PREDICTORS OF MOBILE DATING APPLICATION USE AMONG COLLEGE STUDENTS

by

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ABSTRACT

MEREDITH GRIFFIN. Predictors of Mobile Dating Application Use Among College Students. (Under the direction of DR. RICHARD D. MCANULTY and DR. AMY CANEVELLO)

Emerging adulthood is the transitional developmental stage from the late teens through the early twenties when individuals explore possibilities, particularly in the domains of love, work, and identity (Arnett, 2000). This study focuses on emerging adults use of mobile dating applications (apps), in order to meet their social and relationship needs. First, it explored whether individual factors, such as sensation seeking, identity exploration, loneliness, and relationship status predicted mobile dating app use. Second, it examined whether sensation seeking and identity exploration predicted motives for using mobile dating apps (i.e., motives related to entertainment, trendiness, hookups, or finding love) and whether motives predicted meeting matches in person. An online survey of 267 college students was used to explore these relationships. Findings suggest that sensation seeking, identity exploration, loneliness, and relationship status did not predict mobile dating app use. Among mobile dating app users, sensation seeking positively predicted using mobile dating apps because they are trendy and for hookups, whereas identity exploration positively predicted using mobile dating apps for entertainment and negatively predicted using mobile dating apps for hookups. Only motives for finding love positively predicted meeting matches in person. These findings suggest that while individual characteristics did not predict who was more likely to meet matches in person, they do predict some specific motivations for using mobile dating

apps. Furthermore, the intended purpose of using mobile dating apps predicts whether a mobile dating app user will meet their match in person.

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CHAPTER 1: INTRODUCTION

"Tinder should not be seen as merely a fun, hookup app without any strings attached, but as a as a multifunctional tool that satisfies various needs among emerging adults" (Sumter, Vandenbosch, & Ligtenberg, 2017, p. 75).

In recent years, cultural shifts in dating behavior coupled with technological advances have transformed emerging adults' approach to romantic and sexual partnerships. Recently, mobile dating applications (mobile dating apps) have become popular, particularly among emerging adults (Pew, 2016; Sales, 2015; Sumter, Vandenbosch, & Ligtenberg, 2017). The Uses and Gratifications Theory (U&G) provides a framework for understanding individuals' use of mass media in order to meet specific needs (Katz, Gurevitch, & Haas, 1973; Ruggiero, 2000). This study aims to explore college students use of mobile dating applications through the lens of the U&G to understand which emerging adults are more likely to use mobile dating apps, what motivations emerging adults identify for using mobile dating apps, and whether specific reasons of use and individual characteristics predict offline behaviors (i.e., meeting matches in person).

EMERGING ADULTHOOD

"Emerging adulthood" was introduced as a distinct developmental stage that characterizes young adults in contemporary culture in industrialized countries (Arnett, 2000a; 2006). According to this viewpoint, those in the age group of 18 to late 20s are in a transitional stage between youthful adolescence and the responsibilities of adulthood. Today, young adults are increasingly postponing the traditional milestones of adulthood, such as marriage, in favor of exploring social, recreational, and interpersonal

opportunities (Arnett, 2005; Nelson, Story, Larson, Neumark-Sztainer, & Lytle, 2008; Shulman et al., 2005; Schwartz, Zamboanga, Luyckx, Meca, & Ritchie, 2013).

Historically, the markers of adulthood included getting married, starting a family, and launching one's career. However, the trend in recent years has to been to gradually postpone these milestones. Over the past century, the age at first marriage has steadily risen, especially among young adults. For example, in 1960, 59 percent of 18-29 years-olds were married, compared to 20 percent in 2010 (Cohn, 2011). Similarly, young adults are delaying childbearing. Young women today are more likely to be childless than their mothers and grandmothers were at the same age (Kirmeyer & Hamilton, 2011). More than ever, young adults are waiting to enter the workplace in favor of pursuing higher education. Over 69 percent of high school graduates in 2015 enrolled in college (Bureau of Labor Statistics, 2016), compared to 14% in 1940 (Arnett, 2000a).

During emerging adulthood, young adults explore many possibilities and learn from these trials before needing to make long-term commitments, such as trying out different job options before deciding on a career path (Arnett, 2006). This is especially evident in the domains of long-term intimate relationships, childbearing, and career (Arnett, 2000a). Consequently, during this stage, young adults feel free to make the choices they personally desire rather than live up to traditional norms and the expectations of others. The postponement of commitments to life directions affords a prolonged period of freedom to explore and experiment without the traditional responsibilities of adulthood (Haber & Burgess, 2012). This period of exploration is illustrated by other cultural trends of the past half-century, including the increased practice of non-marital cohabitation with a partner and the growing acceptance of sex

outside of marriage. Almost 1 in 10 (9.2%) of 18-29 year-olds are living with a romantic partner, compared to 5.8 percent in 1997 (Wang & Taylor, 2011). Relative to older cohorts, generations born in recent decades have more permissive attitudes toward non-marital sexual activity and they report a higher number of sexual partners (Twenge, Sherman, & Wells, 2015). As the median age at first marriage has risen, and the importance of religious and social conventions has declined, opportunities for sexual exploration have steadily increased. More than ever before, emerging adults today seize the opportunity: they have more sexual partners than all previous generations, they have more casual sex, and millennials have the most permissive sexual attitudes of any generation (Twenge et al., 2015). They are more accepting of sex outside of a committed relationship, so-called "hook-ups" and "friends with benefits" arrangements (Bogle, 2007; Twenge et al., 2015; Wentland & Reissing, 2011).

Five primary features are characteristic of emerging adulthood: identity exploration, instability, self-focus, ambiguity, and a sense of possibilities (Arnett, 2000a). Identity exploration refers to the exploration of personal life possibilities, particularly in the areas of love, work, and worldviews. According to Arnett (2000a), identity formation involves trying out various life possibilities and gradually moving toward making enduring decisions, in all three of these areas; this process begins in adolescence but takes place mainly in emerging adulthood. Indeed, emerging adulthood is a life period that affords experimentation in love, work, and worldviews in the context of identity exploration (Arnett, 2000a). As such, instability is a characteristic feature of this stage because emerging adults frequently relocate due to education or work, or to cohabit with a romantic partner (Haber & Burgess, 2012). The self-focus aspect of emerging

adulthood refers to the autonomy of this stage, compared to adolescence, coupled with the relative lack of obligations, thus allowing emerging adults to focus more on their personal needs (Haber & Burgess, 2012). Ambiguity is characterized by feeling "in-between" childhood and adulthood, but not fully identifying with either. These in-between feelings, for example, are captured by the phrase "adulting" ("to do grown up things and hold responsibilities", Brown, 2013), which reflects a popular understanding that emerging adults sometimes seem to be superficially enacting the role of responsible adulthood. Finally, emerging adults envision a range of possibilities as they contemplate their future. Because they have yet to "settle down," their life journey offers a range of possibilities. Throughout this stage, emerging adults gradually acquire more of the traditional responsibilities of a young adulthood, such as financial independence and responsibility for one's life directions (Arnett, 2000a; Haber & Burgess, 2012). However, this transition is not invariably simple and problem-free.

For some emerging adults, this prolonged period of identity exploration and uncertainty is associated with increased mental health problems (Arnett, Žukauskienė, & Sugimura, 2014; Schulenberg, Sameroff, & Cicchetti, 2004), substance use and abuse (Arnett, 2005; Chassin, Pitts, & Prost, 2002; Tucker, Ellickson, Orlando, Martino, & Klein, 2005; White et al., 2006), and risky sexual behavior (King, Nguyen, Kosterman, Bailey, & Hawkins, 2012; Lam & Lefkowitz, 2013). Additionally, individual characteristics, such as sensation seeking may also influence risky behaviors among emerging adults. Sensation seeking is the seeking of intense novel stimuli despite risk of financial, social, legal, and physical costs, and it has been associated with behaviors such as sexual risk taking and alcohol use (Miller & Quick, 2010; Zuckerman, 1994). Though

sensation seeking varies based on the individual, generally, sensation seeking peaks during adolescence (approximately ages 15-17), and declines thereafter (Arnett, 1994; Steinberg et al., 2008). However, many individuals are afforded more opportunities to experiment and engage in potentially risky behaviors until they enter emerging adulthood. For example, among college students, sensation seeking is a risk factor for health risk behaviors, such as riding with an impaired driver, marijuana use, casual sex, and engaging in sex while high/drunk (Ravert et al., 2009). Therefore, the freedom and opportunities of emerging adulthood may also come at a cost, particularly for those higher in sensation seeking. Free from adult supervision and without the traditional obligations of adulthood, emerging adults also have the freedom to make risky choices, which can create problems.

Though the concept emerging adulthood has gained much support in the past two decades, there has been criticism. There is significant heterogeneity in the pathway to adulthood in the United States and other Western countries, Bynner (2007) argued that emerging adulthood is not a distinct life stage because it does not apply to everyone; for example, many young people do not go to college, and many do get married at younger ages. There is some evidence that the framework of emerging adulthood does not fit the developmental trajectories of young adults who do not attend college (Mitchell & Syed, 2015). Indeed, some young adults must "grow up" quickly out of necessity. So-called "fast starters'" are very likely to be married, have children, and to have started a career without a college education by age 24 (Osgood, Ruth, Eccles, Jacobs, & Barber, 2005). Additionally, as Arnett (2000a) suggested, the framework is mostly applicable to industrial cultures, like the U.S. and Western Europe (Arnett, 2003; 2007; Hendry &

Kloep, 2010; Nelson, Badger, & Wu, 2004). Even within these cultures, the framework of emerging adulthood seems less applicable to young people who are socially and economically disadvantaged (Cote, 2000; 2006).

Despite these criticisms, the framework of emerging adulthood has proven to be a useful heuristic for describing the developmental trajectory of many young people in the U.S. who are enrolled in college. In the contemporary U.S., many college students engage in identity exploration in many domains, including career, love, sex, and friendships (Schwartz, Donnellan, Ravert, Luyckx, & Zamboanga, 2013). As such, this study will focus on U.S. college students, as many are likely to identify as emerging adults.

