Swipe Away Your Mental Health

An Analysis of the Effect of Online Dating Design on User Mental Health and Overall Well-Being

by

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ABSTRACT

Online dating continues to be one of the most common ways people meet one another. Only in the last couple of years has information begun to show how these online sites and applications negatively affect their users. This study examines how the User Interface and User Experience (UI/UX) design of the dating app Tinder influences its users and its impact on their mental health and overall well-being. An online survey of 74 Tinder users between the ages of 18 and 35 was conducted, coded, and analyzed. The results of this study corroborate with previous research and claims that different User Interface and User Experience (UI/UX) elements within Tinder do impact and influence their users. The results also substantiate the research and claims that online dating and dating apps do impact their users in a predominantly negative manner. Overall, this study found that while dating apps can lend themselves to helping people find someone, they have the power to influence and negatively impact their users' beliefs, mental health, and overall well-being.

Keywords : Online Dating, Dating Apps, Relationship Initiation, User Interface, User Experience, Mental Health, Cognitive Overload, UI/UX Design

DEDICATION

Thank You.

To everyone who stood by and told me it would be worth it.

This is for you but mostly for me.

This Thesis is Complete.

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CHAPTER 1

1.0.0 INTRODUCTION

Love. A word all wish to hear, a feeling universally sought, and an emotion many struggle to express. Why is it such an integral part of being human? And if it is, why is it so hard to find and even harder to secure? For marriages during the 18th and 19th centuries, love took last place to money, power, and prestige (Coontz, 2007). Marriage was about survival (Coontz, 2007). Marriage was a negotiating tool for political alliances, an increase in power, gaining a title and respectability, owning land and wealth (Coontz, 2007). Before marriage became a commodity, it was the search for a family's survival. Women were selected based on their ability to produce a healthy child. Not just an heir, but think along the lines of Darwin's Theory of Evolution. People married those who appeared to be the strongest or smallest or whatever characteristic would increase the chances of their child's survival. Fast forward to today, and it is still about survival, but not the one based upon longevity and physical prowess, but a search for fame, fortune, and success. Notice that love and family still do not rank among the top reasons. However, if one has a simple understanding of the foundational needs of human beings, they would know that a sense of belongingness and love is just as important or more important depending on the individual as food, water, shelter, or safety (Maslow, 1943).

So, if love and belongingness are so critical to the foundational structure of a solid, happy human existence, why does it seem to be the very thing humans find so elusive? Maslow believed that in order to not be a "sick man," one needed to fulfill all their needs or goals: physiological, safety, love, esteem, and self-

actualization (Maslow, 1943). However, based on the individual's beliefs, of which goals or needs are a priority, their choice can take on a different order of importance (Maslow, 1943).

This helps to explain why, in the 18th and 19th centuries, humans partnered or married based on fulfilling their physiological and safety needs first and put very little effort into finding love (Coontz, 2007). This historical pattern is evidence that one can survive with just these limited needs or goals being met; however, often leaving many in loveless marriages with unfulfilled lives. Currently, many individuals are able to fulfill their physiological and safety needs while gaining educational accomplishments and recognition from their peers and the public, satisfying their self-esteem and self-actualization goals as well. It is no surprise, then, that at the forefront of many individuals' lives is finding their sense of belonging; their community, tribe, or partner.

How are individuals attempting to fill this void in the 21st century? The Internet! There are an unlimited number of online platforms for people to meet one another, from forum sites like Reddit to dating apps like Tinder, social media platforms like Instagram, and even game platforms like World of Warcraft. According to research done by the Pew Research Center in 2019, three-in-ten adults in the United States have used online dating sites or apps (Vogels, 2020; Vogels & McClain, 2023), and with even more users who are meeting on platforms outside the "online dating" defined sites, it is evident that the future of finding human connection is online. Online dating is a simple and efficient way for people to find one another. These connections can last a moment or a lifetime and allow users to experience love and belonging. However, the fact that one can

experience these feelings in either a temporal or lasting manner online is not the answer. The harsh reality is that it leads to significantly adverse user side effects.

The emotional effects of online dating has become a popular topic in research, with over 430,000 articles showing when searching Google Scholar for “The Emotional Effects of Online Dating”. What is remarkably absent from these papers is any discussion of the impact of the design or physical attributes of the applications/sites themselves on users. From feeling an immediate sense of satisfaction and gratification to the use of colors, tools, and functionality, the design of applications and sites have immediate quantifiable effects on their users, i.e., generating a sense of success, frustration, or failure. (The Interaction Design Foundation, n.d.-a). Reviewing the top US dating app, Tinder (Curry, 2024), this paper hopes to address this gap in research and better understand how the user interface and experience of dating apps affect a user’s mental health. This study uses surveys, interviews, and design analysis to determine how the affordances created by Tinder’s UI/UX design relate to a user’s mental health. The study further expects to provide evidence in support of the premise that particular design choices, such as the gamification of the apps’ design, have had a negative impact on the users’ mental health.

1.1.0 JUSTIFICATION

With more than 337 million online dating users worldwide (Curry, 2024), it is no surprise that online dating is a hot topic for current research from psychology to computer science. It has become the most common way for people to meet a significant other (Lee, 2019). With nearly 30% of the online

dating population, Tinder has become the largest dating app on the market (Curry, 2024). With the addition of COVID-19, lockdowns, and regulations on in-person meetings, online dating apps exploded to the forefront as a source for human connection. While providing a platform for people to connect during the pandemic can at first be seen as a positive solution, the side effects of relying on this manner to meet and connect began to reveal startling reports of a global rise in depression, anxiety, and loneliness. Countries everywhere (Australia, Denmark, and the United Kingdom (Novotney, 2020)) are now trying to comprehend why these issues are being felt by such a significant number of individuals in what has been described as the "most connected generation" in history.

Today's dating demographic has hit a significant snag in the world of love. No longer are individuals looking for lasting love and relationships, but are satisfying their need for intimacy in a grab-and-go style of instant gratification in the form of a quick hookup and no-strings-attached relationship. The "talking phase" has been replaced with superficial first impressions and a disposable attitude. What is encouraging these feelings? A major catalyst is the marketing holy grail that sex sells. With today's technology, there is no better source of fuel to sustain this marketing of relationships than social media. With an infinite number of choices and the ability to switch among several partners, can serious, long-lasting relationships stand a chance?

The user experience and the user interface play a greater role in the 21st century's interpretation and influence on dating. Addictive traits are built into these design interfaces, from colors, layout, utility, and more, which

influence users, resulting in or exaggerating negative feelings and the declining population's mental health. Changing the design and choreography of these interfaces may be one way to address and diminish these negative attributes.

1.2.0 SCOPE AND LIMITATIONS

The scope of this research will include data collected from users ages 18-35 who have used Tinder for more than one year. All participants will be fluent in English and currently residing in the United States.

Limitations for this research will be the time frame to complete the project and the ability to manage data. As for the limitation on time, if this study could be conducted over a longer period of time, one would be able to determine with far greater accuracy what parts of the experience are the real culprits. There is also a limitation of language and culture, which is why the study is restricted to current US residents. Another limitation is correlation without causation, as there is no way to prove precisely what the causes are within this time frame or data collection; however, there will be strong correlational data.

1.3.0 GLOSSARY

1.3.1 Anonymity

The sense of freedom afforded by the lack of physical verification of users during online interactions (Johnson, 1997; Suler, 2004).

1.3.2 Asynchronicity (Communication)

Communication between users in which one user's communication is sent and has a time delay before the other user views it and replies (Owl Labs Staff, 2020).

1.3.3 Blackmail

Using information (secrets) or threats to force someone into doing something, such as giving money or quitting a job (Blackmail, n.d.)

1.3.4 Catfishing

Catfishing is misrepresenting one's identity. It can be as complex as creating an entirely new persona using photos, changing one's personality, gender, or omitting information considered pertinent to the viewer, such as having a disability or lying about height or weight (Mosley et al., 2020).

1.3.5 Choice Overload

The larger the number of options to choose from, the more difficult it can be to make a decision, as well as a decrease in the satisfaction of the final decision (Scheibehenne et al., 2010).

1.3.6 Cognitive Overload

The point at which what is asked of a person overwhelms their mental capabilities, and they are no longer able to cope (American Psychological Association, n.d.).

1.3.7 Computer-Mediated Communication (CMC)

Communication that occurs between different devices connected to the network (phone calls, emails, instant messaging, direct messaging, facetime, etc.) (Cleveland, 2020).

1.3.8 Dating

Dating, as a broad term, means one is going on dates with people. Dating someone makes it singular, that one is going on dates with a singular person consistently (Healy, 2021).

1.3.9 Dating Apps

A Dating App (or Application) is a downloadable application designed to forge connections between users. These connections can be anything from romantic partners to casual sexual encounters or friendships (Orchard, 2019).

1.3.10 Enhancing Hypothesis

Allowing for short or limited communication via CMC gives real-life relationships the best outlook because enough information is known to one another to make decisions about whether to go on a date, but not enough to enact the hyper-personalization of one another (Finkel et al., 2012).

1.3.11 Friendship

An affectionate, trusting, intimate, dynamic relationship between people. Usually excluding romantic and physical intimacy (Berger et al., 2017).

1.3.12 Gamification

Adding game-like elements (rewards, tasks, points, competitions) to a non-game (chores, dating, homework) in hopes of encouraging participation (Merriam-Webster, n.d.)

1.3.13 Hyperpersonal Model

Explains that through CMC, users can have intimate interactions and

connections with one another. These communications allow users to "read between the lines" of one another's messages, allowing users to create idols of one another (Walther, 1996, 1997, 2011).

1.3.14 Media Richness Theory, a.k.a Information Richness Theory

Examines the different quantity of information users are able to get out of particular mediums (Daft & Lengel, 1984, 1986; Walther, 2011).

1.3.15 Media Multiplexity Theory

The ties users have to one another are strengthened by the number of channels they are connected with. The more channels of connection between users, the stronger the tie; the fewer channels of connection between users, the weaker the tie. The weakest being a single channel; if that channel were to disappear, so would the tie (Haythornthwaite, 2000).

1.3.16 Medium

The system used to communicate a message between a sender and a receiver (Indeed Editorial Team, 2021).

1.3.17 Mental Health

Mental health is a person's psychological, emotional, and social well-being (U.S. Department of Health & Human Services, 2020).

1.3.18 Modality Switching

When users switch between different modes of communication, particularly when users transition from CMC to FTF and how, their impressions change of one another during this transition (Finkel et al., 2012).

1.3.19 Negative Impact

"Negative impact refers to the adverse effects or consequences that result from a particular action, event, or situation. It can manifest in various domains, such as research evaluation, digital environment, health outcomes, and performance feedback." (PubGenius Inc., n.d.)

1.3.20 Online Dating

Internet-based platforms, such as Tinder, Bumble, and Match.com, where a database of prospective partners browse and match with one another, where users are able to begin a conversation with one another, which can lead to a physical date (Sautter et al., 2010).

1.3.21 Petronios' Communication Privacy Management Theory

This theory explains how people make decisions regarding their private information through setting boundaries with those they share the information with (Petronio, 2002).

1.3.22 Relationship Initiation

Relationship Initiation is the benign introductory period of a romantic relationship before they define themselves as partners (Encyclopedia.com, n.d.).

1.3.23 Romantic/Intimate Relationships

A relationship in which all parties are participating voluntarily and there are constant interactions that can include expressions of romantic as well as physical affection (Collins et al., 2009).

1.3.24 Self-Esteem

"relies on external factors such as successes and achievements to define

worth and can often be inconsistent, leading to someone struggling with feeling worthy" (Self Worth, n.d.).

1.3.25 Self-Validation

Validation of one's own perceptions of themselves, their thoughts, feelings, experiences, and emotions (Hall, 2014).

1.3.26 Self-Worth

"Self-worth is the internal sense of being good enough and worthy of love and belonging from others." (Self Worth, n.d.).

1.3.27 Sex Ratio

The number of women per 100 men (Miller, 2015, p. 13).

1.3.28 Singletons

People who are not dating, married, or involved in any romantic or intimate relationship.

1.3.29 Smart Devices/Cell Phones

Portable, internet-capable devices that allow users to log into internet sites or download and use internet-based applications.

1.3.30 Social Information Processing Theory (SIP)

This theory explains interpersonal communication via computer-mediated communication and how interpersonal relationships are developed and managed via CMC (Walther, 1996).

1.3.31 Social Presence Theory

"... the degree to which a person is perceived as a "real person" in mediated communication. They define social presence as a quality of the medium itself and hypothesize that communications media vary in their degree of

social presence, and that these variations are important in determining the way individuals interact. The capacity of the medium to transmit information about facial expression, direction of looking, posture, dress and nonverbal cues, all contribute to the degree of social presence of a communications medium." (Gunawardena, 1995)

1.3.32 User Experience (In regards to Applications)

The overall usability, function, and feelings of an application (The Interaction Design Foundation, n.d.-c).

1.3.33 User Interface (In regards to Applications)

The appearance of the application. Its colors, buttons, shapes, layouts, and typefaces (The Interaction Design Foundation, n.d.-b).

1.3.34 Warranting

The connection between the representation of oneself as an online person and who they were in real life (the physical self) (DeAndrea, 2014; Lane, 2015).

1.3.35 Warranting Theory

Second-hand, as well as information obtained through third parties, holds greater weight in reference to a particular party than does information garnered from that party itself (DeAndrea, 2014; Lane, 2015; Tong et al., 2008; Walther & Parks, 2002; Walther et al., 2008). Concluding that second and third-party information is less likely to have been manipulated by the party in question (Lane, 2015; Walther & Parks, 2002; Walther et al., 2008).

1.5.0 TOPICS

1.5.1 Need to Belong

Humans need to belong. One of the easiest and most common ways for people to fulfill this need today is through online mediums. Online dating is one of the most significant and common mediums.

1.5.2 Maslow's Hierarchy of Needs

The need to belong is as innate as the need for food, water, and shelter. The need to belong is the priority for many after meeting their other needs.

1.5.3 Singletons

Represent the largest group of online daters and are the most likely to have feelings of loneliness due to a lack of romantic connection.

1.5.4 Online Dating (Dating Apps/Sites)

The affordances of online dating impact its users immensely. Through the interface and experiences users have with the applications, they can significantly impact users' mental health and general state of mind.

1.5.5 Tinder/Design

Design influences users every day, from color choices to button placement, reactive messaging, and more. These are some of the easiest ways to influence users. These elements can negatively impact users' thoughts, emotions, and feelings.

1.5.6 Gamification

The gamification of dating leads users to see dating as a game rather than a human connection.

1.5.7 Swiping

Swiping is one of the most common ways users interact with one another on dating apps. This action is simplistic and repetitive and can often become an addictive and thoughtless behavior.

1.5.8 Design Hierarchy

Design hierarchy is the roadmap that tells users what is the most important thing on the screen; because of this, it can be a reason for some of the negative aspects of online dating.

