment avoidance was positively associated with social approval and entertainment motives and negatively associated with both intimate and non-intimate self-disclosure. Attachment anxiety

was positively related to most motives and app use behaviors, though not to self-disclosure, using dating apps for sex, or using dating apps while traveling.

As expected, dating app use was positively associated with dating app intensity, as well as using it for social approval and most of the other dating app motives. Interestingly, app use was negatively associated with non-intimate self-disclosure. Dating app intensity showed consistent positive associations with multiple motives. Social approval was also linked with nearly all motives except the information-seeking and self-disclosure scales. Relationship-seeking motives were tied to using dating apps to get over an ex, as well as both self-disclosure and intimate information seeking. Other motives, such as using it for sex, to practice flirting, while traveling, and for entertainment tended to cluster together and show positive associations with one another and with intimate information-seeking, while being negatively related to non-intimate self-disclosure. These patterns suggest meaningful relationships between participants' attachment orientations, dating app motives, and the kinds of information they seek and share through dating platforms.

Demographic Analyses

Following the preliminary analyses, a series of One-Way ANOVAs and correlations between the demographic variables and the main variables of interest were conducted to identify potential covariates. The demographic variables assessed included age; gender identity; sexual orientation; relationship status; the highest education completed by participants, their mother, and their father; as well as participants' average household income. Gender was significantly associated with just under 50% of the main variables, including ECR anxiety, dating app use, dating app intensity, non-intimate self-disclosure and the following dating app motives: for sexual experience, to practice flirting, and while traveling (see Appendix K Table 5). For all the

significant ANOVAs except one, individuals who rated themselves as cisfemale reported significantly lower scores than individuals who rated themselves as cismale or transgender/non-binary. Uniquely, individuals who rated themselves as transgender/non-binary tended to report greater attachment anxiety than individuals who identified as cismale and cisfemale.

Additionally, relationship status was significantly associated with attachment avoidance, $F(4, 124) = 3.921$, $p = .005$. Fisher's LSD post hoc tests revealed that single participants reported greater avoidance ($M = 3.46$, $SD = 1.12$, $n = 129$) than participants who were dating without cohabitation ($M = 2.83$, $SD = 0.88$, $n = 129$) or divorced/separated ($M = 3.09$, $SD = 0.04$, $n = 129$). Participants who were dating and living together ($M = 2.83$, $SD = .88$, $n = 129$), or married ($M = 2.51$, $SD = .1.14$, $n = 129$) did not significantly differ from one another, and neither group differed significantly from the other relationship status categories in the post hoc comparisons.

Mother education showed significant associations with curiosity motives (see Table 6 of Appendix K). Post hoc analyses show that individuals whose mothers had not finished high school reported greater curiosity motives for using dating apps than those whose mothers had completed a degree. Additionally, those whose mothers had attended college but did not finish also reported higher curiosity motives than those whose mothers had completed an associate's, bachelor's, or master's degree. Additionally, father's education was associated with intimate information seeking (see Table 6 of Appendix K); participants whose fathers had lower levels of education, such as a high school diploma or GED, reported greater interest in seeking intimate information compared to those whose fathers had earned a master's or PhD.

Since gender showed consistent associations with several of the primary variables of interest, it was included as a covariate in the main analyses. While other demographic variables were also related to the key variables, these associations were limited in number and did not

follow a consistent pattern. As a result, the remaining demographic variables were not included in the subsequent analyses.

Regression Analyses

Hierarchical regression analyses were conducted to examine the unique contributions of attachment anxiety and avoidance on dating app behaviors. Gender is included as a covariate in each analysis. In step 1 of each model, gender was examined using two dummy-coded variables. The first variable was coded cisfemale (0), cismale (1), and Transgender/non-binary (0) to contrast cisfemale participants with cismales. The second variable was coded cisfemale (0), cismale (0), amd transgender/non-binary (1) to contrast cisfemales with transgender/non-binary participants. ECR anxiety and ECR avoidance were added simultaneously in step 2 of the model.

In the first model (see Table 7 of Appendix K), dating app use was regressed on gender, anxiety, and avoidance. In step 1, gender explained 6.2% of the variance in dating app use frequency, $F(2,126) = 4.19$, $p = .017$. Cismales reported using dating apps more frequently than cisfemales. In step 2, attachment variables did not significantly improve the model, $\Delta F(2,124) = 1.33$, $p = .268$. When dating app intensity was regressed on gender, gender explained 14.1% of the variance in step 1, $F(2,126) = 10.31$, $p < .001$. Both cismales and transgender/non-binary participants reported using dating apps more intensely than cisfemales. Adding avoidance and anxiety to the model in step 2 significantly improved prediction of intensity, $\Delta F(2,124) = 5.78$, $p = .004$, explaining an additional 7.3% of the variability in intensity. Of the attachment variables, anxiety was the only to make a significant unique contribution, explaining the full 7.3% of the variability in dating app intensity, with participants higher in attachment anxiety reporting using dating apps more intensely.

Several motivations for using dating apps were significantly predicted by attachment (see Table 8, Appendix K). For social approval motives, gender was not a significant predictor in step 1, $F(2,126) = 0.42$, $p = .661$. In step 2, the model significantly improved, $\Delta F(2,124) = 6.00$, $p = .003$, explaining an additional 8.8% of the variance in social approval motives. Attachment anxiety and avoidance each made significant unique contributions, accounting for 3.1% and 3.9% respectively. Participants higher in both anxiety and avoidance were more likely to report using dating apps for social approval. For relationship-seeking motives, gender was not a significant predictor in step 1, $F(2,126) = 0.41$, $p = .666$, but the model significantly improved in step 2, $\Delta F(2,124) = 5.74$, $p < .001$, explaining an additional 15% of the variability in using a dating app to seek a relationship. Attachment anxiety positively predicted using a dating app for seeking a relationship and uniquely accounted for 11.6% of the variance. Avoidance was negatively associated with relationship motives and uniquely explained 8.4%. In contrast, gender explained 26.3% of the variance in step 1 of the model predicting the motivation to use a dating app for sexual experience, $F(2,126) = 22.43$, $p < .001$. Cismales and transgender/non-binary participants reported using dating apps for sexual experiences more than cisfemales. Attachment did not significantly improve the model, $\Delta F(2,124) = 1.26$, $p = .287$.

For flirting and social skill practice, gender was a significant predictor in step 1, $F(2,126) = 5.98$, $p = .003$. Cismales reported using dating apps for flirting and social skill practice more than cisfemales. In step 2, the model significantly improved, $\Delta F(2,124) = 7.21$, $p = .001$, explaining an additional 9.5% of the variability. Attachment anxiety uniquely accounted for 7.7% of the variability, with participants higher in anxiety more likely to use dating apps for flirting and social skill practice. Attachment avoidance was not a significant predictor. For use while traveling, gender significantly predicted app use in step 1, $F(2,126) = 9.57$, $p < .001$. Cismales

and transgender/non-binary participants reported using dating apps while traveling more than cisfemales. In step 2, the model did not significantly improve, $\Delta F(2,124) = 2.19$, $p = .117$. Attachment avoidance, however, did emerge as a significant negative predictor in this step, uniquely accounting for 2.8% of the variance.

For using dating apps to get over an ex, gender was not a significant predictor in step 1, $F(2,126) = 0.11$, $p = .896$. In step 2, the model significantly improved, $\Delta F(2,124) = 8.40$, $p < .001$, explaining an additional 11.9% of the variability. Attachment anxiety uniquely accounted for 11.1% of the variability in the motivation to use a dating app to get over their ex, while attachment avoidance was not a significant contributor to the model. Similarly, for entertainment and passing time motives, gender was not a significant predictor in step 1, $F(2,126) = 0.53$, $p = .588$, and the model significantly improved in step 2, $\Delta F(2,124) = 3.88$, $p = .023$, explaining an additional 5.8% of the variability. For entertainment motivations, attachment avoidance uniquely predicted 4.4% of the variance, in other words, participants higher in attachment avoidance were more likely to use dating apps for this purpose.