ROMANTIC RELATIONSHIPS IN EMERGING ADULTHOOD

In Arnett's (2000a) conceptualization of emerging adulthood, the domain of love is one of the most important areas of exploration. Romantic and sexual exploration during this time are central to the developmental tasks of emerging adulthood. As emerging adults shift toward adult roles and responsibilities, emerging adults also experience a developmental need to shift their focus from friendships to romantic relationships (Barry, Madsen, Nelson, Carroll, & Badger, 2009). Experiencing a variety of romantic and sexual partners, sometimes outside the bounds of traditional, committed relationships, is a key part of this stage of development (Shulman & Connolly, 2013). As Arnett (2000a) observed, emerging adulthood is the time for experimentation in the domains of love and sex because there is a combination of less parental supervision and less normative pressure to get married.

Though most emerging adults identify marriage as a long-term goal, many engage in short-term trial relationships during these years (Schulman & Connolly, 2013). These temporary relationships fit the relative instability of emerging adulthood, in parallel with uncertainty about other domains such as school, work, and finances. Serial monogamy is one of the most common relationship scripts for emerging adults: a series of relatively exclusive relationships that involve emotional intimacy and sex (McAnulty & Cann, 2012). Despite instability in romantic relationships during emerging adulthood, most young people do ultimately move toward commitment to a long-term partner (Cohen et al., 2003). Up to 90 percent of emerging adults intend to eventually marry (Arnett, 2015). The majority hope to be in a romantic relationship characterized by mutual love and commitment. They generally expect that relationship to be exclusive and to involve sex.

However, Arnett (2000) emphasized that emerging adults are a heterogeneous group in many respects, including in their approaches to committed romantic relationships. Some emerging adults tend to have a sense of confusion about their lives, careers, and studies, while others are clearer about their goals and are able to integrate various aspects of their personality into a more comprehensive view of themselves (Shulman et al., 2005). Emerging adults in the latter group tend to form more mature, committed relationships, while emerging adults who experience confusion and inauthenticity have a more difficult time forming and maintaining romantic relationships (Shulman et al., 2005). Furthermore, emerging adults with greater achievement of adulthood criteria, such as greater consideration of others and better control over emotions, tend to score higher on relationship qualities, such as companionship, intimacy, and emotional support (Barry et al., 2009). These associations suggest that as emerging adults become more

comfortable and established in their own identity development, they are more able to engage in a committed relationship. This notion is consistent with Erikson's (1968) theory that identity development precedes quality intimacy in relationships.

THE HOOKUP CULTURE ON COLLEGE CAMPUSES

Widespread changes in cultural norms over the past 50 years, including the growing acceptance of sex outside of marriage and changes in gender roles, especially for women, have facilitated sexual experimentation for emerging adults. Today, most adults initiate sexual intercourse prior to marrying. Between 90 and 95 percent of adults have engaged in sexual intercourse, virtually always before age 30 (Finer, 2007). Although emerging adults tend to postpone the age at which they marry, they do not wait very long before initiating sex with a romantic partner (McAnulty & Cann, 2012). Most emerging adults who are in a romantic relationship initiate sex within six months, often within the first month of dating (for nearly 49% of men and 33% of women, Harris et al., 2009).

Most sexual activity of emerging adults occurs within the context of a romantic relationship (Furman & Shaffer, 2011; Regnerus & Uecker, 2011). Monogamy remains the norm for most young adults in any context (Chandra, Mosher, Copen & Sineon, 2011). However, there are exceptions. The phenomenon of "hooking up" has recently received significant attention, due in part to sensational accounts (see Bogle, 2007). Hookups are generally defined as any sexual encounter, which might include intercourse, between individuals who are not in a romantic relationship. According to recent estimates, rates of hookups among college students range from 60 to 80 percent across surveys (Garcia, Reiber, Massey, & Merriwether, 2012; Paul, McManus, & Hayes, 2000). However, surveys also reveal that college students' hookups are rather infrequent

(once per year on average), and they culminate in sexual intercourse less than half of the time (England, Shafer, & Fogarty, 2010; Fielder & Carey, 2010). When emerging adults do hook up, it is often with someone that they know, often a former dating partner or a close friend (Eisenberg, Ackard, Resnick, & Neumark-Sztainer, 2009; Fielder & Carey, 2010; Grello, Welsh, & Harper, 2006), and only occasionally results in intercourse.

Such high rates suggest that hookups are normative for this age group in a college setting and are likely reflective of exploration of sexuality in emerging adulthood (Claxton & von Dulmen, 2013; Garcia et al., 2012; Stinson, 2010). As Kuperberg and Padgett (2015) concluded, "The social script of college as a ''time to experiment'' sexually and in other ways (including intoxication) is also conducive to the hookup" (p. 518). Overall, exploring romantic relationships and engaging in casual and sexual relationships is more socially acceptable during emerging adulthood than any other stage of life. Emerging adults typically switch from informal arrangements and hookups to serious dating and looking for a long-term partner upon graduating from college (Stinson, 2010).

EMERGING ADULTS, MOBILE DATING APPLICATIONS, AND RELATIONSHIPS

More than ever, young adults today rely on communication technologies for many, if not most, of their social needs. It is estimated that 68% to 77% of U.S. adults own smartphones (Anderson, 2015; Pew Research Center, 2017). Among adults aged 18-29 years, smartphone ownership approaches 86% (Anderson, 2015; Nielsen, 2014). As many as 92% of college students own a smartphone (Dahlstrom, Brooks, Grajek, & Reeves, 2015). Indeed, emerging adults are "digital natives" for whom technology is seamlessly woven into many aspects of their lives, particularly their social lives (Arnett, 2015).

Today, the majority of teens (Lenhart, 2015) and young adults report using digital technology to form or facilitate friendships (Reed, Tolman, & Safyer, 2015).

Similarly, emerging adults also use communication technology for their romantic needs. Online technology to facilitate romantic relationships and sexual encounters has been available since the 1990s, however, patterns of use have changed significantly in recent years. Widespread access to computers lead to the launch of online personal advertisement sites, such as Match.com, in the mid 1990s. These sites allowed users to post profiles and to browse those of potential partners (Finkel et al., 2012). Then, algorithm-based matching sites, such as eHarmony, were introduced in the 2000s (Finkel et al., 2012). In 2008, mobile dating applications for smartphones emerged after Apple Inc. opened its App Store (Finkel et al., 2012). Many of the mobile dating apps use both mobile internet technology and GPS information to connect users to potential partners in their vicinity (Finkel et al., 2012). At present, there is a wide variety of mobile dating applications such as Tinder, Hinge, Bumble, and OkCupid, many of which link with other online accounts (i.e., Facebook, Instagram, etc.) to create a profile and facilitate matching.

In particular, online dating offers users information (e.g., photographs), access, and matching to potential partners and by using GPS location data, users can find prospective partners within a specified radius and decide whether they wish to meet that person should they reciprocate the interest (Finkel et al., 2012). Mobile dating app users are able to view basic demographic information about potential matches such as name, age, education, and occupation. However, mobile dating apps vary widely in how they assign users potential matches, synchronize with other social networking sites, and in their cost.

In order to match users, some sites use swiping functionality (e.g., Tinder), which means users swipe left or right to indicate "yes" or "no" to a prospective match, while other sites use matching algorithms based on desired partner qualities (Coffee Meets Bagel, etc.) and others match based on a network of mutual friends on Facebook (Hinge, etc.). Additionally, some mobile dating apps focus on female empowerment, allowing women to make the ultimate decision to pursue interested matches (i.e., Bumble). Many mobile dating apps synchronize with other networking sites, such as Facebook and Instagram, so that information about the user, such as mutual friends, is accessible. Some sites are free (Tinder, Bumble) while others charge a fee to use (Hinge) or to get upgraded features (Tinder). Additionally, the target audiences vary greatly between apps, ranging from primarily heterosexual adults of varying age ranges (Tinder, Bumble, etc.) to adults from sexual minorities, mostly men who have sex with men (Grindr, Jack'd, etc.).

Attitudes toward online dating are more accepting than ever (Smith & Anderson, 2015). A total of 15% of U.S. adults report having used an online dating site or mobile dating app (Smith, 2016), and commercial dating sites are increasingly accepted as venues for forming romantic relationships (Rosenfeld, 2010). Among younger adults, the rates of use of dating sites, especially with mobile dating apps, are even higher. It is estimated that 22% of 18-24 year olds use these apps (Smith & Anderson, 2015). Online dating is increasingly perceived as normative by young adults. Nearly 60% of U.S. adults ages 18-24 know somebody who uses online dating and almost that many (46%) know a person who entered a long-term relationship with a person they met online (Smith, 2016). Overall, these apps are very popular among college-age adults, who rely primarily on

their smartphones to access the Internet and who prefer the immediacy afforded by mobile dating apps, in contrast to the traditional Internet dating sites.

In contrast to online dating sites, mobile dating apps have been tailored to appeal to emerging adults (Gatter & Hodkinson, 2016; Neuts, 2016). As these apps have become increasingly accessible, acceptable, and affordable, "the Millennial march toward mobile love seems inexorable" (Bort, 2015). Tinder is reportedly the second most downloaded free app and, overall, the top grossing of all purchased apps (App Annie, February 14, 2017). Its membership is estimated at over 50 million users and growing (Bort, 2015), making it the "world's hottest app," according to the Tinder website. The single largest group on Tinder is emerging adults aged 18-24, comprising over half of its users (Lee, 2014; Romano, 2016). According to one website, 73% of college students report that Tinder is their favorite dating app (Romano, 2016). Most users, 53%, allegedly use the app to make friends (Romano, 2016). Another 27% of users are seeking a romantic partner and 20% are looking for a "hook-up" (Romano, 2016). However, no information was provided on the methodology of what appeared to be an online survey of 200 college students. To date, there are few, if any, empirical studies of college students' use of mobile dating apps.

However, this trend is not without critics. Tinder, in particular, has earned the reputation as a "hook-up" app because it presumably promotes uncommitted sexual encounters among users (Ayers, 2014; Lapowsky, 2015; Sales, 2015). Indeed, some critics have lamented the dawn of the "Dating Apocalypse" that is sure to follow the introduction of mobile dating apps (Sales, 2015). Arguing that dating apps are the "free-market economy" of sex, critics have suggested that mobile dating apps might be

detrimental to relationships (Sales, 2015). However, outside of a few rebuttals from app promoters (e.g., Peterson, 2015; Will, 2015), there are few empirical studies of the actual usage patterns and motives of mobile dating app users.