1.5.9 Self-Worth

Online dating can often have an impact on users' sense of Self-Worth; this effect can be both positive and negative depending on each user.

1.5.10 Self-Validation

It can be difficult in online dating to self-validate; users hope to find proof that they are wanted, attractive, and worthy; however, when they do not receive matches or they are liked or rejected by people they think below them, it argues with the users' perception of themself. It can lead to feeling invalidated in their thoughts of themselves. In the design itself, using the application is so easy; therefore, so should the action of dating, when in fact, it is not.

1.5.11 Sex Ratio

Sex ratios influence the way in which genders treat each other during particular times in society. The ratio in online dating has far more men than women, whereas the general society is about 50/50 men to women.

The belief system that this ratio lends itself to is often used by online daters and affects how both sides see and treat one another.

1.5.12 Anonymity

The anonymity afforded by online dating allows for the potential for catfishing, blackmail, bullying, and more.

1.5.13 Communication

The communication aspect of online dating is one of the most central parts of online dating. The application's design and utility significantly influence users' feelings and mental state.

1.5.14 Catfishing

Catfishing is an increasingly problematic behavior across the globe, from emails to online dating. The damage of this behavior to users can be both physical and emotional.

1.5.15 Blackmail

Users can use the information they find out about one another through online dating to blackmail one another for money, jobs, and more.

1.5.16 Failure/Rejection

In online dating, the failure rates are far higher than in everyday life. If a user's failure rate exceeds their rate of satisfaction, online dating quickly declines from a helpful and hopeful tool to something full of dread and pain. While an everyday occurrence globally, rejection is experienced exponentially with online dating and is a high-risk reason for the decline in a user's mental health.

1.5.17 Looping

Looping is often seen as a repetitive task, something people get stuck doing over and over again. There are many aspects of online dating that can be considered to be or can cause looping behavior.

1.5.18 Plenty of Fish in the Sea

This is a common phrase offered to single people, particularly from people who are already in relationships. The numbers in online dating perpetuate this idea. However, it is often overlooked that just because there is a large pool of people does not mean it contains a lot of good candidates. This fallacy is an ever-increasing irritation and cause of frustration and negative feelings for online daters.

1.5.19 Cognitive/Choice Overload

Within online dating, it is extremely common for users to feel cognitive overload, often referred to as choice overload, due to the sheer number of choices users make every time they use or interact with the application. It can be overwhelming and cause users great distress.

1.5.20 Preferences/Filter

Preferences are a hot topic in online dating; they allow users to apply filters to the people they are seeing in their match pool (height, weight, age, race, etc.). However, some users believe this is a negative addition to the application, encouraging ageism, racism, fatphobia, and more.

1.5.21 Algorithms

Algorithms are used by online dating applications to help users find

matches. These algorithms can come in different styles, playing more of less significant roles in who users can see, talk to, and meet.

1.5.22 Safety

Safety is a common concern for many online daters, regardless of gender. The applications themselves are taking steps to help combat safety issues and provide assistance when needed.

1.5.23 Navigation Bar/Buttons

Buttons and the Navigation Bar are high-traffic interaction points for users. The way in which these elements are designed greatly influences how users interact with and are influenced by the application.

1.5.24 Pay To Play

Many dating applications offer free or paid versions; some even offer multiple tiers of paid styles as well as offering in-app purchases to move users' profiles to the top of other users' match lists or allow for additional actions such as super likes or undo's to revise accidentally swiping left (rejecting) a profile. These features can influence how users see themselves and those who often use these extra features in a negative light.

CHAPTER 2 LITERATURE REVIEW

2.0.0 INTRODUCTION

The following chapter contains information and research regarding User Interface and User Experience Design, Online Dating, Mental Health, and Human Connection. This is a collection of research supplies information on how the above topics relate to one another and current research on in-depth subtopics within each of these categories. In 2023, dating has migrated to a predominantly online activity (Rosenfeld, 2019), in which users create profiles on multiple platforms, connecting them to hundreds if not thousands of potential partners within desired preferences and distances in seconds. With an abundance of online dating platforms both as applications as well as websites, it is easy to find repetitive design elements both in the user interface and user experience (Ellis, 2023). Swiping, undo, super like, boost, and preferences are all common ideas and interactions on dating apps. Often, there are prompts or interest categories to help add detail to profiles. Almost every site or application requires photos of the user in order to create a profile. A common belief among users of online dating is that they themselves and those they are interacting with are simply reduced to a set of photos and a couple of words, encouraging users to see one another as disposable or easily replaced commodities (Banks et al., 2017; Heino et al., 2010; Hobbs et al. 2017; Lawson & Leck, 2006).

Conceptual Framework 1

Figure 1.0

Conceptual Framework 1

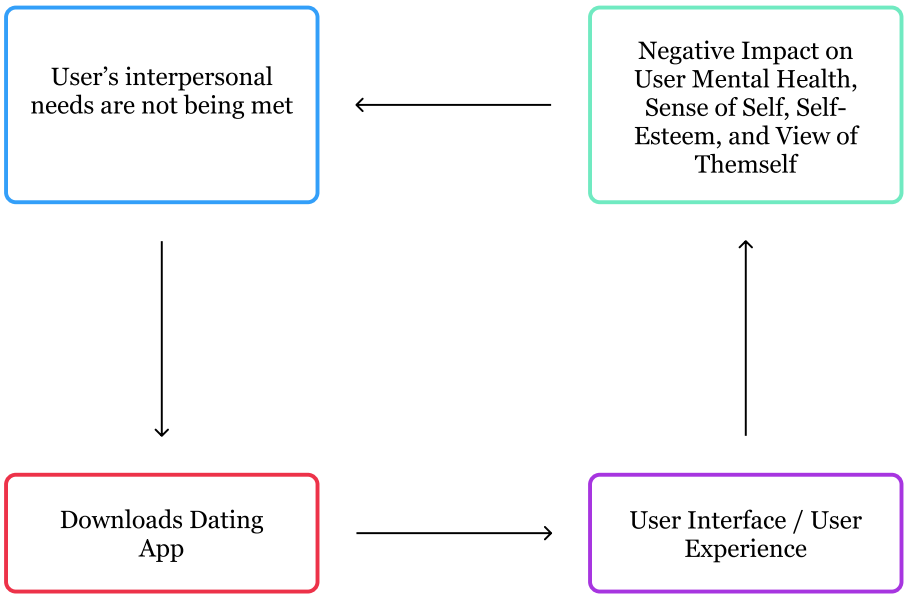


Figure 1.0 depicts the cyclical nature of online dating. The blue box in the upper left-hand corner represents users' interpersonal needs. As stated in this situation, the interpersonal needs (please refer back to Chapter 1 - Introduction, to get a brief review of Maslow's Hierarchy of Needs) are not being met; a person will work towards that goal until it is accomplished, seeking out different avenues and modalities until they are satisfied. In the case of this study, the research looks at when people choose online dating as their avenue to get their needs met, which is represented here in the red box. Upon downloading the dating app, people are then in direct contact with the User Interface and User Experience (UI/UX) design (the purple box) for the dating app (in this study, that would be Tinder). This study aims to determine the extent of the following two movements. Who, what, when, how, and if the UI/UX of Tinder directly impacts users mental

health, sense of self, self-esteem, and view of themselves (the green box); and if the negative impacts impact users' needs being met and thus creating a negative infinite loop.

2.1.0 Need to Belong

At its most basic level, online dating is a tool for connection. Human nature is driven by the need to belong, the need to connect, and the need to be loved. Humans are social creatures (Young, 2008); they do not survive well on their own; before modern civilization, being cast out and on one's own could have devastating consequences (Holt-Lunstand et al., 2015). The human race survived because they learned how to learn from one another (Boyd & Richerson, 2009), how to get along in groups of ever-expanding size, how to find safety in numbers (Social Life, 2020), and how to find mates that allowed their best traits to pass along to the next generation to produce stronger and more adaptive offspring (Natural Selection - Charles Darwin (National Geographic Society, n.d). As time progressed, hunter-gatherers turned into farming cultures, permanent residents were developed, human brains grew more elaborate, which meant children needed more time to develop into adulthood, groups became rooted to locations, and thus began the creation of social networks (Social Life, 2020), where people could depend on one another for the consistency and safety provided by a settlement.

As technology and human rights progressed, people were able to distance themselves from the presence of groups or significant others. As women earned political rights, opportunities in the workforce, the right to own their own land

and freedom, they grabbed independence with a vengeance (History.com Editors, 2024; National Women's History Alliance, n.d.). By 1997, nearly 40% of women were single mothers by choice (Lumencandela, n.d.). No longer was marriage solely for the purpose of survival and needing a man to provide. Women could marry because they truly loved someone. Nevertheless, marriage continued as a cultural institution. Why? If people can be alone, why would they rely on others at all? Why marry? The answer is that humans need to belong (Miller, 2015, p.4). When isolated from others for too long, humans can experience diminishment in their mental health, such as increased anxiety, stress, depression, and, in addition, poor physical health (Whisman, 2013). Research shows that people who are lonely have weaker immune responses (Pressman et al., 2005) and shorter life spans (Berkman & Glass, 2000). Could this be because belonging and feeling connected is so central to a person's existence that lacking it is detrimental to humans' physiological and psychological well-being?

2.2.0 Maslow's Hierarchy of Needs

When asked what humans need to survive, most people start with food, water, and shelter. These needs meet humans' physiological needs; what they are forgetting are psychological needs. What comes after feeling satiated and safe? The need for connection and a sense of belonging, self-esteem, and self-actualization. Humans can survive, given that their basic needs are met; their bodies will persist, but their brains will suffer. The brain is the central hub of the human body; once it begins to suffer, no amount of fulfillment of basic needs is going to curb the damage. People need to fulfill their psychological needs in order

to live fulfilling, happy, and healthy lives (Hopper, 2020).

In 1943, Abraham Maslow published A Theory of Human Motivation (Maslow, 1943). Within this publication was a hierarchy that explains basic human needs. From this, Maslow's Hierarchy of Needs was born. In the 1960s, Charles McDermind is believed to have created the Pyramid structure many now associate with Maslow's Hierarchy of Needs (Bridgman, 2019). However, Maslow never intended for his hierarchy to be represented in any sort of game-like or structured way (Bridgman, 2019). Instead, Maslow believed that while each of the needs was within a hierarchy, that hierarchy was dependent on the individual and that the order in which the needs took place could change (Maslow, 1943). Maslow believed that if these needs were not met, one would be a "sick man" (Maslow, 1943).

Within Maslow's hierarchy, there are five needs: first are humans' biological requirements for survival and physiological needs, such as food, water, shelter, warmth, and sleep (Hopper, 2020; Kunc, n.d.; Maslow, 1943; McLeod, 2020). The second is the human need for safety, freedom from fear, and stability (Hopper, 2020; Kunc, n.d.; Maslow, 1943; McLeod, 2020). The third is a need for belonging and love; this is the love of friends and family or a sense of community (Hopper, 2020; Kunc, n.d.; Maslow, 1943; McLeod, 2020). The following two are more individualized: the fourth is one's need for self-esteem (dignity, independence, respect, prestige), and the fifth is self-actualization, reaching one's full potential (Hopper, 2020; Kunc, n.d.; Maslow, 1943; McLeod, 2020). Maslow believed that each goal or need held a level of importance to each individual (Maslow, 1943). Depending on the individual's desires, needs, and wants, the

order of importance for each need or goal could change; for example, sometimes safety is more important than hunger (Maslow, 1943). However, he also believed that being unfulfilled in any of these areas could be equally as devastating (Maslow, 1943).

> "Who is to say that a lack of love is less important than a lack of vitamins?" (Maslow, 1943, p. 394)

Maslow believed that as long as a basic satisfaction for each need or goal was met, individuals were able to focus on the other needs, but if one was wholly unmet and important to the users, it took the forefront of their mind (Maslow, 1943). Today, in the United States, as adults obtain employment, they are able to satisfy their needs for food, water, and shelter. Many people feel as though they have satisfied their needs for self-esteem and self - actualization as well. It is no surprise then that for the majority of people in the United States, their main focus is on fulfilling their need to belong. This is also not surprising as many people tie up their self-esteem and self-actualization in whether or not they have a romantic partner or good friends. People today turn to their thousands of friends on Facebook, millions of Instagram followers, and even a Snapstreak with friends that are more than a year long for fulfillment, and yet people feel less connected and less like they belong than ever before (Jayson, 2019). Why? According to relationship research, the need to belong is more about quality, not the quantity of relationships (Miller, 2015, p.4).

Just because people have lots of "friends" on Facebook does not mean

that they feel any less alone. Feelings of loneliness and depression continue to rise (Cigna, 2020). Articles addressing loneliness became prevalent; beware “America’s Loneliness Epidemic” (Hilliard, 2019), “America has a loneliness epidemic. Here are 6 steps to address it”(Summers et al., 2023), “Americans are lonely and it’s killing them. How the US can combat this new epidemic.”(Rodriguez, 2023), “New Survey Shows Increasing Loneliness, Including on the Job”(American Psychiatric Association, 2020), “Loneliness at epidemic levels in America”(Demarinis, 2020). Loneliness occurs when people feel a gap in their desired amount of quality relationships and what they currently have (Mellor et al., 2008). Theorist Robert Weiss (1974) suggests that loneliness can come in two forms: social isolation, in which we are dissatisfied with our friends or acquaintances, and emotional isolation, when we lack one particularly intense relationship that should provide us with emotional support and affection (Liu & Rook, 2013; Weiss, 1974).

Loneliness affects millions of people every day, with younger, more connected generations like Gen Z and Millennials (who are connected to and have access to thousands of people every day through social media and other internet platforms) at the top of the list (Hilliard, 2019; Cigna, 2020). These two generations experience greater loneliness and appear to have the worst overall health conditions (Hilliard, 2019; Cigna, 2020). Research shows that the impact of loneliness on mortality is equivalent to that of smoking 15 cigarettes a day (Hilliard, 2019) and, over time, would have a measurable negative impact on one’s overall well-being (Luo et al., 2012).

Gen Z and Millennials are believed to be the most affected due to societal

pressures to excel and achieve higher-paying jobs, coupled with their continued reliance on social media for connection (Hilliard, 2019; Cigna, 2020). However, what has been discovered is that connections online are carefully curated versions of people, which results in shallow and often meaningless interactions (Hilliard, 2019). People who have a dissatisfying connection to others tend to see themselves in a more negative light, resulting in lower self-esteem (Cacioppo & Hawkley, 2009) and encouraging insecure attachment styles (Miller, 2015, p.238). Those who have insecure attachment styles and/or low self-esteem tend to be more anxious and avoid intimacy, which only makes them increasingly lonely (Givertz et al., 2013).