In the model predicting the use of a dating app to socialize, gender was not a significant predictor in step 1, $F(2,126) = 0.81$, $p = .447$, and the model did not significantly improve in step 2, $\Delta F(2,124) = 1.22$, $p = .298$. No variables were significant predictors in this model. For the motivation to use a dating app out of curiosity, gender was not a significant predictor in step 1, $F(2,126) = 1.10$, $p = .338$, and the model did not significantly improve in step 2, $\Delta F(2,124) = 1.64$, $p = .199$. No variables were significant predictors.

When examining the influence attachment has on communication behaviors within a dating app, several significant associations were identified (see Table 9, Appendix K). For non-intimate self-disclosure, gender was a significant predictor in step 1, $F(2,126) = 7.89$, $p < .001$.

Cismales reported less non-intimate self-disclosure than cisfemales. In step 2, the model significantly improved, $\Delta F(2,124) = 5.17$, $p = .007$, explaining an additional 6.8% of the variance. Attachment avoidance uniquely predicted 6.7% of the variability in non-intimate self-disclosure within dating apps, while attachment anxiety was not a significant predictor. Participants higher in attachment avoidance were significantly less likely to engage in non-intimate self-disclosure. For intimate self-disclosure, gender was not a significant predictor in step 1, $F(2,126) = 2.28$, $p = .106$. In step 2, the model significantly improved, $\Delta F(2,124) = 15.98$, $p < .001$, explaining an additional 19.8% of the variability. Participants higher in attachment avoidance were significantly less likely to engage in intimate self-disclosure, uniquely predicting 19.5% of the variability, while attachment anxiety was not a significant predictor of intimate self-disclosure.

For non-intimate information-seeking, gender was not a significant predictor in step 1, $F(2,126) = 0.18$, $p = .840$. In step 2, the model significantly improved, $\Delta F(2,124) = 6.36$, $p = .002$, explaining an additional 9.3% of the variability. Attachment anxiety uniquely accounted for 7.7% of the variance and was positively associated with seeking non-intimate information within dating apps. In contrast, attachment avoidance uniquely accounted for 3% of the variance and was negatively associated with seeking non-intimate information within dating apps. For intimate information-seeking, gender was not a significant predictor in step 1, $F(2,126) = 1.09$, $p = .338$. In step 2, the model significantly improved, $\Delta F(2,124) = 10.33$, $p < .001$, explaining an additional 14% of the variability. Attachment anxiety uniquely accounted for 13.3% of the variance in intimate information seeking and was positively associated with seeking intimate information within dating apps. In contrast, attachment avoidance was a marginally significant negative predictor for intimate information-seeking, uniquely contributing 2.4% of the variance.

Chapter 4 – Discussion

The present study investigated the relationship between attachment and dating app use. Specifically, the objective was to integrate and replicate findings from previous literature using a unified sample and consistent attachment scale, as previous researchers used various measures for attachment. Additionally, this study explored a less examined area of literature concerning how attachment may influence information seeking and disclosure patterns that contribute to relationship formation. Results revealed nuanced associations between attachment and various dimensions of dating app usage, including frequency, intensity, motives, and communication behaviors such as self-disclosure and information-seeking.

Contrary to Hypothesis 1, attachment anxiety did not significantly predict the frequency of dating app use in the present study. While previous studies have proposed that individuals higher in attachment anxiety might use dating apps more often, findings across the literature have been inconsistent. Coffey et al. (2022) reported a significant positive association ($\beta = .28$), but Borges (2017) found no relationship ($r = -.09$, *ns*.), and Chin et al. (2019) observed only a weak positive association with likelihood of use not actual frequency. George (2024) also found that preoccupied attachment (anxious subtype) did not significantly predict use. These discrepancies suggest that even when anxiety trends in the expected direction, its influence on dating app frequency may be minimal or unstable across contexts.

One possible explanation for these mixed results lies in the differences in how attachment is conceptualized and measured across studies. For example, the ECR and Experiences in Close Relationships-Revised (ECR-R) treat attachment as dimensional and relationship-specific, focusing on anxiety and avoidance in close relationships. In contrast, Chin et al.'s (2019) use of the Attachment Style Questionnaire (ASQ) reflects a broader, more personality-oriented

approach, while George (2024) employed the Relationship Scales Questionnaire (RSQ), which categorizes individuals into fixed attachment styles. These measures differ not just in item content but in the underlying constructs they reflect which may impact their sensitivity to various dating app outcomes like app usage frequency. Taken together, the overall pattern suggests that the relationship between attachment anxiety and dating app frequency is small at best, and highly sensitive to construct operationalization. Rather than indicating a strong or generalizable effect, the accumulated findings point toward a more context-dependent association that may only emerge under certain conditions or with specific measurement tools, such as dating app intensity.

Consistent with Hypothesis 2, attachment anxiety was positively associated with dating app intensity. This suggests that individuals higher in attachment anxiety tend to be more deeply engaged when using dating apps. The online dating intensity scale (Bloom & Dillman Taylor, 2020) was added to this study to measure intensity because knowing how often someone uses an app may not tell capture the full depth of their engagement. To date, no published studies appear to have examined dating app intensity in relation to adult attachment, making this study one of the first to explore this association directly. This measure captures both behavioral and emotional investment, providing a more comprehensive look at engagement compared to frequency measures used in earlier studies.

Attachment literature would suggest that individuals higher in attachment anxiety seek validation and reassurance about their worth from other people (Mikulincer & Shaver, 2016) and higher intensity with dating apps may serve these goals. Supporting this, Coffey et al. (Coffey et al., 2022) found that attachment anxiety was moderately positively associated with daily dating app use. Additionally, previous research has shown that attachment anxiety is positively associated with romantic confidence, perceived availability of partners, and willingness to make

the first move specifically through dating apps (Alexopoulos & Timmermans, 2020), thus more intense dating app use is more attractive to anxious individuals. The present study found that anxiety accounted for 7.3% of the variance in dating app intensity, which represents a moderate effect and supports the idea that emotional needs, not just usage frequency, drive attachment-related differences in online behavior.

Hypothesis 3a explored motivations for using dating apps, specifically it was expected that attachment anxiety would positively predict all nine of the dating app motives; for social approval, to seek a relationship, for sexual experience, to practice flirting or social skills, while traveling, to get over their ex, for socializing, to pass time or for entertainment and out of curiosity (Timmermans & Alexopoulos, 2020). However, results from the current study only partially supported this prediction. Specifically, attachment anxiety positively predicted using a dating app for social approval, to seek a relationship, to practice flirting or social skills, and to get over their ex. These motives are closely aligned with emotional reassurance and relational connection, consistent with anxious individuals' underlying attachment needs (Mikulincer & Shaver, 2016).

Attachment anxiety was not associated with using a dating app for sexual experience, while traveling, for socializing, and to pass time or for entertainment. One potential explanation for the divergence between the current findings and those reported by Timmermans and Alexopoulos (2020) lies in the measurement of attachment anxiety. While their study used the ECR-Short Form (ECR-S; Wei et al., 2007), which includes only six items for each dimension, the present study used the full 36-item Experiences in Close Relationships Scale (ECR; Brennan et al., 1998). The ECR-S may capture a narrower, more behaviorally focused form of anxiety that is especially reactive to relational cues (e.g., a need for reassurance or frustration at

inaccessibility). In contrast, the full ECR assesses a broader range of anxiety-related traits, including more generalized fears of abandonment, intense preoccupation with partner availability, and even distress in the absence of romantic relationships. As such, the full ECR may detect anxious individuals whose relationship anxiety does not necessarily translate to increased engagement with all dating app motives. This could explain why attachment anxiety in the current study was a significant predictor for only select motives, rather than across all nine as previously hypothesized.

Hypothesis 3b predicted that individuals higher in attachment avoidance would primarily report using dating apps for sexual experience. This hypothesis was not supported. Attachment avoidance did not significantly predict using dating apps for sexual experience, despite past research suggesting that avoidant individuals often prefer sex without emotional closeness (Birnbaum, 2015; Zayas et al., 2015). Schachner and Shaver (2004) found that while individuals higher in avoidance were more likely to engage in sex for self-focused, non-intimate reasons (e.g., impression management or status) this may not be fully captured by the relational framing of most sexual motive subscales. This could help explain why the current study, like Timmermans and Alexopoulos (2020), did not find a strong relationship between avoidance and sexual motives. Supporting this view, Dugal and colleagues (2024) showed that avoidant individuals tend to downplay pleasure-based sex motives altogether, potentially reflecting a more generalized discomfort with acknowledging emotional or physical needs. A useful future research direction would be to incorporate behavioral or implicit measures of sexual motivation to complement self-report data. Since it is highly possible that individuals high in attachment avoidance may simply downplay or misreport sex-related motives due to discomfort or self-protective strategies, using indirect methods (e.g., response latency tasks, behavioral choice

paradigms, or app usage analytics) could provide a more accurate assessment of their motivations. Additionally, qualitative interviews may help uncover how avoidant individuals conceptualize and rationalize their dating app use, especially regarding casual sex or non-relational goals, offering deeper insight into discrepancies between behavior and self-report.

