

RELATIONSHIP BETWEEN USE OF ONLINE DATING APPS AND MENTAL
WELL-BEING IN YOUNG ADULTS

by

Kyndal A. Burdin

Liberty University

A Dissertation [Proposal] Presented in Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy

Liberty University

[September, 2024]

RELATIONSHIP BETWEEN USE OF ONLINE DATING APPS AND MENTAL
WELL-BEING IN YOUNG ADULTS

by

Kyndal Burdin

Liberty University

A Dissertation Presented in Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy

Liberty University

[September, 2024]

APPROVED BY:



Donna Busarow, PhD, Committee Chair



Laura Beiler, PhD, Committee Member

ABSTRACT

Technology and social media use are steadily becoming the preferred way to form and maintain relationships. A large majority of young adult populations investing time and energy into dating applications to meet romantic partners. Research has identified that there are many benefits, but also many risks, to using technology. It is important to identify the potential negative outcomes that dating app users may face and inform mental health professionals who can create proper preventive measures and treatment plans when working with clients. This study addresses the gap in the literature about some of the potential relationships between negative mental health states and frequency of using dating apps, as well as examining the potential differences gender plays on these relationships. This quantitative research study was completed using an online survey. The final results of 80 participants were analyzed using correlations and t-tests to examine the differences between high and low app users in reported self-esteem and burnout as well as differences between genders in self-esteem and burnout. Dating app use had a significant positive correlation with self-esteem, and significant difference in means was identified between high and low app users as well as between genders when it came to reported self-esteem. There were no significant correlations or differences found as it related to the variable of burnout. Future research should continue exploring the impact that frequency of dating app use has on mental health outcomes as well as further study the variable of burnout as it relates to use of swipe-based applications.

Copyright Page

Dedication

I want to dedicate this dissertation manuscript to my family for all of their support throughout my academic career. I could not have completed my education without them. My parents have always been there for me to support my dreams for the future, and I know they are proud of what I have accomplished thus far. My sister has always been my sounding board to listen to the ideas I have had, and she has cheered me on constantly to help me feel confident to push forward through this process. My husband has similarly been there for me during this long process encouraging me and celebrating each little accomplishment I made. This dissertation manual represents all of the work I have put in to complete my degree with Liberty University, and is the culminating work of all of the years I have put in to achieve a Doctorate in Psychology. I have been very blessed with the loved ones that surround me and I thank God for giving me the ability and talents to reach this academic milestone.

Acknowledgments

I want to acknowledge the amount of time and guidance my Dissertation Chair, Dr. Busarow, and my Dissertation Member, Dr. Beiler, have provided me throughout the dissertation process. Their feedback and dedication to seeing me succeed has been crucial to finishing this manual. I also want to acknowledge all of my professors in the Liberty University program, and those from all of my previous educational institutions, who have equipped me with the tools I needed to have completed this process.

TABLE OF CONTENTS

ABSTRACT	iii
Dedication	v
Acknowledgments	vi
List of Tables	x
List of Figures	xi
CHAPTER 1: INTRODUCTION TO THE STUDY	
Introduction	1
Background.....	2
Problem Statement	4
Purpose of the Study.....	6
Research Questions and Hypotheses	6
Assumptions and Limitations of the Study.....	7
Definition of Terms	10
Significance of the Study	11
Summary.....	12
CHAPTER 2: LITERATURE REVIEW	
Overview	13
Description of Research Strategy	13
Review of Literature	14
Biblical Foundations of the Study	50

Summary	52
CHAPTER 3: RESEARCH METHOD	
Overview	54
Research Questions and Hypotheses	54
Research Design	55
Participants	56
Study Procedures	57
Instrumentation and Measurement	58
Operationalization of Variables	60
Data Analysis	61
Delimitations, Assumptions, and Limitations	62
Summary	64
CHAPTER 4: RESULTS	
Overview	65
Descriptive Results	65
Study Findings	67
Summary	71
CHAPTER 5: DISCUSSION	
Overview	73
Summary of Findings	73
Discussion of Findings	75
Implications	80
Limitations	83

Recommendations for Future Research	85
Summary	87
REFERENCES	89
APPENDIX A: RECRUITMENT MATERIALS	97
APPENDIX B: DEMOGRAPHIC QUESTIONS	99
APPENDIX C: DATING HISTORY AND DATING APP USE	100
APPENDIX D: ROSENBERG SELF-ESTEEM SCALE (RSE)	102
APPENDIX E: COPENHAGEN BURNOUT INVENTORY (CBI)	103
APPENDIX F: IRB APPROVAL AND EXEMPTION	104

List of Tables

Table 1 66

Table 2 69

List of Figures

Figure 1 68
Figure 2 70

CHAPTER 1: INTRODUCTION TO THE STUDY

Introduction

The rise in technology over the past few decades has increased dramatically and many services have been replaced by online platforms. The number one form of displacement that has occurred is socially, such that the amount of time spent face-to-face with others is decreasing instead to favor interactions on social media (Hall & Liu, 2022). The occurrence of social displacement is believed to negatively affect peoples' well-being (Hall & Liu, 2022). The recent addition of the COVID-19 pandemic led to greater reliance on technology to conduct work, get an education, and socially connect with others. Recent research on the effects of COVID-19 revealed that the experience of psychological distress during the pandemic significantly predicted social media addiction (Karakose et al., 2022). Longer time spent on social media has shown to have a multifactorial effect on higher reported levels of depression, anxiety, and stress disorders (Karakose et al., 2022). Overall, there have been negative and positive effects found within the topic of social media, but little has been done on the topic of online dating and its potential effect – positive or negative – on our well-being.

The use of technology as a source of finding a romantic partner is not a relatively new concept as it began as a pursuit of love on the computer with websites instead of smartphone applications. In recent times, the use of dating apps is a normalized and useful tool to support the dating journey rather than having the shroud of social stigmas websites had initially. Research has demonstrated this shift showing that the number of global dating app users used to be at 198.6 million in 2015 and has spiked to 250 million in 2021 (Bandinelli, 2022). Dating apps became a solution to a problem society was

having by maximizing the pool of potential partners and offering specific functionalities that allow one to connect quickly (i.e., geolocation, swiping, liking). The number of dating apps has subsequently increased to meet the unique needs or backgrounds of daters with different features and structures. For example, Tinder uses location and limited initial information, and E-Harmony uses a system that matches based on statistics (Bandinelli, 2022). Love and romance are now moderated by digital platforms, and this transition from reality to online actually may have a serious effect on social psychology and well-being.

Background

Constant access to smartphone-based services has been shown to have potentially negative effects on individuals when the use becomes problematic and almost addictive. Research to understand how increase time spent on dating apps was affecting user well-being through ecological momentary assessment (EMA) found that this increased use predicted a sort of craving for users and notifications boosted mood and increased self-esteem; the lack of getting notifications on one's phone relates to outcomes such as lower levels of self-esteem, depression, and even body dissatisfaction (Bonilla-Zorita et al., 2023). A 7-day smartphone ecological study on women's dating app use found that 94 participants (32%) reported lifetime use (>1 use) of dating apps and this predicted greater urges for disordered eating and more daily negative mood (Portingale et al., 2022). It is believed that dating apps give indirect feedback to users regarding their appearance leading to feelings of rejection and the subsequent participation in unhealthy behaviors are attempts to enhance oneself and get success on the apps.

As previously noted, dating apps provide easy access to a large pool of potential partners so there are more people to contact more often. This can be a benefit in terms of having many choices and maybe increasing odds of making a match, but research has also noted that too many choices and too many potentials can be detrimental as well (Best & Delmege, 2012). More choices come with increased chances of connections and rejections; data supports this trend with 71% of men and 56% of women reporting that being ignored is the most common follow-up behavior to an initial contact on dating apps (Alba, 2021). A two-part study examined the effect of rejection on individual behavior outcomes. It appeared that implicit rejections (those instances where messages were ignored) lead to motivation to revise profile information in hopes to get more positive outcomes (Alba, 2021). Additionally, people reported worsened moods when getting ignored or ghosted after making a match or starting a conversation (Alba, 2021). Self-esteem is a factor that also can intensify the effect of rejection with higher levels eliminating the effects and lower levels leading to more negative feelings.

One potential effect of spending extensive time on dating apps is burnout. Most of the literature focuses on burnout in the work place and not so much on relationships or the dating process. Social media has been implemented in job burnout through the role of social comparison online such that the interaction between social media addiction and social comparison influences greater feelings of job burnout (Han et al., 2020). These results point to the significant role that social media has in real spaces and professional life, thus negative effects on the overuse of media are shaping individual psychology and behaviors. The concept of relational burnout or relational load is defined as the breakdown of emotional, relational, and cognitive resources that occurs over time due to

chronic stress and conflict in close relationships (Afifi et al., 2021). One could apply this similarly to use of resources and experience of stress that occurs due to use of dating apps to initiate a relationship, especially if there is a lot of effort being expended over longer periods of time without relational success past the initiation stages.

From a Biblical foundation, the Bible comments on the importance of protecting our hearts from temptations of this world and preparing for trials we may face. In Proverbs 4:23 (*New International Version*, 2011) God tells us that “above all else, guard your heart, for everything you do flows from it.” The heart provides life, we follow it when making decisions, and is a major component contributing to who we are. It is very fragile as well as we were created as emotional beings, and the process of dating can threaten this fragility and test us. God warns us in scripture about many earthly trials to face, but He is always there providing comfort and stays “close to the brokenhearted and saves those who are crushed in spirit” (*New International Version*, 2011, Psalm 34:18). God is there through all of the rejections, fears, stresses, and has also placed individuals in this world who can help people cope and persevere. Problems with social media and its impact on the self (esteem, stress, burnout etc.) are all outcomes that are important to address to further our understanding of our relationship with technology and online media.

Problem Statement

Technology and social media use for finding romantic partners is steadily increasing and has changed how people are initiating romantic relationships (Goldberg et al., 2022). Dating apps enable individuals to contact more people, more often and in any

place due to the algorithms and technological advancements smartphone apps have undergone over time. However, this constant filtering and ongoing potential for rejection can exhaust the dating energy of users (Best & Delmege, 2012). Based on the cognitive-behavioral model, the anticipation of immediate rewards that smartphones provide with instant notifications may lead to users becoming dependent on the applications (Coduto et al., 2020). Self-regulation may become more difficult leading to continuous swiping behaviors that alter the original motivation and even partner preferences an individual had when initially starting their use of dating apps (Coduto et al., 2020). The current research points to a dichotomy of dating apps with positive and negative aspects to their make-up. Dating applications have become a helpful tool for people to overcome individual and social barriers by offering more autonomy and accessibility to dating (Degen & Kleeberg-Niepage, 2022). There is also the potential for a harmful impact on the self as it accelerates social routines, affects self-presentation based on perceived social norms, and may lead to attribution of failure online to be placed on one's own ineffectiveness or unattractiveness (Degen & Kleeberg-Niepage, 2022).

There is a gap in the literature as it relates to our understanding of the mental health effects of smartphone apps due to the fast progression of technology as well as a lack of focus on the changes dating apps have had on our culture. One particular variable where more insight is needed in relation to dating apps is the effects of time spent using them. The variable of burnout also has relatively little literature on it outside of the realm of the workplace when it may be useful to apply this to other life domains. Since dating apps provide constant connectivity for daters, the constant emotional investment and repetitive behavior of swiping, talking, waiting, and rejection may take a toll over time

leading to feelings of burnout as it relates to the search for a partner. Studying this variable will help determine if a relationship does exist between dating app use and potential for devaluation in emotional resources. This study will greatly expand and excite interest into the study of dating apps and other technological advancements on our relationships and individual well-being.

Purpose of the Study

The purpose of this correlational study was to examine how the use of dating apps affect self-esteem and feelings of burnout as well as to examine potential gender differences in these relationships.

Research Question(s) and Hypotheses

Research Questions

RQ1: Does self-reported use of swipe-based dating apps relate to self-esteem?

RQ 2: Does self-reported use of swipe-based dating apps relate to emotional burnout?

RQ 3: Does gender relate to self-reported use of swipe-based dating apps and self-esteem and burnout?

Hypotheses

Hypothesis 1: Swipe-based dating app users who self-report high usage will report lower self-esteem compared to those who self-report lower usage.

Hypothesis 1₀: Swipe-based dating app users who self-report high usage will not report lower self-esteem compared to those who self-report lower usage.

Hypothesis 2: Swipe-based dating app users who self-report high usage will report higher emotional burnout compared to those who self-report lower usage.

Hypothesis 2₀: Swipe-based dating app users who self-report high usage will not report higher emotional burnout compared to those who self-report lower usage.

Hypothesis 3a: Individuals identifying as biologically female at birth who self-report high usage of swipe-based dating apps will report lower self-esteem and higher emotional burnout compared to those who self-report lower usage.

Hypothesis 3a₀: Individuals identifying as biologically female at birth who self-report high usage of swipe-based dating apps will not report lower self-esteem and higher emotional burnout compared to those who self-report lower usage.

Hypothesis 3b: Individuals identifying as biologically male at birth who self-report high usage of swipe-based dating apps will report lower self-esteem and higher emotional burnout compared to those who self-report lower usage.

Hypothesis 3b₀: Individuals identifying as biologically male at birth who self-report high usage of swipe-based dating apps will not report lower self-esteem and higher emotional burnout compared to those who self-report lower usage.

Assumptions and Limitations of the Study

Quantitative researchers assume that there is a single reality and that the purpose of the research is to discover the truth (Hathaway, 1995). In order to do this, the researcher must remain detached and objective due to the assumption that what is being studied is separate from the researcher. One must remain neutral and strive to prevent biases through the research process by controlling the research design. The researcher

should strive to maintain a valid, credible, and reliable testing process and remain aware of potential threats to data collection and analysis. In order to meet these assumptions, each part of the methodology was carefully chosen in order to gain accurate knowledge to extend our understanding of the human experience and relationship with dating applications.

There are some limitations to independent samples, such that there can be a variety of subject specific factors that influence their responses to the survey and cannot be controlled for. Some of these variables may include the testing environment, internet connectivity, and other subject effects where participants would behave or answer differently based on expectancies or social desirability. If participants have distractions or get bored of the survey before completion, this can affect their responses (Lefever et al., 2007). The form of recruitment with emails and posts can also be missed by individuals if they are scrolling by things quickly or receive a lot of emails and the study information is lost amongst them; this can impact the response rate and overall sample size when testing concludes (Lefever et al., 2007). Additionally, each user has their own individual experiences and outcomes with dating online that may not be captured in the survey. The use of a few questionnaires only captures the specific variables of interest and may be missing other variables involved that effect well-being responses.

Theoretical Foundations of the Study

Based on the literature, there appears to be a joining of psychology and economic theories at play within dating app algorithms and the reasons people are motivated to use them. One theory that stands out combining behaviorism and economics is social

exchange theory, which approaches initiation and creation of relationships between two people through cost-benefit analysis. There are three core assumptions regarding human nature and relationships to make up the foundation of social exchange theory. The first assumption is that people seek out rewards and want to avoid punishments (Shtatfeld & Barak, 2010). The second assumption is that people begin interactions to gain maximum profit with minimal cost (Shtatfeld & Barak, 2010). The third assumption is that the payoff will vary from person to person as well as change over time (Shtatfeld & Barak, 2010). In general, all of these assumptions rely on one's expectations regarding relationships based on past experiences that affect what an individual views as a "cost" or negative in a potential relationship and "benefits" or positive attributes in that partner. This theory is useful for analyzing the concepts of interest to better understand human behavior online and how these experiences over time are influencing the expectations or perceptions of the individual and their decision-making.

Additionally, the online disinhibition theory explains the change in people's behaviors from reality to online domains (Kwok & Wescott, 2020). Technology provides a level of distance, anonymity, and alteration in time that can influence the way people act. People may alter their character, or morals, and decision-making processes without considering the consequences of one's actions (Kwok & Wescott, 2020). Reality does not allow for the level of alteration and disconnect from others, so feelings of others, personal fears, and normal restraints do not matter anymore and may become an afterthought. People then may become crueler and blunter on dating apps when interacting with others, especially when handling a rejection. This disinhibition or disregard for others feelings may sometimes lead to poor habits when handling rejections such as ghosting a potential

partner rather than talking to them. Those on the receiving end of these rejections may begin attributing the rejection to something they themselves did or attribute it to their physical appearance which lowers self-esteem.

As it relates to burnout, choice theory is prominent in the literature to explain the effect of choice overload. Choice theory states that large sets of choices may lead to regret, choice justification, and cognitive burden as well as lower satisfaction with the choices that were made and sometimes even general frustration (D'Angelo & Toma, 2017). The large choice sets on dating applications may produce this effect as people are swiping through potential partner profiles and having the anticipation or worry that there may be a better option coming next. Individuals may end up missing viable partner options due to this, then later regret those they actually swiped on or regret that they swiped the wrong way on prior profiles. Constant negative feelings related to these overloading choices can produce a burdening feeling and lead to burnout with the entire dating process.

Definition of Terms

The following is a list of definitions of terms that are used in this study.