In one recent study, Griffin, Canevello, and McAnulty (2018) found that, in a sample of 441 college students, approximately 40% had used a mobile dating app; of these, 19% reported using such apps daily and 19% report weekly use. The top reasons for using the apps were entertainment (31%) and to meet people (11%). Only 4 percent endorsed hooking up as a motive for using mobile dating apps, all of them men. However, when asked about whether they would be open to meeting people for dates or hookups, a significant number of participants expressed interest in such opportunities. A total of 74 percent of female app users and 48 percent of male app users reported being open to meeting dating partners using this platform. In terms of their interest in meeting for hookups using these apps, 71 percent of males and 23 percent of females agreed that they would be open to such opportunities. On average, the typical user reporting having used the app for an in-person meeting almost twice (mean = 1.74).

Studies of men who have sex with men (MSM) samples suggest motives for using the app Grindr include sexual encounters, entertainment, to make friends, and to meet a romantic partner (Goedel & Duncan, 2015). The limited research suggests that heterosexual emerging adults are more likely to report using these apps for romantic and entertainment use rather than sexual purposes (Griffin et al., 2016; Sumter et al., 2017). A recent study conducted by Sumter and colleagues (2017) reported six primary motives of Tinder use: thrill of excitement, trendiness, love, casual sex, self-worth validation, and ease of communication. This study concluded that emerging adults most often use Tinder

for the excitement and because it is trendy (Sumter et al., 2017). Additionally, their results support that emerging adults use Tinder more frequently to find romantic relationships rather than sexual encounters, and ease of communication was the least reported motivation (Sumter et al., 2017). Furthermore, Sumter and colleagues (2017) found gender differences among motives of use, such that men were more likely to report casual sex, ease of communication, and thrill of excitement as motivations than women. However, this study only asked about experiences with Tinder, rather than all mobile dating applications. Therefore, we aim to explore emerging adults use of mobile dating apps more broadly.

USES AND GRATIFICATIONS THEORY

The Uses and Gratifications Theory is commonly used to understand peoples' use of media to meet specific needs. The Uses and Gratifications Theory was originally developed in communication studies in the 1940s as a way to measure consumer behavior. This work examined how gratifications are sought and obtained through mass media and how media content satisfies psychological and social needs (Cantril, 1942). Gratifications sought and gratifications obtained have been treated as distinct constructs in the literature (McLeod, Bybee, & Durall, 1982). In regards to mobile dating applications, gratifications sought may be considered motivations of use, and gratifications obtained may be considered whether these needs were met. This study will focus on the gratifications sought (i.e., motives) of mobile dating app users.

The Uses and Gratifications Theory can be conceptualized as involving four key assumptions: 1. perceptions and expectations of media guide people's behavior, 2. motivation arises from interests and externally imposed constraints, 3. functional

alternatives to media consumption, and 4. the media content plays an important role in media effects (Windahl, 1981 as cited in Ruggiero, 2000). Overall, this model may be used to explain why certain people choose to use a particular technology (in this case, mobile dating apps), how they use the technology, and what benefits or outcomes they have gained from using this technology (Auter, 2006). Therefore, this theory is well suited for relatively new media platforms as a means to understand how and why users engage with media, such as mobile dating applications. Additionally, the Uses and Gratifications Theory has been applied to emerging adult populations, revealing that emerging adults spend more time using media than any other activity (Coyne, Padilla-Walker, & Howard, 2013). Emerging adults spend around 12 hours each day engaged with various forms of media, mostly on their smartphones (Alloy Media & Marketing, 2009). However, the Uses and Gratifications Theory is criticized as lacking a cohesive theoretical model and deficient in its internal consistency. It is probably best construed as a descriptive framework rather than an explanatory model.

Despite such criticisms, when new mass media platforms arise, the theory has been applied in order to understand how these technological advances are being used to meet social and psychological needs (Ruggiero, 2000). The Uses and Gratifications theory has been applied to radio, newspapers, books, and television (Katz, Haas, & Gurevitch, 1973; McClung, Pompper, & Kinnally, 2007), telephones (Dimmick et al., 1994; Ryan et al., 1998), cell phones (Auter, 2006), text messages (Grellhesl & Punyanunt-Carter, 2012), internet usage (Ruggiero, 2000) and online instant messaging services (Leung, 2001). In interpersonal communication, such as with online instant messaging services, six key gratifications (i.e., pleasure, affection, inclusion, escape, relaxation, and control) have

been identified, which is consistent with the use of the Uses and Gratifications Theory (Rubin et al., 1988). More recently, the theory has been used as a framework to explore social networking sites (Dunne, Lawlor, & Rowley, 2010; Raacke & Bonds-Raacke, 2008; Urista, Dong, & Day, 2009), and some work has been directly applied to mobile dating apps such as Grindr (Gudelunas, 2012; Van De Wiele & Tong) and Tinder (Sumter et al., 2017).

Overall, the limited literature on mobile dating apps (e.g., Griffin et al., 2016; Sumter et al., 2017) and the Uses and Gratifications Theory suggest that emerging adults are likely to use mobile dating apps for a variety of psychosocial needs and this study aims to explore these relationships. The heterogeneity within the emerging adult population, as well as previous research (Griffin et al., 2016; Sumter et al., 2017), suggest that hookups are only one motive of emerging adults mobile dating app use, and other motives, such as entertainment and finding love, may be more important.

THE CURRENT STUDY

The current study will explore who uses mobile dating applications, some of the motives behind emerging adults' use of mobile dating applications, and whether these motives influence meeting matches in person. Because emerging adulthood is a time of identity exploration (Arnett, 2000a), it is predicted that mobile dating apps will be perceived as valuable tools for meeting social and interpersonal needs. In contrast to online dating sites, mobile dating apps offer the promise of nearly immediate results in a format that is very familiar to emerging adults (Smith & Anderson, 2015; Smith, 2016). Therefore, college students who are in the midst of a developmental phase during which they are exploring opportunities in relationships, career options, and world views should

use their smartphones as a means to expand their social networks and meet romantic partners. As such, college students who are not in a committed romantic relationship will be more likely to use this tool. Furthermore, college students who score high on sensation seeking should use mobile dating apps because they offer the promise of near-immediate results in a format that is familiar and convenient. Additionally, drawing on other recent research findings, college students who experience high levels of perceived social isolation should also be drawn to using technology, such as mobile dating apps, to meet their social needs (Cacioppo, & Cacioppo, 2014). Building on the findings of Primack and colleagues (2017) who found that emerging adults who are high users of social media applications also experience very high levels of social isolation, I predict that there will be a significant relationship between mobile dating app use and perceived social isolation.

H1: Sensation seeking, identity exploration, loneliness and relationship status will positively predict mobile dating app use in this sample of college students.

In addition to exploring who uses mobile dating applications, the current study will also examine common motives for mobile dating app use. Consistent with the Uses and Gratifications theory and previous literature (Griffin et al., 2016; Sumter et al., 2017), emerging adults likely use these mobile dating applications to fulfill a variety of psychosocial needs. Previous research suggests that the primary motives of mobile dating app users are for entertainment and because they are viewed as trendy (Griffin et al., 2016; Sumter et al., 2017). Additional motives include love, casual sex, to meet new people and for self-worth validation (Griffin et al., 2016; Sumter et al., 2017). To extend this research, I will explore whether the individual characteristics of identity exploration

and sensation seeking among emerging adults predict specific motivations for use. Because sensation seeking and identity exploration are associated with exploring new possibilities and novel situations, we predict that sensation seeking and identity exploration will be positively associated with entertainment and trendiness motives. Additionally, I will explore whether social desirability bias impacts responses when asking about various motivations for using mobile dating apps, because some motives of use, such as hookups, may be socially sensitive to report. Additionally, though attitudes are generally more accepting of using mobile dating apps, some participants may have a perceived stigma surrounding using these applications. Therefore, questions surrounding mobile dating apps may be considered socially sensitive topics, which are associated with social desirability bias (i.e., responding in a manner that may be perceived as more socially desirable rather than reflective of one's true feelings; Grimm, 2010). As such, I will control for social desirability bias in questions regarding mobile dating app use.

H2A: Sensation seeking and identity exploration will positively predict the motive of entertainment in this sample of college students, controlling for social desirability.

H2B: Sensation seeking and identity exploration will positively predict the motive of trendiness in this sample of college students, controlling for social desirability.

Additionally, because sensation seeking is associated with exploring novel and intense situations (Arnett, 1994) and because times of identity exploration have been linked to engaging in various casual sexual encounters (Claxton & von Dulmen, 2013; Garcia et al., 2012; Stinson, 2010), I predict that sensation seeking and identity exploration will predict using mobile dating applications for the motive of engaging in hookups.

H2C: Sensation seeking and identity exploration will positively predict the motive of hooking up in this sample, controlling for social desirability.

Finally, we aim to explore whether emerging adults' specific motives of mobile dating apps use predict offline behaviors, such as meeting with potential romantic or sexual partners in person. This is consistent with the Uses and Gratifications theory, such that whether gratifications sought (i.e., motivations) impact whether users meet potential partners in person. Prior research indicates that the motivations for love and casual sex are positively correlated with offline dates, while the motivations for casual sex and thrill of excitement are positively correlated with one-night stands (Sumter et al., 2017). Therefore, I predict that college students who use mobile dating apps for the purposes of meeting a romantic or sexual partner are more likely to meet with matches offline than those who use mobile dating apps for other reasons. Additionally, sensation seeking is conceptually related to meeting matches offline, as this may be a novel and potentially risky experience. As such, I hypothesize that sensation seeking will be a predictor of meeting matches offline as well.

H3: The motives of love and casual sex, and sensation seeking will positively predict meeting matches in person in this sample of college students, controlling for social desirability.