In an attempt to reduce their loneliness and self-perpetuating self-deprecation, people turn to shallow friendships, easily accessible through social media and online dating. These sites, however, fail to provide the intimate friendships one needs (Miller, 2015, p.241). Research shows that people overwhelmingly do not want to be single (Poortman & Liefbroer, 2010). Singles, in particular, tend to be the loneliest group. Without emotional support and affection from a significant other, they turn to online dating.

2.3.0 Singletons

Online dating has become a tool for singletons (see glossary) to work toward finding someone or a group to fulfill the gaps in their emotional needs. In society today, singles are pressured to become part of a couple because being in a couple is considered normal and necessary (Miller, 2015, p.9). Whereas being single signifies that they are broken, a failure, or unhealthy loners (Miller,

2015, p.9). In research conducted by Poortman and Liefbroer in 2010, only 4% of the participants felt that being single was better than being in a relationship (Poortman & Liefbroer, 2010). This intensity with which they are berated by the idea of needing not to be alone pushes them to desperation. Combine that with their fear of being single (Miller, 2015, p.9), and people begin to lower their standards, settling for less in hopes of just not being alone anymore (Spielmann et al., 2013).

2.4.0 Online Dating

Online dating is one of the most popular tools at singletons' disposal for finding their significant other(s). Tinder averages over 1.6 billion swipes daily, with nearly 57 million monthly global active users (Lindner, 2023). A study by Slater in 2013 showed that only 7% of the accounts on Match.com were active partner-seeking accounts. These platforms all claim to help users find love, or at the very least, sex for the night. Turning to online dating tends to give people instant gratification, making them feel, for just a moment, wanted and seen. Online dating has worked out for millions of people, with nearly 60% of Americans saying it is an excellent way to meet people (Smith & Duggan, 2013), and nearly ⅓ of current marriages starting online (Miller, 2015, p. 73). However, a closer look at online dating reveals an ugly culture. The design of the apps, combined with the affordances awarded by their design and utility, has the potential to cause users both delight and extreme frustration (The Interaction Design Foundation, n.d.-a). Users can go from feeling successful to feeling like a failure in a matter of seconds (The Interaction Design Foundation, n.d.-a). With

millions of users around the world flocking to online dating apps, one would expect the application's designs to attempt to combat and diminish users' feelings of failure, anxiety, or frustration; however, that is not always the case.

2.5.0 Tinder and Its Design

Figure 2.0

Tinder Profile Examples

(Shieber, 2019) (The Indian Express, 2021) (BBC, 2020)

Note: Figure 2.0 shows multiple potential profiles when using the dating app Tinder.

Launched on September 12, 2012, by Jonathan Badeen, Sean Rad, Joe Munoz, Justin Mateen, Whitney Wolfe, and Dinesh Moorjani, the online dating application known as Tinder was born (Bertoni, 2014). The world's hottest dating app is adorned with a flame as its head logo. The logo started in an aggressive solid red color with a rounded spiked top and an oddly shaped bottom to its

flame. It recently changed to an all-white flame with a sharp tip and a circular bottom. It sits boldly against a background of a pink and orange gradient. Once inside the application, the color palette is simplistic: red, green, blue, purple, yellow, and a lot of white. Color psychology suggests that every color has the ability to influence its viewer, from inciting feelings of anxiety and hunger to coaxing actions (Van Braam, 2021). Tinder uses this knowledge to ensure their colors correlate with the functions they serve. Red is used to signal "no" as the user clicks the X button to reject profiles. Red is also used to alert a user to new messages or matches and to signal the red flag when users need to report others. Red is globally accepted as the color of love and romance; in Western society, it also represents danger, stop, anger, violence, and failure (Van Braam, 2022d), as is shown in the common practice of marking incorrect responses, with red pens, thus creating a fear of red pens and an association between red and failure (Vetter, 2019). Red is also known to increase adrenaline levels and activate people's fight or flight instincts (Vetter, 2019), also known as a stress response (Brian & Spine, 2019). Activating survival mode (Fight or Flight / Stress Response) increases people's heart rate, blood pressure, and memory abilities; these psychological effects can reduce people's ability to make sound decisions, focus, and perform executive functions (Spierer et al., 2009), people tend to act faster and decrease their patience (Van Braam, 2022d; Vetter, 2019). Activation of this stress response can lead to higher levels and feelings of anxiety (Center for Integrated Healthcare & VA Healthcare, 2013). Other than love, these emotional and psychological triggers should not be activated and partnered with dating. Feeling anxious is natural when it comes to dating; dating sites do not need to

amplify it. The same goes for the sense of fight or flight. People naturally make compromised decisions when anxious or in fight or flight (Brian & Spine, 2019).

Green, on the other hand, is a rejuvenating color; it signals "go," safety, and new beginnings (Van Braam, 2022c). Associating this with the swipe right or liking a profile picture helps users feel like they are taking positive steps forward in their dating. They are hitting "go" on dating and feel that their choices are safe and correct. The blue used on Tinder's Super Like and verification badges is lighter than average. Blues, as a color group, are often associated with trust, dependability, and calmness (Van Braam, 2022a). Using this color for their verification badges is a great way to draw users' attention to people who are safer options and verified users, who are more likely to be looking for something real and get more likes (Falzon, 2021), which promotes feelings of optimism.

Purple and yellow are colors only used once. Purple represents the Boost icon. This icon allows users who pay for Boost to have their profile at the top of the search. Purple is associated with royalty and wealth (Van Braam, 2020a); considering that you have to pay to use the purple button and that the button makes your profile more important to others, purple fits well. Yellow is used as the rewind button. Clicking this allows users the chance to change their decision after swiping "no" on someone they wished they had not (tinder, n.d.-b). Yellow is usually associated with spontaneity and optimism (Van Braam, 2022b), making it an appropriate color for a rewind button. However, using too much yellow can make people anxious and irritable, and it has been shown to be one of the most stressful colors on the human eye (Van Braam, 2022b), which is not a positive association to have with dating. Finally, the majority of the application is white.

White, also known as the presence of all colors in the color spectrum, portrays a clean and minimalist look (Van Braam, 2020b). However, it can also give off a sterile and clinical look (Van Braam, 2020b). The use of sparse color within the Tinder app may leave people feeling as though dating is meant to be a clinical act rather than an emotional one.

To add to the clinical appearance, the minimalist interface and overly simplified interaction design leave dating to a simple swipe of one's thumb. The User Experience (UX), the usability, viability, functionality, and overall feel of the application (The Interaction Design Foundation, n.d.-c), and the User Interface (UI), the look, colors, and typefaces of the application (The Interaction Design Foundation, n.d.-b), play a significant role in the impact an application has on its users. Tinder has done a remarkable job following many of the UI/UX design principles, such as simplicity, clarity, usability, and clear hierarchy (Costa, 2020; Memon, 2019). It is represented in many ways throughout Tinder's design, from its limited color palette to creating a straightforward design that makes it easy to use. Speaking of simple, clear, and usable, Tinder's Swipe feature is the perfect representation.

2.6.0 Gamification

Originally designed to appear like a deck of cards, Tinder's swipe feature is one of the leading design features copied by many dating sites. The design was initially conceived by the creators of Tinder to make a game (Ansari & Klineberg, 2015, p. 111; Stampler, 2014) similar to an advanced version of Hot or Not (Stark & Bankes, 2013) that would resemble dealing a deck of cards from

top to bottom. Tinder's creators "always said it was a game" where people would "join to have fun" (Stampler, 2014). This simple design feature gamified the matching process (Nik, 2020). The bright colors (Faller, 2018), simplicity of use, and words like "keep playing" after matching with other users only added to the game-like design (Stampler, 2014). People love to create patterns where patterns do not exist, they love to find meaning where meaning does not exist, and they certainly love to create subconscious connections between different things in life to make them simpler by relating one thing to another (Barkman, 2021). There is a philosophy known as "Form of the God" created by Plato that helps us to understand why a chair is a chair regardless of how it looks (McReynolds, n.d.). When one combines this philosophy with the natural human tendency to create and find patterns, the design of dating apps as card games begins to show its problematic nature by creating an association between games and dating. In many card games, the most crucial card in one's hand is the one at the top of their deck or hand of cards; when it is no longer useful to the player, they discard it and move on to the next card. This is how the swipe feature was born (Stampler, 2014).

The main issue here is that, unlike a card game, dating involves real people with feelings, emotions, and the ability to act on them. People should not be so easily discarded and forgotten in favor of a new person who can just as easily be replaced. As Tinder grew, becoming one of the largest dating apps/sites in the world, it attempted to leave behind its past "game-like" style and attempted to move to the business of promotion of love and romance (Stampler, 2014); however, the damage was already done. People had been using the application

for too long, and the simple swiping feature was too easily accepted, and it would always create a game-like fashion to their matching process. Users today still refer to the app as a game, a shopping experience, or even a sport (Ansari & Klineberg, 2015, p.111-115.; Paumgarten, 2011; Sales, 2015; Stark & Banks, 2013).

The UI/UX team at Tinder believes that their simple swiping method of rejection helps suppress the guilt their users could have when they are rejecting someone (Faller, 2018). The effortless task of swiping left or right is also believed to remove the sting of rejection when users do not match (Faller, 2018). However, this is not the case. Simplicity aside, swiping right (saying you like someone) is still an act of vulnerability in saying, "I like this person; I hope they like me back." When there is not an instant match, and the milliseconds pass users by, it is another hit of rejection; as they swipe for longer, users can become plagued with mild rejection. Research shows that even mild rejection can cause psychological and physical pain equal to that of grand rejection (Miller, 2015, p. 310). Research using fMRIs shows that the brain responds to romantic rejections as if the person were in physical pain (Eisenberger, 2013). While the effortless swiping was meant to help reduce feelings of rejection, it is not the gesture that is the problem but the rejection itself.

2.7.0 Swiping

The directionality of the swiping does influence and impact users. The inherent swiping of right vs. left associates well with the Western cultural connotation that the right side is the majority, a symbol of positive and good, while the left side is often thought of as weak, negative, or bad (Hollandbeck,

2019). These right and left gestures are similar to many other devices where right arrows move forward and left arrows move back. An association can be made within the brain to say that swiping right on people is positive, encouraging, and hopeful, while left is like turning pages in a book when one is finished or ready to move on, just as they would be with that person or profile (David & Cambre, 2016). The layout of the other application windows also intimately interacts with the swiping direction. The messaging section, as well as where users find their matches, is on the right side of the screen; this becomes a quick subconscious association for users saying swiping right, like moving forward, is saying, "I like this person I hope to move them to my matches and message with them" while swiping left is pushing them away from their matches (Faller, 2018).

The effects of the game-like swiping design extend beyond just making dating a game for fun. It has created a way of thinking that now has users seeing dating not only as a game where there are winners and losers but as permission to objectify others and see them as two-dimensional commodities in a marketplace (Banks et al., 2017; Heino et al., 2010; Hobbs et al. 2017; Lawson & Leck, 2006) like trading cards. Who can collect the most, the best, or who has the best hand?

This marketplace perception has now influenced how users go about "designing" their profiles, following guidelines online, YouTube videos, and books: How To Hack Your Dating Profile & Get Better Matches (Mooney, 2021), 5 Science-Backed Ways to Optimize Your Online Dating Profile by Vanessa Van Edwards (Edwards, 2022), Data, a Love Story How I Cracked The Online Dating Code To Meet My Match by Amy Webb (Webb, 2014). Most dating apps have a singular profile outline that all users must follow: pictures or videos go here,

words here, age here, name there, and so on and so forth. Given that all the profiles look the same, users struggle to make their profile stand out; it is easy for users to get lost in the monotony of swiping. This is done intentionally to organize the information designers felt was most important to users.

2.8.0 Design Hierarchy

Tinder, in particular, uses a notecard or trading card design, large pictures, places detailed information on the bottom, and presents a rectangular shape, with each new profile stacked on the last, like a deck of cards. The card design only perpetuates the previously mentioned sense that users are commodities. Taking up nearly 80% of the screen when the application is being used to sort through potential matches, the profile cards allow the users to focus on the singular task of swiping over all other options (Faller, 2018). This is because Tinder has made swiping and viewing profiles the top of its Design Hierarchy. Design Hierarchy is a technique used by many designers across all areas of work by using colors, sizes, numbers, or letters to subconsciously guide users into recognizing what features are the most essential or need to come first in an order of action (Memon, 2019). Tinder takes advantage of this design process in many ways, from text sizes, colors, button sizes, and placement.

The profile is the main focus to the users, with the largest part of the screen being filled by the profile. Within the profile itself is a more hierarchical design. Based on Tinder's design hierarchy, the profile picture is the most critical part of this profile. Research says that photos within profiles drive 90% of online dating (Ansari & Klineberg, 2015, p.97). Tinder's design hierarchy suggests that

the next most important thing is someone's name, followed by their age and if they have a verified account. Lastly, on the main profile is information about the user, which can range from their job, education, sexuality, distance, interests or passions (See Figure 2.0 for visual reference).

2.9.0 Self-Validation and Self-Worth

This design has only perpetuated a shallowness that recent generations have been associated with (Ansari & Klineberg, 2015, p.117), directly associating their sense of self, self-worth, and level of attractiveness solely on how good they look, how many people tell them they are pretty, how many likes their pictures receive, or how many matches their profiles attract (Ellis, 2024; Stark & Bankes, 2013). The rest of the profile setup is not encouraging, either. People's essence and sense of being are reduced to a few pictures, short videos, and a couple of sentences. Research has shown that people on Tinder have a lower sense of self-worth and self-esteem (Oaklander, 2016) and that in using the application, their self-esteem, particularly regarding their physical looks, diminishes correspondingly (American Psychological Association, 2016). And yet, ironically, people regularly turn to social media and dating apps, in particular, in an attempt to gain self-esteem (Stark & Banks, 2013). They are looking for quick validation that they are pretty, handsome, fit, or worthy. That validation is short-lived as most people who spend time on dating apps actually cause more damage to their self-esteem and sense of self-worth than increasing it. A lower number of matches fosters feelings of being less desirable and, conversely, feeling attractive, desirable, or valued when the numbers are higher (Heino et al., 2010). In order to

gain self-esteem and feel better about themselves, users need to know that others find them attractive (Bale & Archer, 2013). Much like how users in social media define themselves based on how many likes they get. When that number is low, users often feel like failures or unworthy (Nelson, 2013); the more likes or, in the case of online dating matches, the more attractive and worthy a person is.