Burnout – The first term is defined often as an occupational phenomenon that is caused by a gap between reality and expectations of the individual; in the context of social media, it is the degree one feels exhausted while using it in three aspects: ambivalence, emotional exhaustion, and depersonalization (Wu et al., 2020).

Online Dating – The second term is defined as facilitation of romantic connection through technology via text, voice, image, or video without potential partners being in the same location (Finkel et al., 2012).

Self-esteem – The third term is defined in the context of online dating as the degree to which an individual sees the self as desirable as a romantic partner (de Vries, 2016).

Swipe-based Dating Application (SBDAs) – The fourth term is defined as a platform that allows individuals to interact with potential romantic connections through a swipe feature (left or right) to approve or reject other user profiles (Holtzhausen et al., 2020).

Significance of the Study

Overall, this research will further aid the field of psychology's pursuit to reveal how people are being changed and impacted by technology in the digital age. Technology is continuing to progress, change, and impact younger generations. It is important for psychology to make continual efforts to track the effects of technology and address a growing concern for new contemporary relationships and mental health as more time passes. There have not been many studies that have applied social-based theories to online domains and rather have previously solely been viewed from an offline perspective. The dynamic of relationships are likely different when looking at them online vs. offline, so since many theories are based on in-person realities research is needed to figure out how technology is impacting relationship processes and communication.

The results of this study may help inform clinicians in terms of practice when addressing mental health to consider smartphone use as a potential factor impacting client

well-being. Additionally, this will provide practitioners with data to begin incorporating our relationship with technology as an avenue of focus to include as a reason for counseling. Reliable practice standards can be created to help clients control negative related behaviors of using smartphone technology, and improve human relations or use of smartphone technology as well. This will also provide important information to those using dating apps as well to explain potential effects of overusing the apps, and identify potential negative outcomes overuse may cause.

Summary

The introduction has outlined the topic of study and the foundational aspects that have driven it forward. Swipe-based dating apps are rising in popularity and the use of them is important to study in order to progress the knowledge regarding effects of technology on individual well-being. The research questions and hypotheses explain the relationships that will be explored through quantitative survey-based research. The variables include self-esteem, feelings of burnout, and gender related to swipe-based dating applications by comparing levels of usage (high vs. low).

To study these relationships, the basis in explaining the relationships of online dating is explained by the social exchange theory. There are three assumptions the theory describes within a combined approach of behaviorism and economics. The assumptions help understand how interactions with others relate to a cost-benefit analysis that drives decision-making and is based on past experiences. This research will provide further insight into the possible negative effects of using media excessively, which can help practitioners also when addressing issues with self-esteem, burnout, and other well-being

outcomes that may be attributed to technology use. The next chapter will be a literature review on the topic of online dating

CHAPTER 2: LITERATURE REVIEW

Overview

Within this chapter, the current literature regarding the topic of online dating will be addressed. Online dating is a more recent phenomenon that has grown beyond computer websites with the creation of dating applications. These new apps allow people to instantly gain access to a large pool of potential partners and begin matching with individuals at a fast pace. With new technological advancements, there are always risks involved, and research has begun exploring the potential effects, whether positive or negative, that dating apps have on individual well-being compared to the traditional ways of dating in-person. Current studies have mainly focused on the application algorithms and capabilities they provide as well as different motivations for use in the general population to begin tapping into how technology is mediating the creation and maintenance of romantic relationships. In order to understand the effects this technology is having on our well-being, the current study is narrowing its focus onto excessive use, self-esteem, and burnout in relation to use of online dating apps. Psychological literature and scripture have provided important insight into present day romantic relationships.

Description of Search Strategy

The search for current peer-reviewed articles was conducted via an online library through Liberty University, Jerry Falwell Library. The databases included Academic OneFile, JSTOR, Sage Journals, Elsevier, Springer, Emerald Insight, and Routledge. The following search terms were used to locate articles specific to this study: *self-esteem*, *social theory*, *economic theory*, *excessive swiping*, *effects of technology*, *social rejection*,

dating app use, dating online, dating anxiety, well-being, and burnout. Variations of these terms were used to ensure exhaustive search results. In relation to Biblical scripture, two websites were used. The Bible Study Tools database was used to search the following terms to find the most relevant scripture to this study: *verses about love, dating and relationships, social media, temptation, and heartbreak*. Only the New International Version of Bible verses was used by searching the chapters and verses acquired through the database search in Bible Gateway.

Review of Literature

Rise of Technology in Dating

The traditional system of dating is becoming largely displaced by technological assistance in the form of dating applications and Internet sites. This trend has only continued increasing as the acceptance and general use of these sites grows. The traditional dating system involved spontaneous meeting in the real world or required mediation by friends or family to meet potential partners (Rosenfeld et al., 2019). Survey data comparisons between 1995 and 2017 (N = 5,421) on how couples are meeting in the U.S. demonstrated that there was a 37% increase between 1995 and 2017 for couples meeting online while all other traditional forms of dating experienced significant decreases as a result (Rosenfeld et al., 2019). The trends continue to follow this pattern as digital spaces continue to replace organic social activities, and this data shows how much these platforms are shaping the culture of dating.

A new term, cyberintimacy, defines the phenomenon of technology-mediated communication between potential romantic partners and how it is significantly impacting

how we form, maintain, and end these relationships (Kwok & Wescott, 2020). About one third of relationships are estimated to begin online and media continues to be involved in digital courtship and the span of a relationship (Kwok & Wescott, 2020). Online dating offers users an unprecedented network of potential partners that can be accessed from anywhere and at any time through simple matching mechanisms that users can control. Dating apps offer a solution to individuals that offers maximized access to a pool of strangers and sets of functionalities that people use to connect with them. Those particular adept at cyberintimacy are considered those who grew up with technology where there is a greater overlap between online and real-life romantic lives than any other group before.

An advantage to technology is that some users find initiating contact with others for friendship or romance is easier online because people are able to act more strongly than they would be comfortable doing in real life (Kwok & Wescott, 2020). This change in people from reality to online is explained using online disinhibition theory as the restraint or fears that were there are removed due to the distance and anonymity being online affords (Kwok & Wescott, 2020). In terms of dating online, this means that people may act quickly and not consider the outcomes of their behaviors because they do not see the direct impact of their decisions and actions towards others. There are also unanticipated challenges of technology including interference of technology as a distraction in everyday interactions and that traditionally personal aspects of relationships are now often shared in public forums. While there have been advantages to technology in staying connected with others, there are still complications to consider worrying about

that social scientists are beginning to study in order to determine how cyberintimacy is impacting the process of romantic relationships.

The story of finding love online has become more normalized by dating apps and reduced a stigma that was previously present when discussing the concept of online dating because of major applications like Tinder, Hinge or Bumble. The complications of the former embodied romance are supposed to be removed since the decision-making power is physically in the users' hands; however, the affordances of apps differ operating as the agents that shape what people can or can't do, or even think about when using them. Along with the empowerment to the daters and algorithms at play, dating applications provide greater opportunities for matching with someone to occur and does not place pressure on one interaction since there are many to fall back on if one connection fails (Bandinelli, 2022). Drawing on 35 open-ended interviews and four focus groups, a qualitative study was conducted to understand how people relate to dating app matching algorithms which focuses on the relationship of the user to the app (Bandinelli, 2022). Overall, users appear to have an ideology of love that is risk free, efficient, and deprived of previous complications of romance to deal with dilemmas in a new way. Dating apps then almost give individuals permission to deal with feelings and relationships with others in somewhat depersonalized ways in a virtual space.

One reason for the rise in dating technology is attributed to the rising number of single individuals. Online dating is a convenient method of locating other single individuals with similar relationship desires and goals. Adamczyk et al., (2022) sought to investigate singlehood and experiences with online dating websites and mobile applications via 30 individual interviews with adults aged 20 to 43 years old (14 women,

16 men). The convenience of dating apps was a major theme especially during the COVID-19 pandemic due to the limited opportunities for traditional settings; however, there was also commonality in perceiving dating apps as a difficult way to search for a romantic partner due to uncertainty of intentions of others and that the relationships would be meaningless or short-term (Adamczyk et al., 2022). Further, participants noted that using dating apps requires skill with effective self-branding to make a good first impression to appear like an interesting and attractive person as well as effective coping methods to deal with rejection. Despite the quick decision-making and constant connectivity one can have with a large pool of potential partners, the online process is one that can be time consuming and requires patience to find matches that actually stick.

Dating App Algorithms

There are many algorithms involved in online dating that distinguish dating apps from other dating sources as well as from each other; the algorithms accommodate factors related to user preferences, type of relationship being pursued and activity on the service itself (Huang et al., 2022). Due to the complexity of the apps and sometimes hidden algorithms involved, this is an important consideration when seeking to understand how individuals make sense of the online dating process. Folk theories are those that are intuitive explanations for a phenomenon that has occurred in order for an individual to conceptualize and make inferences about their social world (Huang et al., 2022). This meaning making theorization occurs constantly throughout the lifespan and has recently been applied to understand cyber-social systems, such as social media platforms or dating applications. Huang et al. (2022) recruited a large adult (>18yo) sample (N = 1669) to complete a crowdsourcing wiki-survey to collect possible

metaphors of online dating. After compiling all of the metaphors together a content analysis took place to conduct further study into the folk theories underlying how people view online dating as a social process. The main folk theories that emerged revealed that while a “shopping” metaphor gives a sense of control over dating online, the participants endorsing “chance and randomness” were frustrated with their experiences because of discouragement and lack of control (Huang et al., 2022). The other theory that emerged unique to online dating was a “game” metaphor where participants viewed gaining attention of others through small profiles had a game like function and the swiping gives a sense of fun like other game applications on phones (Huang et al., 2022). This study contributes to the way technology mediates social processes and that participant conceptualizations of dating apps differ and will likely have a fluidity to it based on the continued experience online as well as where people are in their relationship process.

Even more, the rapid development of new technologies means a constantly changing landscape of cyberintimacy with even more platforms entering the dating market. Finkel and colleagues (2012) sought to gain a comprehensive view of online dating by understanding how they implement services of access, communication, and matching. Dating sites have become the main way of seeking potential partners altering the acquaintance process and compatibility matching process through their unique and somewhat unconventional algorithms (Finkel et al., 2012). The experience involves relying on individual intuition rather than on input from others and learning broad range of facts about partners instantly, so it leads to more independence or self-reliance as well as rapid information input for quick decision-making. Each site claims to have the most users, the best matching algorithms, or the most success in an attempt to advertise their

service as unique from others (Finkel et al., 2012). While dating apps have altered the dating landscape, their marketing can lead users to hope for more than can be provided and subsequent disappointment, or negative feelings of self that are due to lack of perceived success. In addition, the use of dating apps and other mobile apps has been associated with negative effects on overall well-being based upon daily use and online experiences. There are multiple positives to dating applications and technological advancements, but there are still many unknowns in terms of how these changes are affecting people, especially in the long-term.

Adolescent & Young Adult Technology Use

Dating apps and other forms of social media are being utilized by adults, but even more so adolescents who are learning about themselves, others, and relationships through personal experience and vicariously through others. There are possible gender differences as well in terms of aspects that social networking sites play in romantic relationships, such as the confirmation or announcement of relationship status as well as public messages of affection towards one's partner online. Small focus group interviews using semi-structured questionnaires were conducted to better understand adolescent views of social media on romantic relationships; the interviewers found that the majority of participants (N = 57) believed using online platforms made initial conversations easier and less intimidating (Van Ouytsel et al., 2016). Additionally, more negative emotions were also experienced before or during a relationship in terms of jealousy and relational insecurity since one is able to keep tabs on the actions of romantic partners online (Van Ouytsel et al., 2016). In terms of gender differences, girls consider specific traits or posts on profile pages more in terms of their decision-making viewing content as off-putting or

interesting; both guys and girls held negative opinions towards profiles that still contained information about ex-relationships (Van Ouytsel et al., 2016) These results show concern regarding the influence social media and presentation has on decision-making and that the freedom the Internet allows is leading to higher disinhibition in individuals. This shows that there are also potential gender differences in terms of media use and behaviors online.

Adolescents and young adults are the highest users of technology, with 92% of those aged 13-17 (N = 1,060 teens) reporting daily internet use (Temple et al., 2016). There are increased fears of potential violence, catfishing, or abuse of young people due to the risk of exploitation by others who use digital media as fronts for more sinister purposes and fostering unhealthy relationship behaviors (Lykens et al., 2019; Temple et al., 2016). A quantitative survey study of 1500 youth and 12 qualitative focus groups (N = 66) provided context into the use of online technologies by youths under 18 years of age. Overall, social media played an important role in youth dating including online flirting, creation of dating profiles, and initiation of relationships (Lykens et al., 2019). One of the risks of using technologies starting or during relationships is cyber dating abuse; it is thought that dating abuse may be enabled by technologies like text messaging and social media, such that there is opportunity for behaviors like monitoring, controlling, or even harassing of partners. Adolescent dating abuse places individuals at a greater risk for mental health, physical health, and behavioral problems effecting daily life functions. Temple et al. (2016) conducted a longitudinal study to evaluate online dating abuse in teens (N = 780) via quantitative measures; the results indicated that those teens who were victimized online were more likely to be victimized in other contexts, as

well as would be continually abused over time even after a year later. There are a lot of risks associated with being online as well as rules against minor use of certain sites, yet many platforms do not offer security or vet every individual who uses it.

In addition to the potential dangers from others online, individuals are also receiving information about what one should strive for in relationships even if it is not achievable. Research to better understand the factors influencing relationship views was conducted through sixteen semi-structured interviews with adolescents aged 16 to 18 years old to learn about social media and its perceived effect on romantic relationship beliefs (Taba et al., 2020). The participants largely attributed beliefs to trends like ‘relationship goals’ and ‘insta-couples’ that cause pressure to have and share about one’s relationship online (Taba et al., 2020). Additionally, participants explained how the portrayals online serve as standards that one would use to evaluate their own relationship and could lead to problems due to the perceived unattainability (Taba et al., 2020). Similar research done by Vaterlaus et al. (2018) conducted a mixed method study to learn how adolescents and young adults perceive the influence of entertainment media and interactive media on romantic relationships. The majority of participants (N = 204) perceived that entertainment and social media impacts romantic relationships in a few ways including development of unrealistic relational expectations, pressure to be in a relationship, and communication to start relationships (Vaterlaus et al., 2018). The media push for a relationship and lens that media creates on relationships may support greater need for dating apps in order to find a partner and effect the decision-making process of picking a potential partner.

Dating Apps and Well-Being

There is a fundamental human motivation to connect with other people which plays a central role in individual well-being. There has been consistent evidence that socializing with others contributes to better life outcomes and positive feelings historically in regards to face-to-face interactions. Online systems are now largely displacing face-to-face communication globally taking time away that is often spent in physical activity, academic activity, or labor. Social displacement is one form of media displacement that leads to change in how people use their time, opting for social media to connect, interact and build social community (Hall & Liu, 2022). Recent evidence from the time of COVID-19 shows that smartphone users were averaging 27% of their daily waking hours on mobile devices (Hall & Liu, 2022). The favoring of online mediums to maintain or begin relationships is related to less face-to-face interactions and social displacement argues that a decline in face-to-face interactions is detrimental to well-being (Hall & Liu, 2022). While technology allows more communication to occur and more often with individuals who are further away from you, the outcomes may not be the same; there has been stronger associations between face-to-face relationships and communication than online ones when looking at positive outcomes, such as life satisfaction and happiness. Additionally, how people are using social media varies in terms of outcomes on well-being such that there are two categories: passive and active use, with passive use involving activities like scrolling or swiping rather than direct messaging to promote social capital (Hall & Liu, 2022). Relationships with others are important and a satisfying intimate relationship in particular is considered to be one of the strongest predictors of emotional well-being based on the current accumulated scientific

literature on romantic relationships. On the other side, the literature shows that the experience of loneliness or having distressed relationships predicts increased risk of poor mental and physical health.

Hook-up Culture

Dating applications have transformed traditional socialization and promoted new ways of meeting romantic partners, which has simultaneously believed to have generated a hook-up culture made up of casual interactions with multiple partners connecting on and offline. (Castro & Barrada, 2020). Based on a literature review done by Castro and Barrada (2020), research has found a number of potential risks related to the use of dating apps, and a common finding is that self-esteem is one of the most important psychological predictors of using dating apps. The reasons for use have been associated with increased potential health risks and abuse associated with deception and discrimination based on body type, weight, age, or HIV stigmas (Castro & Barrada, 2020). The ‘hook-up culture’ that is associated with dating apps may contribute to greater risky sexual behaviors such as lack of protection, discussing past sexual history, or being under the influence when interactions occur (Castro & Barrada, 2020). About one-third of offline encounters that began online lead to casual sex and one-fourth in an actual committed relationship, so the outcome varies despite the original motivation for use.