CHAPTER 2: MATERIALS AND METHODS

PARTICIPANTS

A total of 267 college student participants were recruited in Fall 2017 for a Qualtrics survey administered through UNC-Charlotte's SONA System. Participants were compensated 0.5 credits on the SONA System for their participation. The total sample was primarily young (M_{age}=19.88 years), white (65%), female (62.5%), a first year (39.4%) or second year (37.1%) student, and heterosexual/straight (84.5%). In this sample, over half of the participants (51.7%) had tried using a mobile dating app before. Demographics for both users (M_{age}=20.01 years, 63.8% white, 54.1% female, 31.1% first year, 43.7% second year, and 76.3% heterosexual/straight) and non-users (M_{age}=19.74, 68.2% white, 71.3% female, 48.1% first year, 30.2% second year, and 93% heterosexual/straight) were similar to the overall sample. Among mobile dating app users, 38.2% had used once or twice, 11.8% used monthly, 34.5% used weekly, and 15.4% used on a daily basis. For additional demographic information broken down by total sample, users, and non-users, see Table 1.

MEASURES

Mobile Dating Application Use. All participants were asked whether they have ever used a mobile dating app. If yes, were asked about their frequency of use (i.e, never, one-time, monthly, weekly, daily) and which applications they have used (e.g., Bumble, Tinder, etc.).

In order to assess specific motives of mobile dating app use, the 24-item scale to assess motives for Tinder use (Sumter et al., 2017) was adapted for this study. Four subscales from the original scale, Entertainment ("for the kick of it"), Love ("to find a

romantic relationship"), Hookups ("to find someone to have sex with"), and Trendiness ("everyone uses it"), were used for the purposes of this study. The items were minimally altered for this study by changing the word "Tinder" to "Mobile Dating Applications" in order to assess mobile dating apps more broadly. Participants endorsed items on a Likert-type scale from 1 (*strongly disagree*) to 5 (*strongly agree*), with higher scores indicating greater endorsement of that motive. Internal consistency for this sample was adequate ranging from hookups (α=.90), love (α=.89), entertainment (α=.58), and trendiness (α=.62), which is consistent with the factor loading of the original scale, which ranged from between .56 and .86 (Sumter et al., 2017).

Finally, to assess whether app usage translates to behaviors that take place offline, participants were asked how many times they have met with a match in person, been on a date with a match, and hooked up with a match. For a complete list of questions, please see the Appendix.

Identity Exploration. The Inventory of the Dimensions of Emerging Adulthood (IDEA; Reifman, Arnett, & Colwell, 2007) measures the degree to which participants identify with domains characteristic of emerging adulthood. This scale measured how much participants identify with the life stage of emerging adulthood. The IDEA consists of 31 questions that are rated on a Likert-scale ranging from 1 (*Strongly Disagree*) to 4 (*Strongly Agree*). The scale includes 6 subscales: identity exploration (ex: "time of deciding on your own beliefs and values"), experimentation/possibilities (ex: "time of trying out new things"), negativity/instability (ex: "time of unpredictability"), other-focused (ex: "time of responsibility for others"), self-focused (ex: "time of independence"), and feeling in-between (ex: "time of gradually becoming an adult").

Factor analyses supports the 6-factor structure of the scale (Reifman, Arnett, & Colwell, 2007). Subscale range in items from 3 to 7 items per subscale, and items are averaged to get the subscale score (see Appendix). Our analyses focused on the identity exploration subscale, which consists of 7 items. This scale assessed the extent to which participants characterized their current stage of life as a time of identity exploration. Higher scores indicate more identification with the construct. This subscale demonstrated strong internal consistency (α=.87) in this sample, and this scale has demonstrated strong internal consistency (α=.70 to α=.85) and test-retest reliability as well as convergent and divergent validity among college student samples (Reifman, Arnett, & Colwell, 2016). The full version of this scale can be found in the Appendix.

During data collection, a mistake in the wording of the IDEA items was discovered. The anchors for the subscale were labelled "strongly disagree" at both ends, instead of "strongly agree" and "strongly disagree." This mistake was present for the first 82 participants, and led to significantly different scores on the IDEA measure than those without the mistake. Therefore, these participants were excluded from analyses including the identity exploration variable (e.g., hypotheses 1 and 2) for a total sample size of *N*=185 on those analyses.

Sensation Seeking. The Arnett Inventory of Sensation Seeking (AISS) includes 20-items that assess the need for novelty and intensity in stimulation (Arnett, 1994). The AISS consists of two 10-item subscales which capture novelty and intensity, which are combined into a total sensation seeking score. Sample items include, "When taking a trip, I think it is best to make as few plans as possible and just take it as it comes," (novelty) and, "If I were to go to an amusement park, I would prefer to ride the roller

coaster or other fast rides" (intensity). Participants rate each item on a Likert scale from 1 (*describes me very well*) to 4 (*does not describe me very well*). Six items are reverse scored and all items are summed, with higher scores indicating higher levels of sensation seeking. This scale was developed using an adolescent sample (ages 16-18) and has been demonstrated to be significantly related to risky behaviors such as speeding, driving while intoxicated, unprotected sex, and marijuana use, and other forms of impulsiveness (Arnett, 1994; Ravert et al., 2009), as well as a tendency to seek out novel experiences, such as willingness to change occupations (Roth, 2003) among college students. Internal consistency was adequate in this sample (α=.66). The full version of this scale can be found in the Appendix.

Loneliness. Perceived loneliness was assessed using a modified version of the Three Item Loneliness Scale (Hughes, Waite, Hawkley, & Cacioppo, 2004). This scale includes three items rated on a Likert-scale from 1 (*hardly ever*), 3 (*some of the time*), to 5 (*often*). Items begin with the stem "in general, how often do you" and include "feel that you lack companionship," "feel left out," and "feel isolated from others." Though the standardized version of this measure uses a scale from 1 to 3, and this scale was modified for this study to increase variability in responses. The three items are summed, with higher scores indicating higher levels of perceived loneliness. Internal consistency was high in this sample (α=.85), which is consistent with previous studies using this scale, ranging from .72 (Hughes et al., 2004) to .81 (Matthews-Ewald & Zulling, 2013). Additionally, this measure has demonstrated convergent validity, through high correlations with other measures of loneliness, such as the 20-item Revised UCLA Loneliness Scale in previous studies (r=.82, p<.001; Hughes et al., 2004). Additionally,

the three item loneliness scale has been used among college populations, and was significantly related to increased feelings of sadness and thoughts of suicide, and decreased life satisfaction and health related quality of life (Matthews-Ewald & Zulling, 2013). The full version of this scale can be found in the Appendix.

Social Desirability. Given that some of the questions assess for sensitive information (i.e. uses of mobile dating applications, reporting hookups) we included the Marlowe-Crowne Social Desirability Scale-Short Form (Crowne, & Marlowe, 1964; Reynolds, 1982) as a control variable. This 13-item measure assesses the general tendency to respond in a socially desirable manner. Sample items include, "No matter who I am talking to, I am always a good listener" and, "I sometimes try to get even rather than forgive and forget." Eight items are reverse scored and then all items are averaged. Higher scores indicate more socially desirable responding. This scale demonstrated adequate internal consistency in this sample (α=.66). The full version of this scale can be found in the Appendix.

Relationship Status. Relationship status was measured as a categorical variable, with categories including, "Single (i.e., no current sexual or romantic partners)," "I am in a sexual, but non-romantic relationship," "Casually dating (i.e., I am in a non-monogamous romantic relationship)," "Exclusively dating (i.e., I am in a monogamous romantic relationship)," "Engaged to be married," "Married/Civil Union/Domestic Partnership," and "Other." Relationship status was dichotomized for the purposes of this study into 1 "single/casually dating," which includes, single, in a sexual but non-romantic relationship, and casually dating, and 2 "exclusive relationship," which includes exclusively dating, engaged to be married, and married/civil union/domestic partnership.

Demographics. Demographic information was collected, including age, sex assigned at birth, gender identity, sexual orientation, year in school, race, and ethnicity. For a complete list of the demographic questions, please see the Appendix.

PROCEDURE

Data were collected from 267 undergraduate students at The University of North Carolina at Charlotte. Participants who are 18 years or older were recruited through the Psychology SONA System. Participants were directed to a link to the Qualtrics survey through the UNC-Charlotte SONA System website. Once the Qualtrics survey was opened, participants were directed to a consent form. If they consented they were then directed to the study and earned 0.5 credits. If students declined to the consent process, they were directed to the end of the survey without credit.

First, participants were asked whether they have used a mobile dating app. App users were asked questions about motives of use and whether they have met up with a match in person for any reason, including dates and hook-ups.

Then, participants were presented with questions about emerging adulthood (Reifman, Arnett, & Colwell, 2007), sensation seeking (Arnett, 1994), and loneliness (Hughes et al., 2004). Additionally, all participants completed the Marlowe-Crowne Social Desirability Scale-Short Form (Reynolds, 1982).

Finally, participants answered demographic questions about relationship status, age, sex, gender identity, sexual orientation, year in school, race, ethnicity, and sexual orientation. At the end of the survey, participants were thanked for their participation in the study and were provided with resources to the on-campus counseling center as well as contact information for the principal investigator.

CHAPTER 3: RESULTS

OVERVIEW OF ANALYSES

I conducted analyses in three phases. In Phase 1, I examined whether mobile dating app use is positively related to sensation seeking, identity exploration, loneliness and relationship status (Hypothesis 1). In Phase 2, I tested whether sensation seeking, identity exploration, and social desirability predicted motivations for app use were related to entertainment, trendiness, and hooking up (Hypotheses 2a-2c). In Phase 3, I examined whether sensation seeking, social desirability, and motivations for use related to love and hooking up predicted meeting matches in person (Hypothesis 3). Because the full sample was used to test Hypothesis 1, but only those who have ever used these apps were included in tests of Hypotheses 2 and 3, I present descriptive information and correlations for the entire sample (see Table 2) and also for participants who have used these apps (see Table 3).

PHASE 1: PREDICTING MOBILE DATING APPLICATION USE

In Phase 1, I tested the hypothesis that sensation seeking, identity exploration, loneliness, and relationship status predict mobile dating app use. As shown in Table 2, mobile dating application use was positively associated with sensation seeking. Additionally, loneliness was positively associated with relationship status, such that participants who were single or casually dating tended to have higher loneliness scores. Furthermore, when compared in an independent samples t-test, individuals who were currently single/casually dating had significantly higher loneliness scores (M=9.07, SD=3.29) than those in an exclusive relationship (M=7.24, SD=2.11; $t(154)$=2.246, p=.026). To test hypothesis 1, I regressed sensation seeking, identity exploration,

loneliness, and relationship status on mobile dating app use (i.e., user vs. non-user) in a logistic regression. As shown in Table 4, sensation seeking, identity exploration, loneliness, and relationship status were not uniquely related to app use. Therefore, Hypothesis 1 was not supported.