Dating apps, matches, and other sources of self-validation are pointless. Research shows that people tend to aim for higher physical attractiveness in online dating (Shaw Taylor et al., 2011). However, when looking into blind dates, research has found that while attractiveness does play a role in whether or not the relationship moves forward, it is not a confounding variable in whether or not the participants on the date had an enjoyable time (Rudder, 2014, p.97). Research shows that if women are too pretty by standard metrics, men will not swipe on them because they think they already have a myriad of men waiting for them (Rudder, 2014, pp. 58-60). However, it is not just women whose insecurity rises; it is men's, too. Men swipe right (or yes) on 46% of the profiles they see, whereas women only do so 14% of the time (Linder, 2023), leaving most men with far fewer matches than women. Adding in other factors such as race, height, weight, or job title, the number of matches for men can either increase or decrease (Rudder, 2014). For men to have the best chances at getting a match, attractiveness alone does not work; they need to couple that with wealth (Singh, 1995) and the physical characteristics of being 6 feet or taller, broad shoulders, and muscles (Hughes & Gallup, 2003). Pictures can both increase and decrease the likelihood of matches. A commonly joked about downfall for men is photos of them holding fish (Mahan, 2020); often, for women, it can be too many selfies,

and for both parties, group photos, mirror selfies, or photos clearly cropping out exs or children are red flags for many users (Kibbe, 2022; Kibbe, 2020b). For women, things like long hair (Miller, 2015, p.80), thinner waistlines (Furnham et al., 2005), appearing shorter as well as looking younger (Jones, 1995), and being white (Rudder, 2014, pp. 107-123), the latter of which is indicative of a larger problem of racial hierarchies in online dating, will increase their matches. One of the largest confounds in matching in online dating is the race of the users (Rudder, 2014, pp. 107-123). Research shows that Black women and Asian and Black men are rated lowest on the attractiveness scale and receive the least amount of matches (Rudder, 2014, pp. 107-123). Women, more so than men, tend to be what is called "Race Loyal," meaning they tend to pick out others of the same race (Rudder, 2014, p.116). Across all races, women rate white men as being the most attractive (Rudder, 2014, pp. 107-123). This applies across the globe, with black men receiving up to 98% fewer messages than white men (Rudder, 2014, p.121).

2.10.0 Sex Ratio

When looking at online dating, there are far more men than women participating, with sixty-two men for every thirty-eight women (Tiffany, 2019). Now, typically, when a sex ratio looks like this within society, more traditional roles for men and women are more prominent (Secord, 1983); women are treated as more precious, where they should be virgins and pick their men carefully (Miller, 2015, p.13). When sex ratios are the opposite, and there are more women than there are men, the men tend to be pickier, and women tend to become more

promiscuous, lean into higher-paying jobs (Durante et al., 2012), are accepting of being unwed women with children (Harknett, 2008), and their sense of traditional roles for men and women, (ex. men being the breadwinners in the family and women being stay at home mothers) decreases (Miller, 2015, p.13).

However, unlike in online dating, the sex ratio is nearly 50/50 in the US, almost a perfect one man to every woman (Central Intelligence Agency, n.d.). One would think that would imply that women and men see each other as equals, with both men and women seeing each other as sex objects, as well as wholesome people one pays with respect and consideration. Nevertheless, women are still seen as sexual objects. Online dating has only encouraged the objectification of users (Heino et al., 2010), helping to perpetuate the idea that women are simply service stations for men's sexual needs (Stark & Banks, 2013). Add that users have said they flip through the profiles looking only at the first or first few images before making a decision; this causal behavior gives off a window shopping-like experience (Henry-Waring & Barraket, 2008), which some researchers call "relationshopping" (Heino et al., 2010). The already game-like design of dating apps has created the perfect breeding ground for participants to see each other as two-dimensional commodities (Banks et al., 2017; Heino et al., 2010; Hobbs et al., 2017; Lawson & Leck, 2006).

2.11.0 Anonymity

When users start to see one another as flat two-dimensional characters, like trading cards (card game commodities), it results in a mental separation, taking away the humanistic side of the profile and mixing it with a sense of

anonymity. By being able to hide behind their keyboards, users suddenly find typically unconventional behavior appropriate and safe (Johnson, 1997; Sales, 2015). In computer-mediated communication (CMC), the Social Presence Theory helps explain why users feel open to sending one another cruel, offensive, or disgusting messages or pictures because of the sense of anonymity afforded by CMC, instigated by the lack of physical presence during the communication helps users gain a sense of safety or comfort (Johnson, 1997; Suler, 2004). With anonymity comes freedom. This safe or dissociative feeling can encourage users to speak their minds without fear of harmful consequences (Johnson, 1997; Ruppell et al., 2017; Suler, 2004). John Suler and the Online Disinhibition Effect coined the "Greater Internet Fuckwad Theory" by Penny Arcade. It briefly explains that when an ordinary person finds anonymity and gains an audience, they become a Fuckwad (Rudder, 2014, p.158).

John Suler believed that the Online Disinhibition Effect can be attributed to six factors (Suler, 2004). First is dissociative anonymity; people separate their online presence from their real-life physical presence, allowing them to feel less vulnerable about acting out or self-disclosure because the two parts feel separate enough that they will not affect one another (Suler, 2004). The second is invisibility, both literally and figuratively; in online communication and online experiences, users can not physically see one another, allowing for a sense of invisibility, which gives them courage (Suler, 2004). Third, asynchronicity; email, or Reddit posts do not require immediate interaction, and that separation disinhibits users (Suler, 2004). Fourth, solipsistic introjection refers to users communicating with one another who can begin to hear the other person's voice

inside their head as they read their messages, feeling as though that person has infiltrated their mind; this leads to a deep sense of connection to the other person (Suler, 2004). Fifth is dissociative imagination; like dissociative anonymity, users create online personas and worlds and compartmentalize these parts of themselves to the extent that when they log off, that world ceases to exist, and the real world is at play (Suler, 2004). Lastly, the sixth minimization of authority; in the online world, users have a hard time seeing anyone as an authority; everyone appears to be on equal ground, able to do and say as they please without much consequence (Suler, 2004). Suler believes that when these factors and particular personality traits or situations combine, it creates this Online Disinhibition Effect, where users feel safe and comfortable being either cruel and acting out (Toxic Disinhibition) or kind and self-disclosing (Benign Disinhibition) (Suler, 2004).

Online dating affords users all of the above factors, and people seem to take full advantage of the opportunity. They either release far too much information that is not needed out the gate or feel comfortable enough to act cruelly or crudely. Opening messages like “Wanna F*ck” (Sales, 2015) or “Insert Race Here are my favorites” only add to feelings of frustration, worthlessness, or commoditization. When rejected, users use this sense of anonymity to condone their negative behavior to disparage people about their weight, appearance, favorite activities or hobbies. If a woman says she is not ready for sex, rejected, the man replies with, “Whatever, you are too fat for me anyway.” In other situations, users will just “ghost” one another by simply stop replying without any rhyme or reason, leaving the other to ponder what they did wrong. Another

behavior is to unmatch in the middle of the conversation, causing the same negative effect to the other user.

2.12.0 Communication

One of the many questions and concerns regarding online dating and online communication is whether an online relationship is equal to one face-to-face (FTF). In 1996, after reestablishing the term Social Information Processing Theory (SIP) in 1992 as it relates to interpersonal communication via CMC (Walther, 1992) based on Salancik and Pfeffer's Social Information Processing Theory regarding workplace attitude and decision-making (Salancik & Pfeffer, 1978); Walther published a paper that explained how given an infinite amount of time to communicate via CMC, CMC relationships and FTF relationships have next to no difference when measured for the level of connection and sociability (Walther, 1996).

Messaging and encouraging people to talk to one another is one of the primary goals of dating apps. To combat negative behavior over this form of communication, dating apps have started to restrict abilities within their applications (Pardes, 2020), such as eliminating the ability to send images and using AI technology to find nefarious or untoward messages and confirm with the users of their intent to send (Pardes, 2020).

Why users feel so carefree in their messaging and step over the line with messages can be explained by Computer-mediated communication theories. Media Richness Theory (Daft & Lengel, 1986) or Information Richness Theory (Daft & Lengel, 1984) questions the quantity of information users are able to

receive by using a particular medium (Daft, 2013). For example, media such as personal letters or emails would be the lowest richness medium, while face-to-face (FTF) communication would be the richest medium (Walther, 2011). The richness of a medium is determined by multiple factors such as how many cues one gets from the medium (sight, sound, touch, etc.), how easy and timely the ability to respond is, the ability of the medium to allow for natural language and personability, and how ambiguous the messages can be (Walther, 2011).

In today's society, most people do not have just one form of communication with their partners, even in online dating. Most users have multiple sources, such as different social media accounts, text messaging, phone calls, video chats, and more (Caughlin & Sharabi, 2013). It is common for people to host multiple conversations with the same person on different platforms regarding different topics. Switching between different media of communication is known as modality switching (Sharabi & Caughlin, 2017). Many people switch between different apps or mediums because each provides a specific topic or hosts a specific utility that the other media does not. Regarding online dating, many users use the applications' messaging ability to initiate conversations. Should the conversation then progress in a direction that both users are happy with, they may choose to share other mediums in which they can communicate in a richer way, such as texting, Snapchatting, talking over social media, or even setting a time to meet in person (FTF).

This multi-platform connection is known as Media Multiplexity. Media Multiplexity Theory states that the stronger the ties to the other person, the more channels and mediums of communication people have with each other

(Haythornthwaite, 2005). It also shows that with weaker ties, like matches on dating apps, for example, where the only form of communication is through the application, if that connection should expire (like Bumble does if users do not speak within a certain amount of time,) the tie is easily broken and is forgotten (Em Griffin, 2021; Haythornthwaite, 2005). Often, users use different platforms for particular people or purposes. Phone numbers, for example, tend to be given out to people with whom users feel safer or more serious with; social media is often used to determine that they are who they say they are, as well as revealing more information about each other without having to verbalize it.

Using social media and other platforms to learn more about potential partners is all about creating trust. Are they who they said they are? Do they really like this hobby? It is also about learning new things. Do they have a lot of friends, family, etc.? Is the person they have shown on their profile the person they are elsewhere? Most people cultivate a particular identity online that is different in sometimes small ways (i.e., height or weight) (Toma et al., 2008) or alternatively in significant ways, such as creating entirely new identities for themselves (Loker, 2023). Before Warranting Theory (see section 1.3.33 in the glossary) emerged, the word warranting was simply used to depict the relationship between the person one represented themself as online and who they were in real life (the physical self) (DeAndrea, 2014; Lane, 2015). Warranting Theory arose to describe how people give greater weight to the information given by second and third parties rather than first-person information (DeAndrea, 2014; Lane, 2015; Walther et al., 2008). It elaborates that people often believe that information given by second and third parties is less likely to have been

manipulated or altered, thus making the information more accurate and truthful (Lane, 2015; Walther, 2011; Walther & Parks, 2002). Photos, for example, used to be of high warranting value (Lane, 2015) before photo editing and manipulation became so easy.

For example, dating profiles are entirely filled out by the owner of the profile it represents (or, in this case, we will assume so). The person controls which images the other users see, the angles in which the photos are taken, if they have any blemishes showing, or how tall or short they make themselves look. They can take the time to compose their bio, select interests, and more so they can sound a particular way and cater to a particular crowd of people whose attention they desire. According to Warranting Theory, this information should be highly untrustworthy. Often, people interpret it as so; however, with the advent of verification on many dating apps, that little sticker next to a name to confirm their identity curtails the likelihood that the person is not who they say they are. However, that is only true of their picture, not anything else. Users start looking for patterns and aggregating data to form the best possible image of the person they are speaking to by pulling information from multiple sources. Aggregate data has the highest warranting value due to its large volume size; it is harder to fake or manipulate (Flanagin & Metzger, 2013), meaning that if users see the person they are looking at on various social media platforms with a picture of them with friends, alone, with pets, family, etcetera, it is easier to get an idea of what they truly look like. Alternatively, if they say they love animals but have zero evidence, it could be a lie. Conversely, if they have hundreds of photos with animals and posts about them, then the data together would confirm it is

most likely genuine.

Another way people infer information about the person they are talking to is by reading between the lines. The Hyperpersonal Model of CMC elaborates on this trend. The Hyperpersonal Model postulates that users can, through specific mediums of communication only present when communicating through CMC, have particularly intimate interactions with one another (Walther, 1996). Users often "read between the lines" and make assumptions derived from the available information, like one's group identity, textual information, photos, or labels (Walther, 2011). These assumptions and "implied" information often create a fantastical and or idealized version of the person they are talking to (Walther, 2011).

These fictionally constructed versions of the person on the other side of the message board often leads to disappointment when the two finally meet in person (Jacobson, 1999; Sharabi & Caughlin, 2017). This happens because users lack the information they need to judge the person they are speaking with. CMC only affords them so many cues from the other person, such as visual and textual information and timing/response efforts.

"Good writing is only a sign of good writing"

(Paumgarten, 2011, para. 31)

Users have the ability to edit their text, make sure they sound a particular way, strategize messages, questions, and timing, and can hide less socially desirable qualities about themselves such as disabilities, height, weight, or

poor social skills, allowing them to create a "perfect" version of themselves that garners more attraction and response. As users continue to communicate, tweaking this and that to make themselves sound like and represent the "ideal" version of themselves, they end up developing genuine relationships with people who do not actually exist (Walther, 2011). However, users still form deep bonds with one another despite this falsity of who they are.

This could be in part due to users' self-disclosure with one another. As users interact and increase their disclosure, their willingness to disclose information also continues to grow; with each disclosure, the depth, breadth, and value of the disclosures also increases, which aligns with Petronio's Communication Privacy Management Theory (Petronio, 2002; Velten et al., 2017). This theory proposes that the more one discloses to their partner, the greater the level of comfort is formed, and the greater the comfort, the more they will disclose, creating a feedback loop of disclosure that only continues to grow deeper (Petronio, 2002; Velten et al., 2017). However, this type of deeper connection takes time.

Time thus becomes the confounding variable here. In an article published by Brym & Lenton in 2003 (as cited in Finkel et al., 2012), the Enhancing Hypothesis states that limited or shorter time spent communicating through CMC gives the best outlook for relationships, allowing for enough information to be passed between users without allowing hyper-personalization to take over and create fantastical and fictional versions of one another. However, research shows that even with relationships that were initially FTF that move to CMC, such as when one partner has to move away for an extended period of time (deployment,

school, etc.), the partners will fall prey to the same idealization and fictional representation of one another when they come back together, it is never as good as they thought it would be (Miller, 2015, pp. 72-73).

2.13.0 Catfishing

As explained with the Hyperpersonal model, fictional versions of people are easily created even when users are not trying to do so consciously. However, there is another group of people who do intentionally create fictional people. Sadly common online, particularly in online dating, this practice is known as Catfishing (Mosley et al., 2020). Catfishing can be as small as editing away blemishes, adding an inch or two to their height, or "shedding" a few pounds (Toma et al., 2008) to as large as stealing photos of others, giving them a new name, and creating an entirely new identity (Loker, 2023; Simmons & Lee, 2020). While this is a growing problem on the Internet as a whole, it is most predominant in online dating (Mosley et al., 2020). Many users in online dating expect their counterparts to have altered their profiles in trivial ways, such as shorter guys who add an extra inch to their height or women who edit their weight (Hancock et al., 2007). However, what is less expected is profiles of people who do not truly exist. True catfishers go into what they are doing with the intent to lie and deceive their partners into false beliefs about who they are and or what they look like (Simmons & Lee, 2020). They create intimate and personal relationships with other users that develop trust and even love. As the Hyperpersonal Model has proven above, one does not need to be anything more than the character presented as long as they respond, engage, divulge, and listen.