Gender and Dating App Use

A survey conducted on dating app use by adults in the United States in 2022 found that there is a small difference between genders in terms of dating app usage, such that men (34%) were more likely than women (27%) to have tried a dating app in their lifetime (Pew Research, 2023) Even with men being more likely to try dating apps, there

may be differences in terms of reasons for use as well as the potential outcomes of that use. In the same survey, gender differences were measured and found in terms of how females and males feel about the number of messages received while using dating apps. The results of those responses demonstrated that women were more likely to feel overwhelmed by the number of messages they get, while men are more likely to feel insecure about the lack of messages (Pew Research, 2023). The current literature has evaluated potential gender differences in terms of motivations for use, experiences online, and psychosocial outcomes.

Tinder has become one of the most popular dating applications and a social phenomenon that dominates the online dating market with over 6.5 million downloads worldwide in 2021 (Roca-Cuberes et al., 2023). Interviews were conducted with 18 men and 19 women in order to obtain differences in dating app use by gender and age (Roca-Cuberes et al., 2023). After analyzing the interviews, males were largely motivated to use dating apps because of casual sexual relationships while women reported broader reasons for use (e.g., socializing, ego-boosting, and finding a partner). Once on the apps, further differences were found related to selection of matches between men and women. Generally, women were more selective and inspected estimable attributes, such as work and level of education (Roca-Cuberes et al., 2023). When men are choosing matches, the male participants reported paying attention to the physical appearance of profile photos (Roca-Cuberes et al., 2023). These results show that women are more discerning and striving for stable partners while men focus on physical appearance which matches their reasons for use being physical.

Psychosocial functioning is of concern in relation to social networking sites due to photos being an essential part of one's online narrative, so evaluating similar concerns on dating apps is necessary since they are similarly defined by visual information. The objectification theory from a psychosocial perspective suggests the potential negative effect of objectifying a person based on their image and being exposed to appearance ideals (Strubel & Petrie, 2017). In line with objectification theory, the physical requirement on Tinder can result in depersonalization, heightened awareness and criticism of the body, and the potential to swipe to see the next best thing on their smartphone screen. Research was conducted with a focus on the effect of Tinder use and examined the interaction of gender with body image concerns, internalization, and self-esteem (Strubel & Petrie, 2017). Online surveys revealed differences by gender for Tinder users with males scoring significantly lower self-esteem compared to non-users of both genders. Overall, men and women dating app users reported less satisfaction with their bodies, stronger internalization of societal appearance ideals, and greater monitoring of their appearance compared to men and women non-users (Strubel & Petrie, 2017). Being swiped left on or unmatched means that the individual is viewed as not attractive by others. The continual self-promotion of an ideal and impression management online without validation from others or lack of dating success over time may worsen levels of self-objectification and lower self-esteem.

Self-validation and Appearance

Prior evidence regarding exposure to media that has sexually objectifying content often induces body dissatisfaction and self-objectification. Media also often displays unrealistic ideals of individuals and relationships which can lead to insecurities regarding

the self. Dating apps often focus on physical appearance which can promote excessive concerns about body image and lead to unhealthy weight management or other negative mental health outcomes. Some people use dating apps for self-validation or self-improvement which has been related to potential risks about body image and lower self-esteem (Castro & Barrada, 2020). The other reasons associated with dating app uses are related to entertainment, curiosity about them, and desire to generally socialize, which points to other issues related to individuals not using the apps for their original purpose (Castro & Barrada, 2020). The reasons for use that could grow to problematic use of apps generally may affect the daily lives of users and lead to negative psychological effects.

Body dissatisfaction refers to negative assessment of body size and shape, and results in comparison to an idealized body for their gender (Harren et al., 2021). Appearance-focused media has been directly associated with more body dissatisfaction and overall well-being in both men and female populations. Objectification is also a concern when it comes to appearance-focused media with theories of objectification postulating that being objectified results in internalization of the body as an object which encourages body monitoring, body shaming, self-surveillance, and disordered-eating behaviors (Harren et al., 2021). To investigate the relationship with problematic online dating and social media use on body esteem, Harren et al. (2021) conducted survey research with a final sample of 1,802 individuals aged 18 to 54 years old. Based on responses, problematic media use was associated with lower body esteem most likely due to the appearance-based dating apps present (Harren et al., 2021). Many applications enable greater control over self-presentation through their filters and correcting features leading to increased objectification of the self in order to meet perceived standards. Issues

with body esteem can impact development of healthy intimate relationships and increase fears of being rejected or disapproved of by potential partners.

The design of many dating apps features a focus on physical appearance placing a degree of importance on physical attractiveness and visual impression management, which as previously found leads to negative personal outcomes. Appearance-related pressures have previously been known to increase the experience of body dissatisfaction and symptoms of disordered eating, so there is pressure to make a good first impression that is based mainly on photos on media applications (Portingale et al., 2022). Eating disorder models propose that social evaluation leads to low self-esteem and negative affect that can trigger disordered eating habits as a means to enhance themselves despite the dangers associated with the behaviors and often is only a short-term boost to the self (Portingale et al., 2022). Perceived decrease in social desirability and experience of social rejection online was applied to this model to determine how feedback effects one's value in relation to other people. Portingale and colleagues (2022) sought to investigate the impact of lifetime dating app use on body dissatisfaction, disordered eating urges, and negative mood in an all-female population ($N = 94$). Another aspect of this study was to analyze user partner preferences of idealized physical characteristics in relation to the aforementioned variables in comparison to those whose preferences were non-idealized (Portingale, 2022). The results showed that women who had used dating apps reported greater daily urges for disordered eating and negative mood relative to non-app users (Portingale, 2022). Thus, indirect dating app feedback regarding appearance may trigger negative mood and engagement in disordered eating behaviors to enhance perceived attractiveness with hope of greater success. This study also may show that people who do

not use dating apps may not face the same level of pressure on appearance that those who choose traditional dating techniques.

Self-Esteem

The motivations behind using dating apps and other forms of social media differ between users, and different motivations may result in different usage patterns. There are a variety of reasons related to dating app use with many based upon theories of gratifications, such as physical, social, and psychosocial. Within the psychosocial reasons, one is to satisfy the needs related to self-worth through validation of one's own appearance and feeling better about the self (Sumter et al., 2017). Research on the use of Tinder revealed that for emerging adults (N = 163) this motivation for validation is particularly salient and often more common for women than men (Sumter et al., 2017). User responses related to validation included reasons like wanting to feel more attractive, to gain compliments, and to gain more self-confidence (Sumter et al., 2017). The online communication from others of the opposite sex can improve feelings of loneliness and being unwanted, so similar communication on dating apps with matching and chatting with others may produce the same positive feedback. On the other hand, lack of continued communication or negative interactions may produce an opposite effect for users like invalidation of the self.

Healthy romantic relationships in adults and adolescents show that partner communication often provide social support and self-esteem. Negative experiences with peers or romantic partners are predictive of depression and maladjustment, especially in adolescence. When looking at relationships online, there is an Internet-enhanced self-disclosure hypothesis made to provide a foundation for how romantic relationship online-

behaviors influence self-esteem; it suggests that online communication promotes self-disclosure online which increases relationship quality and subsequent self-esteem (Langlais et al., 2020). To test this hypothesis, Langlais et al. (2020) conducted a survey-based study with adolescents aged 14 to 18 years of age (N = 138) to determine how different interactions on Facebook and relationship satisfaction relate to self-esteem. The results showed that monitoring behaviors of a partner or potential (crush) negatively affect self-esteem as it can lead to negative relationship experiences such as jealousy or doubt (Langlais et al., 2020). Monitoring is a passive activity on Facebook that has been associated with poorer well-being in prior research; online activities appear to effect well-being differently and more passive behaviors done for extended periods of time could lead to poor self-related outcomes. There is also a possibility that online media is used as a compensatory method to boost satisfaction, so excessive displays of oneself in a happy state or relationship; the study results showed that depending on the type of relationships oversharing can have a positive or negative effect on self-esteem (Langlais et al., 2020). Thus, the way in which one presents themselves and uses media to compensate for real life or perceived experiences may have negative consequences. However, self-disclosure is a positive activity so the way in which one discloses themselves online is important as it relates to mental health outcomes.

Perception of Self

Dating is a dynamic process with the pursuit of and participation in romantic relationships generally more cognitively and mentally demanding than other relationships. This may be why some people end up pursuing more casual relationships and the intention of what relationship is being pursued online may impact behaviors and

sense of self differently. Chan (2017) conducted a study to compare intent to use dating apps for either romance or casual sex amongst men and women (N = 257) using survey data and measured attitude and self-efficacy in relation to their intent. The results revealed that one's attitude and perceived norms affected their intentions online. Generally, those who report higher self-efficacy in romantic relationships were more positively related to relationship commitment, satisfaction, and investment (Chan, 2017). Those who believe themselves to be more capable of handling a romantic relationship thus may be more likely to use the apps for actual romantic purposes, and more familiarity with online media will increase the likelihood that someone will use dating apps as they may feel more comfortable navigating them. One's perception and belief in self will likely play a role in how one behaves online and how confident one will be in online interactions.

An economic-based term associated with the topic of online dating is Relationshopping, which breaks down online dating into a descriptive market metaphor. Users are viewed as a commodity to dating app corporations as they rely on users as so called "buyers" and "sellers" in order for individuals to shop around for potential romantic partners (Heino et al., 2010). In order to understand the salience of this metaphor with online dating participants, Heino and colleagues (2010) performed 34 in-depth interviews to explore the implications of strategies employed by users. Based on the interviews, over half of the participants used market-related metaphors in their responses, like "shop" and "worth" (Heino et al., 2010). The assessment of one's own value based on self-perceived desirability and comparison of other competing partners often led individuals to change self-presentation in their profiles (Heino et al., 2010). The

resulting feedback from others who interacted with their profiles then generally either increased or decreased their perception of worth, which may boost or damage self-esteem (Heino et al., 2010). This marketplace metaphor is thought to provide insight on how users view themselves, how they perceive others, and decision-making processes online.

Studies have been done comparing daters' views on online and offline dating options, mostly framing it on the idea of perceived dating success. Due to increased control over self-presentation online, there is potential to create an idealized version of the self because of the mostly asynchronous way of communicating online. Online daters often portray themselves for a purpose which often is meeting someone offline, so they may then present themselves in a misleading way, but users also still seek to be authentic in the expectation of having a serious romantic relationship. Self-esteem plays a major role in the evaluation of one's self and is likely playing a role in how individuals are experiencing online dating, so there may be differences between how those with high versus low self-esteem are behaving and responding to online interactions. An experimental study on this topic had adult participants ($N = 26$) view photos of targets (i.e., potential partner profile pictures) and rate their chance of dating success with their belief of how attractive the target would consider the participant to be (Fullwood & Attrill-Smith, 2018). Those with higher reported self-esteem often gave higher perceived attractiveness ratings for themselves compared to those with lower reported self-esteem. Regardless of self-esteem, individuals may overestimate chances of success online compared to an offline context due to the increased potential for flexible impression management and a false sense of self due to idealized presentation may foster a perception of achieving a favorable outcome. Overall, the majority of participants

perceived online dating to have more success as they have the increased ability to manage impressions and develop a self-image that would be viewed more positively (Fullwood & Attrill-Smith, 2018). These results show that even those with low self-esteem may have increased confidence and belief in the success of online dating because of the ability to manipulate profiles, but this may not actually improve self-esteem long-term or increase likelihood of transferring online connections to offline meetings.

Online Feedback

In conjunction with perceived success online, the expectation of potential feedback from others may already impact self-esteem based on how they think others will view them before interactions with potential partners occur. Prior research had shown that anticipation and actual relational communication impacts impression formation between potential partners. The two-component model of impression management describes how positive feedback after making a positive impression on others evokes praise and compliments which boost self-esteem and imagined reactions from others based on self-presentation can also influence self-esteem in a positive manner if the expected reaction is positive as well (de Vries, 2016). A study by de Vries (2016) sought to test the relationship between anticipation of a romantic exchange where adult participants expected what impression their profile would make and report romantic self-esteem. The study was experimental with all-female participants (N = 92) being randomly placed in a prospective dating condition—face-to-face or online chat meeting—after which they then created a dating profile and answered questions about what impression they believed their profile would make (de Vries, 2016). The results showed that female online daters in the online meeting condition would report higher romantic

self-esteem compared to those who anticipated a face-to-face interaction (de Vries, 2016). This outcome shows that face-to-face interactions are likely more intimidating to online daters and that engaging in online chatting may protect or enhance self-esteem prior to the actual feedback.

Rejection is an aversive and negative experience that often leads to harmful outcomes psychologically and physically. Previous studies have shown that rejection relates to outcomes such as anxiety, depression, diminished self-worth, production of stress hormones, and social pain (Ford, 2017). Self-esteem is thought to be a buffer against normally distressing social events, such that it minimizes the effects on rejection. To compare the effects of rejection, a study conducted a comparison between the response of those with low and high self-esteem to rejection and the use of mindfulness practices (Ford, 2017). The experimental interactions ended with or without a rejection by a fake participant and researchers measured blood pressure and had participants (N = 133 undergraduates) complete questionnaires. Those with high self-esteem who did not engage in meditation showed a boosting pattern to self-esteem following a rejection compared to those with low self-esteem; however, those with high self-esteem who participated in the coping meditation ruminated more afterwards (Ford, 2017). These results show that those with high or low self-esteem can both experience poor outcomes in response to rejection, and in this case, it was dependent on how they were coping. Continued diminishment of self-esteem due to rejection and use of poor coping methods following these experiences could lead to long-term effects that impact one's overall dating process.

Technology Overuse and Outcomes

Links between the relationship of dating app users and the applications themselves have shown that, outside of human interactions, it can become the unhealthiest part of use. Research has begun considering social media technology to have an addictive quality to it, such that individuals participate in overuse and have difficulty disconnecting from their online reality. One variable associated with problematic use of a dating app is frustration from needs not being met in terms of care and affection from others in real life, as well as motivation for self-esteem enhancement (Bonilla-Zorita et al., 2021). It has also been postulated that the short-term gratification aspects of social media may provide the same chain reaction that other addictive behaviors have been shown to do. Using the addiction component model, dating app use can become the dominate reality (salience), it can alter the mood of the user, use increases over time (tolerance), and distress can occur if someone is unable to access the app (Bonilla-Zorita et al., 2021). As with most addictions, the result of the overuse leads to a dysfunctional relationship with dating apps with negative affective and cognitive responses previously shown in other internet-based disorders. Bonilla et al (2023) sought to expand further on their previous study by using objective measures of app user well-being. Through participant (N = 22) use of daily mood entries and ecological momentary assessment (EMA), the measurement of variables was able to collect data in a natural setting and increase validity of self-report. Overall, the analysis showed that increased time spent on dating apps predicted craving to use dating apps and receiving notifications improved mood and higher self-esteem (Bonilla et al., 2023). This study further supported the

addictive nature of apps, while also showing the positive effect on well-being the use of apps still may have despite cravings and desire to check the apps.

Populations of particular risk to problematic use are thought to be those who have psychosocial-related difficulties due to the affordance of separation from others that online domains give while still participating in social situations. Coduto et al. (2020) sought to build upon present models of problematic Internet use and social skills by examining the relationship between social anxiety, problematic use of dating apps, and the moderating role of loneliness in a university population (N = 269) using online surveys. Based on participant responses, social anxiety was found to predict a higher preference for online social interactions via dating apps over in-person interactions. Further, there was an interaction effect between high feelings of loneliness and preference for online social interactions that significantly predicted compulsive use of dating apps (Coduto et al., 2020).

Social Exchange Theory

There are several social theories that explain the need individuals have to create relationships with partners. The social exchange theory asserts that relationships are established based on mutual interests such that people establishing romantic relationships are attracted to finding partners who reinforce and grant rewards (Shtatfeld & Barak, 2010). This theory defines one of the main factors related to interpersonal attraction, which is that people are attracted to others similar to themselves and who offer meaningful resources that can become rewards (Shtatfeld & Barak, 2010). Dating apps help make connections that are found to be important to attraction including accessibility (proximity) and availability. Some of the reasons attributed to attraction related to

similarities digs into the underlying need for belonging and having someone similar to oneself constitutes acceptance, approval, and reinforcement of the self (Shtatfeld & Barak, 2010).

Shtatfeld and Barak (2010) wanted to examine the relationships between partner contact on dating sites and the factors associated with social exchange theory to test the assumption that people are attracted to those who grant rewards. There were 106 users of a dating app in Israel who participated and were observed over one week through the server log records of their activity on the site. The findings showed that there is a relationship between SES, availability on the site, and interpersonal dating contacts with perceived availability being the most significant factor in the decision process to contact another user. In terms of personal appearance, users who perceived a similar level of physical appearance and this is consistent with social theory as people feel rewarded by achieving comfort in similarity and social benefit rather than experiencing a social cost due to imbalance in appearance (Shtatfeld & Barak, 2010). The research shows that contact between partners is mostly non-random decision-making with underlying influence by personal needs and perception that optimize self-enhancement.