PHASE 2: PREDICTING MOTIVATIONS FOR MOBILE DATING APP USE

Phase 2 analyses tested whether sensation seeking, identity exploration, and social desirability positively predicted motivations for app use related to entertainment, trendiness, and hooking up (Hypothesis 2a-2c). Table 3 shows several significant bivariate correlations. The motives of entertainment and trendiness were positively correlated. The motive of entertainment was positively correlated with sensation seeking and positively correlated with identity exploration. The motive of trendiness was positively correlated with sensation seeking. The motive of hooking up was positively correlated with sensation seeking and negatively correlated with identity exploration. These suggest there are significant relationships between sensation seeking, identity exploration, and the motives of entertainment, trendiness, and hooking up that should be further explored.

First, I tested Hypothesis 2A that sensation seeking and identity exploration each positively predicted the motive for entertainment while controlling for social desirability, by regressing the entertainment motive for app use on sensation seeking, identity exploration, and social desirability. As shown in Table 5A, identity exploration predicted and sensation seeking marginally predicted greater motive for entertainment. Social desirability was unrelated to entertainment motive. Thus, Hypothesis 2A was partially supported in that greater entertainment motive was related to identity exploration but only

marginally related to sensation seeking; social desirability was unrelated to the entertainment motive.

Next, I tested Hypothesis 2B that sensation seeking and identity exploration would positively predict the motive of trendiness while controlling for social desirability, by regressing the trendiness motive for app use on sensation seeking, identity exploration, and social desirability. As shown in Table 5B, sensation seeking positively predicted the motive of trendiness, while identity exploration was marginally positively related to the motive of trendiness. Social desirability was unrelated to trendiness motive. Thus, Hypothesis 2B was partially supported because sensation seeking functioned as predicted, but identity exploration was only marginally related and social desirability was unrelated to the trendiness motive.

Finally, I tested Hypothesis 2C that sensation seeking and identity exploration would positively predict the motive of hooking up while controlling for social desirability by regressing the trendiness motive for app use on sensation seeking, identity exploration, and social desirability. As shown in Table 5C, sensation seeking positively predicted the motive of hooking up and identity exploration negatively predicted the motive of hooking up. Again, social desirability was unrelated to hooking up motive. Thus, Hypothesis 2C was partially supported because sensation seeking functioned as predicted, however, identity exploration predicted the hookup motive in the opposite direction of the hypothesis, and social desirability was unrelated to this.

PHASE 3: PREDICTORS OF MEETING MATCHES IN PERSON

In Phase 3, I tested Hypothesis 3 that the motives of love and hooking up and sensation seeking would positively predict meeting a match in person, controlling for

social desirability. As shown in Table 3, the motivations of love and hooking up were strongly positively correlated (r=.42, p<.01) among dating app users. The motivation of love was strongly positively correlated with meeting matches in person (r_{pb}=.44, p<.01), and the motivation of hooking up was positively associated with meeting matches in person (r_{pb}=.21, p<.05). Sensation seeking and the motivation of hooking up were positively correlated (r=.19, p<.05). These highlight that the predictors (sensation seeking, love motive, and hookup motive) are related to both each other and to meeting matches in person, and this relationship will be further explored. There were no other significant correlations between the variables included in this model.

I regressed meeting matches in person, where 0 = *no* vs. 1 = *ye*s, onto the motives of love and hooking up, sensation seeking, and social desirability in a logistic regression. Table 6 shows the results from this regression. Love motive was uniquely positively associated with meeting matches in person, such that for every 1 point increase in the motivation of love, the odds of meeting a match in person are about 2.7 times greater than not meeting a match in person. Hookup motive, sensation seeking, and social desirability were unrelated to meeting matches in person in this model. Hypothesis 3 was partially supported because only love motive was a significant predictor of meeting matches in person, and the rest were unrelated in this model.

CHAPTER 4: DISCUSSION

Recent literature suggests that emerging adults use mobile dating apps for a variety of purposes, such as for romantic needs, for entertainment, and for hookups (Bryant & Sheldon, 2017; Griffin, Canevello, & McAnulty, 2018; Sumter et al., 2017). However, little research has explored the role of individual differences, including personality traits such as sensation-seeking, and of developmental status, such as transitioning into adulthood, in mobile dating app use. The purpose of this study was to better understand how several individual differences are related to emerging adults' mobile dating application use and their motives for using such apps. Additionally, the study investigated the extent to which these traits and motives predict in-person meetings of individuals they were matched with using these apps.

PHASE 1: PREDICTING MOBILE DATING APPLICATION USE

The first phase of this study examined whether exploring one's identity, the trait of sensation seeking, current loneliness, and current relationship status predicted whether or not emerging adults use mobile dating apps. Hypothesis 1 was not supported in this study; identity exploration, loneliness, current relationship status, and sensation seeking did not significantly predict mobile dating application use. This suggests that these variables when tested in the same model did not significantly predict whether a person will use a mobile dating application or not.

Because sensation seeking is associated with a need to seek out novel experiences (Zuckerman, 1994), I predicted a significant relationship between sensation seeking and mobile dating app use. A recent study by Chan (2017) documented a significant, albeit indirect, relationship between sensation seeking and mobile dating app use. The

relationship between these two variables was mediated by attitudes towards dating apps, perceived norms of dating apps, and self-efficacy in using dating apps. Peter and Valkenburg (2007) reported a link between sensation seeking and a proclivity toward online hookups in a survey of Dutch adults. In my study, sensation seeking was modestly correlated with mobile dating app use, but it was no longer a significant predictor when the other variables were added to the regression model. However, due to an error in scoring the identity exploration variable, the *N* for the full regression model was lower than that of the total sample, resulting in a loss of power in this analysis. As a result, sensation seeking no longer predicted mobile dating app use in this model or at the zero-order level. Therefore, the lack of power in this analysis may explain why sensation seeking was not a significant predictor of mobile dating app use. Additionally, sensation seeking has proven to be a multi-dimensional construct, and some aspects may be more strongly related to mobile dating use. Chan (2017), for example, relied on an impulsivity measure of sensation seeking. Leung (2008) found adventure-seeking to be predictive of problematic smartphone use in a sample of teenagers and young adults from Hong Kong. The AISS used in my study taps into the need for novelty and intensity in stimulation (Arnett, 1994). Beyond accounting for differences in sample demographics, future research should explore the relationships between the various facets of sensation seeking and mobile dating app use.

Unexpectedly, identity exploration was unrelated to mobile dating app use in all analyses. This was surprising given that identity exploration is a period during which young adults experiment with new opportunities, including romantic and sexual relationships (Arnett, 2000a). The lack of relationship found in this study may be due to

the relative restriction in the range of identity exploration scores. The study sample was quite homogeneous is several respects, including in identity exploration status (*M*=3.33, *SD*=.56 on a 1-4 Likert scale). Previous studies of identity exploration have mostly relied on comparisons with other age groups. For example, Reifman, Arnett, and Colwell (2007) found differences in identity exploration when comparing emerging adults to younger high school students and to other adult age groups (30-39, 40-49, and 50 and older). Including different age cohorts might help clarify the relationship between identity exploration and mobile dating app use.

Previous research shows that persons high in perceived loneliness are more likely to use social media platforms to meet their social needs (Cacioppo & Cacioppo, 2014; Primack et al., 2017). For this variable, participants' average score (8.27 on a scale ranging from 3 to 15) would suggest a moderate degree of self-reported loneliness. Unfortunately, the current study questioned participants about their lifetime use of mobile dating apps. Some individuals in exclusive relationships might have used such apps prior to entering a relationship, which may have resolved some feelings of loneliness. An important future direction of this research is whether emerging adults are more inclined to use mobile dating apps during phases of loneliness in their lives and the extent to which such use helps reduce their feelings of isolation.

Additionally, relationship status was not related to whether or not someone has used a mobile dating application in this sample. Though this seems counterintuitive, it suggests that individuals who are currently in a relationship are equally likely to have tried or not tried a mobile dating application in the past. Though previous research suggests that current mobile dating app use is related to relationship status, such that

regular users are less likely to be in a dating relationship (Griffin et al., 2018), current relationship status did not predict whether someone has ever used a mobile dating app. Like loneliness, future research should focus on the timing of one's initial mobile dating app use, and whether it relates to relationship status.

Overall, the results suggest that sensation seeking, identity exploration, loneliness, and relationship status were not significant unique predictors of mobile dating app use in the current sample.

PHASE 2: PREDICTING MOTIVATIONS FOR MOBILE DATING APP USE

Phase 2 of this study focused on whether sensation seeking, identity exploration, and social desirability positively predicted motivations for app use related to entertainment, trendiness, and hooking up. Hypotheses 2A-2C were all partially supported, suggesting that the trait of sensation seeking and exploring one's identity predict some motives of mobile dating app use, such as for entertainment, because it is new, and to meet hookups, though several of these relationships were marginal. Additionally, social desirability was unrelated to all of the motives examined.

Because sensation seeking is associated with engaging in casual sex (Ravert et al., 2009) and a need to seek out novel experiences (Zuckerman, 1994), I predicted that sensation seeking would be positively related to the motives of hooking up, entertainment, and trendiness. These hypotheses were generally supported: sensation seeking was positively related to the motives of hooking up and trendiness, and marginally to entertainment when tested in the regression models. As such, an individual's desire to seek novel experiences predicts some reasons for using mobile dating applications. This is consistent with previous research which found that sensation

seeking directly predicted intent to use the internet (Baumgartner, Sumter, Peter, & Valkenburg, 2012) and mobile dating apps for casual sex (Chan, 2017). This suggests that individuals who are inclined to seek new and exciting stimuli may be more likely to use mobile dating apps for these reasons. Future research should further consider how sensation seeking may predict other motives of use, such as love (Chan, 2017), and whether specific facets of sensation seeking (novelty vs. intensity) differentially impact the reasons emerging adults use mobile dating apps.