Interestingly, avoidance significantly predicted other motives that were not initially hypothesized. Specifically, avoidance was positively associated with using dating apps for social approval and entertainment and, though the overall model was not significant, with using dating apps while traveling. At the same time, avoidance was negatively associated with using dating apps to seek a relationship, which is consistent with theoretical expectations for attachment avoidance (Mikulincer & Shaver, 2016). These findings suggest that avoidant individuals may engage with dating apps more often for low-investment, self-focused purposes, rather than for emotional or relational connection.

The finding that avoidant individuals use dating apps for entertainment or travel motives while suppressing attachment needs is intriguing given recent research from Timmermans and Alexopoulos (2020). Their study similarly found a positive association between avoidance and use while traveling, however unlike the results in this study, they found a negative association with entertainment motives. One possible explanation for these differing results lies in the conceptual differences between attachment measures. The present study used the full 36-item ECR (Brennan et al., 1998), which captures a wide range of attachment-related thoughts, feelings and behaviors (including subtle or everyday manifestations of avoidance). In contrast, Timmermans and Alexopoulos (2020) utilized the ECR-R (Fraley et al., 2000), a measure created using item-response curves to the items which assess attachment anxiety and avoidance. Because the ECR-R is more narrowly focused, it may overlook the subtler forms of avoidance, ones that

could potentially explain why my study found positive associations for entertainment while theirs found negative. Their findings suggest that while avoidant users may engage with dating apps in specific situations (e.g., while traveling) they may be doing so for opportunistic reasons rather than for emotional escape or distraction. In contrast, the present study suggests that avoidant individuals might use dating apps broadly as a low-investment strategy to manage social interaction or pass time.

Contrary to Hypothesis 4a and 4b, attachment anxiety was not significantly associated with either intimate or non-intimate self-disclosure on dating apps. This finding contrasts with prior research suggesting that individuals high in attachment anxiety typically disclose more information during relationship formation than their avoidant or secure counterparts (Brumbaugh & Fraley, 2010). One possible explanation is that this pattern may be more pronounced in traditional, face-to-face dating contexts, where anxious individuals often disclose in an effort to maintain conversation and seek reassurance. However, dating apps may not offer the same immediacy or emotional feedback, which could reduce the likelihood that anxious individuals engage in disclosure. Supporting this interpretation, Birnbaum et al. (Birnbaum et al., 2014) found that anxious individuals are less likely to self-disclose in the absence of emotional cues from a partner. Drouin and Landgraff (2012) similarly found only weak associations between anxious attachment and digital forms of sexual communication, suggesting that the emotional dynamics which typically drive disclosure may be less present in online environments.

Additionally, the current study's self-disclosure measure was newly developed and may not have fully captured the complexity of disclosure in digital contexts. This measure demonstrated modest internal consistency and included only three items per subscale, which may have limited its sensitivity to more nuanced disclosure patterns. It is also important to note that

prior studies have typically assessed general disclosure tendencies or used different formats, such as direct measures of text or sexting frequency, making direct comparisons of effect sizes across studies difficult. Future research should consider refining and validating the intimate and non-intimate self-disclosure measure to better assess how individuals with different attachment styles communicate on dating apps.

Hypothesis 4c was supported: attachment avoidance was negatively associated with intimate self-disclosure. This aligns with prior research showing that avoidant individuals are less likely to share personal information (Mikulincer & Shaver, 2016) and often find depth in conversations mentally exhausting (Carmichael & Tyler, 2012). These patterns are also consistent with the use of deactivating strategies (Mikulincer & Shaver, 2016), which allow avoidant individuals to maintain distance and suppress attachment-related needs. Birnbaum et al. (2014) noted that avoidant individuals tend to disclose less and are generally less motivated to pursue emotional closeness. Drouin and Landgraff (2012) also found that avoidant individuals, particularly men, were more likely to engage in sexting, possibly because it allows for a form of connection that does not require emotional vulnerability.

In the context of dating apps, this may help explain why avoidant individuals appear less willing to engage in deeper or more intimate forms of disclosure, even if they are otherwise active users of the platform. In the current study, avoidance accounted for approximately 19.6% of the variance in intimate self-disclosure, suggesting a relatively strong association compared to other outcomes examined. Although the overall pattern aligns with prior work, differences in the attachment scales used and the type of disclosure measures included may limit the comparability of results across studies.

Consistent with hypothesis 5a, individuals with higher levels of attachment anxiety were found to seek more intimate information. This aligns with previous findings suggesting that anxiously attached individuals are particularly interested in intimate details about others when forming new connections (Rholes et al., 2007). In the present study, attachment anxiety explained 13.3% of the variance in intimate information-seeking and 7.7% in non-intimate information-seeking, reflecting its moderate influence on these behaviors. Unexpectedly, anxious individuals also sought more non-intimate information than anticipated, diverging from hypothesis 5b. This could reflect a broader desire for connection, with anxious individuals using different types of information to reduce uncertainty, regardless of intimacy level.

Hypotheses 5c and 5d were both supported, showing that individuals with higher attachment avoidance sought significantly less intimate and non-intimate information. This behavior aligns with literature emphasizing the avoidance of emotional engagement, with those higher in avoidance less likely to seek close relational details (Hudson & Fraley, 2017). Though a small effect, in this study, avoidance explained 3.0% of the variance in intimate information-seeking and 2.1% in non-intimate information-seeking, supporting its role in limiting information-seeking behaviors.

Gender

In addition to attachment, gender played a significant role in predicting various aspects of dating app use, such as frequency, intensity, and motivations. The results of this study revealed that cismales reported using dating apps more frequently than cisfemales, which is consistent with previous research showing that gender differences in dating app use are often influenced by societal expectations. Cismales were also found to use dating apps with greater intensity, a pattern that aligns with findings by Timmermans and Alexopoulos (2020) who noted that males,

particularly those with attachment anxiety, often show higher levels of engagement in online dating, likely due to their desire for validation and reassurance.

Additionally, cismales were more likely to use dating apps for sexual experience and flirting/social skills, reinforcing the idea that males are often driven by short-term relational goals within dating app use. This aligns with research suggesting that men are more likely than women to endorse sexual or casual motives (Rochat et al., 2019), and that attachment anxiety in cismales specifically may amplify these patterns (Brumbaugh & Fraley, 2010). Similarly, transgender/non-binary individuals reported using dating apps for sexual experience and flirting/social skills, indicating that gender identity beyond the binary also plays a significant role in shaping motives for online dating. These findings mirror patterns reported by Timmermans and Alexopoulos (2020).

In contrast, gender did not significantly predict motives such as socializing or entertainment, suggesting that gender differences in dating app use may be more pronounced in emotionally driven or relationally motivated behaviors, rather than in passive or recreational ones. Moreover, while attachment anxiety did not play a significant role in self-disclosure patterns, gender did predict non-intimate self-disclosure, with cismales reporting lower levels of non-intimate self-disclosure compared to cisfemales. This finding is consistent with previous research suggesting that avoidant individuals, particularly males, tend to disclose less personal information as a means of maintaining emotional distance (Mikulincer & Shaver, 2016).

Overall, these findings highlight that gender does play an important role in dating app behavior. Cismales and transgender/non-binary individuals are more likely to use dating apps for sexual and relational purposes. This is consistent with prior research showing that men are more likely to report sexual or short-term motives for dating app use (Rochat et al., 2019) and that

transgender and nonbinary individuals may report similar patterns (Timmermans & Alexopoulos, 2020). Cisfemales were less likely to report these motives. These results are consistent with the literature on gender and attachment in online dating contexts, which suggests that gender influences how and why individuals engage with dating apps. Future research should continue to explore the complex interactions between gender identity, attachment styles, and online dating behaviors to further clarify the ways in which gender shapes experiences in digital dating environments.