These connections can be profound and fulfilling; users often do not realize until it is too late that the person they have been pouring their heart, time, and sometimes money into are figments of their imagination.

2.14.0 Blackmail

Heartbreak is not the only negative side effect of catfishing. Having weaved themselves into a person's personal life, catfishers can quickly turn into someone's tormentor. They have been known to use the information given to them by other users as blackmail for money and other tasks (Sorell& Whitty, 2019). They can separate users from friends and family who might be suspicious by playing on the person's love for them (Sorell& Whitty, 2019). Screenshots of conversations or photographs sent with the intention of only being for that person can be used for threats, revenge, and bullying (Davis Kempton, 2020). Hackers can use the information given to break into bank accounts, alarms, safes, or computers, gain more information about users' lives, supplying more dangerous information and potential for lives to be ruined and people to lose their jobs, communities, and livelihoods (Corry, 2021). Often too late, users realize they are being scammed, that who they thought cared about them was really someone out to ruin their life.

2.15.0 Failure/Rejection

Situations like these only add to the feelings of rejection, unattractiveness, pain, despair, and failure already associated with online dating (Sales, 2015). Online dating is responsible for thousands of mini-rejections occurring every

day; Magazines, internet blogs, and social media are full of people trying to “help” users deal with the constant rejection: “How can I cope with being rejected on dating apps?”(Crosby, 2022), “7 Therapist-Approved Ways to Deal with Dating Rejection”(Walsh, 2022), “Online Dating Rejection: Coping With the Impacts on Your Mental Health”(MSG HER NOW, 2023).

Rejection can make people feel lonely, depressed, angry, hurt, unloved, unwanted, and lower their self-esteem (Finkel & Baumeister, 2010; Walsh, 2022). One can only imagine that as the amount of rejection increases and time passes without the expected results of matches, likes, attention, or a relationship, these feelings may compound, making users feel like failures or unworthy, resulting in growing considerably more pessimistic and closed off. Once this begins, users will often start to withdraw from the process mentally; they will swipe because they think of it as “I’m still trying,” but they really are just going through the motions to pass the time with as little effort as possible (Ansari & Klineberg, 2015, p.92; Paumgarten, 2011). Now, that game-like design perpetuates itself into reality; people simply enjoy it as such, and it turns into a relentless and monotonous matchmaking service with unrealistic expectations and lackluster results.

2.16.0 Looping

These negative feelings drive users’ need for fulfillment and validation, forcing them back into the never-ending cycle of online dating (Sales, 2015). Online dating has simply created the perfect looping effect to draw users back regardless of their most recent outcome. Did not find love, “Come back, keep

looking." Found it and lost it, "See it worked, come back, keep trying." So on and so forth, the loop begins, again and again: new updates, new apps, drawing new users.

2.17.0 Plenty of Fish in the Sea

With multiple dating apps and sites on the market, users do not even need to return to the same site or application; they can start fresh on another one. Sadly, they all work the same and often are full of the same people. Since most online daters are on more than one site/app (Sharabi & Timmermans, 2021), they no longer offer a unique group. However, the apps are not all that different from one another; like profiles, the apps themselves are a lot like bathtubs: They may look different on a superficial level, but they are really just buckets of water (Paumgarten, 2011). People do not do well in situations like this; they need smaller pools of options. When humans have too much going on in their heads, they get what is known as Cognitive Overload. In regards to online dating, cognitive overload is often referred to as choice overload. Choice overload is a term that refers to when a person has too many options to choose from, and often, the larger the number of options, the higher the regret and dissatisfaction with their choices (Choice overload bias, n.d.; D'Angelo & Toma, 2016). People can quickly feel overwhelmed by the amount of information being thrown at them when the numbers get too high (Thomas et al., 2023).

2.18.0 Cognitive Overload

Users are confronted with what appears to be an endless supply of people

to choose from, which provides this false sense of comfort, making it feel as though there are no lonely places as long as you have the internet (Ansari & Klineberg, 2015, p.89). Research has shown that continued use of Tinder can increase users' fatigue and anxiety (Her & Timmermans, 2021). More specifically, this almost never-ending supply can lead users to become cognitively overloaded and overwhelmed (Thomas et al., 2023). Increased interaction with large numbers of profiles can make users feel burnt out and decrease their investment and effort in the whole process (Pronk & Denissen, 2020) all because they feel as if there is always another person, another option, something better just around the corner (Ansari & Klineberg, 2015, p.115; Sharabi, 2022). Research by Thomas et al. (2022) also proved that swiping through large throngs of people can increase users' fear of being single, aid in the belief that they will be alone forever, decrease users' self-esteem, and increase self-blame for the failure of not getting into a relationship. The monotony of swiping through thousands of people unsuccessfully can make the whole process feel like a second job to users (Ansari & Klineberg, 2015, p.94 & 96).

According to the chief scientific advisor at Match.com (which owns Tinder), Helen Fisher, who is also a senior research fellow at the Kinsey Institute in biological anthropology, users should impose limitations on the number of profiles they swipe on each day as the brain cannot withstand viewing hundreds or thousands of profiles (Tiffany, 2019). Fisher suggests that users who are genuinely looking for a partner find nine matches; once they have nine, they should begin messaging one another and weed people out from there (Tiffany, 2019). Once users have gone through all nine, they can start the process over,

again stopping at nine matches each time (Tiffany, 2019). Fisher believes this will help with the cognitive load that is put on users when swiping through the thousands of profiles in the app (Tiffany, 2019). People process information better in chunks, commonly known as Miller's law, or "The magical number 7," or the rule of 7 ± 2. A cognitive psychologist by the name of George A. Miller published a paper in 1956 entitled "The Magical Number Seven, Plus or Minus Two: Some Limits on Our Capacity for Processing Information." In this paper, he discussed his research on human memory processing capacity using chunking, where information is put into groups or chunks. At the end of his research, he concludes that humans process information best in 7 ± 2 groups or chunks of information (Miller, 1956). When looking at the number of profiles, matches, and decisions being made by users while using a dating app, it exceeds this rule by a large margin.

As the number of people viewed by a person goes up, so does how selective they become; research shows that the larger the variety of users have access to, the more particular the users become (Heino et al., 2010), swiping left (rejecting) on one another for frivolous things such as; astrological signs that do not match or because they have a picture supporting a rival sports team. Research in online dating has proven that when tasked with viewing large sets of profiles, users will often spend too little time viewing each profile (Wu & Chiou, 2009), it also increases their feelings of dissatisfaction and likelihood of rejecting other profiles while making them increasingly pessimistic about ever finding a partner (Pronk & Denissen, 2019).

Research has also shown that limiting the number of options users have to

select from aids in their choice satisfaction (D'Angelo & Toma, 2017). One of the easiest ways dating apps have helped decrease the number of profiles users see is with the advent of preferences and filtering.

2.19.0 Preferences/Filtering

Preferences and or filtering can be as simple as age, height, weight, or location/distance and can expand to religion, favorite types of movies or food, income, educational level, desire to travel, or even intimate and sometimes taboo subjects about sexual preferences and kinks. Research in romantic relationships shows that what people think they want in a partner is not always what they need in order to have a happy and healthy relationship (Ansari & Klineberg, 2015, p.96). Not just that, but research regarding preferences made about online dating shows that when people date in person, they approach it with a more holistic intention, whereas online, they tend to be picky, looking for partners with particular and "perfect" qualities (Heino et al., 2010). Research also shows that people will often state they have preferences for a particular quality online, but that preference is not as important when meeting in person (Eastwick & Finkle, 2008).

Preferences and filters can help users weed through the piles of profiles, allowing them to filter in people they are looking for and filter out those they feel they cannot or do not want to date (Best & Delmege, 2012). While some people believe that using filtering and preferences within dating apps leads to higher rates of racism and other prejudiced thoughts and experiences (Kibbe, 2020a; Lefkowitz, 2018), others find filtering and preferences to be positive experiences

by allowing them to filter out hard limits (popularly referred to as red flags) such as needing someone who is alcohol-free or people who disagree with them on important topics like being Pro-Choice or Anti-Gun policies (Kibbe, 2020a). The core debate revolves around the idea that online dating is not like shopping on Amazon; people should not be able to be filtered based on physical characteristics like being too short. However, the alternative argument is that people filter in real life, too (Kibbe, 2020a). When an individual meets a person face to face, there is an instant filtering process. If they meet someone they find too short or too tall, they will know immediately, which is the same as it would be on an app.

Another issue with preferences and filters are the filtering questions themselves. Dating apps ask their users to fill out questionnaire-like pages before getting into the actual application. Many questions aid in the already believed idea that the most important part of dating is a user's physical appearance by asking about a user's height, weight, age, workout levels, and more. Online dating is visually based (Schwartz & Velotta, 2018); therefore, users often feel pressured to meet societal standards for physical attractiveness in order to get matches (Toma & Hancock, 2010). Research has also shown that using online dating has a negative impact on one's self-esteem, with increased rates of dissatisfaction with one's face and body (Struble & Petrie, 2017). Similar questions are often used by some sites for the matching process to aid the algorithm in matching users. Some sites like eHarmony often use information like appearing to be depressed, having been married/divorced a certain number of times, or disingenuous answers to decline users' entry to their site/app (Kornblum, 2005). Once sites receive all this information about users, users are sorted into the different categories that

other users can then select as something they want to see or wish to have left out of their options. Once this occurs, the algorithms kick in and begin to set up potential matches. Many users believe filtering processes and algorithms aid in finding the right partner; however, most current research is skeptical at best and disagree at worst (Ansari & Klineberg, 2015, pp. 106-108; Finkel et al., 2012). It is inconclusive as to whether or not this result is simply due to the fact that the applications themselves allow users to meet far more people than they would in person, thus already giving them better odds, to begin with, or if it is genuinely related to the preference/filtering and algorithm systems.

2.20.0 Algorithms

Algorithms are the most controversial "science" part of dating apps. Currently, there is no compelling evidence, scientific or otherwise, to show that algorithms in any way help users find perfect matches (Finkel et al., 2012). There are three main styles of algorithms involved with dating apps/sites: low-level interference or self-selection, medium-level or semi-algorithmic (Hybrid) self-selection, or high-level fully automated algorithmic selection. Low-level interference or self-selection applications/sites work like Grindr or Match.com, where other users show up in large quantities in some easily accessible format like a list where users simply select from the people they would like to talk with, without any matching required (Finkel et al., 2012). Users simply search for what they are looking for and choose whom they would like to match with based on the large pool. Medium-level or semi-algorithmic (hybrid) self-selection is one of the most popular methods for dating applications. Applications like OkCupid,

Tinder, Hinge, and Bumble all fall into this category. These applications use an algorithm that runs in the background, sorting people based on attractiveness (based on how many likes and matches they get, as well as other factors), then apply that data as well as user-specified preferences/filters to make sorted decks, lists, or groups for users who ultimately get to decide whom to attempt to match with (Finkel et al., 2012). These hybrid styles use algorithms to make suggestions about who is best for the user and produce a group from which the user selects (Finkel et al., 2012). Finally, there are high-level interference, fully-automated algorithmic applications/sites; this would include sites such as eHarmony or PerfectMatch. These sites sort users based on long questionnaires or other factors like DNA. The users are then given a small number of profiles that the algorithm concluded are high-level matches for them (Finkel et al., 2012). It eliminates user evaluation and assigns them a match. These fully automated sites claim that these unproven algorithms will help users find their perfect match (Finkel et al., 2012).

In short, the low level is just an extensive list of people who are also looking for partners, the medium level is when the application makes low-level suggestions about who might match based on small amounts of collected data, and the high level creates a highly curated short list of people who they believe to be the best options and do not show anyone else. Users go from thousands of options at the touch of a button (low) to a couple hundred (medium) to a handful (high). Regardless of the type of interference, the algorithms are proprietary and can not be confirmed or denied for their accuracy because the sites will not release enough information to the public for scientists to attempt to understand or reproduce the results.

While users assume that the people being offered to them would fit within the "algorithm" to match them with suitable matches, sites regularly recycle users, offering less match-worthy users (Tiffany, 2019). Users who swipe often put themselves at a disadvantage. Director of Product at OkCupid, Nick Saretzky, explained during a podcast interview on the Verge (Why'd You Push That Button) that all dating sites recycle users, and they all stack the decks the same way: the best matches are at the top with the least compatibility lower down the deck (Tiffany, 2019). Once users go through the majority of profiles, profiles will begin to recycle. The rationale is that if they previously swiped left towards the top of the pile, after getting to the bottom of the stack, seeing a disliked profile again may encourage the user to reconsider and swipe right (Tiffany, 2019). This only adds to the frustration many users have that they often find themselves swiping left far more often and for long periods of time before finding someone, if at all.

Whether the algorithm is based on nothing more than background information like height, weight, and race, or if it is fully determining users' choices using questionnaires or even users' DNA information to refine the number of choices, algorithms are a tool to help users find matches (Finkel et al., 2012; Paumgarten, 2011). Further enhancing the algorithms are options like filters and preferences, which refine a user's option pool. Therefore, reducing a user's selection fosters greater satisfaction with their choices, whereas options like rewind increases users' reconsideration (D'Angelo & Toma, 2016).

"It is the rules of the game that make certain groups of people lose and others win." (Rudder, 2014, p.121).

Preferences, filters, and algorithms can affect safety in online dating. Being able to sort through individuals who may oppose a user's political viewpoints, racial or religious preferences can eliminate their interaction, helping them to avoid hatred or bullying. The converse is also true, where users who intend harm may seek out specific groups. Expanding this group and adding catfishing skills, stalkers, those that send revolting or harmful messages, or even those that lure users into physically dangerous situations, now have an app that can easily be abused (Ansari & Klineberg, 2015, p.69; Lyons, 2021).

2.21.0 Safety

Safety is one of the more significant concerns regarding online dating. Criminals have mastered using it for many nefarious purposes, such as catfishing, blackmail, or kidnapping (Ansari & Klineberg, 2015, p.69), murder, assault, or perpetrating harm in any other number of ways (Burga, 2023; Couch et al., 2012). Dating apps have geolocation, allowing users to identify their location down to a one-mile radius. Apps like Grindr show users at closer distances, such as less than 15 feet away or even in the same restaurant (Ansari & Klineberg, 2015, p.112). Dating apps have started to take this all into consideration, updating their applications to have better safety features, including but not limited to message screening (as mentioned above), report tools, panic buttons, and photo verification (Lyons, 2021).