Similarly, because identity exploration is a time of trying out various possibilities and deciding what one wants, particularly in romantic relationships and sex (Arnett, 2000a), I predicted that it would be positively related to the motives of hooking up, trendiness, and entertainment. As expected, identity exploration was positively related to the motive of entertainment, and marginally related to trendiness. This is consistent with previous research that suggests that entertainment and trendiness are top motives for emerging adults (Sumter et al., 2017). However, this is the first study to demonstrate that being in the identity exploration developmental phase predicts these motives. Surprisingly, individuals higher in identity exploration were less likely to use mobile dating applications to meet partners for casual sex, which is opposite of what I predicted. Previous research has suggested that, compared to other age groups, emerging adults are more likely to engage in hookups and other sexual relationships as part of their own identity exploration (Claxton & von Dulmen, 2013). However, our results suggest a possible nuance to this trend. This period of identity exploration may not involve haphazardly trying every possibility throughout this developmental phase; instead the nature of experimentation may vary over the course of this phase. This is consistent with

previous research among LGBT youth that suggests that online platforms may be used for identity exploration, particularly in regards to sexual identity, at the initial stages of their exploration, but that these individuals may move offline to meet these needs once they have explored and feel more comfortable with their identity (Dehaan, Kuper, Magee, Bigelow, & Mustanski, 2012). Future research may consider how emerging adults are using mobile dating apps to explore a variety of facets of their identity exploration (e.g., sexual, gender roles, etc.), and the extent to which this exploration may change over the course of this developmental phase.

Overall, phase 2 of this study suggests that sensation seeking and identity exploration are related to some motives of mobile dating app use (entertainment, trendiness, and hookups), and these motives are unrelated to social desirability. This is in line with previous research based on the Uses and Gratifications Theory that shows that individuals engage with social media platforms for a variety of reasons, including entertainment, trendiness, (Dunne et al., 2010; Mull & Lee, 2014) and hookups (Sumter et al., 2017). The results of my study replicate the findings that many emerging adults are using mobile dating apps to meet a number of needs, which may be partly driven by sensation seeking tendencies and identity exploration status.

PHASE 3: PREDICTORS OF MEETING MATCHES IN PERSON

The third phase of this study focused on whether motives of use and sensation seeking predict offline behaviors: meeting matches in person. The third hypothesis in this study was partially supported, such that the motive of love predicted greater likelihood of meeting matches in person, but the motive of hooking up and trait of sensation seeking

did not. Overall, the findings from phase 3 add to the growing literature that mobile dating apps fulfill psychosocial purposes beyond just meeting hookups.

Prior research indicates that the motivations for love and casual sex are positively correlated with in-person dates, while the motivations for casual sex and thrill of excitement are positively correlated with one-night stands (Sumter et al., 2017), therefore, I predicted that the motivations of love and hooking up would be related to meeting more matches in person. Love and hooking up were both significantly correlated with meeting more matches in person, and to each other in zero-order correlations. Both of these findings are consistent with previous data examining a sample of Tinder users (Sumter et al., 2017). The zero order correlations suggest that love and hooking up motives are both related to meeting matches in-person, perhaps reflecting a general desire to connect with other people in person. However, when motives of love and hooking up are considered together in predicting meeting matches in person, love uniquely predicts meet ups. Hooking up is not uniquely related to meeting matches in person.

These findings are contrary to popular lay belief that these applications are often used just to meet hookups rather than to find love. Instead, when meeting mobile dating app matches in person, users may be more likely to be interested in love. These findings are consistent with studies showing that love is a reason for meeting Tinder matches in person (Sumter et al., 2017), however, this is the first to compare love and hookup motives in the same model. Future studies should look at love and hookup motives together rather than individually because of shared variance between them for meeting matches in person. Additionally, future research may explore differences between specific mobile dating apps (e.g., Tinder vs. Bumble vs. Hinge, etc.).

Additionally, sensation seeking was related to meeting matches in person, indicating that meeting mobile dating app matches in person may be considered a novel and potentially risky experience. Contrary to this prediction, sensation seeking did not predict meeting matches in person in this model. Previous literature has only examined sensation seeking in the context of intent to use mobile dating apps (Chan, 2017) but has not previously examined the role of sensation seeking in engaging in offline behaviors. As noted earlier, sensation seeking is a multifaceted construct and it is possible that some aspects of sensation seeking (e.g., novelty, intensity) are more predictive of meeting matches in person than other aspects. For example, Chan (2017) used an intensity measure of sensation seeking to predict intent to use mobile dating apps for love and hookups, and did not capture the novelty-seeking aspect of sensation-seeking which was included in this study (Arnett, 1994). Meeting a mobile dating app match in person may involve an element of risk, therefore, the impulsivity and risk-taking aspects of sensation seeking may be predictive of this behavior. On the other hand, simply using mobile dating apps without any actual intention of meeting a match in-person may simply represent novelty-seeking. Another explanation may be that sensation seekers view mobile dating apps as a low stakes game, and may be less likely to meet matches in person, which implies greater stakes. Meeting in person, for any reason, requires potential consequences, while swiping has little to no consequences in comparison. Future research should investigate whether the different facets of sensation seeking (novelty vs. intensity) differentially predicts who meets matches in person.

STRENGTHS, LIMITATIONS, AND FUTURE DIRECTIONS

This study adds to the literature in several ways. First, it demonstrates that aspects of emerging adulthood (identity exploration) and one's tendency to seek novel and intense situations predict several motives for using mobile dating apps including for fun, because they are trendy, and for hookups. Additionally, the findings revealed that users who use mobile dating apps to find love are more likely to meet someone they are matched with in person than those who use these apps to find someone for a hookup. To our knowledge, this is the first study to examine the role of identity exploration in emerging adults' use of mobile dating apps. This study revealed that while this factor did not predict whether or not individuals had tried a mobile dating app or not, identity exploration was related to why users engage with this platform for the motivations of fun, novelty, and for hookups. As such, considering mobile dating app users' life stage (adolescent vs. emerging adult vs. young adult) may influence why they use mobile dating applications. Future studies should compare motives for mobile dating app use in these different age groups.

This was a relatively small sample with only 267 total participants and 136 participants identified as mobile dating application users. Additionally, there was a mistake in the identity exploration variable for the first 82 participants, decreasing the total number of participants included in analyses that included identity exploration. Further, this sample was relatively homogeneous, particularly in terms of demographic variables such as race/ethnicity and sexual orientation. This is one of the few studies of mobile dating app use among primarily heterosexual emerging adults. However, the small sample size limits the generalizability of these results. Relatively few studies have

focused on heterosexual samples' use of mobile dating apps (Chan, 2017; Griffin et al., 2018; LeFebvre, 2018; Sumter et al., 2017; Timmermans & De Caluwé, 2017a; Timmermans & Courtois, 2018), and this study adds to the literature. However, due to a small sample size of non-heterosexual users (*N*=44), comparisons between heterosexual and non-heterosexual participants were not made. Much of the mobile dating application literature to date has focused on MSM mobile dating applications (e.g., Grindr), and it is unclear whether the findings of these studies extend to primarily heterosexual dating applications. Additionally, non-heterosexual individuals are more likely to use online platforms to meet sexual and romantic partners than their heterosexual counterparts (Kuperberg, & Padgett, 2015). As such, this literature would be strengthened by oversampling non-heterosexual participants to determine if there are significant differences in mobile dating app use between various sexual orientation groups.

Another limitation of this study is that it relied on a one-time self-report of past behaviors and it is possible that participants were recalling events that took place years earlier. Future studies may consider only using current users and having them keep an event-contingent diary or other real-time measures to identify their motives and experiences when using mobile dating apps. Additionally, this type of study may also be able to capture both intended uses of mobile dating apps (gratifications sought) as well as success in meeting those intentions (gratifications obtained).

This study used a college student convenience sample. Given the debate over the potential uniqueness of emerging adulthood to college students (Cote, 2000; 2006; Bynner, 2007; Mitchell & Syed, 2015), it would be important to replicate this study in a non-college sample of young adults. Such a study would allow for comparison of same-

age peers to determine if there are differences in mobile dating app use based on college-enrollment status. It is possible that there would be differences in use, particularly between geographic locations of these individuals (e.g., rural vs. urban) that are worth exploring. Additionally, many individuals continue to identify as emerging adults after college graduation. However, the difference between the environments of college and the working world may lead to differences in uses of mobile dating apps between emerging adults in the respective settings. No studies have been conducted to date comparing college, non-college counterparts, and post-college emerging adults; such comparisons would clarify whether the findings from this study are limited to comparable samples.

Though this study relied on the Uses and Gratifications framework to guide hypothesis development, we did not directly ask participants whether their gratifications sought were obtained. Several recent articles have applied the Uses and Gratifications theory to mobile dating app use (Bryant & Sheldon, 2017; James, 2015; Sumter et al., 2017; van De Wiele, & Tong, 2014). This study focused primarily on the uses, or motivations for use, part of the theory, and furthered understanding about who uses these applications, which personal characteristics predict specific motivations of use, and whether motivations for use predict meeting matches in person. Future studies should directly measure the extent to which mobile dating app users report obtaining their desired gratifications, and how this impacts mobile dating app use. For example, if mobile dating app users are motivated to find a romantic partner and they do not find a suitable match, how long before they discontinue app use? Or if mobile dating app users engage with the platform for entertainment or novelty purposes, is their goal of being entertained met?

Additionally, future studies may consider using other theoretical models (Bryant & Sheldon, 2017; James, 2015; Sumter et al., 2017; van De Wiele, & Tong, 2014). Some studies have begun to incorporate different theoretical models, such as the Theory of Reasoned Action (Bryant & Sheldon, 2017) and the Integrative Model of Behavioral Prediction (Chan, 2017), which may allow for better testing of indirect relationships that were not tested in this study. For example, this study focused on direct relationships between individual traits (sensation seeking, identity exploration, loneliness) and mobile dating application use. Future studies may consider possible *indirect* relationships between personal variables (sensation seeking, identity exploration, loneliness) and mobile dating app use, as suggested in the model used by Chan (2017), who used the Integrative Model of Behavioral Prediction to examine the relationships between personal attributes (sensation seeking, trust of people online, and smartphone use) and personal beliefs (attitudes towards using mobile dating apps for various purposes, perceived self-efficacy with using mobile dating apps, and perceived norms that mobile dating apps are for hookups). These variables predicted intentions to use mobile dating apps for romance or casual sex. Chan's (2017) findings confirm that more elaborate models might help clarify to role of variables that mediate motives for using mobile dating apps.