Another study looked at the use of dating apps within social theory applied social compensation processes to different types of psychosocial vulnerabilities, such as internalizing symptoms, rejection sensitivity, and attachment security (Toma, 2022). Cross-sectional surveys have revealed that those with internalizing symptoms often use dating apps and show mixed reports in terms of negative and positive affect outcomes related to their use (Toma, 2022). Similarly, surveys on rejection sensitivity showed those scoring higher on this trait are more likely to be on dating apps, but also rejection online

occurs often and leads to physiological markers of stress and other feelings like sadness or anxiety (Toma, 2022). These results point to the use of online apps as a coping tool, or alternative method for social interaction, for those who may have difficulty regulating their psychological experiences. However, while it may help with feelings of loneliness or reduce one's anxiety, it may lead to other consequences like compulsive use of apps.

Psychosocial Well-being

Greater everyday use of smartphones may act as a gateway for potential risk that negatively affect psychosocial well-being. Victims of these Internet risks can present with internalizing and externalizing problems, suicidal ideation, and interference in academic, social, and family life (Machimbarrena et al., 2018). One of the main risks explored has been cyberbullying, but victimization often does not occur in isolation and there are other forms of abuse present. Adolescents and young adults may also experience things like cyber dating abuse, online grooming and sexting; all of these risks have a higher prevalence for girls' experiences online than boys. Problematic Internet use is another problem that increases the likelihood for poor self-regulation. Machimbarrena et al. (2018) completed a study on 3,212 participants by having them complete a number of questionnaires used for analysis of the comorbidity between all of the previously mentioned psychosocial risks. There were several relationships between different Internet risks supporting ideas of polyvictimization as 24.5% of the adolescent participants presented two simultaneous problems (Machimbarrena et al., 2018). The research has multiple implications on the dangers of being online that can have a complex bio-psychological impact (i.e., sleep, eating, self-esteem, stress depression etc.). Older adolescents and young adults use digital media in a way where sometimes the online and

offline worlds co-construct into one reality which posts a major risk to well-being due to a lack of differentiation between them.

Excessive Swiping and Filtering

Online daters are swiping from profile to profile of potential partners, which is a unique mechanism allotted to dating app users that allows for time efficiency and can become an addictive activity. Excessive swiping, which is a compulsive and mental preoccupation with swiping or browsing, is an activity believed to possibly lead to undesired outcomes similar to excessive general use of smartphones. Thomas et al. (2023) theorized that excessive swiping on dating apps may lead users to experience upward social comparison, fear of being single, and partner choice overload. Using a cross-sectional survey, the study found that frequent use of dating apps had a significant effect on excessive swiping such that dating app users aged 16 to 25 years old (N = 464) participated in more non-communicative consumption behaviors than social ones when logged in (Thomas et al., 2023). Additionally, excessive swiping was shown to aggravate upward social comparison, fear of being single, and partner choice overload. Upward social comparison has shown to have a negative effect on self-esteem while fear of being single not only effects self-esteem, but it also can lead to individual attribution of failure. The cognitive load related to high content viewing and choices can lead users to become overwhelmed despite one of the benefits of dating apps being access to a large pool of potential partners. Overall, those looking to maximize their time and options are often the ones swiping again and again to increase chances of a match, and the initial swiping process involves the lowest risk of rejection on most apps than others.

In order to swipe efficiently, daters have to filter and learn how to screen profiles to remove those who are unsuitable to their goals. Daters often have to rely on the filter features applications provide as well as on their own instincts and cultivate new skills online to make searching more fruitful. The filtering process and its potential social impact is of concern for online dating. Best and Delmege (2012) aimed to research the social impact of filtering mechanisms and how they are shaping dating culture using four focus groups with a total of 15 people in an adult (18-62 years old) Australian population. The qualitative responses revealed that filtering can instill confidence in singles, but also add to the shopping culture of dating (Best & Delmege, 2012). Generally dating online does not allow for a passive role, so online daters become active consumers and are more active in their love lives. The main strategies for filtering unsuitable candidates are through the presentation of their own profile and ability to search profiles, then after these initial screening strategies, daters utilize time management in order to not waste effort and keep encounters short. Additionally, the more time users spent on dating applications showed differences in knowledge, skills, and aptitude for filtering online; those who were invested longer stated that they had become more selective and were more likely to reject people than match with them (Best & Delmege, 2012). Based on these findings, there also was a sense of waning interest in the dating process itself the longer people were on dating apps and the users were experiencing weariness because the filtering process became a game and no longer worth the effort.

Research has begun to explore the phenomenon of swipe-based dating applications (SBDAs) due to the rising use and interest in how technology is affecting our psychology. The concerns about SBDAs relate to the instant gratification, validation, or

rejection that one can experience that can lead to psychological vulnerability.

Holtzhausen et al. (2020) specifically designed an online survey-based study to learn about different mental health outcomes that may be related to use of SBDA. With 437 completed surveys, the data revealed that being a SBDA user (N= 230) was significantly associated with having greater psychological distress, depression, and anxiety compared to non-SBDA users (Holtzhausen et al., 2020). It is possible that those with prior conditions related to depression and anxiety prefer using online media instead of alternative forms of interaction; however, those who used these apps daily and even for more than a year had higher rates of overall psychological distress so it is possible the duration and frequency of use is related to well-being outcomes.

Burnout

Social media, as previously mentioned, has sped up communication and efficiency of obtaining information about others that may increase promotion of social comparison. Social psychology shows that people are constantly judging themselves in addition to others, so there are a number of individual self-evaluations that occur about appearance, health, wealth, occupation, and relationships; these comparisons can lead to negative emotions and feelings of burnout. Historically in research, the main focus of burnout has been in the realm of one's occupation as a result of continuous stress in the workplace (Han et al., 2020). Job burnout is influenced by factors like role pressure, autonomy, social support, interpersonal interactions, and other demographic variables that negatively affect work performance and view of self (Han et al., 2020). Prior research was conducted in order to evaluate whether social comparison on social media impacts feelings of job burnout by administering questionnaires in a Chinese population

based on their use of a messaging system called WeChat (Han et al., 2020). The results did reveal that participant WeChat usage had a significant, positive correlation with job burnout and social comparison such that they had a stronger sense of burnout and tendency to socially compare themselves than those with lower or no usage of WeChat. The results show the deeper effect that social media has on daily lives, especially in the workplace where it may lead to job burnout. The overuse of social media may have a similar outcome due to triggered negative emotions related to burnout and depletion of resources, and even cause an increase in the frequency or intensity of self-evaluation that occurred pre-social media.

Social media fatigue, or burnout, is characterized by reduced interest in using social media due to overuse and includes three dimensions: emotional exhaustion, depersonalization, and ambivalence (Liu & Ma, 2018). The exhaustion dimension is the only one that has previously defined job burnout as it refers to the depletion of resources, such as their time and effort, regarding the usage of social media. Depersonalization refers to the gap between the user and social media due to exhaustion, and ambivalence refers to the ambiguity about the favorable outcome of social media use (Liu & Ma, 2018). This fatigue is thought to develop because of information, communication, and social overload on social media because individuals have a limited cognitive capacity. The high-volume information one can consume being on Facebook or other media outlets would exhaust someone's mental capacity more quickly (Liu & Ma, 2018). Previous research has associated a link between media addiction, or overuse, and burnout due to the large amount of time those addicted to media spend.

Other variables have been studied in relation to excessive use of social media and burnout. One of them is anxiety as it has also been associated with social media use and may influence feelings of burnout on social media because social media may be anxiety-inducing and lead to avoidance of these platforms. The other is social comparison and the feelings that can be elicited from this process including envy and jealousy. University students (N = 519) completed self-report questionnaires in order for researchers to test how social media addiction or overuse underlies the development of burnout. The results showed that addiction, envy (i.e., social comparison), and social media use anxiety were all significant predictors of burnout with envy and social media use anxiety mediating the relationship between social media addiction and burnout (Liu & Ma, 2018). The experience of burnout can greatly impact overall well-being, so it is important to regulate social media use. This study also demonstrated that the feelings elicited when viewing other peoples' posts online, like social comparison and envy, also contribute to one's experience developing burnout. A similar relationship to social media may be present for dating apps due to the shared makeup of other swipe-based apps, and additionally would affect the self through comparison and feedback from potential partners that would lead to emotional and mental exhaustion.

Social Rejection

Within social theory, some of the most powerful stressors that effect daily life are threats from social evaluation; these can include rejection, criticism or exclusion that can undermine self-esteem (Ronen & Baldwin, 2010). Our brains are hardwired to react to social situations through neural firings that underpin decision-making processes, including dating interactions. Prior brain activity has been found present in reward

systems when people are in intimate relationships, and breakups activate areas of the brain that overlap with physical pain experiences (Zhang et al., 2022). Studies on neurological correlates to social experience are important for understanding how large of a physical and emotional effect people have on others. Zhang et al. (2022) wanted to measure brain responses during speed dating feedback anticipation and feedback processing in both acceptance and rejection scenarios. Data was collected from 25 participants who participated in three testing sessions: (1) pre-task rating, (2) a novel online speed dating task, and (3) post-task rating; the ratings were related to perceived likeability and first impression ratings of others, then ERP and EEG activity was measured to assess anticipation and processing feedback from other speed daters (Zhang et al., 2022). Results from brain activity demonstrated that one of the largest responses in the reward center occurred where there was a match and both the participant and fake speed dater said “yes” to each other. The other largest responses when there was a rejection and the participant said “yes” and the fake speed dater said “no” lead to localized activity in the pain center. Social acceptance is highly rewarding and desirable in general, but those who have a greater motivation for potential dates showed increased arousal in response to feedback (Zhang et al., 2022). This research shows that those who are highly motivated in finding a romantic connection can place themselves at a higher risk to potential outcomes of social feedback because of their level of investment and anticipation for a partner.

Sensitivity to social rejection is an emerging risk factor for certain mental health problems, especially depression in offline contexts. The shift of the social domain from offline to online requires study to determine the impact that social rejection sensitivity

can have on these newer social interactions. It is likely that the digital age has extended the threats and risks to social interactions for individuals with higher sensitivity to rejection. Andrews et al. (2022) sought to better understand this experience and learn how to measure it using four separate survey samples with a total of 2,381 individuals. The results provided evidence that rejection sensitivity across online and offline social domains had a strong association with depressive symptoms and maladaptive ruminative brooding (Andrews et al., 2022). Additionally, anxious anticipation of possible rejection can make effects more detrimental as well in online contexts; these findings were particularly salient in adolescence and appeared to decrease when in late adulthood, which may be attributed to less social media use over time (Andrews et al., 2022). Despite the social connectedness media helps foster, for those who have a higher sensitivity to rejection may have negative psychological outcomes when offline and online as a result of poor interactions with others that threaten belonging.

People who are insecure and socially anxious often are more prone to worrying about social rejection and this can play a role in development of further stress and burnout. Prior research has revealed people in lab settings with high vulnerability to social rejection react with more dysphoria and self-devaluation than those with low vulnerability. To further explore the relationship between social stressors and burnout outcomes, Ronen and Baldwin (2010) conducted a study asking whether hypersensitivity to social rejection plays a role in attachment anxiety and further impacting levels of stress and job burnout. A longitudinal study design was implemented that involved a specific workplace in hospitality (N = 231) using online questionnaires at two points of measurement one month apart to measure variables. The study found that hypersensitivity

to social rejection in the workplace had a significant role on future stress and burnout (Ronen & Baldwin, 2010). While this study continued focus on burnout in a workplace setting, it supports the idea that social rejection has longer term effects on daily life. It may be possible that there is a similar dynamic present during online interactions that leads to negative effects on self-esteem, future interactional behaviors, and feelings of burnout in a dating environment.

Social rejection has almost become a habitual behavior due to the nature of the online setting due to the multiple connections occurring constantly and inability for users to maintain multiple relationships at once. There are explicit (declining) and implicit (ignoring) forms of rejection online that occur once a match is already made that would likely have a more salient effect on the app user. It is possible that every rejection one experiences leads to some outcome of dissatisfaction with the self, the app, or other people; however, the extent of the effect with online dating is unknown. Alba (2021) sought to determine the difference between types of rejection, the role of self-esteem, and behavioral intentions within two experimental studies. Both studies showed that whether receiving or observing an implicit rejection often leads to behavioral intentions of modification or recommendation for changes of online profiles (Alba, 2021). Additionally, those with high self-esteem were able to rationalize the rejection to reduce the threat while those with low self-esteem were more likely to detect the rejection and become motivated to change (Alba, 2021). The results highlight the affects that social rejection has online beyond feelings of success or failure of an interaction, and how this can threaten view of self in an online environment.

Choice Overload

One aspect of relationships that can be depleting is a term labeled relational load, which appears to have a similar effect as job burnout. Relational load describes the effect that chronic stress and conflict has on emotional, relational, and cognitive resources in relationships (Afifi et al., 2021). Experimental research explored the effect of relational load short-term in 85 romantic couples with the majority only seriously dating between one year to 16 years to engage in small, stressful conversations, complete an executive functioning task and then complete five consecutive daily follow-up surveys about a number of variables – including relation load (Afifi et al., 2021). The results of the study found both men and women who reported higher relational load began their week with poorer mental health compared to those with lower relational load (Afifi et al., 2021). The effects of the negative interaction on relational load appeared to improve at the end of a five-day period, showing at least some continuous mental fatigue experienced past the initial negative partner interaction (Afifi et al., 2021). This study applied a cognitive load to romantic relationships once the relationship has already begun showing that the bond between partners can become strained as a result of stressful or negative interactions and negatively affect each individual partner as well. Applying this idea to dating online, repetitive negative or stressful experiences with potential partners may also deplete individual resources and effect general well-being over time. Demands to mental capacity of an individual leads to feelings of stress that challenge executive functioning as it can decrease attention and inhibition that then greatly impacts behaviors, including those on dating apps.

Individuals with a high cognitive load have been shown to experience negative effects on well-being. One perceived success of dating apps is the abundance of potential partners, which may hold other negative consequences; these consequences in popular media have been termed things like “Tinder fatigue” and “dating burnout,” or what psychology labels as choice overload. Pronk and Denissen (2020) hypothesized that due to the choice overload there is an existence of rejection mind-set that results from individuals becoming more pessimistic and rejecting because of the seemingly endless dating possibilities. To test the rejection mind-set, there were three studies that took place based on experimental and questionnaire data from 315 participants aged between 18 to 30 years old recruited using Amazon MTurk (Pronk & Denissen, 2020). After viewing 45 pictures of potential partners, participants provided answers to a number of questions related to variables like rejection/acceptance, self-esteem, choice satisfaction, and perceived success. Overall, the data from all three studies supported their hypothesis that higher partner options set off a rejection mindset, such that as more profiles were shown the occurrence of rejections accelerated. These results suggest that the more time spent swiping through profiles may actually lead to fewer connections, increased dissatisfaction with the potential partners viewed, and pessimism about finding a partner.

Excessive options can cause choice overload and actually make the decision-making process while dating more of an agony than exciting or even helpful. More options may actually lead to less favorable outcomes and likelihood of not finding the success one desires. Thomas et al. (2022) conducted two studies to understand how choice overload online may adversely affect users, specifically on their fear of being single, self-esteem, and partner choice overload. The first study was survey-based with

app users aged between 18 and 67 years old ($N = 667$) and identified how the perception users had on the number of choices predicted higher fear of being single (Thomas et al., 2022). In the second study, the researchers conducted an experimental design inducing the partner availability for participants aged 18 to 38 ($N = 248$) to view 11, 31, or 91 dating profiles and provide responses to a number of questionnaires (Thomas et al., 2022). The participants who viewed higher available profiles reported increased fear of being single, decreased self-esteem, and increased partner choice overload compared to those who viewed fewer profiles. This study further supports potential drawbacks users can experience from swipe-based dating apps on self-esteem and other aspects of well-being.

Choice overload can also make daters more reluctant to commit to one person when there are numerous other partners available. D'Angelo and Toma (2017) sought to understand the effect that quantity and reversibility of online dating apps has on romantic outcomes. Reversibility was defined as the extent that dating services online allow users to change their minds about a partner and the ability of replacing them with another (D'Angelo & Toma, 2017). Using choice theory, the idea is that response to large choice sets can include regret, choice justification, and cognitive burden and which can all lead to lower satisfaction and sometimes frustration. The study conducted was a 2 (quantity of choice) x 2 (choice reversibility) experimental design with participants being randomly assigned to conditions at Time 1; participants were presented with match quantities, made a partner selection, and told whether or not they had a chance to reverse their decision a week later (D'Angelo & Toma, 2017). At Time 2, the satisfaction ratings found that those participants who were presented with a larger pool of partners reported decreased

satisfaction with their choice. Even further, those who had a larger pool and the opportunity to reverse their selection were the least satisfied with their choices and more likely to reverse their selection compared to those with a smaller pool (D'Angelo & Toma, 2017). These results may point to poorer relationship outcomes due to diminished satisfaction overtime with one's choices online, especially when people continue use over time or more often.

Biblical Foundations of the Study

From a Biblical foundation, the Bible comments on the importance of protecting our hearts from temptations of this world and to prepare for the trials we will face. God tells us that “above all else, guard your heart, for everything you do flows from it” (*New International Version*, 2011, Proverbs 4:23). The heart provides life, we follow it when making decisions, and it is a major component contributing to who we are. It is very fragile as well as we were created as emotional beings, and the process of dating can threaten this fragility. God warns us in scripture about many earthly trials to face, but He is always there providing comfort and stays “close to the brokenhearted and saves those who are crushed in spirit” (Psalm 34:18). God is there through all of the rejections, fears, stresses, and has also placed individuals in this world who can help people cope and persevere.