Strengths and Limitations

This study has several strengths. It used well-established and psychometrically sound measures, including the full 36-item Experiences in Close Relationships scale (Brennan et al., 1998), which provides a more comprehensive understanding of attachment anxiety and avoidance than shorter versions. The inclusion of the Online Dating Intensity Scale (Bloom & Dillman Taylor, 2020) helped capture both emotional and behavioral engagement with dating apps, offering a more nuanced picture than frequency alone. The Tinder Motives Scale (Timmermans & Caluwé, 2017) also provided a validated way to assess users' motivations. Gender covariates were included in all regression models, which helped account for demographic differences across outcomes.

There is also some evidence supporting the convergent validity of the new author-constructed scales. Self-disclosure was negatively associated with attachment avoidance, which is consistent with theory suggesting that avoidant individuals are less likely to disclose in both face-to-face and digital contexts (Mikulincer & Shaver, 2016). Information-seeking was positively associated with attachment anxiety, which aligns with past findings that anxious individuals seek out information to reduce uncertainty in relationships (Rholes et al., 2007).

Intimate self-disclosure was also positively associated with motives such as relationship-seeking, flirting, getting over an ex, and socializing, which supports the theoretical relevance of these new scales.

However, the study also has several limitations. A conceptual limitation arose from the dimensionality assessment of the information-seeking and self-disclosure scales. Several items were dropped, including all negatively worded items, which narrowed the range of behaviors represented in the author-constructed scales. This likely reduced the coverage of attachment-related behaviors, particularly in digital contexts. Future studies should consider broader item pools that reflect emotional, relational, and distancing behaviors that show up specifically in app-based interactions. Additionally, the modest reliability of measures (especially the intimate self-disclosure and non-intimate information-seeking measures) limits the strength of the conclusions that can be drawn about their construct validity. Cronbach's alpha values fell below .60, indicating weak internal consistency. This is especially important given that self-disclosure was a central variable in the study. Future work should revise or expand these subscales to improve reliability and ensure they consistently capture the intended constructs.

There are also potential threats to internal validity. Because the study did not control for all possible third variables, it is possible that other unmeasured factors (e.g., personality traits, prior relationship experiences) account for the observed relationships. Additionally, the exclusive use of self-report measures introduces the risk of common method variance, where associations between variables may be inflated due to shared measurement methods rather than reflecting true underlying relationships. This is particularly relevant for sensitive constructs like attachment and intimate disclosure, where social desirability or response consistency biases may systematically influence responses. Furthermore, the use of a single time-point limits any conclusions about the

direction of effects between attachment and dating app behaviors. Because this study used a correlational and cross-sectional design, no causal conclusions can be drawn. The direction of the relationships between attachment and dating app behaviors cannot be determined, and unmeasured variables may explain some of the associations. Future research using experimental or longitudinal methods could better test directionality and potential mechanisms.

There are also limitations to generalizability. While the sample was diverse in terms of gender, race, and relationship status, it was a volunteer convenience sample recruited through Prolific. Participants from this platform tend to be more educated, more technologically skilled, and possibly higher in socioeconomic status than the general population. All participants were English-speaking and based in the U.S. These factors limit the extent to which findings can be generalized to other populations, individuals in other countries, or those who do not use dating apps. Because participants were required to have used a dating app in the past six months, the findings are most relevant to active or recent users. Finally, all data were collected via self-report, which may introduce social desirability or self-presentation bias, especially on sensitive topics like sexual intentions and intimate disclosure. Future studies could reduce this bias by using behavioral data, app usage logs, or observational methods.

Conclusion

This study contributes to the understanding of how attachment influences behavior on dating apps, both replicating and extending previous research. It replicates findings on the relationship between attachment anxiety and increased engagement with dating apps (Timmermans & Alexopoulos, 2020). However, it also provides new insights, particularly regarding attachment avoidance. The study found that individuals with higher attachment avoidance tend to use dating apps for more superficial motives, such as seeking social approval

or entertainment, rather than engaging in deeper relationship-building. This highlights the importance of distinguishing between different attachment styles when examining behaviors on digital platforms, providing a more nuanced view of romantic engagement in the digital age.

The key takeaways from this study include the understanding that attachment anxiety drives more intense engagement with dating apps, as anxious individuals seek reassurance and validation. In contrast, attachment avoidance is associated with more emotionally detached use, where individuals engage with the platform without the intent to form meaningful relationships. These findings suggest that attachment styles significantly shape how individuals use and interact with dating apps, revealing that attachment needs, rather than just frequency of use, play a pivotal role in shaping online behavior.

The present study suggests that, while digital platforms offer new opportunities for connection, the core attachment-related needs for reassurance, intimacy, and emotional distance still influence how individuals engage with these platforms. These insights have important implications for how dating apps are designed. Platform features, such as matching algorithms and notification systems, could influence how users with different attachment styles engage with the platform, either exacerbating or alleviating attachment-related behaviors.

Looking forward, future research could explore the impact of matching algorithms and platform features on attachment-driven behaviors, particularly whether they exacerbate anxiety or offer a sense of control for those with attachment avoidance. Furthermore, comparing different types of dating apps, including those with varying design features and user bases, would help determine how platform-specific factors influence attachment-driven behaviors. Incorporating qualitative research, such as user interviews or content analysis of interactions, would deepen our

understanding of how attachment is communicated through digital exchanges, shedding light on the emotional dynamics of online dating.

Ultimately, this study adds to the growing body of research that connects attachment theory with digital dating platforms, emphasizing the need for a more empathetic approach in the design of dating apps. As technology continues to mediate how people form connections, understanding the impact of attachment styles on online behavior is crucial for designing platforms that support diverse emotional needs, enhancing the experience for users in an increasingly connected world.

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Appendix A

Table 1

Aspects of Relationship Initiation Influenced by Attachment

Aspect	Secure	Anxious	Avoidant	Key References
Desire for a partner	Comfortable initiating relationships	Strong desire, intense fear of rejection	Typically avoids close relationships	Mikulincer & Shaver (2016); MacDonald & Park (2021)
Partner Attraction	Look for qualities like trust and dependability	Favor secure qualities but may be attracted to flattery	Devalues emotional availability/ vulnerabilities	Chappell & Davis (1998); Klohnen & Luo (2003)
Sexual Attraction	Uses sex for bonding; typically, with a partner	Uses sex for reassurance	Avoids intimacy, focus on sex for self-serving reasons	Birnbaum (2016); Mikulincer & Shaver (2007)
Past Relationships	Leads to trustworthy expectations	Project fears from past relationships, expects rejection	Skeptical of success	Brumbaugh & Fraley (2006); Hart et al. (2013)
Self-Disclosure	Match partner's level, slowly builds intimacy	Overshares early on, focus on fear of rejection	Minimize sharing, present independence	Mikulincer & Nachson (1991); Grabill & Kerns (2003)
Information-Seeking	Confident and thorough	Mixed results: over-seek or avoid	Seek less information	Aspelmeier & Kerns (2003); Hussain et al. (2021)

Appendix B

Experiences in Close Relationship (Brennan, Clark & Shaver, 1998)

The following statements concern how you generally feel in close relationships (e.g., with romantic partners, close friends, or family members). Respond to each statement by indicating how much you agree or disagree with it.