Furthermore, since the initial development of this thesis project, additional development and validation of the Tinder Motives Scale (TMS) has been added to the literature (Timmermans & De Caluwé, 2017b). This development resulted in 13 identified factors, including relationship seeking, sexual experience, social approval, flirting/social skills, travelling, getting over an ex, belongingness, peer pressure, socializing, sexual orientation, pass-time/entertainment, distraction, and curiosity

(Timmermans & De Caluwé, 2017) The key motives of love, hooking up, trendiness, and entertainment included in this study are still identified factors in this new TMS (Timmermans & De Caluwé, 2017). This expanded scale allows for future research into additional motivations for mobile dating app.

Recent research suggests a variety of additional variables, which may be important for future studies examining mobile dating app use. For example, additional individual characteristics, such as rejection sensitivity (Blackhart, Fitzpatrick, & Williamson, 2014; Hance, Blackhart, & Dew, 2018), trusting other people online (Chan, 2017), and self-esteem and self-worth validation (Bryant & Sheldon, 2017; Sumter et al., 2017) are related to mobile dating app use. Big-5 personality factors such as higher extraversion, higher openness to experience, and lower conscientiousness have also been linked to mobile dating app use and should be considered in future research (Timmermans & De Caluwé, 2017a). Furthermore, considering the unique changes technology creates in relationship initiation and formation should also be taken into account (Birnholtz, Fitzpatrick, Handel, & Brubaker, 2014; LeFebvre, 2018). Additionally, this study focused on only one aspect of emerging adulthood, identity exploration, and did not examine other facets of this construct, such as experimentation, instability, self-focused, and feeling in-between. Therefore, future studies should compare these different facets of emerging adulthood to explore whether they are related to mobile dating app use, as well as consider a wide variety of individual characteristics and the unique opportunities that these online platforms create.

CONCLUSIONS

Roughly half of the emerging adults in this sample had tried using a mobile dating application at least once. Several individual attributes (sensation seeking, identity exploration, loneliness, and relationship status) did not predict whether or not someone had used a mobile dating app. This study suggests that sensation seeking and identity exploration differentially predict some motives for use (for hookups, for entertainment, because it is trendy), though many results from this study were only marginally significant. Additionally, this study examined whether the motive of love, motive of hookups, and sensation seeking predicted meeting matches in person. The findings from this study further support the claim that emerging adults use mobile dating applications to meet a variety of psychosocial needs (for fun, for love, because it is new), rather than just for sexual encounters. Additionally, this study is the first to demonstrate that the motive of love is a significant predictor of meeting matches offline, above and beyond the motive of hooking up. This finding contradicts the popular belief that mobile dating apps are best viewed as hookup apps, which is consistent with other studies (Sumter et al., 2017; Timmermans & Courtois, 2018). Overall, this study supports the notion that emerging adults are using mobile dating apps for a variety of reasons, and the study of mobile dating apps among emerging adults should include developmentally relevant considerations as well as a variety of motivations beyond casual sex. This supports the need for additional research into how emerging adults use mobile dating apps, such as finding romantic partners, hookups, for fun, and additional motivations not explored in this study, and how these motivations translate to specific gratifications sought offline

with partners. As the digital landscape continues to expand, emerging adults' use of technology to meet their needs will likely continue to evolve.

TABLE 1: Demographics of Study Participants

	Total Sample (N=267)	Users (N=138)	Non-Users (N=129)
Year in School			
First Year	39.4%	31.1%	48.1%
Sophomore	37.1%	43.7%	30.2%
Junior	14.8%	14.1%	15.5%
Senior	5.3%	7.4%	3.1%
5+ Years	2.7%	3%	2.3%
Race/Ethnicity			
White	65.9%	63.8%	68.2%
African American	18%	18.8%	17.1%
Hispanic	8.6%	10.9%	6.2%
Other	9%	7.3%	10.9%
Relationship Status			
Single	52.7%	52.6%	52.7%
Sexual, non-romantic relationship	6.4%	9.6%	3.1%
Casually dating	7.2%	7.4%	7%
Exclusively Dating	29.5%	28.1%	31%
Engaged	1.9%	1.5%	2.3%
Married	2.3%	.7%	3.9%
Sexual Orientation			
Heterosexual/Straight	84.5%	76.3%	93%
Gay/Lesbian	3%	5.9%	0%
Other	12.6%	17.7%	7%

TABLE 2: Means, Standard Deviations, and Correlations for Variables Among All Participants

	M (SD)/%	1.	2.	3.	4.
1. Mobile Dating App Use					
Yes	51.7%	--			
No	48.3%				
2. Sensation seeking	50.64 (7.30)	.19**	--		
3. Identity Exploration	3.33 (.56)	.03	.08	--	
4. Loneliness	8.27 (3.22)	.07	.02	.19	--
5. Relationship Status	.66 (.47)	.07	-.03	-.06	.21**
Single/Casually Dating	65.5%				
Exclusive Relationship	33.3%				

Note. **$p < .01$, * $p<.05$. $N= 267$; $N=181$ for all correlations including identity exploration. Point bi-serial correlations were conducted for all correlations between a dichotomous variable (mobile dating app use, relationship status) and a continuous variable (sensation seeing, identity exploration, loneliness). Pearson Product Moment Correlations were conducted between continuous variables. A Phi coefficient was calculated for the relationship between mobile dating app use and relationship status. Mobile dating app use was coded 0=*No* and 1=*Yes*. Relationship Status was coded 0=*Exclusive Relationship* and 1=*Single/Casually Dating*

TABLE 3: Descriptive Statistics and Correlations Between Study Variables Among Mobile Dating Application Users

	M(SD)	1	2	3	4	5	6	7
1. Sensation seeking	52.01(6.99)	--						
2. Identity Exploration	3.35(.56)	.07	--					
3. Social Desirability	1.55(.20)	-.04	.09	--				
4. Motive of Love	3.01(1.09)	.15	.13	.05	--			
5. Motive of Hooking Up	2.39(1.11)	.19*	-.21*	.07	.42**	--		
6. Motive of Entertainment	3.56(.90)	.22*	.32**	.05	.29**	.16^{+}	--	
7. Motive of Trendiness	3.06(.85)	.26**	.18	-.10	.50**	.21*	.50**	--
8. Matches Met in Person	.59(.49)							
Yes	58.8%	.03	.03	-.03	.44**	.21*	.16*	.31**
No	41.2%							

Note. $^{**}p < .01$, $^{*}p < .05$, $^{+}p < .06$. All mobile dating app users (N=136) are included in the correlations, however, N=98 for correlations with identity exploration. Pearson Product Moment Correlations were conducted between continuous variables (i.e., all variables except matches met in person). Point bi-serial correlations were conducted for all correlations between matches met in person and all other variables. Matches met in person was coded 0=No matches and 1=1 or more matches met in person.

TABLE 4: Logistic Regression Analysis of Mobile Dating Application Use as a Function of Sensation Seeking, Identity Exploration, Loneliness, and Relationship Status

	B	Wald Test (z-ratio)	Odds Ratio	95% CI for Odds Ratio	
				Upper	Lower
Sensation Seeking	.04	2.74	1.04	.99	1.08
Identity Exploration	-.06	.04	.946	.54	1.66
Loneliness	.02	.19	1.02	.93	1.13
Relationship Status	-.36	1.02	.70	.35	1.40

Note. **$p < .01$. N=172. Mobile dating app use was coded 0=No and 1=Yes. Relationship Status was coded 0=Exclusive Relationship, 1=Single/Casually Dating. Footnote. If 95% CI for Odds Ratio includes 1, then non-significant.

TABLE 5A. *Sensation Seeking, Identity Exploration, and Social Desirability Predicting Entertainment Motive*

	Entertainment				
	B	SE B	β	*t*	*p*
Constant	.42	1.06		.39	.697
Sensation Seeking	.02	.01	.19	1.89	.062
Identity Exploration	.46*	.16	.29	2.94	.004
Social Desirability	.26	.45	.06	.57	.568

Note. **$p < .01$, * $p<.05$. N=93. This included all participants who had ever used a mobile dating application in this sample.

TABLE 5B: Sensation Seeking, Identity Exploration, and Social Desirability Predicting Trendiness Motive

	Trendiness				
	B	SE B	β	*t*	*p*
Constant	1.59	1.00		1.59	.116
Sensation Seeking	.03*	.01	.22	2.23	.028
Identity Exploration	.28	.15	.19	1.88	.064
Social Desirability	-.52	.42	-.12	-1.21	.228

Note. **$p < .01$, * $p<.05$. N=93. This included all participants who had ever used a mobile dating application in this sample.

TABLE 5C: Sensation Seeking, Identity Exploration, and Social Desirability Predicting Hooking Up Motive

	Hooking Up				
	B	SE B	β	*t*	*p*
Constant	1.64	1.29		1.27	.207
Sensation Seeking	.03*	.01	.22	2.22	.029
Identity Exploration	-.47*	.19	-.25	-2.48	.015
Social Desirability	.45	.54	.08	.83	.412

Note. **$p < .01$, * $p<.05$. N=93. This included all participants who had ever used a mobile dating application in this sample.

TABLE 6: Logistic Regression Analysis of Meeting Matches in Person as a Function of Sensation Seeking, Love Motive, Hookup Motive, and Social Desirability

	B	**Wald Test (z-ratio)**	**Odds Ratio**	**95% CI for Odds Ratio**	
				Upper	Lower
Sensation Seeking	-.02	.34	.98	.93	1.04
Love Motive	.99**	18.11	2.69	1.71	4.25
Hookup Motive	.11	.26	1.12	.73	1.70
Social Desirability	-.49	.22	.62	.08	4.70

Note. **$p < .01$. N=136. Number of matches met in person was coded 0=No matches and 1=1 or more matches met in person.

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APPENDIX: STUDY MEASURES

Mobile Dating Application Questions

The following question(s) pertains to location-based mobile dating applications (LBMDA). A location-based mobile dating application (app) is a software program that can be downloaded to your mobile phone and be used to connect people with potential partners or matches within a specified radius using GPS data. Other social media, such as Facebook, Twitter, or Instagram, or a traditional dating websites are not considered location-based mobile dating apps for the purposes of this study. Please answer the following question(s) based on this definition.