The most essential buttons that have been added to dating applications are the report buttons. Tinder has three different ways to report users with three different icons. Firstly, when swiping, users have the option to click on

the information icon in the lower right-hand corner of the profile card. When this opens the bio and other information is revealed, scrolling to the bottom, users are prompted first in bright red “Share Name Profile.” This allows them to send this person’s profile to their friends. The following option written in dull gray is “Report Name.” After clicking Report, the users are prompted with a colorful set of options that allow users to choose if they are reporting the user for Inappropriate Messages or Photos, Bad Offline Behavior, Spam, or Other. Another reporting option happens after users are matched; on Android phones, an ellipsis on the upper right-hand corner of the profile appears, or for Apple phones, a red flag appears to report users. Users who are reported can be shadowbanned or have their accounts decommissioned.

Tinder also has a panic button provided by a third-party company, Noonlight (Lyons, 2021). A blue light icon in the messaging section (See Figure 3.0) allows users to activate the feature. Selecting it allows users to set geo-tracking and time for the date users are going on (Crowe, n.d.). Once that is set, they can select a code that will be prompted during the selected time (Crowe, n.d.). If they do not input the code, the app automatically sends out a warning and the users’ date and details to local officials (Crowe, n.d.). In another attempt to aid in the safety of their users, Tinder also has photo verification. Users have to take pictures in certain poses prompted by the app. Once the app confirms it is that person, a blue circle with a white check mark appears next to the user’s name, confirming that the person who set up the account is, in fact, who the photos on the account represent them to be at the time of verification.

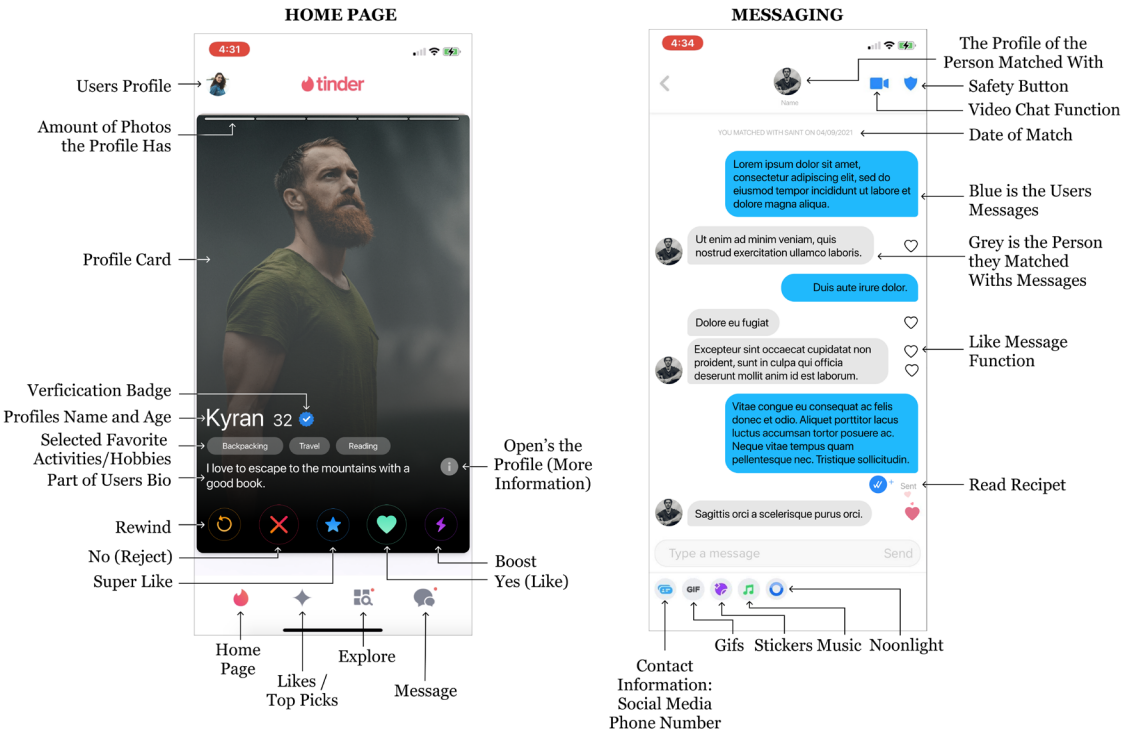
Adding new safety features is at the top of many dating apps’ to-do lists.

Adding background checks and other panic features are starting to pop up on different apps and hopefully will spread to more over the coming years. Safety features add another layer of comfort, reducing some feelings of anxiety and fear regarding meeting other users in person.

2.22.0 Navigation Bar

Figure 3.0

Tinder UI/UX Diagrams



Note: Figure 3.0 shows diagrams labeling the layout for Tinder's Home Page and Messaging between users.

These new safety features do not, however, take a front seat in the application's design. Along with other buttons, the safety features are tucked away (See Figure 3.0 and Appendix D) and can be challenging to find. Other areas users can navigate to include items within the navigation bar at the bottom of the screen or the profile icon in the top left-hand corner. At the bottom of the screen is the app's home navigation. The navigation bar includes icons for Swipe, Likes, Explore, and Messaging/Matches (See Figure 3.0). Swipe is represented by the Tinder flame and takes users to the "Home Page," where users spend most of their time (See Figure 3.0). Likes are in the next section and are represented with a gold diamond/star-like icon; it also carries a badge with a number (See Figure 3.0). The number indicates how many people have liked the user. If users are subscribers, they are able to see who likes them and select from potential partners with whom they know will successfully match with them (tinder, n.d.-a). Then there is Likes /Top Picks (See Figure 3.0 and Appendix B); Premium users have the ability to review their top picks, which are profiles the app believes the user will like and want to match with (tinder, n.d.-d). Non-premium users only get one choice from the top picks each day without a guarantee of a match.

The third icon is Explore (See Figure 3.0), similar to other social media sites, released in late 2021. Explore (Appendix C) includes multiple sections for users to engage with one another (Tinder opens this fall's hottest new venue: Tinder explore, 2021). Within Explore, there are three experiences users can participate in: Hot Take, Vibes, and Swipe Night (Tinder opens this fall's hottest new venue: Tinder explore, 2021). Hot Takes allows users to chat with others before matching. Once users enter the session, a timer begins to count down; the

users have until the timer runs out to chat but must make the decision to like or reject the other user; if the session expires, they are automatically pushed into a new conversation with a new user (Tinder opens this fall's hottest new venue: Tinder explore, 2021). Vibes is a planned event by Tinder (Thompson, 2021). An announcement appears on users' phones, alerting them that a Vibes event has begun (Thompson, 2021). Users who decide to participate are asked a series of questions regarding popular topics or random opinions like personality traits, if socks should be worn in bed, or if they prefer podcasts to music (Thompson, 2021). After completing all the questions, users are able to view others who have participated in the event, and if they have "mutual vibes," an icon indicating so will show up on their profile for the next 72 hours (Thompson, 2021). Tinder's VP of product, Udi Milo, hopes that this will help to create a community feel on Tinder (Thompson, 2021).

Along with Vibes is My Vibe, which allows users to swipe on other users who are looking for the same thing, Looking for Love, Free Tonight?, Let's be Friends, and Coffee Date are the options (Morley, 2021). Swipe Night launched separately in 2019 across the US but was shut down for global launch in 2020 due to the pandemic (Thompson, 2020). Swipe Night is now housed within the Explore page. Swipe Night is an interactive RPG-style game (Kraus, 2019). Swipe Nights, dates, and times are chosen in advance; users are given push notifications when they are able to participate in the event. Users/Players, in this case, go through a show-like adventure where they are given the option to pick how the story goes for them; they make the "Critical Choices" that direct how the story will end for them (Kraus, 2019). When they complete the game, the "Critical

Choices" they choose will appear on their profile for others to see (Kraus, 2019). Tinder also admits that users' choices are fed into their algorithms in hopes that it will aid in finding them better matches (Kraus, 2019). Finally, within the Explore page are two filter-like sections. First, there is a choice where users can choose only to swipe on verified users (Iovine, 2021). This does not apply a filter to the Tinder home swiping deck; if users return to the main page, they will again see users who are both verified and unverified. The second section relates to the passions users choose when building their profiles; when in this section, users are able to pick topics like Wanderlust, Foodie, and Binge Water and swipe only on people who are also in that tagged section (Masango, 2022).

The last category within the navigation bar is Messaging (See Appendix D), where users can find those they have matched with. This section is represented with a double speech bubble that turns red when clicked. When opened, this area begins with a search bar at the top of the screen that lists how many matches users have in total. The next section is the most recent matches, represented by their profile pictures in small circles and a small green dot if that user is active. Users can slide through the profiles to look for someone based on their profile picture as well. Below is the final section that hosts all the message conversations with users and at the bottom is the first safety button (See Figure 3.0). Here, the users are again primarily represented by their profile picture, followed by their name and whether or not the user or their matched partner has sent or received the most recent message. Like the other section, if the user is active, a green dot will appear on their profile picture to indicate they are online. Once a user selects a person to speak with, the chat section will open. Users can send texts, gifs,

links, Spotify, and other social media content to one another and request video calls. This is also where users can find the Noonlight safety button (See Figure 3.0).

2.23.0 Pay to Play

The main functions within Tinder are offered for free, such as messaging. However, other functions that also appear to be free are, in fact, limited. Within Tinder, there are multiple in-app purchases that users can make. Users can buy Super Likes ($8 for five, $30 for 25, or $60 for 60) and Boosts (each lasts for 30 minutes, $6.99 for one, $30 for five, and $50 for 10) (Antonelli, 2021). Super Likes, as previously mentioned, move the user who uses the Super Like closer to the top of the deck for the user they liked. Tinder says this increases the likelihood of the two matchings (Antonelli, 2021). Boosts increase the chance of a user's profile showing up at the top of other users' decks, again increasing the user's chance of matches (Antonelli, 2021). Tinder is attempting to associate money with the likelihood of matches, only solidifying the age-old idea that in order to be considered a viable and good mate, one must have enough money to take care of them. Boosts and Super Likes are not the only way Tinder attempts to monetize or generate money from its users.

Table 1.0

Tinder Subscription Chart (tinder, n.d.-c)

Features	tinder	tinder+	tinder gold	tinder Platinum
Match. Chat. Meet.	x	x	x	x
Unlimited Likes		x	x	x
Unlimited Rewinds		x	x	x
Passport To Any Location		x	x	x
Hide Advertisements			x	x
5 Super Likes a Week			x	x
1 Free Boost a Month			x	x
See Who Likes You			x	x
New Top Picks Every Day			x	x
Message Before Matching				x
Prioritized Likes				x
See The Likes You've Sent in The Last 7 Days				x

Note: Table 1.0 shows the different subscription levels a user can purchase on Tinder. Starting with the free version on the left, followed by Tinder Plus which is the first tier for payment, Tinder Gold, and finally Tinder Platinum on the right. The chart indicates what the user will receive as additional features with each increase in payment level.

Tinder has three subscription levels: Tinder Plus, Gold, and Platinum (See Table 1.0) (tinder, n.d.-c). Each subscription affords the users all that the previous level is offered, as well as new features to make getting matches easier or more likely. Free use of Tinder allows a limited number of right swipes (likes) per

day (tinder, n.d.-c); the exact number is up for debate; some users say it is around 100 every 12 hours, while others say it is 100 per day; they are also awarded 1 Super Like and 1 Top Pick (Chatel, 2019; Photofeeler, 2021; Tiffany, 2019). If users go through all their matches before the twelve hours are up, they are given a message that says they have run out of likes and must wait the allotted 12 hours, or they can upgrade to one of the subscription plans (Chatel, 2019; Tiffany, 2019). The first subscription level is Tinder Plus, affording users unlimited likes and rewinds, use of a passport, hide ads, and a few settings to limit who can see users' profiles (tinder, n.d.-c). Tinder Plus will run users under 30 on average $14.99 for six months; however, in some states, Tinder charges users who are over 30 $23.99 (Antonelli, 2021). Tinder has not confirmed why they charge the over-30 group more, but some speculate it is because younger daters are more desirable, and others say it is simply that fact that people over 30 are more willing to pay larger amounts of money for online dating (Price Intelligently SaaS pricing and monetization experts, 2021). The mid-level is Tinder Gold, which includes all the perks of Tinder Plus and 5 Super Likes a week and 1 Boost a month; users can swipe on all their Top Picks and can see users who have already liked them (tinder, n.d.-c). These upgrades will cost users under 30 pay $44.99, and 30 plus pay $74.99 for six months (Antonelli, 2021). The final tier, Tinder Platinum, adds a $10 price tag if users are under 30 is $59.99, and over 30 is $89.99 for six months (Antonelli, 2021). Tinder Platinum affords users the ability to message users before they match with them, check all the likes they have sent in the last seven days to other users (allowing users to see who did not match them or have not seen them yet), and prioritized likes (tinder, n.d.-c).

Users are often bombarded with reasons to upgrade while using the app, not just when they run out of likes but also when they make a mistake, such as swiping left on a person they wanted to swipe right on or mistakenly swiping up to send a super like when they do not have one to give. Tinder is quick to suggest that they can amend this mistake if they simply buy this or upgrade to this plan. Anxiety and frustration are common feelings for users when facing down against a limited selection of likes and an inability to fix their mistakes (Sánchez, 2021). Passing up on a user they wanted to match with can leave users feeling like they may have just missed out on their perfect match if only they had the chance to make sure (David & Cambre, 2016). Options offered through the subscriptions have both positive and negative effects on users' mental health. On a positive note, things like buying more likes or the ability to rewind will aid in lowering anxiety (Sánchez, 2021). However, the association between having to pay for likes, to be moved to the top of lists, and in general, having to pay for a dating app's help and users' self-esteem and self-worth would be negative, with some paying users saying they have been called desperate for doing so (Kay, 2018). Users may jump to conclusions about themselves: that they could not get matches without the help of all the things subscriptions allow them, while clearly, other people who use it for free are successful in matching. For those who cannot afford it, it encourages the belief that money is essential to find a partner, and the inability to afford an upgrade translates to mean that they are not taking dating seriously enough.

Notwithstanding this affordability factor, nearly 10% of users based in the United States pay for premium subscriptions (Lindner, 2023). Ultimately, having

a pay-to-play subscription is not inherently bad. However, what it represents to a lot of people is the reduction of anxieties that are heightened by the restrictions placed on free users by making the things most users would consider calming, like the ability to rewind or filter, something out of their reach.