1	2	3	4	5	6	7
Disagree strongly	Disagree	Disagree slightly	Neutral/ mixed	Agree slightly	Agree	Agree strongly

1. I prefer not to show others how I feel deep down.
2. I worry about being rejected or abandoned.
3. I am very comfortable being close to other people.
4. I worry a lot about my relationships.
5. Just when someone starts to get close to me I find myself pulling away.
6. I worry that others won't care about me as much as I care about them.
7. I get uncomfortable when someone wants to be very close to me.
8. I worry a fair amount about losing my close relationship partners.
9. I don't feel comfortable opening up to others.
10. I often wish that close relationship partners' feelings for me were as strong as my feelings for them.
11. I want to get close to others, but I keep pulling back.
12. I want to get very close to others, and this sometimes scares them away.
13. I am nervous when another person gets too close to me.
14. I worry about being alone.
15. I feel comfortable sharing my private thoughts and feelings with others.
16. My desire to be very close sometimes scares people away.
17. I try to avoid getting too close to others.
18. I need a lot of reassurance that close relationship partners really care about me.
19. I find it relatively easy to get close to others.
20. Sometimes I feel that I try to force others to show more feeling, more commitment to our relationship than they otherwise would.
21. I find it difficult to allow myself to depend on close relationship partners.
22. I do not often worry about being abandoned.
23. I prefer not to be too close to others.
24. If I can't get a relationship partner to show interest in me, I get upset or angry.
25. I tell my close relationship partners just about everything.
26. I find that my partners don't want to get as close as I would like.
27. I usually discuss my problems and concerns with close others.
28. When I don't have close others around, I feel somewhat anxious and insecure.
29. I feel comfortable depending on others.
30. I get frustrated when my close relationship partners are not around as much as I would like.
31. I don't mind asking close others for comfort, advice, or help.
32. I get frustrated if relationship partners are not available when I need them.

33. It helps to turn to close others in times of need.
34. When other people disapprove of me, I feel really bad about myself.
35. I turn to close relationship partners for many things, including comfort and reassurance.
36. I resent it when my relationship partners spend time away from me.

Note. Items 3, 15, 19, 22, 25, 27, 29, 31, 33, and 35 must be reverse-scored prior to computing the following scores:

1. The Avoidant Attachment score: average the 18 odd-numbered (1, 3, 5, etc.) items. Higher scores reflect greater avoidance.

2. The Anxious Attachment score: average the 18 even-numbered (2, 4, 6, etc.) items. Higher scores reflect greater anxiety.

Appendix C

Dating App Frequency (Coffey et al., 2022)

1. On average, how many times a day do you open or check your dating app(s)?
    0
    1
    2
    3
    4
    5
    6
    7
    8
    9
    10+

Online Dating Inventory (Blackhart, et al., 2014)

1. Have you ever met a romantic partner through the use of an online dating app?
    Yes
    No

2. How many romantic relationships have you had that developed through an online dating app?
    0
    1
    2
    3+

Appendix D

Online Dating Intensity (Bloom & Taylor, 2019)

Instructions: Think about your typical use of your online dating app(s). Please answer the following items in regard to your typical use in an average week using online dating app(s).

1. I feel out of touch when I haven't logged into my online dating app(s) for a week.

1	2	3	4	5
Strongly disagree	Disagree	Neutral	Agree	Strongly agree

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

1	2	3	4	5
Strongly disagree	Disagree	Neutral	Agree	Strongly agree

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

1	2	3	4	5
Strongly disagree	Disagree	Neutral	Agree	Strongly agree

For the next set of questions, please select the response that best describes your previous or current use of online dating services…

4. How long have you used online dating services for?
   - Less than one month
   - 1 month to less than 3 months
   - 3 months to less than 6 months
   - 6 months to less than 9 months
   - 9 months or longer

5. On average, how many times per day do you log on to your online dating service?
   - One time or less per day
   - 2 times per day
   - 3 times per day
   - 4 times per day
   - 5 or more times per day

6. On average, estimate how much time do you spend per day using online dating services (e.g., browsing, messaging, editing your profile)

Less than 0.5 hours per day
0.5 to 1 hour per day
1 to 1.5 hours per day
1.5 to 2 hours per day
More than 2 hours per day

7. How often do you edit your online dating service profile?
1 time or less per month
2 to 3 times per month
3 to 4 times per month
4 to 5 times per month
6 or more times per month

8. On average, how many messages or contacts (e.g., like, wink) do you send (with or without a response) to
different potential dates in a week?
Less than 10 messages or contacts per week
11 to 20 messages or contacts per week
21 to 30 messages or contacts per week
31 to 40 messages or contacts per week
41 or more messages or contacts per week

9. On average, how many different people do you communicate with from online dating (e.g., messaging, emailing, texting, and talking by telephone or video chat)?
5 people or less
6 to 10
11 to 15
16 to 20
21 or more people

10. Since using online dating services or applications, how many people have you met online and then gone on a face-to-face date with in total?
5 people or less
6 to 10
11 to 15
16 to 20
21 or more people

Appendix E

Modified Tinder Motives Scale (Timmermans & Alexopoulos, 2020)

The following statements concern your motivations for using dating applications. Respond to each statement by indicating how much you agree or disagree with it.

1	2	3	4	5	6	7
Disagree strongly	Disagree	Disagree slightly	Neutral/ mixed	Agree slightly	Agree	Agree strongly

Social Approval

1. I use dating apps to get an "ego-boost".
2. I use dating apps to get self-validation from others.
3. I use dating apps to see how desirable I am
4. I use dating apps to get compliments
5. I use dating apps to be able to better estimate my own attractiveness
6. I use dating apps to get attention.

Relationship Seeking

7. I use dating apps to find someone for a serious relationship.
8. I use dating apps to fall in love.
9. I use dating apps to meet a future husband or wife.
10. I use dating apps to build an emotional connection with someone.
11. I use dating apps to seek out someone to date.

Sexual Experience

12. I use dating apps to find a friend-with-benefits/fuckbuddy.
13. I use dating apps to find a one-night-stand.
14. I use dating apps to see how easy it is to find a sex partner.
15. I use dating apps to increase my sexual experience.
16. I use dating apps to live out a sexual fantasy.
17. I use dating apps to find a lover/mistress.

Flirting/Social Skills

18. I use dating apps to learn to flirt.
19. I use dating apps to improve my social skills.
20. I use dating apps to increase my flirting experience.
21. I use dating apps to gain more self-confidence in my social skills.
22. I use dating apps because it is hard to talk to people in real life.
23. I use dating apps because it is a more enjoyable to make the first move.

Travelling

24. I use dating apps to get tips from locals (in restaurants, shopping, party, …) when travelling.
25. I use dating apps to meet other travelers/locals when in a foreign place.
26. I use dating apps to learn about hotspots in foreign places through locals.
27. I use dating apps to easily find people that are willing to party when in a foreign place.
28. I use dating apps to broaden my social network when on an abroad/exchange experience.

Ex

29. I use dating apps to get over my ex.
30. I use dating apps to think less about my ex.
31. I use dating apps so that I do not focus my attention on my ex anymore.

Socializing

32. I use dating apps to make new friends.
33. I use dating apps to broaden my social network.
34. I use dating apps to meet new people.
35. I use dating apps to talk to people I don't know personally.

Pass Time/Entertainment

36. I use dating apps to pass time.
37. I use dating apps because it passes time when I'm bored.
38. I use dating apps to occupy my time.
39. I use dating apps when I have nothing better to do.
40. I use dating apps for fun.
41. I use dating apps because it is entertaining.
42. I use dating apps to relax.

Curiosity

43. I use dating apps to see what the application is about.
44. I use dating apps out of curiosity.
45. I use dating apps to try it out.

Appendix F

Information-Seeking Within Dating Apps

Think about the kind of information you sought out about an individual before agreeing to connect outside of the dating app. This could include details from their profile, or through conversations. Rate your level of agreement with the following statements.

1	2	3	4	5
Strongly disagree	Disagree	Neutral	Agree	Strongly agree

Non-Intimate Information-Seeking

1. I want to know basic information or facts about people.
2. I am not really interest details about people such as occupation, education, etc. (R)
3. I do not want people to share the non-intimate information about themselves (R)
4. I look for people that do not share a lot of superficial/unimportant details about themselves (R).
5. I seek information about superficial topics, like the weather or current events.
6. I seek information like favorite food, drink, or dessert.
7. I am not really interested in information like daily routines or habits about potential partners (R).
8. I want to know information about personal interests such as travel, fitness, or outdoor activities.
9. I want to know information about taste in music, TV, and movies.
10. I seek non-intimate information about people.
11. I want to know information about religious or political affiliations.
12. I am not interested in information about pets, or interest in animals (R).
13. I want to find out information about height, weight, or body type.

Intimate Information-Seeking

14. I am not interested in information about deepest fears and insecurities (R).
15. I want to know information about sexual experiences and history.
16. I am not interested in information related to personal values and beliefs (R).
17. I am not interested in information about relationship history (R).
18. I seek information about how previous breakups and heartbreaks were handled.
19. I seek information that is more intimate or personal.
20. I seek information that demonstrates emotional depth and vulnerability.
21. I am not interested in information about future plans for a family (R).
22. I am not interested in information about significant traumas or life challenges (R).
23. I seek information that reveals an individual's "moral compass" or life philosophies.
24. I am not interested in information about career goals and life aspirations (R).