Negative feelings and experiences are difficult for one person to overcome, especially if we continue to struggle over time. Dating can be like that at times where we seek a partner to spend our lives with, and no matter what we do it may feel like we are aimlessly searching. Feelings of stress and burnout can accompany and lead us astray from what God has a planned for all of us. He reminds us that when we grow tired and

weariness in this world, we can turn to Him for help to build back up as “He will not grow tired or weary” and “those who hope in the Lord will renew their strength” (*New International Version*, 2011, Isaiah 40:28-31). It is important to continue exploring relationships with others, while also remembering and seeking out our relationship with the Lord as well. Problems with social media and its impact on the self (self-esteem, stress, burnout) are all outcomes that are important to address to further our understanding of our relationship with technology and online media.

Love is considered one of the most important things shown throughout the Bible, especially as it relates to God’s love for us, but also in terms of loving one another and romantic relationships. The verses in 1 Corinthians Chapter 13 written by the Apostle Paul holds some of the most powerful insight into the power of love as he states that despite having knowledge and faith, if one does not have love, they have nothing at all. Love has many qualities outlined that romantic relationships and marriages are supposed to incorporate: patience, kindness, and always perseveres. Love is only in existence because God loved us, so he wants us to share love with others in this world and a marital bond is an especially intimate relationship. The union of two individuals is described in Genesis 2:24 (*New International Version*, 2011) saying that a husband and wife “shall become one in flesh” and this reiterated again in Matthew 19:6 as it states that a husband and wife “are no longer two, but one flesh” that no one can separate once joined before God.

It is the aforementioned love that is to be pursued and is deemed righteous in God’s eyes, but there are many temptations present in this world that would seek to lead us astray. John 2:16 (*New International Version*, 2011) provides examples to be wary of

including “the lust of the flesh, the lust of the eyes, and the pride of life” which all are of this world and do not come from God. We are also told to live in moderation and have self-discipline in order to best navigate the world; overuse and giving in to indulgences is sinful behavior. While technology is not directly cited within Biblical literature, there is much temptation and opportunity for distraction found within the online world. The instant connectivity and fast-paced nature of being online, as well as the changes it has made in our culture over time, leads to greater need for our eyes to be opened and recognize the influence it can have on us. We have to be wary about everything in this world that is man-made and that would lead us off a path of righteousness.

Summary

Based on the literature, online dating use is growing at a fast pace with offline dating becoming the minority method of meeting a partner. Young adults and adolescents are the overwhelming majority of users of social media applications; they are considered the digital generations who have been the one’s born and raised during the time of smartphone technology as well as during the rise of smartphone applications. Literature has already identified that the online domain can be dangerous to users and may negatively affect their well-being. These effects can be related to physical health with perceived increases in a hook-up culture and body dissatisfaction leading to disordered eating as well as psychological health outcomes such as depression and anxiety.

Dating apps involve swiping and filtering using different algorithms to find matches amongst the users and help sort through large pools of potential partners. Most of the effects can be drawn back to specific experiences on had online with other people, and these exchanges effect future outcomes. Social exchange theory asserts that people

establishing romantic relationships are attracted to finding partners who reinforce and grant rewards and are associated with the fewest costs. These exchange effect one's perspectives and influence decision-making on and offline, and the types of feedback received can further affect psychological well-being in terms of self-esteem and feelings of burnout due to the constant and instant feedback from others. The continual process and comparison may lead to a similar feeling of burnout that has been previously found in the job environment.

Scripture warns us to be wary of this world and the people in it, such that temptation is very present and especially within as it relates to the rapid changes occurring in dating culture. Technology has been a positive resource in our society in many ways, but like most things in this world, there can be dangers and risks to it as well since people are the ones creating and using it. When it comes to dating and romance, the heart is largely involved and God tells us to guard it above all else due to its fragility and large role in who we are and the decisions we make. Our relationships with God and with others are important and affect us on the pathway to righteousness as many roadblocks can occur and turn us down other paths. By turning to what the Bible says and learning more about ourselves in research, we can become better prepared to take on whatever the world ends our way. The next chapter will review the research methods used within the current study.

CHAPTER 3: RESEARCH METHOD

Overview

This chapter lays out the research questions and hypotheses for the study which were guided the decision-making process on the study's research methods. Included in the outline of research methods are the research design, participant pool, study procedures, instrumentation and measurements, operationalization of variables, and chosen data analysis. This chapter includes the delimitations, assumptions, and limitations that were considered for this investigation.

Research Questions and Hypotheses

Research Questions

RQ1: Does self-reported use of swipe-based dating apps relate to self-esteem?

RQ 2: Does self-reported use of swipe-based dating apps relate to emotional burnout?

RQ 3: Does gender relate to self-reported use of swipe-based dating apps and self-esteem and burnout?

Hypotheses

Hypothesis 1: Swipe-based dating app users who self-report high usage will report lower self-esteem compared to those who self-report lower usage.

Hypothesis 1₀: Swipe-based dating app users who self-report high usage will not report lower self-esteem compared to those who self-report lower usage.

Hypothesis 2: Swipe-based dating app users who self-report high usage will report higher emotional burnout compared to those who self-report lower usage.

Hypothesis 2₀: Swipe-based dating app users who self-report high usage will not report higher emotional burnout compared to those who self-report lower usage.

Hypothesis 3a: Individuals identifying as biologically female at birth who self-report high usage of swipe-based dating apps will report lower self-esteem and higher emotional burnout compared to those who self-report lower usage.

Hypothesis 3a₀: Individuals identifying as biologically female at birth who self-report high usage of swipe-based dating apps will not report lower self-esteem and higher emotional burnout compared to those who self-report lower usage.

Hypothesis 3b: Individuals identifying as biologically male at birth who self-report high usage of swipe-based dating apps will report lower self-esteem and higher emotional burnout compared to those who self-report lower usage.

Hypothesis 3b₀: Individuals identifying as biologically male at birth who self-report high usage of swipe-based dating apps will not report lower self-esteem and higher emotional burnout compared to those who self-report lower usage.

Research Design

The research method for this study is quantitative in nature due to the variables and relationships being tested. Quantitative approaches are better to involve a larger sample size in order to gain a more generalizable insight into the experience of individuals with swipe-based dating applications. The research was correlational such that the phenomenon of dating applications is being studied through looking at the trends and relationships to understand the relationship between use of dating apps, self-esteem and burnout as well as the additional relational testing of these variables for both genders

(male and female). The data was collected via online surveys that were comprised of demographic questions and chosen questionnaires.

Participants

The participant pool was made up of individuals between the ages of 20 and 32 years of age, who are past or current users of swipe-based dating apps. Based on collected demographic research related to dating app use, the aforementioned age range captured the majority of individuals currently using dating apps (Pew Research, 2019). There is a large diversity in users as well representing different ethnic and racial backgrounds and a general equal balance of both genders (Pew Research, 2019). The study aimed to receive responses from a participant pool that would mirror the general population to make the results more generalizable. Permissions and ethical approval were obtained prior to recruitment. The study was advertised through mass emails sent to a university-wide graduate school mailing list with approval by Liberty University, and there were also social media posts shared on Facebook and Instagram. Participants were self-selected into the research study. Inclusion criteria included age and experience using swipe-based dating applications. If any of these criteria were not met, the individual was not be able to continue with the study. An a priori analysis revealed the need for a total sample size of at least 64 participants to achieve an actual power of 0.8 with a significance level of 0.05 based on effect size of 0.3 for correlational analysis. Due to possible attrition, an additional 13 participants were needed for a total desired sample size of 77.

Study Procedures

The recruitment process involved email blasts through Liberty University to graduate students in the School of Behavioral Science, as well as through social media posts made by the researcher on Facebook and Instagram (see *Appendix A*). These email blasts and online posts included a general explanation about the study as well as a link for potential participants to follow to read the full details and begin the survey. Prior to participation, all individuals were provided information about the study and provided consent to participate by moving forward to the next page of the survey. Once participants provided consent and answered the initial questions related to the inclusion criteria, the survey continued to the other questions of interest. The survey was created using Qualtrics XM. The survey ideally took 8 minutes or less to complete and consisted of the following: demographic questions, dating application use and experience related questions, the Copenhagen Burnout Inventory, and the Rosenberg Self-Esteem Scale.

All participants were provided full anonymity to their results with no direct personal identifying information being collected in the survey. The survey results were converted into an Excel spreadsheet and saved in a password protected spreadsheet. The spreadsheet will be disposed of at the end of the IRB approved research study time-span. All data was analyzed within IBM SPSS (Version 28.0.1). The data cleaning process involved reviewing responses of the participants to confirm that all of the questions were answered on the survey and removing those participants whose responses did not meet inclusion criteria or reach specified thresholds outlined by the creators of the questionnaires in the survey. Once all participants were removed and the final pool remained, the responses were coded into numerical responses and all questions indicated

on the scales were reverse coded prior to the creation of total scores. No follow-up occurred after the initial participation in the survey.

Instrumentation and Measurement

Demographics (*Appendix B*)

Numerous demographic information was collected including age, gender, ethnicity, and relationship status. Of these traits, gender was a variable of focus being tested to determine potential differences in the experience of swipe-based dating apps and the subsequent outcomes of burnout and self-esteem.

General Dating and Application Usage Questions (*Appendix C*)

The questions contained in this section are those relevant to the participants' dating experiences. Specifically, there were questions regarding usage of swipe-based dating applications, such as "how many dating apps do you currently use?" and "what is your overall experience using dating apps?" that were included. These questions were found within a larger research study on dating applications by Pew Research (2023) to gain data about the general population and dating applications. One of the questions regarding dating application use was created with previous research in mind in order to differentiate between high and low dating app users. Average dating apps users are opening an app two to three times a day (Castro & Barrada, 2020). Based on this data, high users will be those opening a dating app ≥ 4 times a day versus low users who will be opening a dating app <4 times a day. Participants were given six response choices to

estimate how often they are using a dating app starting at one time per day up to greater than five times per day.

Rosenberg Self-Esteem (RSE) Scale (*Appendix D*)

The RSE (Rosenberg, 1979) is a Guttman scale that was used to measure self-esteem in this study. The scale has a 4-pt Likert Scale with 1 = “Strongly Agree” to 4 = “Strongly Disagree” and consists of 10-items. Low self-esteem responses correspond to “disagree” or “strongly disagree” on items 1, 3, 4, 7, and 10, and “strongly agree” or “agree” on items 2, 5, 6, 8, and 9. The negatively worded items were reversed score before an overall total score was generated by adding up participant responses. Higher reported scores are indicative of the individual having lower self-esteem and lower reported scores are indicative of the individual having higher self-esteem. This scale has demonstrated a reproducibility of .92 indicating excellent internal consistency (Rosenberg, 1979). The test-retest reliability over a 2-week period has revealed excellent stability in participant responses (Rosenberg, 1979). The RSE correlated significantly with other measures of self-esteem and correlates with other measures of depression and anxiety (Rosenberg, 1979). The RSE also demonstrated concurrent, predictive, and construct validity using known groups; the measure has been used appropriately for a variety of groups including adolescents and adults with a Cronbach’s alpha of .89 (Hughes et al., 2021). The questionnaire is accessible for free for researchers.

Copenhagen Burnout Inventory (CBI) (*Appendix E*)

The CBI (Kristensen et al., 2005) has three subscales: personal burnout, work-related burnout, and client-related burnout. All three scales have been analyzed for validity and reliability amongst a large population from the human service sector (N =

1914); the results showed high internal reliability (.85-.87) and convergent validity based on correlations with vitality (-.75), especially as it related to the personal burnout scale, and divergent validity based on correlations with general health (-.34) (Kristensen et al., 2005). The personal burnout scale was specifically included by the creators in order to make sure that individuals could be compared regardless of occupational status or age. The creators define this subscale as “the degree of physical and psychological fatigue and exhaustion experienced by the person” without distinguishing a specific type of fatigue (Kristensen et al., 2005). Only the subscale of personal burnout was included in the survey due to the broad capabilities of the question formats. There are six items on a scale from 0-100 with categories of responses being “always” (100), “often” (75), “sometimes” (50), “seldom” (25), and “never/almost never” (0). A total score was calculated for the scale by taking the average of the scores after adding all items together. Higher average scores reflect higher feelings of personal burnout, and lower average scores reflect lower feelings of personal burnout. A standard response rate of at least three questions is required per the inventory creators in order to get an accurate understanding of personal burnout levels. The questionnaire is accessible for free for researchers.

Operationalization of Variables

The following is a list of definitions of terms that were used in this study.

Burnout – The first term is defined often as an occupational phenomenon that is caused by a gap between reality and expectations of the individual; in the context of social

media, it is the degree one feels exhausted while using it in three aspects: ambivalence, emotional exhaustion, and depersonalization (Wu et al., 2020).

Online Dating – The second term is defined as facilitation of romantic connection through technology via text, voice, image, or video without potential partners being in the same location (Finkel et al., 2012).

Self-esteem – The third term is defined in the context of online dating as the degree to which an individual sees the self as desirable as a romantic partner (de Vries, 2016).

Swipe-based Dating Application (SBDAs) – The fourth term is defined as a platform that allows individuals to interact with potential romantic connections through a swipe feature (left or right) to approve or reject other user profiles (Holtzhausen et al., 2020).

Data Analysis

Based on the relationships being studied, the data analyses conducted were correlations and independent t-tests. These analytical strategies provide an understanding of the relationships between the use of dating apps, self-esteem, and burnout through the use of correlations to answer the first two research questions and hypotheses proposed. Independent t-tests were also conducted in order to determine potential differences in means between the two user groups (high and low users) as it related to reported self-esteem and burnout. For the third research question, correlations were conducted to understand the relationships between gender and frequency of app use, self-esteem and burnout. Independent t-tests were used to examine the potential difference in means for gender as it related to self-esteem and burnout. Individuals were grouped using a natural

selection process based on their responses with gender and how often they are using dating apps.

Delimitations, Assumptions, and Limitations

The delimitations of the study included making the study quantitative in order to use a survey-based design to get a larger, convenient sample. The data collection process was approved by IRB to last a maximum four-month duration in order to reach the desired sample size. There were few exclusion criteria related to the study to help produce a more generalizable sample and reach the sample size goal. The exclusion criteria present – age parameter and required experience with dating apps – ensured that the responses being received were applicable to the goals of the study.

Quantitative researchers assume that there is a single reality and that the purpose of the research is to discover the truth (Hathaway, 1995). In order to do this, the researcher must remain detached and objective due to the assumption that what is being studied is separate from the researcher (Hathaway, 1995). One must remain neutral and strive to prevent biases through the research process by controlling the research design. The researcher should strive to maintain a valid, credible, and reliable testing process and remain aware of potential threats to data collection and analysis. In order to meet these assumptions, each part of the methodology was carefully chosen in order to gain accurate knowledge to extend our understanding of the human experience and relationship with dating applications. As correlations were conducted, some of the outcomes do not allow for certain conclusions to be drawn as the test does not produce an understanding of causation and only displays certain trends or relationships.

There are some limitations to independent samples, such that there can be a variety of subject specific factors that influence their responses to the survey and cannot be controlled for. Some of these variables may include the testing environment, internet connectivity, and other subject effects where participants would behave or answer differently based on expectancies or social desirability. If participants have distractions or get bored of the survey before completion, this can affect their responses (Lefever et al., 2007). The form of recruitment with emails and posts can also be missed by individuals if they are scrolling by things quickly or receive a lot of emails and the study information is lost amongst them, which can impact the response rate and overall sample size when testing concludes (Lefever et al., 2007). Additionally, each user has their own individual experiences and outcomes with dating online that may not be captured in the survey. The use of a few questionnaires only captures the specific variables of interest and may be missing other variables involved that effect well-being responses.

There was also the possibility of attrition due to participants not providing enough responses for their data to be viable or lose interest after starting the survey and deciding not to finish it. Research has identified that generally attrition can lead to a significant bias that effects overall results and the conclusions that can be drawn (Bankhead et al., 2017). Attrition rates of less than 5 percent can lead to a little bias versus over 20 percent posing serious threats to test result validity (Bankhead et al., 2017). It is important to take this into account when looking at power analysis outcomes to determine how many participants are necessary to maintain study validity.

Summary

Chapter 3 provided an outline of the current research study's methods with supporting information and decision-making insight for the research process. This study was correlational using survey-based data in order to test the three research questions and three hypotheses related to swipe-based dating applications. Based on participant responses, there was a distinction made between high and low users to address the first two research questions and then also look at differences in gender to address the third research question. All data was analyzed using Pearson correlations in order to determine the direction of the relationships, and an independent t-test to determine if gender effects these relationships. Young adult participants were recruited via emails and social media posts with a link to the information sheet and survey.

The quantitative approach taken had both advantages and limitations associated with it. Additionally, the use of surveys and some lack of control over the testing environment could have left opportunity for subject effects and potential biases, but these were accounted for when drawing conclusions from the results of the study. The purpose of research was to explore the reality of our world and to discover the truth about the human experience. The aforementioned research methods were chosen specifically to meet the goals of the study and meet the standards set for psychological research.