1. Have you ever used a location-based mobile dating application?
Yes
No (if no, skip to Question 10).

[If yes, participants will see the following questions:]

2. How often do you/have you use(d) location-based mobile dating applications?
Once or Twice
Monthly
1-3 Times per week
4-5 Times per week
Every day

3. Which location-based mobile dating applications have you used? (select all that apply)
Bumble
Coffee Meets Bagel
Grindr
Hinge
Hot or Not
Jack'd
OKCupid
Plenty of Fish
Tinder
Other _____ (text box for response)

4. Please rate the following items using the scale 1 (strongly disagree) to 5 (strongly agree)
I use or used LBMDA (because). . .

1. Everyone uses LBMDA
2. My online LBMDA connections understand me better than other people
3. It helps me to find a romantic relationship
4. It is exciting
5. It makes me feel less alone

6. To talk to someone about sex
7. I find it easier to open up to others online than offline
8. To contact a possible future romantic partner
9. I feel that I communicate more easily online than offline
10. To gain more self-confidence
11. For the kick
12. To feel more attractive
13. To exchange sexy pictures with someone
14. It is new
15. It helps me to establish new friendships
16. I feel less shy online than offline
17. I am looking for a one-night stand
18. So people can give me compliments about my appearance
19. To feel better about myself
20. To find a long-term relationship
21. It is an easy way to meet someone
22. It is cool
23. To find someone to have sex with
24. To find someone to be with

5. Have you ever met with a LBMDA match in person for any reason?
Yes
No (if no, skip to question 10)

6. How many matches have you met in person? If you are not sure, give your best guess. Report as a whole number and give a single number, not a range, e.x.: 1, 5, or 10
[Open-ended]

7. How long do you typically talk to a match online before meeting in person? Please indicate your unit of measurement (i.e., minutes, hours, days).
[Open-ended]

8. How many times have you been on a date with someone you matched with on a location-based mobile dating application? (Please give your best guess. If you have never been on a date, report "0". If yes, give the number of different persons you have met for a date. If you have been on a date with two separate people, you would report "2". If you have been on 5 dates with one person, you would report "1".)
[Free Response]

Hookup Definition: A hookup is a casual encounter of a sexual nature, which may or may not include sexual intercourse, between two individuals who are not in a dating or committed relationship.

9. How many times have you engaged in a hookup with someone you matched with on a location-based mobile dating application? If never, report "0". If yes, how many times have you engaged in a hookup with someone you met through a location-based mobile

dating application? (If you are not sure, please give your best guess. Report as a single, whole number, e.x.: 1, 5, 15, etc.)
[Open-ended]

[Only participants who selected "no" to Question 1]
10. What are the reasons you do not use location-based mobile dating applications? Please rate the following items using the scale 1 (strongly disagree) to 5 (strongly agree)

1. Currently in a relationship
2. LBMDA are primarily for hookups
3. I am not interested in these apps (i.e., I'm not dating, I have no desire to use these)
4. They have a bad reputation
5. I prefer to meet partners in a more traditional way (i.e. want to find a partner in the "old fashioned" way, without using an LBMDA).
6. Safety Concerns (i.e., stalking, people lie, catfishing, risky)
7. Other (Fill in the blank)

The IDEA: Inventory of the Dimensions of Emerging Adulthood

Instructions: First, please think about this time in your life. By "time in your life," we are referring to the present time, plus the last few years that have gone by, and the next few years to come, as you see them. In short, you should think about a roughly five-year period, with the present time right in the middle.

For each phrase shown below, please use the following scale from 1 (strongly disagree) to 4 (strongly agree) to indicate the degree to which you agree or disagree that the phrase describes this time in your life. For example, if you "Somewhat Agree" that this is a "time of exploration," then you would select "Somewhat Agree" (3).

1 (Strongly Disagree) -- 2 (Somewhat Disagree) -- 3 (Somewhat Agree) -- 4 (Strongly Agree)

Is this period of your life a...
1. time of many possibilities?
2. time of exploration?
3. time of confusion?
4. time of experimentation?
5. time of personal freedom?
6. time of feeling restricted?
7. time of responsibility for yourself?
8. time of feeling stressed out?
9. time of instability?
10. time of optimism?
11. time of high pressure?
12. time of finding out who you are?
13. time of settling down?
14. time of responsibility for others?
15. time of independence?
16. time of open choices?
17. time of unpredictability?
18. time of commitments to others?
19. time of self-sufficiency?
20. time of many worries?
21. time of trying out new things?
23. time of separating from parents?
24. time of defining yourself?
25. time of planning for the future?
26. time of seeking a sense of meaning?
27. time of deciding on your own beliefs and values?
28. time of learning to think for yourself?
29. time of feeling adult in some ways but not others?

30. time of gradually becoming an adult?
31. time of being not sure whether you have reached full adulthood?

The AISS (Arnett Inventory of Sensation Seeking)

Instructions: For each item, indicate which response best applies to you:
1) describes me very well
2) describes me somewhat
3) does not describe me very well
4) does not describe me at all

1. I can see how it would be interesting to marry someone from a foreign country.

2. When the water is very cold, I prefer not to swim even if it is a hot day.

3. If I have to wait in a long line, I'm usually patient about it.

4. When I listen to music, I like it to be loud.

5. When taking a trip, I think it is best to make as few plans as possible and just take it as it comes.

6. I stay away from movies that are said to be frightening or highly suspenseful.

7. I think it's fun and exciting to perform or speak before a group.

8. If I were to go to an amusement park, I would prefer to ride the rollercoaster or other fast rides.

9. I would like to travel to places that are strange and far away.

10. I would never like to gamble with money, even if I could afford it.

11. I would have enjoyed being one of the first explorers of an unknown land.

12. I like a movie where there are a lot of explosions and car chases.

13. I don't like extremely hot and spicy foods.

14. In general, I work better when I'm under pressure.

15. I often like to have the radio or TV on while I'm doing something else, such as reading or cleaning up.

16. It would be interesting to see a car accident happen.

17. I think it's best to order something familiar when eating in a restaurant.

18. I like the feeling of standing next to the edge on a high place and looking down.

19. If it were possible to visit another planet or the moon for free, I would be among the first in line to sign up.

20. I can see how it must be exciting to be in a battle during a war.

Three Item Loneliness Scale (TILS)

INSTRUCTIONS: We would like to ask you a few more questions about your relationships with others. Remember, when the term "others" is used, it includes friends, neighbors, or family members. Use the scale from 1 (Hardly Ever) to 3 (Often) to select your your response.

1 Hardly Ever --- 3 Some of the time --- 5 Often

1. In general, how often do you feel that you lack companionship?
2. In general, how often do you feel left out?
3. In general, how often do you feel isolated from others?

Social Desirability - Short Version

Listed below are a number of statements concerning personal attitudes and traits. For each question, circle yes or no. It's best to go with your first judgment and not spend too long mulling over any one question.			
1.	It is sometimes hard for me to go on with my work if I am not encouraged.	Yes	No
2.	I sometimes feel resentful when I don't get my way.	Yes	No
3.	On a few occasions, I have given something up because I thought too little of my ability.	Yes	No
4.	There have been times when I felt like rebelling against people in authority even though I knew they were right.	Yes	No
5.	No matter who I'm talking to, I'm always a good listener.	Yes	No
6.	There have been occasions when I have taken advantage of someone.	Yes	No
7.	I'm always willing to admit it when I make a mistake.	Yes	No
8.	I sometimes try to get even rather than forgive and forget.	Yes	No
9.	I am always courteous, even to people who are disagreeable.	Yes	No
10.	I have never been irked when people express ideas very different from my own.	Yes	No
11.	There have been times when I was quite jealous of the good fortune of others.	Yes	No
12.	I am sometimes irritated by people who ask favors of me.	Yes	No
13.	I have never deliberately said something that hurt someone's feelings.	Yes	No

SOCDES= MEAN (1r, 2r, 3r, 4r, 5, 6r, 7, 8r, 9, 10, 11r, 12r, 13)

Demographics

INSTRUCTIONS: The following demographic questions are here to help us understand who is completing this survey. The following questions are for statistical purposes only.

1. What is your age? _____

2. What was your assigned sex at birth?
   - □ Female
   - □ Male
   - □ Other (*please specify*) _____

3. What is your current gender identity?
   - □ Female
   - □ Male
   - □ Transgender
   - □ Other (*please specify*) _____

4. What is your sexual orientation?
   - □ Exclusively heterosexual/straight
   - □ Mostly heterosexual, only incidentally homosexual/gay/lesbian
   - □ Equally heterosexual/straight and homosexual/gay/lesbian
   - □ Mostly homosexual/gay/lesbian, only incidentally heterosexual
   - □ Exclusively homosexual/gay/lesbian
   - □ Pansexual
   - □ Queer
   - □ Asexual: No socio-sexual contacts or reactions

5. What is your relationship status?
   - □ Single (i.e., no current sexual or romantic partners)
   - □ I am in a sexual, but non-romantic relationship
   - □ Casually dating (i.e., I am in a non-monogamous romantic relationship)
   - □ Exclusively dating (i.e., I am in a monogamous romantic relationship)
   - □ Engaged to be married
   - □ Married/Civil Union/Domestic Partnership
   - □ Other (*Please Specify*): _____

9. What do you consider your primary race/origin?
   - □ White (e.g., Irish, German, Italian, Lebanese, Arab, Moroccan, etc.)
   - □ Hispanic, Latino/a, or Spanish Origin (e.g., Mexican or Mexican American, Puerto Rican, Cuban Dominican, etc.)
   - □ Black or African American (e.g., African American, Kenyan, Nigerian, Haitian, etc.)
   - □ American Indian or Alaska Native (e.g., Navajo, Blackfeet, Inupiat, Central or South American Indian groups, etc.)
   - □ Asian (e.g., Chinese, Filipino, Korean, Japanese, Vietnamese, etc.)
   - □ Native Hawaiian or Other Pacific Islander (e.g., Native Hawaiian, Guamanian, Samoan, etc.)
   - □ Biracial or Multiracial
   - □ Other (*Please Specify*): _____
   - □ I would rather not report this

10. What is your year in school?
   - □ First Year Student
   - □ Sophomore
   - □ Junior
   - □ Senior
   - □ 5th Year Senior
   - □ Graduate Student
   - □ I would rather not report this