Note: R = reverse scored items.

Appendix G

Self-Disclosure Within Dating Apps

Think about the kind of information you disclosed about yourself before agreeing to connect outside of the dating app. This could include details in your profile, or information you shared during conversations. Rate your level of agreement with the following statements.

1	2	3	4	5
Strongly disagree	Disagree	Neutral	Agree	Strongly agree

Non-Intimate Self-Disclosure

1. I share basic information or facts about myself.
2. I do not share details like my occupation or education (R).
3. I do not share the non-intimate information about myself (R).
4. I do not share the superficial/unimportant details about myself with potential partners (R).
5. I share my interests in superficial topics like the weather or current events.
6. I do not share information like my favorite food, drinks, or dessert (R).
7. I do not share about my daily routines or habits with potential matches (R).
8. I disclosed my travel experiences or future travel plans with potential matches.
9. I share non-intimate information about myself.
10. I disclosed information like my religious or political affiliations.
11. I did not share information about pets, or interest in animals (R).
12. I shared information about my height, weight, or body type.

Intimate Self-Disclosure

13. I shared information that I believe demonstrates my emotional depth and vulnerability.
14. I did not share information like my deepest fears and insecurities (R).
15. I did not share information about my sexual experiences and history (R).
16. I shared information related to my personal values/beliefs.
17. I did not share information about my relationship history (R).
18. I did not share information about how I handled previous breakups and heartbreaks (R).
19. I shared information that is more intimate or personal.
20. I shared my feelings.
21. I shared information about future plans for a family.
22. I did not share information about significant traumas or life challenges (R).
23. I shared information that revealed the kind of moral compass or life philosophies I hold.
24. I did not disclose information related to my career goals and life aspirations (R).

Note: R = reverse scored items.

Appendix H

College of Humanities and Behavioral Sciences Department of Psychology

Radford University Cover Letter for Internet Research

Title of Research: The Dating App Research Project Researcher(s): MaKayla Dulaney and Jeff Aspelmeier

We ask you to be part of a research study designed to examine various decisions and behaviors while using a dating app during the stages of relationship initiation. We will be asking you about your thoughts and behaviors that occurred while you used a dating app. The goal of this study is to determine key psychological processes at work during the stages of initiating a new relationship. If you agree to participate, you will be asked to complete a series of measures related to how you use and what happened while using a dating app as well as some questions about your personal background. Your participation will take about 20 minutes. You are being recruited because you are between the ages of 18 - 29 and currently living in the United States. We are recruiting approximately 500 participants for this project.

This project has no more risk than you may find in daily life.

There are no direct benefits to you for being in the project.

This study includes an initial set of screening items, you will be compensated 14 cents for completing the screening items. If you are selected to complete the entire survey, you will receive $2.67 for participating in this project through Prolific. There are no costs to you for being in this project.

Participation in this study will require you to report your Prolific ID so you can be paid for your participation. Prolific ID numbers will be removed from the data after compensation is awarded. If you decide to be in this study, what you tell us will be kept private unless required by law to tell. If we present or publish the results of this study, your name will not be linked in any way to what we present. A limited number of research team members will have access to the data during data collection. IP addresses will not be collected. The research team will work to protect your data to the extent permitted by technology. It is possible, although unlikely, that an unauthorized individual could gain access to your responses because you are responding online. This risk is similar to your everyday use of the internet.

Your participation in this survey is voluntary. You can choose not to be in this project. If you decide to be in this project, you may choose not to answer certain questions or quit answering questions at any time without loss of compensation. If you wish to withdraw from the study or have any questions, contact MaKayla Dulaney, mdulaney1@radford.edu, or Dr. Jeff Aspelmeier, Box 6946, Department of Psychology, Radford University, Radford, VA 24142. jaspelme@radford.edu, (540) 831-6817.

If you choose not to participate or decide to withdraw, there will be no impact on your current or future relationship with Radford University.

If you have any questions about the study at this time or later, you may contact MaKayla Dulaney, mdulaney1@radford.edu, or Dr. Jeff Aspelmeier, Box 6946, Department of Psychology, Radford University, Radford, VA 24142. jaspelme@radford.edu, (540) 831-6817.

This study was approved by the Radford University Committee for the Review of Human Subjects Research. If you have questions or concerns about your rights as a research subject or have complaints about this study, you should contact Jeanne Mekolichick, Associate Provost for Research, Faculty Success, and Strategic Initiatives. jmekolic@radford.edu, (540)831-6504.

Please print off a copy of this page for your records before proceeding.

If you would like to take part in this study, please click the "Yes" button at the bottom of this screen indicating your agreement for participation. This will direct you to our survey. If you decide not to be in this study, please click the "No" button. This will direct you to back to the Prolific homepage.

Appendix I

Demographics

Eligibility Screening

1. Are you at least 18 years old?
    a. Yes
    b. No
2. Which of the following best describes your use of dating apps?
    a. I have never used a dating app
    b. I used a dating app within the last 2 years
    c. I used a dating app within the last year
    d. I used a dating app within the last 6 months
    e. I currently use a dating app

Demographic Information

1. Age: _____ years

2. Gender Identity
    a. Cisgender Man
    b. Cisgender Woman
    c. Transgender man
    d. Transgender woman
    e. Non-binary
    f. Other Gender Identity

Answer If Gender Other is Selected
You indicated other Gender Identity. How do you identify?
Text Response
***Note: this question is managed through display logic. You will only be asked this question if you selected Multi-Ethnic in the previous question.

3. Sexual Orientation
    a. Asexual
    b. Gay/Lesbian/Same gender
    c. Heterosexual/straight
    d. Pansexual
    e. Questioning
    f. Other Sexual Orientation

Answer If Sexual Orientation Other is Selected

You indicated other Sexual Orientation. How do you identify?

Text Response

***Note: this question is managed through display logic. You will only be asked this question if you selected Multi-Ethnic in the previous question.

4. Relationship status: Which of the following best describes your current relationship status?
    a. Single
    b. Dating/In a serious committed relationship
    c. Engaged
    d. Married
    e. Separated
    f. Divorced
    g. Widowed

5. What is your ethnicity?
    1. African American
    2. American Indian/Native American
    3. Caribbean American
    4. Caucasian/European American/White
    5. Hispanic, Latino/a, Chicano/a American
    6. East-/Southeast-Asian American
    7. Middle-Eastern/North-African American
    8. Pacific-Islander American
    9. South-Asian American (e.g., from India, Pakistan, Burma, Nepal, Bangladesh)
    10. Multi-Ethnic
    11. Other

Answer If Ethnicity Multi-Ethnic is Selected

You indicated Multi-Ethnic. What is your ethnicity?

Text Response

***Note: this question is managed through display logic. You will only be asked this question if you selected Multi-Ethnic in the previous question.

Answer If Ethnicity Other is Selected

You indicated Other ethnicity. What is your ethnicity?

Text Response

***Note: this question is managed through display logic. You will only be asked this question if you selected Other in the ethnicity question.

6. What is the highest level of education you have completed?
    a. Did not finish high school
    b. High school diploma or GED
    c. Attended college but did not complete degree
    d. Associates degree (A.A., A. S., etc.)
    e. Bachelor's degree (B.A., B. S., etc.)
    f. Master's degree (M.A., M.S., etc.)

   g. Doctoral or professional degree (Ph.D., J.D., M.D., etc.)

7. What is the highest level of education completed by your mother?
   a. Did not finish high school
   b. High school diploma or GED
   c. Attended college but did not complete degree
   d. Associates degree (A.A., A. S., etc.)
   e. Bachelor's degree (B.A., B. S., etc.)
   f. Master's degree (M.A., M.S., etc.)
   g. Doctoral or professional degree (Ph.D., J.D., M.D., etc.)

8. What is the highest level of education completed by your father?
   a. Did not finish high school
   b. High school diploma or GED
   c. Attended college but did not complete degree
   d. Associates degree (A.A., A. S., etc.)
   e. Bachelor's degree (B.A., B. S., etc.)
   f. Master's degree (M.A., M.S., etc.)
   g. Doctoral or professional degree (Ph.D., J.D., M.D., etc.)