CHAPTER 4: RESULTS

Overview

The purpose of this correlational study is to examine the relationships between use of dating apps, self-esteem and feelings of burnout as well as to examine potential gender differences related to these relationships. The data was collected via an online survey. Participants were recruited through mass emails sent to an approved university population and was also posted on numerous social media platforms, namely Facebook and Instagram. There were three research questions asked related to the survey findings. Two questions asked if self-reported use of swipe-based dating apps related to self-reported self-esteem and/or feelings of emotional burnout related to the individuals' experiences on dating apps. The third question asked if there were gender differences related to self-reported use of swipe-based dating apps and self-esteem and burnout. This chapter will discuss the results of data analysis presenting all statistical findings with visual tables for reference.

Descriptive Results

There were 115 responses to the survey; however, due to missing responses on a few survey items 35 participants were removed from the final analysis. The final participant pool included 17 male, 62 female, and 1 non-binary/third gender respondents. The majority of participants were White Caucasian (58.8%) followed by Black/African American (12.5%), Hispanic (10%), Multiple Ethnicity/Other (10%), Asian (7.5%), and Native Hawaiian/Pacific Islander (1.3%).

As it relates to dating app use, many participants reported using more than one dating app at a time with the most popular being Hinge (83%) followed by Bumble (59%) and Tinder (49%). The active dating app users in this sample ($N = 80$) reported actively opening one of these apps and scrolling to look at dating profiles on average between two to three times per day ($M = 2.85$, $SD = 1.68$; see Table 1, *Descriptive Statistics of Dating App Usage & Groupings*). There were 27 participants (34%) that reported currently being in a relationship at the time of taking the survey, with 11 of the participants in relationships (41%) meeting their current partner or spouse on a dating app. The majority of the other 53 single participants (66%) reported using dating apps to find a committed relationship ($N = 42$) while the remaining others appeared to be looking for more casual dating situations. While some participants found success on dating apps in their current relationships, the majority of active users in this study (46%) hold a negative view on dating apps such that they have had a more negative effect on dating and relationships ($M = 1.64$, $SD = .70$). Additionally, the majority of active users reported that dating apps have made finding a long-term partner or spouse generally harder ($M = 2.38$, $SD = 1.26$).

Table 1

Descriptive Statistics of Dating App Usage & Groupings

Variable	<i>N</i>	<i>M</i>	<i>SD</i>
Frequency of Use	80	2.85	1.68
Once/day	21		
Twice/day	19		
Three/day	17		

Four/day	7		
Five/day	6		
> Five/day	10		
Usage Status	80	1.29	.46
High Users	23		
Low Users	57		

Study Findings

The overall correlational analysis revealed that reported self-esteem and emotional burnout were significantly positively correlated $r(80) = .470, p < .001$ (see *Table 2*). This demonstrated that two of the main variables were correlated with each other adding to the validity and reliability of participant responses.

RQ #1: Does self-reported use of swipe-based dating apps relate to self-esteem?

The number of times people were using dating apps and self-esteem were significantly positively correlated $r(80) = .311, p < .01$ (see *Table 2, Descriptive Statistics and Correlations for RQ #1-3 Variables*). After initial correlational testing, a two-sample t-test was run to compare the means of high and low users for the self-esteem variable. The 23 participants who were high app users ($M = 19.96, SD = 7.40$) compared to the 57 participants who were low app users ($M = 16.67, SD = 5.48$) demonstrated a significant difference in reported self-esteem $t(78) = -2.19, p < .05$ (see *Table 2*).

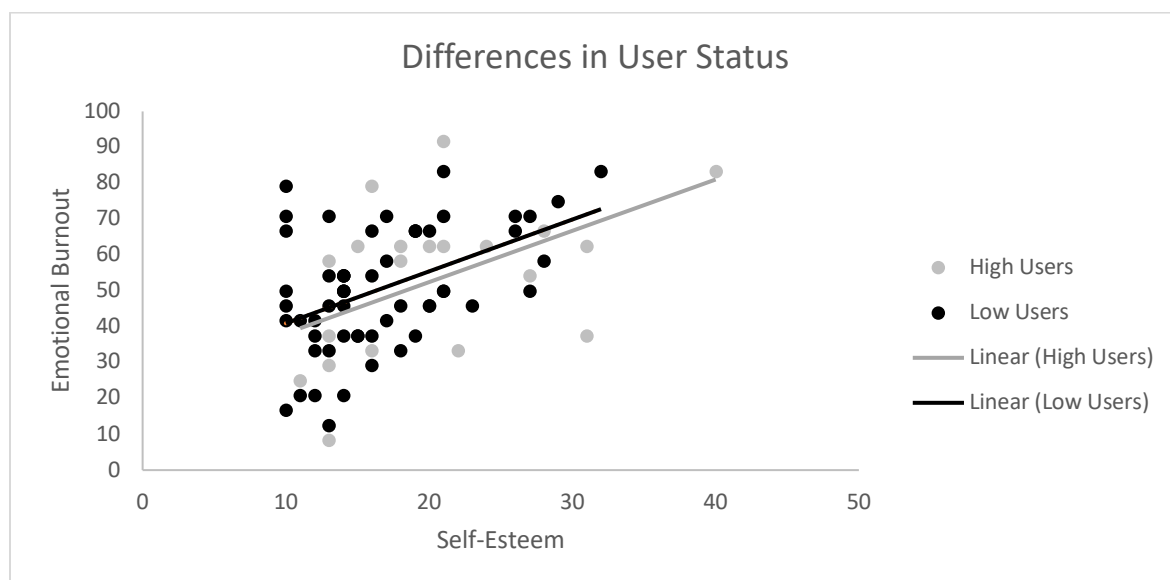
RQ #2: Does self-reported use of swipe-based dating apps relate to emotional burnout?

The number of times people were using dating apps and emotional burnout were not significantly correlated $r(80) = -.034, p = .77$ (see *Table 2, Descriptive Statistics and*

Correlations for RQ #1-3 Variables). After initial correlational testing, a two-sample t-test was run to compare the means of high and low users for the self-esteem variable. The 23 participants who were high app users ($M = 2.36$, $SD = 21.79$) compared to the 57 participants who were low app users ($M = 50.58$, $SD = 16.97$) demonstrated no significant difference in reported emotional burnout $t(78) = -.39$, $p = .70$. The linear trends for both low and high users demonstrate that generally higher reported scores for self-esteem also reported higher scores on emotional burnout (see Figure 1, *Scatterplot for High and Low Dating App Users*).

Figure 1

Scatterplot for High and Low Dating App Users



RQ #3: Does gender relate to self-reported use of swipe-based dating apps and self-esteem and burnout?

When testing for variable relationships with gender, there were 79 total participants who identified as male and female, and one who identified as non-binary. As the non-binary individual did not fit within the parameters of comparison, they were left out of the data analysis for gender comparisons. A correlational analysis was done to understand the relationship between gender and use of dating apps, and it was a significant positive correlation, $r(79) = .295, p < .01$ (see Table 2, *Descriptive Statistics and Correlations for RQ #1-3 Variables*), such that men ($M = 3.53, SD = 1.51$) were reporting higher frequency of dating app use per day than women ($M = 2.61, SD = 1.64$). The correlation between gender and reported self-esteem showed a significant positive correlation, $r(79) = .300, p < .01$ (see Table 2, *Descriptive Statistics and Correlations for RQ #1-3 Variables*), such that men were reporting higher scores on the self-esteem measure than women. The correlation between gender and reported emotional burnout showed no significant correlation, $r(79) = -.038, p = .74$ (see Table 2, *Descriptive Statistics and Correlations for RQ #1-3 Variables*).

Table 2

Descriptive Statistics and Correlations for RQ #1-3 Variables

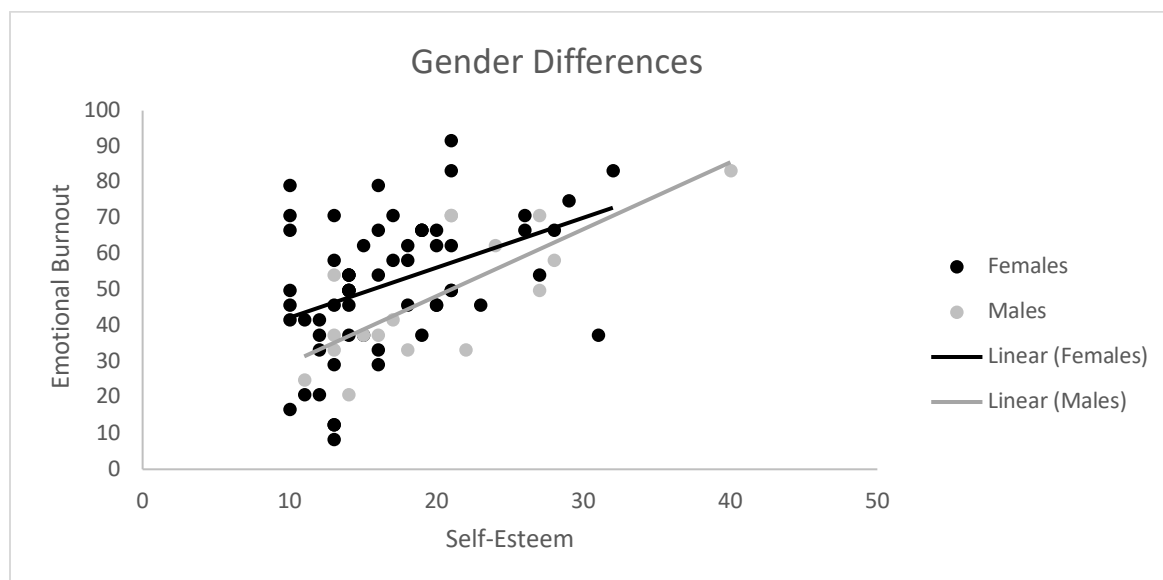
Variable	<i>M</i>	<i>SD</i>	1	2	3
1. Number of Times Using App	2.85	1.68	--		
2. Self-Esteem	17.61	6.22	.31**	--	
3. Emotional burnout	51.09	18.36	-.03	.47**	---
4. Gender	1.24	.46	.30**	.30**	-.04

* $p < .05$. ** $p < .01$

In order to understand the potential differences between male and female responses, multiple independent t-tests were conducted. The first t-test compared the means of male and females on reported self-esteem. The analysis showed that there was a significant difference in reported self-esteem between males ($M = 20.00$, $SD = 7.50$) and females ($M = 16.74$, $SD = 5.49$), $t(77) = -1.97$, $p = .05$. The second t-test compared males ($M = 48.28$, $SD = 18.46$) and females ($M = 51.68$, $SD = 18.50$) on reported emotional burnout, and the results showed no significant difference, $t(77) = 0.67$, $p = .50$. For both genders, it appears that the general trend is that those who report higher scores on self-esteem were also reporting higher scores on emotional burnout (see Figure 2, *Scatterplot for Gender*).

Figure 2

Scatterplot for Gender



Summary

The data collected through an online survey was analyzed to learn more about the views of active dating app users as well as to answer the three research questions posed earlier in this chapter. Overall, data from 80 participants was used for data analysis with a few participants being removed due to incomplete survey responses to the specific measures of self-esteem and emotional burnout. There was one non-binary self-identified participant who remained in the data analysis when it came to app user status, self-esteem, and emotional burnout; however, they were not included in the analyses that focused on gender due to their not falling into one of the two groups (male or female). The results provided insight into the more negative view and effect active dating app users believe that online dating apps have had on dating and relationships overall.

Based on the correlational analyses, self-reported rates of self-esteem and emotional burnout were significantly, positively related to each other. For research question one, the number of times individuals were using dating applications and self-esteem were positively correlated with each other, such that those who were using dating apps more were reporting lower self-esteem. The independent t-test analysis to compare high and low users showed a significant difference between reported self-esteem. For research question two, the number of times individuals were using dating applications and emotional burnout were not significantly correlated to each other. The following t-test analysis to compare low and high users did not find a significant difference in emotional burnout. In regards to research question three, gender did have a significant relationship with frequency of using dating applications and with self-reported self-esteem. When comparing males and females, there was a significant difference in self-

esteem. In the next chapter, the data analyses will be interpreted and discussed as well as address the implications for future research.

CHAPTER 5: DISCUSSION

Overview

The purpose of this study was to examine the relationship between using dating apps, self-esteem and feelings of burnout as well as to examine the potential differences between gender in these relationships. This chapter will summarize the overall findings of the study and interpret the results of the data analyses as it relates to the earlier proposed research questions and hypotheses, The findings will also be discussed as they relate to what the current literature has said and showed in prior research studies. Additionally, the chapter will discuss the contributions of this study to the current literature regarding the topic of dating app use. This section will explore the biblical implications of this research as it relates to Scripture and what we can learn about ourselves and our world through the lens of a Christian worldview. The limitations of the study will be summarized as well as explanations for the measures that were taken to try and combat them. Lastly, future recommendations for research will be presented to move the study of this topic further.

Summary of Findings

The results from this study showed that dating application users are often using more than one dating app at a time, and they are at least opening an app once per day to swipe through potential dating partners. The most popular dating application being used in the sample appeared to be Hinge followed by Bumble and Tinder. The majority of users from the study sample were only opening a dating app equal to or less than 3 times per day, compared to a minority of higher users opening dating apps equal to or more

than 4 times per day. Overall, despite continued use of dating apps, most participants had a more negative view of dating apps. The questions in particular demonstrated that apps have made finding a partner somewhat more difficult, there are too many dating partner options presented on them, and the effect dating apps are viewed to have on dating and relationships is overall negative.

In regards to the variables of interest and research questions, there were only a few significant statistical analysis outputs present with regards to the study's sample. The results did show that those with higher scores on the self-esteem measure also reported higher scores on the emotional burnout measure. This means that those with lower self-esteem often also self-reported higher feelings of emotional burnout. When correlating these variables with frequency of using dating apps, there was a significant correlation found between dating app use and self-reported self-esteem. The correlation demonstrated that those who were reporting higher frequency of opening a dating app were also self-reporting lower self-esteem scores, which was in line with the first proposed research question rejecting the null hypothesis. The correlation between dating app use and self-reported burnout; however, did not have a significant relationship meaning that the results failed to reject the null hypothesis.

Diving deeper into the relatedness of these variables, multiple independent t-tests were conducted in order to determine the potential differences between high and low dating app users as it related to reported self-esteem and emotional burnout. The t-test comparing the means of high and low app users in their self-reported self-esteem was found to be statistically significant. This result points to the potential differences in experiences that app users have with the dating apps and the relational effect that the

frequency of use has with mental health outcomes. However, in regards to the t-test comparing the means of high and low app users in their self-reported emotional burnout, there was no statistical difference found.

The data analysis completed regarding the third research question ran similar tests to view the correlational relationships between gender and frequency of use, self-esteem, and emotional burnout. The correlation between gender and frequency of dating app use was statistically significant as well as the relationship between gender and self-esteem was also found to be statistically significant. The correlation between gender and emotional burnout was not statistically significant. In order to compare gender results, independent t-tests were also conducted in order to compare means on the self-reported variables of self-esteem and burnout. The independent t-test comparing men and women on self-esteem was statistically significant meaning that there was a significant difference found between men and women report self-esteem. These results showed that men were using apps at a higher frequency than the women in the study's sample. This analysis demonstrated that men were reporting higher scores on self-esteem ratings compared to women, such that the men in this sample had overall lower reported self-esteem. There was no significant difference between men or women in regards to reported emotional burnout.

Discussion of Findings

The results show that there is a potential relationship between frequency of dating application usage and poorer mental health states. In particular, self-esteem was specifically found to be statistically related to all of the variables that were tested. This

points to the relative important relationship present between self-esteem and dating applications. This falls in line with prior research that self-esteem is largely impacted or related to the swipe-based mechanisms and general make-up of most dating applications as they rely on pictures of the physical body as the first impression. The constant and quick nature of swiping to view and show interest in other's profiles may lead to negative feelings about the self. The use of dating apps for self-validation has been related to potential risks with negative body image and lower self-esteem (Castro & Barrada, 2020). Even if the motivation to use dating apps is to find a partner, people rely on validation from others to quantify their self-worth and the experiences online. Lack of matches or responses from others after multiple attempts being made at a time to find a potential partner could lead to feelings of inadequacy from the view of the other sex. Indirect feedback on dating apps, as well as direct rejections, that are attributed to physical appearance may trigger negative mood and other poor behavioral outcomes. Portingale and colleagues (2022) research demonstrated that when they found that women who used dating apps reported greater daily urges for disordered eating and negative mood relative to non-app users.