Conceptual Framework 2

Figure 4.0

Conceptual Framework 2

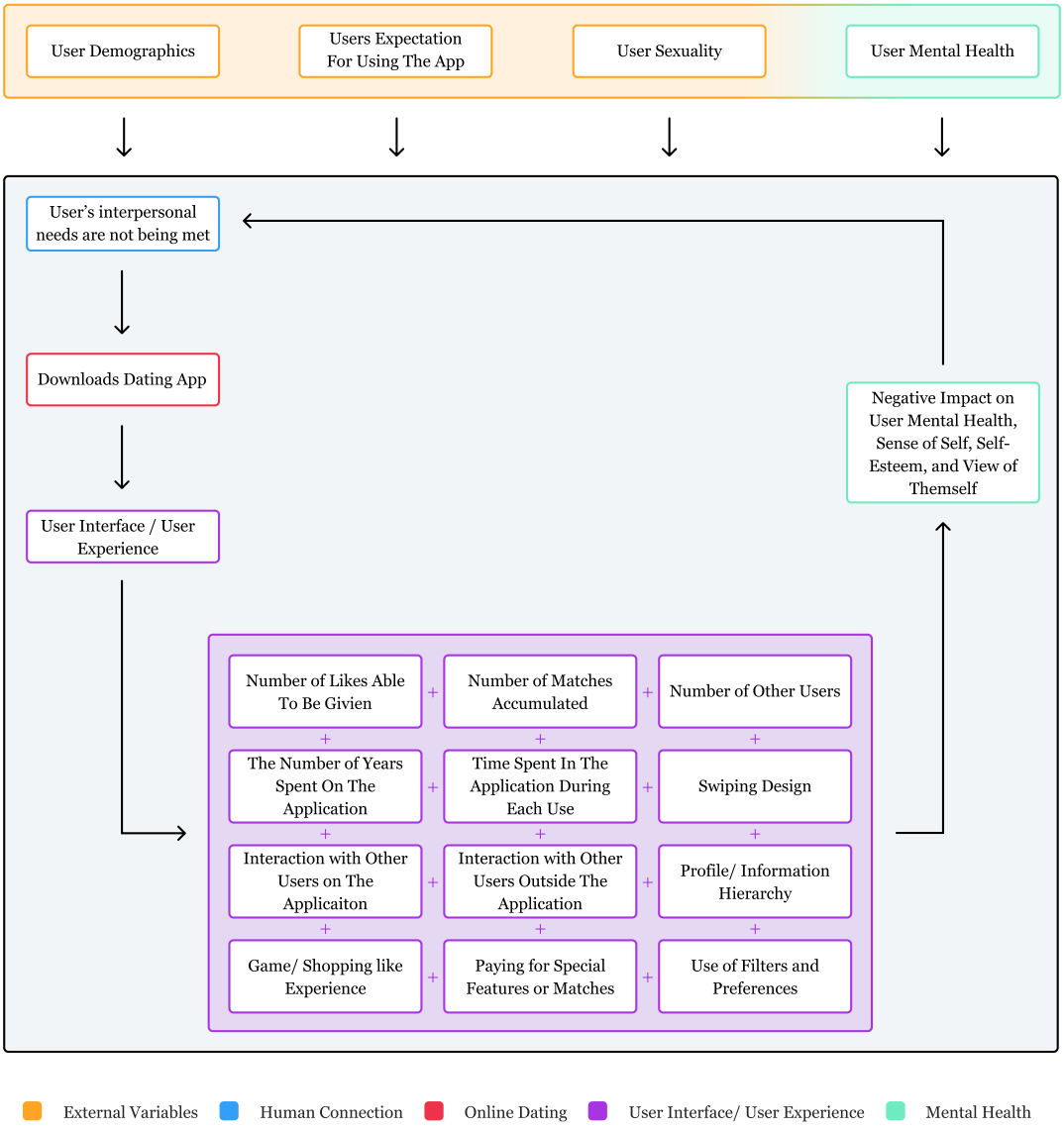


Figure 4.0 is an expanded and elaborated version of Figure 1.0. In this new conceptual framework, one can see the addition of internal and external variables. The framework begins with the orange box, which contains personal user influences. These variables directly impact each of the variables within the grey box below; these variables can change what, when, how, why, or even if the variables and/or steps within the box take place and the intensity of each once. The next three steps are the same as the initial framework: users' interpersonal needs are not being met (blue box), and they choose the avenue of downloading dating apps (red box) in an attempt to find a connection to fulfill that need and in the process of doing so, the users come into contact with the UI/UX (purple box) of the dating application. The next box (filled purple) depicts the variables this study looks at to determine how they influence the users and their impact on their mental health. Finally, the green box connects back to users' unmet needs. This arrow represents the connection between how the UI/UX impacts the users and how that negative impact returns them to having their needs unmet, creating a downward spiraling cycle.

2.3.0 Conclusion

Deciding whether human nature or design is the initiator or follower of another is equivalent to asking, "Which came first, the chicken or the egg?". Are negative emotions driving users to online dating, or does online dating drive negative emotions in users? Does the design of Tinder perpetuate negative emotions and have detrimental side effects on its users' mental health? Or does Tinder simply amplify users with pre-existing negative feelings? Could the

applications negate the negativity they cause to users? Could simple corrections, like changes in size, color, and/or order, have the potential to positively influence users' mental state while using the application? Small changes may answer these questions. If the changes are made, and users continue to suffer negative mental health decline, then it is easy to surmise that the use of the application is the problem, not the application's design. However, if the users' mental health starts to ascend into healthier places, it shows a positive correlation between the corrected design and users.

CHAPTER 3 METHODOLOGY

3.0.0 INTRODUCTION

Dating apps such as Tinder are intended to facilitate the process of finding a romantic relationship. The application promotes its design as a tool to empower and encourage users to find satisfaction and ultimate happiness through its use.

As online dating takes on an ever-present and persistent role in romantic relationships worldwide, understanding how the UI/UX of Tinder affects users and their relationships is imperative. Pew Research (2023) estimates that nearly three in ten US adults say they have used a dating site or app (Vogels & McClain, 2023). Based on government estimations, that would be nearly 100,270,156 US adults (Moore, 2022).

There are two main research topics being examined within this study. The first is regarding the User Interface and User Experience of Tinder and how it impacts and influences how users interact with the application and other users. The second topic is regarding the psychological impact and influences the application's UI/UX has on its users'. The following topics and questions help uncover and provide an understanding of the impact and effects on Tinder users due to its design.

3.1.0 USER INTERFACE AND USER EXPERIENCE

The first topic of this study is understanding how Tinder's user interface and user experience, as well as the affordances these design choices offer, impact its users. As discussed throughout the literature review (Chapter 2), the user interface (colors, buttons, shapes, layouts, and typefaces (The Interaction Design

Foundation, n.d.-b)) and the users' experience (overall usability, function, and feelings of an application (The Interaction Design Foundation, n.d.-c)) impact and affect users in many different ways. From influencing how users understand what information is the most important about their potential match (See sections 2.50 and 2.80) to how online dating can feel like a game/shopping experience (See sections 2.6.0 and 2.10.0). Understanding how and in what ways the UI/UX of Tinder impacts and affects users can create a more positive experience in the online dating world and extend into other online social interactions, helping to positively impact users' lives.

3.1.1 Research Question 1

Is the current UI/UX for Tinder easy, usable, and fitting for user needs and desires?

Error management is a top priority for many product designers. Ensuring that users experience the least amount of difficulty when interacting with their product is essential to creating an environment that aids in the reduction of stress, anxiety, and frustration for the user. Reducing these elements can increase loyalty to products as well as the overall satisfaction and mental well-being of their users. It is important in this study, as users' emotions and feelings are already at play simply by the nature of the application; that making the experience of interacting with the application frustrating or difficult will only serve to create a greater impact on how users feel and how they view the relationship process altogether. Adding friction or requiring a substantial

investment of time to understand how it works (to get the result one wants) will diminish its use or encourage the user to look to another platform.

3.1.2 Research Questions 2 & 3

2 - Does the UI/UX of Tinder influence how users interact with the application?

3 - How does the hierarchical design of Tinder influence its users' beliefs and behaviors regarding dating?

Understanding how the application influences the users reveals where the potential pain points are for users. When what users want to happen and what is actually possible to be done conflict with one another, it can lead to user frustration, negative emotional states, and loss of interest. These contradictions can negatively impact how users interact with other users on the application as well as themselves. These influences can have a global impact on society at large, virtual dating apps, and users' experiences. Many users to date are cognizant that dating applications and their design have negatively impacted the dating experience. Articles and research have attempted to show that the influence of dating apps on the dating environment has encouraged one-night stands and diminished the desire to seek a long-term relationship/ commitment. It has also fostered negative behaviors such as cheating, narcissism, and a never-ending search for the elusive holy grail of relationships.

3.1.3 Research Questions 4 & 5

4 - How does the designed swiping motion affect the way in which users interact with Tinder?

5 - Do users find that the UI/UX of Tinder makes them feel like they are participating in a game/shopping experience?

As mentioned in Chapter 2 (See sections 2.6.0 and 2.7.0), the impact of both the swiping motion and gamification/ shopping experience that users have while using the application can have significant side effects on both the users and society as a whole. It is well known that people in gaming environments can begin to see people as less than human and more as two-dimensional animations regardless of knowing that, in reality, there is another person on the other side of the keyboard. Design choices that lead to a gamification or shopping-like experience can cause reduced empathy, encourage users to view others as less than human and more as objects, and turn dating into a win-or-lose game, drastically affecting an individual's self-image and self-esteem.

Understanding how users view these designs and how they feel about them is critical to understanding how these designs have impacted users and society at large and can aid in understanding where improvements need to be made in order to remedy the harmful side effects caused by these decisions.

3.1.4 Research Question 6

How do users feel about the filtering and preferences options while using Tinder?

Many users use preference because they believe it helps to pre-sort through matches to find what they want in a partner. Others view preferences as dishonest and discriminatory, encouraging users to stereotype and discriminate against minority or marginalized groups. As mentioned in Chapter 2 (See section 2.19.0), research shows that more often than not, people think they know what

they want in a partner, but often, their preferences and choices are not what they need from a partner and are significantly less important once they meet in person.

Understanding how users feel regarding preferences is critical, as they are a sought-after function by users of dating apps and often the greatest complaint because there is no easy access to know one's religion, political affiliation, vaccine status, and other topics that may be seen as controversial or necessary to a relationship. These types of filters are often placed behind paywalls.

3.1.5 Research Question 7

How do users feel about the anonymity afforded to others while using Tinder?

As dating apps have changed over time, one of the common update themes is safety. The majority of the safety concerns surround the lack of participant transparency, failure to offer authentication, disclosure of dangerous proclivities, and addressing scammers or virtual AI bots. In recent years, dating apps have started to include verification processes, background checks, and reporting options. Understanding how users view anonymity and what their concerns are regarding it is imperative to understand where improvements need to be made within the online dating world to make users feel safer and help reduce potential harm.

3.1.6 Research Question 8

What are users' opinions on having to pay for extra features, likes, or priority status while using Tinder?

As paying features and paid experiences for dating apps increase, understanding how users feel about them is essential to deciding whether it is worth continuing to offer them as options to an elite group or reconsidering packaging them in a way that does not trigger negative feelings for those who can not afford the upgrade.

3.2.0 USER PSYCHOLOGY

The second topic of this research addresses how the User Experience and User Interface of Tinder impacts its users' psychological well-being. Since online dating has millions of users worldwide, the interaction between the users and the platform makes a significant impact on society and human interaction as we know it. If the design of a worldwide dating app is causing harm to millions of people, it is vital to understand the pain points so that designers can work to fix those issues.

3.2.1 Research Questions 1 & 2

1 - What do users believe is the purpose of using Tinder?

2 - Have users had success with online dating while using Tinder? And if so, what does that success look like?

Understanding what users believe Tinder's purpose is and whether or not they have had success is key to providing contextual significance and perspective for further questions. Whether users view Tinder as it is intended to be used or for an alternative purpose will determine the overall satisfaction and rate of success with the application and its design.

3.2.2 Research Questions 3 - 8

3 - How do users feel while using Tinder?

4 - How has using Tinder impacted users' sense of self?

5 - How has using Tinder impacted users' mental health?

6 - How has using Tinder impacted users' views of themselves or relationships?

7 - How has using Tinder impacted users' self-esteem?

8 - How has using Tinder impacted users overall?

Social media and online dating have become common in everyday life, and they have a significant impact on their users. Looking at the research presented in this study's literature review, there are many ways in which the online dating boom has impacted and influenced users, from increasing the likelihood of finding a partner to decreasing users' mental health. The questions above are essential to understanding the impact Tinder has on their users' sense of self, mental health, self-esteem, views on relationships and of themselves, and overall well-being. These understandings can lead to improvements in the online dating design world. Understanding how and which parts of the design have positively and negatively impacted users can help the designers focus on areas that need adjustments to increase their positive influence and decrease their negative impacts.

3.3.0 APPROACH

This study plans to use a survey that will collect both qualitative and quantitative data. This is known as mixed-method collection; mixed-method research is one of the best ways of collecting in-depth data (Simplilearn, 2023).

This allows the researchers to show not just with numbers but with words the impact of the dating apps' design has on users.

Quantitative research is used to gain insight and understanding of the what and how and is collected numerically to develop a picture of trends and or connections between variables (Hoover, 2021). While qualitative research is used to garner insights and bring about an understanding of participants' attitudes, experiences, motivations, opinions, and reasoning (Daisy, 2018). This type of data is often subjective and personal. Within this study, qualitative data is collected via free-response/short-answer questions, and quantitative data is collected via dichotomous, nominal, ordinal, interval-level, and continuous questions.

3.4.0 RESEARCH METHOD - Survey

Surveys are one of the most common methods of collecting data. They allow for large quantities of data to be collected over a short period of time (SurveyMonkey, n.d.). Surveys excel at collecting a wide range of unobservable information, such as participant attitudes, demographics, feelings, preferences, and orientations, including but not limited to topics such as politics, safety, love, sex, and more (Bhattacherjee, 2012). If done correctly, surveys allow for mass distribution, which can aid in the ability of a survey to be a representative sample of the current population in which one is studying (Bhattacherjee, 2012). For these reasons and more, a survey was the best option to answer the above questions.

Using an online survey allowed the researcher to reach a larger number of

people than other methods, such as interviews or diary studies, and allowed for a quicker turnover time. Also, an observational collection would be impossible to conduct due to the type of data and information being examined in this study.

3.5.0 SAMPLING STRATEGY

The researcher collected survey responses by posting links on social media and sending out emails to Arizona State University students. Participants were collected using a mixture of snowball sampling and stratified random sampling. The survey link was posted on several social media platforms and passed through direct contact. The social media posts included the required restraints of participation, making this a stratified sampling by limiting the population that was able to participate in the study (Formplus Blog, 2022). From there, snowball sampling occurred. Snowball sampling is when the research participants are asked to reach out to others within their connections to participate in the study (Oregon State University, 2010), and so on, down the lines of connections.

The survey started with the consent block. In this block, it stated the rules for participation, such as being 18 or older and having used the application Tinder for at least one year. It mentioned that the survey would take 10-15 minutes to complete and that there was no foreseeable risk to them for filling out the survey. It clarified the anonymity of their responses and how the data will be stored. Finally, they were asked if they agreed to participate or not. If not, they were taken to the end of the survey and thanked for their time. The survey launched on April 1st, 2022, and closed in May 2022. The survey collected 128 participants (n=128); however, only 74 completed the survey past the

demographic information section (n=74). The following data analysis is based on the 74 participants who completed the entire survey (n=74).