9. What is your total household income?
   a. $0 to $19,999
   b. $20,000 - $49,999
   c. $50,000 - $89,999
   d. $90,000 - $129,999
   e. $130,000 - $149,999
   f. $150,000 +
   g. Prefer not to answer

Appendix J

End of Study Message

Thank you for participating in The Dating App Research Project.

The purpose of this study was to examine whether your general approach to relationships has an impact on your decision to use dating apps, your motivations to use dating apps, and how engaged you were with the app when using it. Additionally, we examined whether your general approach to relationships could shed light on the kind of information you seek and disclose when getting to know a potential partner on the app.

If you have any questions, or if any aspect of your participation today has made you feel upset or distressed, please contact MaKayla Dulaney (mdulaney1@radford.edu | 540.392.3535) and/or Jeff Aspelmeier (jaspelme@radford.edu | 540.831.6817). You may also request a hard copy of the survey from the contact information above.

This study was approved by the Radford University Committee for the Review of Human Subjects Research. If you have questions or concerns about your rights as a research subject or have complaints about this study, you should contact Dr. Jeanne Mekolichick, Institutional Official and Associate Provost for Research, Faculty Success, and Strategic Initiatives, jmekolic@radford.edu, 540.831.6504.

Appendix K

Tables

Table 2

Information Seeking on Dating Apps Scale Factor Loadings for Principle Components Analysis with Oblique Rotation for a Two Factor Solution

Item	Factor 1 Non-Intimate	Factor 2 Intimate	Communalities	*M* (SD)
6. I seek information like favorite food, drink, or dessert.	**.88**	-	.73	4.00 (.90)
9. I want to know information about taste in music, tv, and movies.	**.81**	-	.64	4.24 (.76)
8. I want to know information about personal interests such as travel, fitness, or outdoor activities.	**.66**	-	.54	4.10 (.90)
18. I seek information about how previous breakups and heartbreaks were handled.	-	**.85**	.27	2.99 (1.15)
23. I seek information that reveals an individual's "moral compass" or life philosophies.	-	**.85**	.70	4.05 (.81)
20. I seek information that demonstrates emotional depth and vulnerability.	-	**.49**	.69	4.10 (.85)
Eigen Value	2.51	1.06		
% Variance Accounted For	41.78%	17.65%		

Note. Factor loadings less than .40 not displayed. Items in bold reflect items retained to form the respective subscales.

Table 3

Self-Disclosure on Dating Apps Scale Factor Loadings for Principle Components Analysis with Oblique Rotation for a Two Factor Solution

Item	Factor 1 Non-Intimate	Factor 2 Intimate	Communalities	*M* (SD)
9. I share non-intimate information about myself.	**.81**	-	.61	3.98 (.88)
3. I do share the non-intimate information about myself.	**.80**	-	.51	3.60 (1.08)
1. I share basic facts or information about myself.	**.77**	-	.50	4.37 (.56)
19. I share information that is more intimate or personal.	-	**.80**	.65	3.36 (1.07)
13. I share information that I believe demonstrates my emotional depth and vulnerability.	-	**.70**	.63	3.66 (.97)
20. I share my feelings.	-	**.63**	.64	3.76 (.88)
Eigen Value	3.18	1.48		
% Variance Accounted For	37.83%	21.02%		

Note. Factor loadings less than .40 not displayed. Items in bold reflect items retained to form the respective subscales

Table 4

Zero Order Correlations and Descriptive Data for ECR Anxiety and Avoidance, Dating App Use and Intensity, 9 Dating App Motives, Self-Disclosure (Intimate and Non-Intimate), and Information-Seeking (Intimate and Non-Intimate).

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1 ECR Anxiety	**.91**																
2 ECR Avoidance	.26**	**.93**															
3 Dating App Use	.13	.09	**-**														
4 Dating App Intensity	.27**	.02	.56**	**.79**													
5 Social Approval	.24**	.25**	.38**	.30**	**.93**												
6 Relationship Seeking	.33**	-.15	.20*	.31**	.02	**.86**											
7 Sexual Experience	.09	.03	.30**	.41**	.39**	-.11	**.91**										
8 Practice Flirting	.31**	.13	.36**	.40**	.68**	.16	.54**	**.83**									
9 While Traveling	.03	-.13	.37**	.42**	.28**	-.01	.47**	.40**	**.90**								
10 To Get Over Ex	.34**	.02	.22**	.26**	.43**	.24**	.23**	.41**	.12	**.95**							
11 For Socializing	.17	-.06	.12	.35**	.22**	.13	.33**	.43**	.30**	.20*	**.76**						
12 Pass Time / Entertainment	.14	.21*	.24**	.29**	.57**	-.14	.29**	.51**	.14	.44**	.33**	**.89**					
13 Out of Curiosity	.06	.14	.10	.02	.33**	.01	.15	.42**	.06	.30**	.29**	.58**	**.73**				
14 Disclosure (Non-Intimate)	.01	-.25**	-.28**	-.11	-.17	.20*	-.35**	-.22*	-.34**	-.04	-.02	-.17*	-.10	**.69**			
15 Disclosure (Intimate)	.09	-.38**	-.06	.03	.06	.16	.15	.15	.24**	.04	.18*	-.09	.02	.26**	**.55**		
16 Info-Seeking (Non-Intimate)	.25**	-.13	.08	.02	.01	.08	.06	.14	.11	.02	.16	-.14	-.10	.12	.26**	**.53**	
17 Info-Seeking (Intimate)	.36**	-.07	.10	.17	.09	.35**	.16	.26**	.06	.23**	.25**	.05	.13	.06	.36**	.40**	**.73**
Mean	4.45	3.28	3.68	.00	4.23	5.19	3.53	4.45	3.40	3.72	4.94	4.41	4.76	3.99	3.60	4.11	3.72
SD	1.09	1.10	2.33	.58	1.61	1.24	1.69	1.28	1.70	2.00	1.21	1.38	1.33	.62	.78	.68	.69
n	141	141	142	132	142	142	142	142	142	142	142	142	142	138	138	137	137

Note. $^{*}= p \leq .05$, $^{**}= p \leq .01$. Degrees of freedom range between 135 and 140. Cronbach's Alpha appear in bold on the diagonal.

Disclosure = Self-Disclosure.

Table 5

ANOVA Tests of Associations Between Gender and ECR Anxiety & Avoidance, Dating App use and Intensity, Information-Seeking (Intimate and Non-intimate), and Self-Disclosure (Intimate and Non-Intimate)

Main Variable	Gender Category			*F*	
	Cismale	Cisfemale	TNB	(*df*)	η^2
	(*n* = 57)	(*n* = 65)	(*n* = 11)		
ECR Anxiety	4.27_a	4.48_a	5.17_b	3.39^{**}	.05
	(1.06)	(1.05)	(1.01)	(2, 130)	
DA Use	4.28_a	3.02_b	4.27_a	5.01^{**}	.07
	(2.29)	(2.32)	(2.24)	(2, 130)	
DA Intensity	$.17_a$	$-.22_b$	$.39_a$	10.307^{***}	.14
	(.60)	(.50)	(.60)	(2, 126)	
SD (non-intimate)	3.74_a	4.20_b	3.97_{ab}	3.14^{**}	.12
	(.66)	(.54)	(.46)	(2, 130)	
Sexual Exp. Motive	4.44_a	2.71_b	4.56_a	24.10^{***}	.27
	(1.51)	(1.43)	(1.22)	(2, 130)	
Practice Flirting Motive	4.74_a	4.05_b	5.07_a	6.23^{**}	.09
	(1.21)	(1.26)	(1.30)	(2, 130)	
While Traveling Motive	4.01_a	2.70_b	3.89_a	10.81^{***}	.14
	(1.65)	(1.48)	(1.99)	(2, 130)	

Note. $^{**} = p \leq .01$, $^{***} = p \leq .001$. Standard deviations appear in parentheses below mean. Means within rows with differing subscript are significantly different at the $p \leq .05$ level using Fisher's LSD post hoc tests. TNB = Transgender/Non-Binary; DA = Dating App; SD = Self-Disclosure; Exp. = Experience.