One of the main findings was that self-esteem was significantly correlated with the frequency of use study participants were reporting. Higher daily usage of dating applications was statistically correlated with higher ratings of self-esteem, meaning that those with lower reported self-esteem were using dating apps at a higher frequency. It is possible that those with lower self-esteem are using dating apps at a higher frequency than others because they have greater difficulty initiating or forming relationships in person due to insecurities. Technology and its users have the potential to form a

dysfunctional relationship leading to negative affective and cognitive responses as research has shown previously in relation to other internet-based disorders. It may be that the over-reliance on technology for those with prior self-esteem issues may be more prone to forming these dysfunctional relationships leading to greater time spent online. Specific research on swipe-based dating applications has previously shown that there is a significant association between users and greater reported experiences of psychological distress, depression, and anxiety compared to non-swipe-based dating application users (Holtzhausen et al., 2020). The correlational findings of this study further this idea that the higher frequency of using dating apps per day is statistically associated with lower feelings of self-esteem. While there may not be a direct causation found yet as it relates to these variables, the negative association that is being found consistently in the literature is an important relationship for continued study.

The other significant findings related to self-esteem was the differences reported between males and females. While there was a significantly smaller pool of men in this sample, the men who did participate appeared to experience lower feelings of self-esteem compared to women. Men have been found to focus more on physical appearance when they are using dating apps, so it is possible that the increased interest in the opposite sexes physical features may lead them to internalize the pressure on themselves to present and be evaluated for their own physical attractiveness. Research comparing the negative feelings men and women experience based on their experiences online has shown that men are more likely to feel insecure due to a lack of messages or matches on dating apps (Pew Research, 2023). On the other hand, women experience greater negative feelings from becoming overwhelmed by too many messages and matches (Pew Research, 2023).

In this study, men were found to use dating applications at a higher frequency per day than women. It is possible that men who are motivated to have more messages and matches would use dating apps more throughout the day as a means of boosting their self-esteem. The overall idea portrayed by dating apps that swiping more increases opportunity does not overwhelm men like it appears to do to women, but encourages men to use the apps which may actually end up lowering self-esteem overtime due to overuse and exposure to rejection.

In regards to the lack of statistical association between burnout and some of the other variables of interest, it is possible that the measure chosen did not fully encompass the idea of burnout as it relates to dating application use. Burnout within a job environment has been found to be influenced by factors like role pressure, social support, and interpersonal interactions that negatively affect performance, but even more important effects the view of the self (Han et al., 2020). There are very few measures present in the literature measuring feelings of burnout in general, but the majority of measures that do focus on burnout are in the context of work and physical well-being rather than emotional or relational well-being. The Copenhagen Burnout Inventory sub measure of personal burnout did include some questions about emotional well-being, but mostly related to the physical experiences individuals are feeling as a result of using dating apps. The current study did find a statistical relationship between self-esteem and burnout such that greater burnout was related to lower self-esteem, which is in line with prior research. When looking at the study population, the participants all identified as current users as well and did not specify how long they had been using the apps over time, just on the frequency of use per day. Burnout may be better studied in the future by

comparing use over longer periods of time, like months or years, and even determine if some people are not users anymore because they experienced burnout being on the apps without success.

The social exchange theory views the initiation and creation of relationships between people through cost-benefits analysis with three core assumptions related to human nature. The three assumptions state that people seek out rewards and avoid punishments, that people begin interactions to gain maximum profit with minimal cost, and that the payoff from the interaction is different person to person as well as can change over time (Shtatfeld & Barak, 2010). It appears that dating applications may meet multiple needs of people based on this theory since dating companies sell greater opportunities to meet potential partners with minimal risk since there is some anonymity and physical distance involved, and greater reward as it relates to the individual motivation for using them. Moving forward with someone in an app by matching or even starting a conversation may depend on the assumed reward that would come from the interaction and app users can participate in multiple interactions at a time to determine which person would be the biggest payoff. This can even be applied to the number of dating apps an individual is using as well to see which one is more profitable leading to the best social exchanges and outcomes for the user. The majority of participants in this study did report using multiple dating applications at once, likely to increase their chances of finding a partner or to test which one meets their motivation for using the applications in the first place. While the increased use and time spent on the dating apps could payoff over time, research shows the likelihood of use to also cost the individual in

terms of their mental health such as their self-esteem, but users may not actually understand this cost without data to share with them.

While technology was not present and cited in the Biblical literature, the instant connectivity and fast-paced nature of being online that has changed our culture and the nature of personal relationships leads is something to be wary of. It does appear that those using dating applications believe that the apps may have a negative impact that dating on the dating process and relationships based on this study's population. Additionally, despite the view that dating applications perpetuate a hook-up culture, the results of this study point to most individuals being motivated to use the app for the purpose of finding a serious relationship. This trend for participants may be explained by the dating application most participants were using, Hinge, as this app does promote itself as "the app to be deleted" with the image of people not needing the app long-term once they get into a relationship. Not all apps promote the same message and are viewed to have different social reputations based on the experiences of the users and how the app is advertised to the public. The overall desire to find a partner supports the Biblical and psychological view that we seek out others searching for meaningful relationships, especially to have love. The search for love may be quick and easy for some, or long and heartbreaking for others, but it is a universal emotion and need that can be met many ways. The absence of love can lead people to act out of character, alter their standards, or internalize failures and rejections, rather than seek out support and counsel. As we search and experience life, it is important to remind others that God is always there for people if they grow tired and weary of this world as He "will renew their strength" (*New International Version*, 2011, Isaiah 40:28-31). Helping people understand their

experiences and the subsequent outcomes is important to continue supporting them through their search.

Implications

The current study identified key relationships between frequency of dating application use and mental health as it related to self-esteem specifically. Many social media applications are visually based and individuals are exposed to a large quantity of images and experiences of others. The swiping or scrolling mechanisms of apps are leading to an increased time spent on screens due to the constant, mindless and entertaining nature of the content. This overexposure to lots of information about others, culture and politics by individual users has been previously shown to increase the frequency of social comparison that can either boost or harm self-esteem. The nature of dating involves many highs and lows that effect the self from the first step of creating a profile and choosing specific photos to attract potential partners to swiping through matches to see what others like look all rely on visual observations and decision-making based on attractiveness. Other negative outcomes found in prior research associated with increased time spent on social media and dating applications are anxiety, depression, disordered eating and general feelings of loneliness.

This study is one of few in the literature that looks at burnout in a domain other than related to one's job. Further study of burnout or fatigue as it relates to social media and dating apps is needed to create more accurate measures to use for study as well as to see how this burnout effects daily functioning. Job burnout can lead to both mental and physical complications due to the severe level of pressure and dissatisfaction one is

facing, and the effects from work can begin to extend to other areas of life as well. For some, technology is even used for work with the increase in demand and opportunity for remote jobs that requires extensive screentime, decreased in-person social interaction, and more sedentary living habits as well. The decrease in social interaction at the workplace may support increased use of social media as well as a means to make the day go by and to connect when others are not readily available to communicate with.

Individuals with remote jobs may be a population of particular study as it relates to mental health and frequency of technology use, as well as possible with dating as there are fewer opportunities to meet a potential partner at work, to be set up by coworkers or friends, and possibly decrease in time spent out socializing in general. The reliance on technology to connect one with friends, dates, and the outside world may make it seem like a positive resource but the constant connectivity throughout the day may be related to poor health outcomes and habits.

It is important with the growing presence of technology in our world to understand how our psychology is being affected, especially when it is present during crucial developmental stages. It is the responsibility of psychological research to uncover how mental health is being impacted by different forms of technology to ensure the public is properly educated on the negative effects of use and to recommend possible regulations necessary to protect vulnerable populations from overexposure. Knowing the effect of social media and dating apps could also inform practicing psychologists another route of inquiry when working with clients who are experiencing mental health diagnoses that could be related to technology use. Asking about technology use, experiences online or having clients reflect on their use of technology could all be helpful practices to

improve client outcomes and recommend changes in their daily living. Children and adolescents, as well as even young adults, are still developing their brains and are greatly impacted by the influx of social information they are receiving. Online social information is different than in-person so how younger generations of learning and forming their self-identities is occurring in a new way than past generations. These new generations are also learning about what relationships are supposed to look like from others online, such as viewing content of popular social media couples or through experiences on dating apps. This information can be used to similarly inform smartphone application creators about how they can better improve their algorithms and physical construction of the apps to better protect their consumers from negative consequences of use.

Church communities can similarly learn from psychological research as a means to engage their congregations on the dangers and effects that technology has on them. There are many churches who had small groups for young adults and youth programs that can incorporate the message of Christ as well as caution against the overuse and nature of social media platforms. When it comes to developing romantic relationships, churches can highlight the verses about love and marriage, and what God sees as holy unions compared to cultural norms. The culture of dating often goes against much of what the Bible tells us, with overwhelming sexualized content and less traditional relationships that could confuse young Christians as they seek to find themselves and participate in relationships that they feel comfortable being in. Both parents, children and independent single adults can be addressed in order to warn and equip them with the armor of God as they engage with a largely, non-religious or Christian promoting online world.

Limitations

There are some limitations to independent samples due to subject-specific factors that influence survey responses and cannot be controlled for. Some of these variables may include the testing environment and other subject effects where participants would behave or answer differently based on expectancies or social desirability. Some uncontrollable variables can lead to attrition where participants do not complete the survey to meet the requirements to be included in the final data sample. There appeared to be a number of participants who did not continue participation to completion which led to removal of multiple individuals and could be explained by potential distractions, boredom or internet issues that affected responses (Lefever et al., 2007). Research has identified that generally attrition can lead to a significant bias that effects overall results and the conclusions that can be drawn (Bankhead et al., 2017). Due to possible attrition, the desired population pool was adjusted to account for it by adding an additional 20 percent of participants based on the power analysis outcome. Despite some participants not completing the survey, the attrition did not affect reaching the desired sample size meaning that the study had an appropriate sample size and the results could be interpreted to have statistical significance.

While the overall population total was reached, the large numerical difference between men and women in the study may have affected the third research question results since there was not an even distribution. There were only 17 males who participated in the study which made up only 21% of the participants in the final analysis. While this likely limited interpretability and overall data analysis results for the variable of gender, this may also limit the generalizability of the overall results to the general

population. Pew Research (McClain & Gelles-Watnick, 2023) on the population of dating app users found that men are somewhat more likely to use a dating app in their lifetime compare to women (34% vs. 27%), so it is possible that men may not want to reflect or answer questions about their online experiences. There was only one participant who identified within a different gender category (non-binary) who was not included for the analyses specific to gender, which did not change the overall population size.

When looking at comparing means between high dating app users and low dating app users, there was again an unequal representation between the groups. The groups were differentiated using past research findings that smartphone technology users who are on any app four or more times in a day are considered high users. It is possible that while this finding is true for smartphone application users generally, there may be a differentiation between social media app users and dating app users that would serve as a better cut-off between groupings. The unequal balance in sample size may have affected the power when comparing variables such that the data analysis had a more difficulty in identifying potential differences.

The recruitment approach with mass emails and social media posts may have impacted response rates as well since sometimes posts can get lost as people are scrolling or don't make it into the immediate algorithm (Lefever et al., 2007). Combating this limitation included posting and emailing potential participants a few times within the data collection phase in hopes of reaching more participants who may have missed the original attempt. This did appear to assist in the recruitment process as large bursts of participants occurred at each point of posting and emailing. There were in total two

Facebook posts made, two Instagram posts made, and two mass emails sent during the three months of data collection.

Recommendations for Future Research

Future research is needed to continue looking at self-esteem and burnout in the context of using dating applications as well as continue to explore other potential mental health outcomes that may be related to use. A longitudinal study would be particularly useful in understanding effects of using dating apps over time to track new user experiences in real time from the start of creating a profile on a swipe-based dating app and throughout the process to see how their time on the apps is impacting them through multiple mental health measures. Other studies could continue real time measurement of daters' feelings as they are swiping on the applications matching or rejecting profiles, then follow that with subsequent measurement of feelings after receiving feedback from real or fake daters. Studies would likely profit from greater control over the measurement of the effect of dating apps to limit variables affecting outcomes and may help determine cause-and-effect relationships. These studies may require more time and effort to complete, but they also provide more depth in terms of data collected. While survey research provides a larger sample size and a more diverse sample of participants, often this study design requires participants to reflect on past experiences in the present which can skew the reliability of responses. Additionally, other environmental effects can impact how individuals answer their questions since other things may be going on in the space where they are completing the survey, or other experiences they've had throughout their day that may impact how they answer.

To continue the study of burnout, research would be needed in order to understand the variable in a different context to create comprehensible measures of study. The current measures of burnout are limited and should be created within the context of overusing technology with a particular focus on the fatigue of swipe-based smartphone applications and the dating process. Research is needed to compile better the parts of the dating process and use of dating apps that contribute to the fatigue that may be experienced from overuse. Further, investigating reasons why people stop using dating applications altogether may provide insight as to the mental state users are in when they end their online dating process as well as reflect on how they currently feel about their dating prospects without the apps. Being able to understand why dating apps are given up as well as compare dating experiences on and offline, with individuals reflecting on how their well-being differs on and offline would help psychologists understand the effect of multiple dating approaches. The effect of the apps themselves needs to be set apart from the dating process in general.

Summary

There is a gap in the literature on swipe-based dating applications that this study began filling, but studies are still needed to fully understand the direct long-term effects, well-being outcomes, and effect use of dating apps may have on social development. Younger generations are connected to technology now more than ever and excessive time spent on screens mindlessly scrolling through content may elicit negative feelings about themselves due to increased social comparison and lack of in-person socialization. How people are learning about dating interactions and relationships is also largely through

social media whether it is viewing couples they know or watching popular couple influencers. The constant viewing and influx of new media everyday leads to a possibly overwhelming amount of information that leads to social comparison, envy, anxiety or depression.

The research conducted in this study expands the knowledge about the use of dating applications and well-being. This survey-based research design found significant relationships between frequency of dating app use, gender and self-esteem. Self-esteem appears to be a major variable as it relates to the experiences of dating app users as it was significantly correlated with reported feelings of burnout, such that those with lower self-esteem were reporting higher feelings of burnout. There were also differences in reported self-esteem between high and low dating app users as well as between males and females. These results support prior findings on how longer time online is related to more negative feelings about the self. Additionally, the finding that the male participants reported lower self-esteem than women may be explained by the trend of men picking potential dating partners based on physical appearance and thus internalize rejections or lack of matches due to their own physical appearance. Further research is needed in order to understand the direct effect of dating app usage on self-esteem and to better conceptualize burnout in an online dating context.

REFERENCES

- Adamczyk, K., Janowicz, K., & Mrozowicz-Wronska, M. (2022). Never-married single adults' experiences with online dating websites and mobile applications: A qualitative content analysis. *New Media & Society*, 1-24.
doi:10.1177/14614448221097894.
- Adamczyk, K., Morelli, N.M., Segrin, C., Jiao, J., Park, J.Y., & Villodas, M.T. (2022). Psychometric analysis of the dating anxiety scale for adolescents in samples of polish and U.S. young adults: Examining the factor structure, measurement invariance, item functioning, and convergent validity. *Assessment*, 29(8), 1869-1889. doi:10.1177/10731911211017659.
- Afifi, T.D., Haughton, C., & Parrish, C. (2021). Relational load: Implications for executive functioning, mental health, and feelings for unity in romantic relationships. *Communication Monographs*, 88(4), 506-529.
doi:10.1080/036377751.2021.1896015.
- Alba, G. (2021). The effect of implicit (vs explicit) rejection on the behavioral intentions of online daters. *Online Information Review*, 45(5), 930-945. doi:10.1106/OIR-06-2020-0207.
- Andrews, J.L., Khin, A.C., Crayn, T., Humphreys, K., & Schweizer, S. (2022). Measuring online and offline social rejection sensitivity in the digital age. *Psychological Assessment*, 34(8), 742-751. doi:10.1037/pas0001136.
- Bandinelli, C. (2022). Dating apps: Towards post-romantic love in digital societies. *International Journal of Cultural Policy*, 28(7), 905-919.
doi:10.1080/10286632.2022.2137157.