Table 6

ANOVA Tests of Associations Between Mother/Father Education Status, Curiosity Dating App Motive, and Intimate-Information Seeking within Dating Apps

	Education Level							*F*	
Main Variable	DNFH (n = 128)	HSD/GED (n = 128)	AC (n = 128)	AS (n = 128)	BS (n = 128)	MS (n = 128)	PhD (n = 128)	(df)	η^2
Curiosity Motive	4.00_{a}	4.92_{ab}	5.59_{b}	4.63_{a}	4.83_{a}	4.32_{a}	5.22_{ab}	2.36^{**}	.11
(Mother Ed.)	(2.41)	(.91)	(.70)	(1.05)	(1.38)	(1.43)	(1.41)	(6, 121)	
IS (Intimate)	3.96_{bc}	4.02_{c}	3.62_{abc}	3.78_{abc}	3.70_{abc}	3.52_{ab}	3.23_{a}	2.40^{**}	.11
(Father Ed.)	(.54)	(.62)	(.61)	(.46)	(.70)	(.62)	(1.08)	(6, 121)	

Note. $^{**} = p \leq .01$, $^{***} = p \leq .001$. Standard deviations appear in parentheses below mean. Means within rows with differing subscript are significantly different at the $p \leq .05$ level using Fisher's LSD post hoc tests.

DNFH = Did Not Finish High School; HSD/GED = High School Diploma or GED; AC = Attended College but Did Not Complete; AS = Associate's Degree; BS = Bachelor's Degree; MS = Master's Degree; PhD = Doctoral or Professional Degree;

IS = Information-Seeking

Table 7

Multiple Regression Table – Attachment Predicting Dating App Use and Dating App Intensity

					Correlations	
	$R^2\Delta$	*b*	*SE*	β	Zero order	Semipartial
DV: Dating App Use						
Step 1	.06**					
Gender Dummy 1		1.21	.43	.25**	.23	.25
Gender Dummy 2		.99	.79	.12	.05	.11
Step 2	.02					
ECR Avoidance		.14	.19	.06	.08	.06
ECR Anxiety		.26	.20	.12	.11	.12
DV: Dating App Intensity						
Step 1	.14***					
Gender Dummy 1		.39	.10	.33***	.26	.32
Gender Dummy 2		.61	.19	.28***	.20	.27
Step 2	.07**					
ECR Avoidance		-.02	.04	-.05	-.02	-.04
ECR Anxiety		.15	.05	.28***	.27	.27

Note. †= $p \leq .10$, * = $p \leq .05$, ** = $p \leq .01$, *** = $p \leq .001$. For step 1, *df* = 2, 126. For step 2, *df* = 4, 124. Gender Dummy 1 = Women vs. Men; Gender Dummy 2 = Women vs. Transgender/Non-Binary.

Table 8

Multiple Regression Table – Attachment Predicting the Nine Dating App Motives

					Correlations	
	$R^2\Delta$	*b*	*SE*	β	Zero order	Semipartial
DV: Social Approval						
Step 1	.007					
Gender Dummy 1		.19	.30	.06	.04	.06
Gender Dummy 2		.44	.56	.07	.06	.07
Step 2	.09***					
ECR Avoidance		.30	.13	.20**	.24	.20
ECR Anxiety		.28	.14	.19*	.22	.18
DV: To Seek A Relationship						
Step 1	.006					
Gender Dummy 1		.01	.23	.005	-.02	.005
Gender Dummy 2		.39	.43	.08	.08	.08
Step 2	.15***					
ECR Avoidance		-.29	.10	-.25***	-.18	-.25
ECR Anxiety		.42	.10	.37***	.31	.34
DV: For Sexual Experience						
Step 1	.26***					
Gender Dummy 1		1.71	.27	.50***	.43	.48
Gender Dummy 2		1.86	.50	.29***	.17	.29
Step 2	.02					
ECR Avoidance		.03	.12	.02	.04	.02
ECR Anxiety		.19	.13	.12	.10	.11
DV: Practice Flirting/Social Skills						
Step 1	.09***					
Gender Dummy 1		.69	.23	.26***	.21	.25
Gender Dummy 2		1.04	.43	.22**	.15	.21
Step 2	.10***					
ECR Avoidance		.09	.10	.08	.14	.07
ECR Anxiety		.35	.10	.29***	.30	.28
DV: While Traveling						
Step 1	.13***					
Gender Dummy 1		1.27	.29	.37***	.32	.35
Gender Dummy 2		1.08	.55	.17*	.08	.16
Step 2	.03					
ECR Avoidance		-.27	.13	-.17*	-.16	-.17
ECR Anxiety		.11	.14	.07	.009	.06

DV: Get Over Ex						
Step 1	.002					
Gender Dummy 1		-.15	.37	-.04	-.03	-.04
Gender Dummy 2		-.22	.68	-.03	-.02	-.03
Step 2	.12***					
ECR Avoidance		-.07	.16	-.04	.03	-.04
ECR Anxiety		.67	.16	.36***	.34	.34
DV: To Pass Time / For Entertainment						
Step 1	.008					
Gender Dummy 1		-.06	.26	-.02	-.04	-.02
Gender Dummy 2		.43	.47	.08	.09	.08
Step 2	.06**					
ECR Avoidance		.28	.11	.22**	.24	.21
ECR Anxiety		.10	.12	.08	.13	.07
DV: Out of Curiosity						
Step 1	.02					
Gender Dummy 1		-.005	.24	-.002	-.03	-.002
Gender Dummy 2		.64	.45	.13	.13	.13
Step 2	.03					
ECR Avoidance		.19	.11	.16	.17	.16
ECR Anxiety		.003	.11	.002	.06	.002
DV: For Socializing						
Step 1	.01					
Gender Dummy 1		.17	.23	.07	.04	.07
Gender Dummy 2		.49	.42	.11	.09	.10
Step 2	.02					
ECR Avoidance		-.11	.10	-.10	-.07	-.09
ECR Anxiety		.14	.11	.12	.11	.12

Note. †= $p \leq .10$, * = $p \leq .05$, ** = $p \leq .01$, *** = $p \leq .001$. For step 1, $df = 2, 126$. For step 2, $df = 4, 124$. Gender Dummy 1 = Women vs. Men; Gender Dummy 2 = Women vs. Transgender/Non-Binary.

Table 9

Multiple Regression Table – Attachment Predicting Information Seeking (Intimate and Non-Intimate) and Self-Disclosure (Intimate and Non-Intimate)

					Correlations	
	$R^2\Delta$	*b*	*SE*	β	Zero order	Semipartial
DV: Self-Disclosure (non-intimate)						
Step 1	.12***					
Gender Dummy 1		-.43	.11	-.34***	-.32	-.33
Gender Dummy 2		-.20	.20	-.09	-.001	-.08
Step 2	.07**					
ECR Avoidance		-.15	.05	-.27***	-.25	-.26
ECR Anxiety		.01	.05	.03	.008	.02
DV: Self-Disclosure (Intimate)						
Step 1	.04					
Gender Dummy 1		.15	.14	.09	.05	.09
Gender Dummy 2		.54	.27	.19*	.16	.18
Step 2	.20***					
ECR Avoidance		-.33	.06	-.45***	-.42	-.44
ECR Anxiety		.10	.06	.14	.07	.13
DV: Info-Seeking (non-intimate)						
Step 1	.003					
Gender Dummy 1		-.07	.13	-.05	-.05	-.05
Gender Dummy 2		-.06	.23	-.02	-.01	-.02
Step 2	.09***					
ECR Avoidance		-.11	.05	-.18*	-.12	-.18
ECR Anxiety		.18	.06	.29***	.25	.28
DV: Info-Seeking (intimate)						
Step 1	.02					
Gender Dummy 1		-.03	.13	-.02	-.05	-.02
Gender Dummy 2		.32	.23	.12	.13	.12
Step 2	.16***					
ECR Avoidance		-.10	.05	-.16†	-.08	-.16
ECR Anxiety		.24	.06	.38***	.36	.37

Note. $^{\dagger}= p \leq .10$, $^{*} = p \leq .05$, $^{**} = p \leq .01$, $^{***} = p \leq .001$. For step 1, $df = 2, 126$. For step 2, $df = 4, 124$. Gender Dummy 1 = Women vs. Men; Gender Dummy 2 = Women vs. Transgender/Non-Binary.