- Bankhead, C., Aronson, J.K. & Nunan, D. (2017). Attrition bias. *Catalogue of Bias Collaboration*. Retrieved 2024. <https://catalogofbias.org/biases/attrition-bias/>.
- Best, K. & Delmege, S. (2021). The filtered encounter: Online dating and the problem of filtering through excessive information. *Social Semiotics*, 22(3), 237-258. doi:10.1080/10350330.2011.648405.
- BibleGateway.com. *New International Version*. Retrieved 2023. <https://www.biblegateway.com>.
- Bonilla-Zorita, G., Griffiths, M.D. & Kuss, D.J. (2023). Dating app use and well-being: An application-based pilot study employing ecological momentary assessment and objective measures of use. *International Journal of Environmental Research and Public Health*, 20. doi:10.3390/ijerph20095631.
- Bonilla-Zorita, G., Griffiths, M.D., & Kuss, D.J. (2021). Online dating and problematic use: A systematic review. *International Journal of Mental Health and Addiction*, 19, 2245-2278. doi:10.1007/s11469-020-00318-9.
- Castro, A., & Barrada, J.R. (2020). Dating apps and their sociodemographic and psychosocial correlates: A systematic review. *International Journal of Environmental Research and Public Health*, 17. doi:10.3390/ijerp17186500.
- Chan, L.S. (2017). Who uses dating apps? Exploring the relationships among trust, sensation-seeking, smartphone use, and the intent to use dating apps based on the integrative model. *Computers in Human Behavior*, 72, 246-258. doi:10.1016/j.chb.2017.02.053.
- Coduto, K.D., Lee-Won, R. J., & Baek, Y.M. (2020). Swiping for trouble: Problematic dating application use among psychosocially distraught individuals and the paths

- to negative outcomes. *Journal of Social and Personal Relationships*, 37(1), 212-232. doi:10.1177/0265407519861153.
- D'Angelo, J.D. & Toma, C.L. (2017). There are plenty of fish in the sea: The effects of choice overload and reversibility on online daters' satisfaction with selected partners. *Media Psychology*, 20(1), 1-27. doi:10.1080/15213269.2015.1121827.
- Degen, J.L. & Kleeberg-Niepage, A. (2021). Profiling the self in mobile online dating apps: A serial picture analysis. *Human Arenas*. doi:10.1007/s42087-021-00195-1.
- De Vries, D.A. (2016). Meeting expectations: the effects of expectations on self-esteem following the construction of a dating profiles. *Computers in Human Behavior*, 62, 44-50. doi:10.1016/j.chb.2016.03.061.
- Finkel, E.J., Eastwick, P.W., Karney, B.R., Reis, H.T., & Sprecher, S. (2012). Online dating: A critical analysis from the perspective of psychological science. *Psychological Science in the Public Interest*, 13(1), 3-66. doi:10.1177/1529100612436522.
- Ford, M.B. (2017). A nuanced view of the benefits of mindfulness: Self-esteem as a moderator of the effects of mindfulness on responses to social rejection. *Journal of Social and Clinical Psychology*, 36(9), 739-767.
- Fullwood, C. & Attrill-Smith, A. (2018). Up-dating: Ratings of perceived dating success are better online than offline. *Cyberpsychology, Behavior, and Social Networking*, 21(1), 11-15. doi:10.1089/cyber.2016.0631.
- Goldberg, S., Yeshua-Katz, D., & Marciano, A. (2022). Online construction of romantic relationships on social media. *Journal of Social and Personal Relationships*, 39(6), 1839-1862. doi:10.1177/02654075211067814.

- Hall, J.A. & Liu, D. (2022). Social media use, social displacement, and well-being. *Current Opinion in Psychology*, 46. doi:10.1016/j.copsyc.2022.101339.
- Han, R., Xu, J., Ge, Y., & Qin, Y. (2020). The impact of social media use on job burnout: The role of social comparison. *Frontiers in Public Health*, 8. doi:10.3389/fpubh.2020.588097.
- Harren, N., Walburg, V., & Chabrol, H. (2021). Studying the relationship of problematic online dating, social media use and online sexual behaviors with body esteem and sexuality. *Sexuality & Culture*, 25, 2264-2291. doi:10.1007/s12119-021-09876-z.
- Hathaway, R.S. (1995). Assumptions underlying quantitative and qualitative research: Implications for institutional research. *Research in Higher Education*, 36(5), 535-562.
- Heino, R.D., Ellison, N.B., & Gibbs, J.L. (2010). Relationshopping: Investigating the market metaphor in online dating. *Journal of Social and Personal Relationships*, 27(4), 427-447. doi:10.1177/0265407510361614.
- Holtzhausen, N., Fitzgerald, K., Thakur, I., Ashley, J., Rolfe, M., & Pit, S.W. (2020). Swipe-based dating applications use and its association with mental health outcomes: A cross-sectional study. *BMC Psychology*, 8(22). doi:10.1186/s40359-020-0373-1.
- Huang, S.A., Hancock, J., & Tong, S.T. (2022). Folk theories of online dating: Exploring people's beliefs about the online dating process and online dating algorithms. *Social Media & Society*, 1-12. doi:10.1177/20563051221089561.
- Hughes, S., Champion, A., Brown, K., & Pedersen, C.L. (2021). #Couplegoals: Self-esteem, relationship outcomes, and the visibility of romantic relationships on

social media. *Sexuality & Culture*, 25, 1041-1057. doi:10.1007/s12119-020-09808-3.

Karakose, T., Yirci, R., & Papadakis, S. (2022). Examining the associations between COVID-19-related psychological distress, social media addiction, COVID-19-related burnout, and depression amid principals and teachers through structural equation modeling. *International Journal of Environmental Research and Public Health*, 19. doi:10.3390/ijerph19041951.

Kristensen, T.S., Borritz, M., Villadsen, E., & Christensen, K.B. (2005). The copenhagen burnout inventory: A new tool for the assessment of burnout. *Work & Stress*, 19(3), 192-207. doi:10.1080/02678370500297720.

Kwok, I. & Wescott, A.B. (2020). Cyberintimacy: A scoping review of technology-mediated romance in the digital age. *Cyberpsychology, Behavior, and Social Networking*, 23(10), 657-666. doi:10.1089/cyber.2019.0764.

Langlais, M.R., Seidman, G., & Bruxvoort, K.M. (2020). Adolescent romantic relationship-oriented facebook behaviors: Implications for self-esteem. *Youth & Society*, 52(4), 661-683. doi:10.1177/0044118X18760647.

Lefever, S., Dal, M., & Mattiasdottir, A. (2007). Online data collection in academic research: Advantages and limitations. *British Journal of Educational Technology*, 38(4), 574-582. doi:10.1111/.1467-8535.2006.00638.x.

Liu, C. & Ma, J. (2020). Social media addiction and burnout: The mediating roles of envy and social media use anxiety. *Current Psychology*, 39, 1883-1891. doi:10.1007/s12144-018-9998-0.

- Lykens, J., Pilloton, M., Schlamm, E., Wilburn, K., & Pence, E. (2019). Google for sexual relationships: Mixed-methods study on digital flirting and online dating among adolescent youth and young adults. *JMIR Public Health and Surveillance*, 5(2). doi:10.2196/10695.
- Machimbarrena, J.M., Calvete, E., Fernandez-Gonzalez, L., Alvarez-Bardon, A., Alvarez-Fernandez, L., & Gonzalez-Cabrera, J. (2018). Internet risks: An overview of victimization in cyberbullying, cyber dating abuse, sexting, online grooming, and problematic internet use. *International Journal of Environment Research and Public Health*, 15, doi:10.3390/ijerph15112471.
- McClain, C., & Gelles-Watnick, R. (2023). *The who, where and why of online dating in the U.S.* Pew Research Center: Internet, Science & Tech.
<https://www.pewresearch.org/internet/2023/02/02/the-who-where-and-why-of-online-dating-in-the-u-s/>.
- Portingale, J., Fuller-Tyszkiewicz, M., Liu, S., Eddy, S., Liu, X., Giles, S., & Krug, I. (2022). Love me tinder: The effects of women's lifetime dating app use on body dissatisfaction, disordered eating urges, and negative mood. *Body Image*, 40, 310-321. doi:10.1016/j.bodyim.2022.01.005.
- Pronk, T.M. & Denissen, J.J.A. (2020). A rejection mind-set: Choice overload in online dating. *Social Psychological and Personality Science*, 11(3), 388-396.
doi:10.1177/1948550619866189.
- Ronen, S. & Baldwin, B.W. (2010). Hypersensitivity to social rejection and perceived stress as mediators between attachment anxiety and future burnout: A prospective

analysis. *Applied Psychology: An International Review*, 59(3), 380-403.
doi:10.1111/j.1464-0597.2009.00404.x.

Rosenberg, M. (1979). *Conceiving the Self*. Basic Books.

Rosenfeld, M.J., Thomas, R.J., & Hausen, S. (2019). Disintermediating your friends: How online dating in the United States displaces other ways of meeting. *PNAS*, 116(36), 17753-17758. doi:10.1073/pnas.1908630116.

Shtatfeld, R., & Barak, A. (2010). Factors related to initiating interpersonal contacts on internet dating sites: A view from social exchange theory. *Interpersonal: An International Journal on Personal Relationships*, 3(2), 19-37.
doi:10.5964/ijpr.v3isupp2,74.

Sumter, S.R., Vandenbosch, L., & Ligtenberg, L. (2017). Love me tinder: Untangling emerging adults' motivations for using the dating application tinder. *Telematics and Informatics*, 34, 67-78. doi:10.1016/j.tele.2016.04.009.

Taba, M., Lewis, L., Cooper, S.C., Albury, K., Chung, K.S.K., Lim, M., Bateson, D., Kang, M., & Skinner, S.R. (2020). What adolescents think of relationship portrayals on social media: A qualitative study. *Sexual Health*, 17, 467-474.
doi:10.1071/SH20056.

Temple, J.R., Choi, H.J., Brem, M., Wolford-Clevenger, C., Stuart, G.L., Peskin, M.F., & Elmquist, J. (2016). The temporal association between traditional and cyber dating abuse among adolescents. *Journal of Youth Adolescence*, 45, 340-349.
doi:10.1007/s10964-015-0380-3.

- Thomas, M.F., Binder, A., Stevic, A., & Matthes, J. (2023). 99+ matches but a spark ain't one: Adverse psychological effects of excessive swiping on dating apps. *Telematics and Informatics*, 78. doi:10.1016/j.tele.2023.101949.
- Thomas, M.F., Binder, A., & Matthes (2022). The agony of partner choice: The effect of excessive partner availability on fear of being single, self-esteem, and partner choice overload. *Computers in Human Behavior*, 126. doi:10.1016/j.chb.2021.106977.
- Toma, C.L. (2022). Online dating and psychological well-being: A social compensation perspective. *Current Opinion in Psychology*, 46. doi:10.1016/j.copsyc.2022.101331.
- Van Ouytsel, J., Van Gool, E., Walrave, M., Ponnet, K., & Peeters, E. (2016). Exploring the role of social networking sites within adolescent romantic relationships and dating experiences. *Computers in Human Behavior*, 55, 76-86. doi:10.1016/j.chb.2015.08.042.
- Wu, J., Ma, J., Wang, Y., & Wang, J. (2020). Understanding and predicting the burst of burnout via social media. *Human-Computer Interaction*, 4(3).
- Zhang, X., van der Molen, M.J.W., Otieno, S.C.S.A, He, Z., Leppanen, P.H.T., & Li, H. (2022). Neural correlates of acceptance and rejection in online speed dating: An electroencephalography study. *Cognitive, Affective, & Behavioral Neuroscience*, 22, 145-159. doi:10.3758/s13415-021-00939-0.

APPENDIX A: RECRUITMENT MATERIALS

Email Blast:

Dear Potential Participant,

As a graduate student in the School of Behavioral Sciences at Liberty University, I am conducting research as part of the requirements for a doctorate degree. The purpose of my research is to address the relationship between dating application use and well-being in a young adult population in order to better understand the relationship between technology use and mental health. I am writing to invite you to join my study.

Participants must be at least 22 years of age and at most 32 years of age who have actively participated on a dating application within the past year but not prior to 2022.

Participants will be asked take an anonymous, online survey. It should take approximately 8 to 10 minutes to complete the procedure listed. Participation will be completely anonymous, and no personal, identifying information will be collected.

To participate, please click here [Survey Link](#) to complete the study survey.

An information sheet is provided as the first page of the survey. The information sheet contains additional information about my research.

Sincerely,

Kyndal Burdin

LU Graduate Student



Social Media Post:

ATTENTION FACEBOOK FRIENDS!

I am conducting research as part of the requirements for a doctor of psychology degree at Liberty University. The purpose of my research is to better understand how dating application use relates to users' well-being. To participate, you must be at least 20 years of age and at most 32 years of age, and you must have used a dating application in the past year. Participants will be asked to complete an anonymous online survey, which should take about 8 to 10 minutes to complete.

If you would like to participate and meet the study criteria, please click the link provided at the end of the post. A consent document is provided as the first page of the survey.

Please review this page, and if you agree to participate, respond to the prompt and click the "proceed to survey" button at the end.

To take the survey, click here: [Survey Link](#)

APPENDIX B: DEMOGRAPHIC QUESTIONS

1. Age _____
2. Biological gender at birth _____
3. Ethnicity
 - a. American Indian or Alaskan Native
 - b. Asian/Pacific Islander
 - c. Black or African American
 - d. Hispanic
 - e. White/Caucasian
 - f. Multiple ethnicity/Other
4. Are you currently in a committed romantic relationship?
 - a. Yes
 - b. No
5. If you answered yes, did you meet your current spouse or partner through an online dating app?
 - a. Yes
 - b. No
6. If not in a committed relationship, which best describes what you are looking for?
 - a. A committed romantic relationship only
 - b. Looking for a committed relationship
 - c. Casual dates only
 - d. Not currently looking for a relationship

APPENDIX C: DATING HISTORY AND DATING APP USE

McClain, C., & Gelles-Watnick, R. (2023). *The who, where and why of online dating in the U.S.* Pew Research Center: Internet, Science & Tech.

<https://www.pewresearch.org/internet/2023/02/02/the-who-where-and-why-of-online-dating-in-the-u-s/>

1. Are you currently using an online dating app?
 - a. Yes, I am a current dating app user
 - b. No, but I have used one in the past year
 - c. No, but I have used one 1 to 5 years ago
 - d. No, I have not been a dating app user
2. If so, which of the following online dating apps have you or are you currently using?
 - a. Tinder
 - b. Bumble
 - c. Hinge
 - d. OkCupid
 - e. Other
3. What type of effect would you say online dating apps have had on dating & relationships?
 - a. Mostly positive
 - b. Mostly negative
 - c. Neither positive nor negative
4. Do you think people on dating apps today have

- a. Too many options for dating
 - b. Too few options for dating
 - c. The right number of options for dating
5. Do you think online dating apps have made finding a long-term partner or spouse
- a. A lot harder
 - b. A little harder
 - c. Made no difference
 - d. A little easier
 - e. A lot easier
6. How would you describe your overall experience using dating apps?
- a. Mostly positive
 - b. Mostly negative
 - c. Neither positive nor negative
7. Approximately how often are you, or were you, opening a dating app?
- a. 1 time/day
 - b. 2 times/day
 - c. 3 times/day
 - d. 4 times/day
 - e. 5 times/day
 - f. >5 times/day

APPENDIX D: ROSENBERG SELF-ESTEEM SCALE (RSE)

Rosenberg, M. (1979). *Conceiving the Self*. Basic Books.

Please record the appropriate answer for each item, depending on your agreement with each statement.

1 = Strongly Agree

2 = Agree

3 = Disagree

4 = Strongly disagree

1. On the whole, I am satisfied with myself.
2. At times I think I am no good at all.*
3. I feel that I have a number of good qualities.
4. I am able to do things as well as most other people.
5. I feel I do not have much to be proud of.*
6. I certainly feel useless at times.*
7. I feel that I'm a person of worth.
8. I wish I could have more respect for myself.*
9. All in all, I am inclined to think that I am a failure.*
10. I take a positive attitude toward myself.

*Indicates reversed items: #2, 5, 6, 8, and 9

APPENDIX E: COPENHAGEN BURNOUT INVENTORY (CBI)

Kristensen, T.S., Borritz, M., Villadsen, E., & Christensen, K.B. (2005). The copenhagen burnout inventory: A new tool for the assessment of burnout. *Work & Stress*, 19(3), 192-207. doi:10.1080/02678370500297720.

Part One: Personal Burnout

Response Categories: Always, Often, Sometimes, Seldom, Never/Almost Never

1. How often do you feel tired?
2. How often are you physically exhausted?
3. How often are you emotionally exhausted?
4. How often do you think: "I can't take it anymore"?
5. How often do you feel worn out?
6. How often do you feel weak and susceptible to illness?

APPENDIX F: IRB APPROVAL AND EXEMPTION



April 2, 2024

Kyndal Burdin
Donna Busarow

Re: IRB Exemption - IRB-FY23-24-1302 Effects of Online Dating: Relationship Between Use and Mental Well-Being

Dear Kyndal Burdin, Donna Busarow,

The Liberty University Institutional Review Board (IRB) has reviewed your application per the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds your study to be exempt from further IRB review. This means you may begin your research with the data-safeguarding methods described in your IRB application, and no further IRB oversight is required.

Your study falls under the following exemption category, which identifies specific situations in which human participants research is exempt from the policy set forth in 45 CFR 46:104(d):

Category 2.(i). Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording) if at least one of the following criteria is met:

The information obtained is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained, directly or through identifiers linked to the subjects;

For a PDF of your exemption letter, click on your study number in the My Studies card on your Cayuse dashboard. Next, click the Submissions bar beside the Study Details bar on the Study Details page. Finally, click Initial under Submission Type and choose the Letters tab toward the bottom of the Submission Details page. Your information sheet and final versions of your study documents, **which you must use to conduct your study**, can also be found on the same page under the Attachments tab.

This exemption only applies to your current research application, and any modifications to your protocol must be reported to the Liberty University IRB for verification of continued exemption status. You may report these changes by completing a modification submission through your Cayuse IRB account.

If you have any questions about this exemption or need assistance in determining whether possible modifications to your protocol would change your exemption status, please email us at irb@liberty.edu.

Sincerely,
G. Michele Baker, PhD, CIP
Administrative Chair
Research Ethics Office