3.6.0 ANALYSIS METHOD ONE- Data Organization

The raw data from the survey was downloaded from Qualtircs and organized in Excel spreadsheets. Within the initial data analysis, participants who did not complete the survey up to a satisfactory percentage were removed from the data set.

3.7.0 ANALYSIS METHOD TWO - Sample Analysis

As it is impossible to collect information from every single person within a population for data analysis, a sample statistic or a representative sample can be used as a reasonable estimation of the population being studied (Foster et al., 2018) and allow researchers to generalize their findings to the population at large. The population of completed surveys (n=74) was analyzed to determine whether or not the convenience sample collected was representative of the United States (see section 4.1.0). This is important because without taking this into account, it would be impossible to generalize any findings outside of the survey participants themselves.

3.8.0 ANALYSIS METHOD THREE - Qualitative Analysis - (Daisy, 2018)

The following three qualitative methods were performed separately. Each of these methods uses an analysis tool known as coding. Coding is simply grouping data together by a particular category, idea, or theme (Daisy, 2018).

After completing all three types of qualitative analysis, the categories, ideas, and themes were compared to one another to create the most accurate options to code the data for further analysis. The data is then reviewed by using the category, idea, or theme in place of the raw data. This type of analysis is excellent and one of the most commonly used methods of analyzing qualitative data (Daisy, 2018). All three methods below are particularly useful for written data, whereas other methods of qualitative analysis, such as discourse, narrative, or conversation analysis, are not (Daisy, 2018).

Discourse analysis, for example, is better when attempting to understand tone, gestures, syntax, and patterns of speech (Daisy, 2018). Narrative analysis is best used for stories or narratives, and conversation analysis is used for conversations, most often verbal conversations, as they happen in real time (Daisy, 2018). While all these methods are suitable for analyzing qualitative data, the latter three are not appropriate for the data collected within this survey (Daisy, 2018). All of these methods are used to help find the main ideas and meanings from the data set (Daisy, 2018). This, in turn, allows one to cross-examine these ideas with the aims of the study, other research questions, and data to establish new insight, support, arguments, or theories regarding the research at hand (Daisy, 2018).

3.8.1 Grounded Theory Analysis - Qualitative Analysis 1

Grounded Theory analysis is a form of content analysis (Daisy, 2018). This type of coding technique and content analysis does not have predetermined themes, categories, or ideas (Daisy, 2018). To perform a Grounded Theory

analysis, one examines data through inductive reasoning, allowing themes and categories to emerge organically while reviewing the data set (Daisy, 2018). One of the reasons Grounded Theory stands out in qualitative analysis is that when performing this analysis, one is continuously examining the data, as it appears not just at its conclusion (Daisy, 2018). Using grounded theory as the initial content analysis helps to find themes and categories that reflect the data collected and not preconceived notions or ideas (Daisy, 2018).

3.8.2 Content Analysis - Qualitative Analysis 2

Content analysis uses a method of systematic classification in which data is reviewed to find key categories that are then used to group data into chunks (Daisy, 2018). To perform a content analysis, one must have preconceived ideas or aims for the data/ research they are working with (Daisy, 2018). Based on those ideas or aims for the study, one sorts through the raw data to find categories that best describe the data and allows the raw data to be grouped into chunks to be analyzed (Daisy, 2018).

3.8.3 Thematic Analysis - Qualitative Analysis 3

Thematic analysis is similar to content analysis in that it is used to help chunk qualitative data (Daisy, 2018). Thematic analysis is like a hybrid of content and Ground Theory analysis (Daisy, 2018). Thematic analysis, like content analysis, does allow for previously existing knowledge and is performed after all the data is collected; however, like Grounded Theory, it bases its thematic grouping on the data at hand, not the pre-existing categories (Daisy, 2018).

Themes in this context are created by finding patterns within the data that help describe, organize, and interpret it (Daisy, 2018). Frequently, in Thematic analysis, one goes through multiple iterations of themes and groups, often starting with one set of themes and groups and narrowing down or broadening them to fit the needs of the study (Daisy, 2018). Thematic analysis is best used for written data (Daisy, 2018), which is why it is used in this study.

3.9.0 ANALYSIS METHOD FOUR - Ordinal Scale Adjustment - (Newcomer et al., 2015, p. 596)

Ordinal scales (e.g., Likert Scales) have variables (i.e., Strongly Agree, Agree, Neither, Disagree, and Strongly Disagree) that have an assumed relationship to one another, where each variable is equally distant from the one's neighboring it (Ex. -2,-1,0,1,2) (Newcomer et al., 2015, p.596). For questions within the data set that followed this type of scale, a calculated adjustment was made for analytical benefits by grouping sections of the scales together (Newcomer et al., 2015, p. 596), grouping strongly agree and agree as well as strongly disagree and disagree.

3.10.0 ANALYSIS METHOD FIVE - Statistics

The data was analyzed using multiple statistical methods. Both descriptive and inferential statistics were performed. Descriptive statistics were performed in order to summarize, interpret, organize, and classify the data (Key Differences, 2019). Inferential statistics were performed in order to form comparisons, draw

conclusions, and make predictions and estimations (Key Differences, 2019). The combination of the two allows for the greatest elaboration on the data collected.

3.10.1 Descriptive

Descriptive statistics summarize and describe data through numerical values (Foster et al., 2018). Descriptive statistics are not used to generalize outside of the data collected (Foster et al., 2018). One of the concerns with descriptive statistics is that their conclusions can often be misleading and speculative (Foster et al., 2018); however, that does not negate that they help provide important information regarding the data collected. Within this analysis, both univariate and bivariate statistical analyses were performed.

3.10.2 Inferential

Inferential statistics take the sample size into account by generalizing their results to the larger population (Foster et al., 2018). Inferential statistics allow researchers to generalize to the population outside the collected data (Foster et al., 2018). These statistics are used to explain and elaborate on the potential occurrences of an event (Key Differences, 2019).

3.11.0 ANALYSIS METHOD SIX - Odds Likelihood Ratios

Odds likelihood ratios are used to describe how likely or unlikely a certain group or population is to experience something (Chen, 2020). Though often confused with probability, odds-likelihood ratios only represent the odds of one event occurring over another, not out of all possible outcomes (Chen, 2020),

and while they are considered a type of correlation, they, just like correlations, do not show causation (Frost, n.d.). They are vital within this study because they effectively highlight the effects of a particular variable across multiple populations (Chen, 2020). They are also beneficial to this study because they are easily interpreted by a large audience (Chen, 2020).

3.12.0 ANALYSIS METHOD SEVEN - Correlation Matrix

The coded data was input into the IBM SPSS Statistics system, also known as SPSS (Statistical Package for the Social Sciences). A correlation matrix was run regarding each question and sub categorical response. This matrix showed whether or not particular questions had positive, negative, strong, or weak correlations with one another and whether or not that correlation was statistically significant. While correlations are not able to determine causation, they are helpful in seeing patterns and can aid in understanding how two or more variables might relate to one another.

CHAPTER 4 RESEARCH FINDINGS/ DATA ANALYSIS

4.0.0 INTRODUCTION

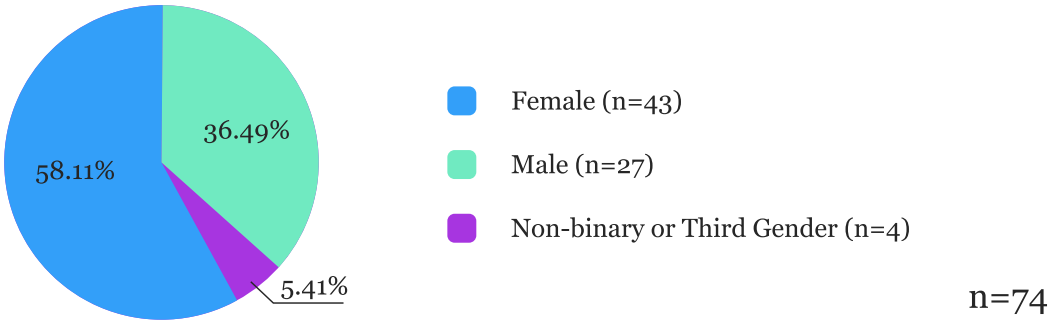
This study was performed to understand the impact of the dating app Tinder's user interface and user experience (UI/UX) on its users. The primary data collection method was a survey that comprised 21 questions, including but not limited to Likert scales, yes or no questions, and short responses. The data was collected, coded, and analyzed. The results will help answer and shed light on the topics and questions in Chapter 3.

4.1.0 Demographics Of Participants - Demographic Summary

Just over half of the participants in this study self-identified as female (n=43), with self-identified males as the next largest group (n=27) and, finally, self-identified non-binary (or third gender) (n=4) (See Figure 5.0). For males and females, the average age was 24, and for non-binary (or third gender), it was 22 (See Appendix F - table F1.0). Overall, the most common age was 21.

Figure 5.0

Participant Gender Breakdown



The overall ethnic distribution among the participants in this study is similar to the United States of America, where minority groups combined make up around 25% of the US Census and 75.5% self-identified as white (U.S. Census Bureau quickfacts: United States, 2022). In the present study, 72.97% (n=54) identified as white, and 27.03% identified as a minority group.

Unlike the similarity in the representation of minorities, the percentage breakdown of minority groups within the whole is not. In the current study, the second largest group self-identified Asians (12.16%), which is twice as high as the normal distribution within the US (6.3%) (U.S. Census Bureau quickfacts: United States, 2022). While the second largest group in the US is Hispanic or Latino at 19.1% (U.S. Census Bureau quickfacts: United States, 2022), this study has less than half that representation at 8.11%. Finally, in the US, there is a representation of 13.6% as Black or African American (U.S. Census Bureau quickfacts: United States, 2022), and in the current study, there is only 4.05%. Within the US, there is also 1.3% American Indian and Alaska Native, and 0.3% Native Hawaiian and Other Pacific Islanders representation (U.S. Census Bureau quickfacts: United States, 2022), and in this study, there are none. For a complete breakdown of ethnic distribution within this study, see Appendix G - Table G1.0.

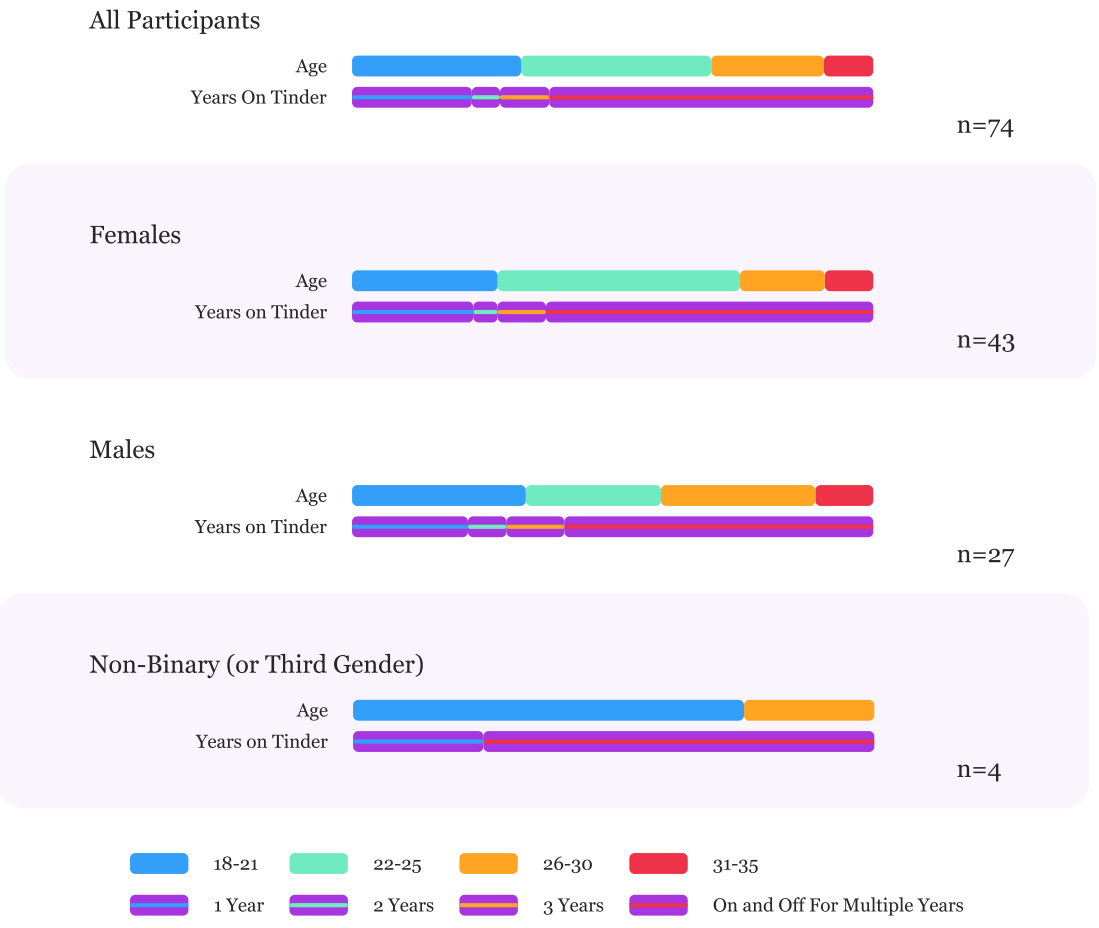
The occupations held by participants were distributed across many fields (See Appendix H - Table H1.0). The largest group of participants were students at 43.24%, followed by Business/Desk Jobs (13.51%) and Food Services (9.46%).

Finally, participants were asked to identify how long they had been users of the application Tinder (See Figure 6.0). More than half of the participants had been using the application on and off for multiple years (62.16%); the next largest

group were participants who had only used Tinder for about a year (22.97%), with less than 15% of participants using the application for 2 (5.41%) or three or more years (9.46%).

Figure 6.0

Comparing Within Gender Demographics



Note: Figure 6.0 shows how each gender is broken down by age and the number of years the participant spent using Tinder.

4.2.0 USER INTERFACE AND USER EXPERIENCE

4.2.1 Easy, Usable, and Fitting (n=74)

Participants were presented with a Likert scale ranging from Strongly Disagree to Strongly Agree regarding the statement, “The Layout and design of Tinder app feels easy, usable, and fitting for my purposes.”. The results are in Table 2.0 below. The majority of participants, regardless of gender, age, or amount of time on Tinder, somewhat agreed or strongly agreed that Tinder’s current layout and design felt easy, usable, and fitting for their purposes.

Table 2.0

User Agreement: Layout and Design: Easy, Usable, and Fitting

The Layout and design of Tinder app feels easy, usable, and fitting for my purposes.	All (n=74)	Female (n=43)	Males (n=27)	Non-binary or Third Gender (n=4)
Strongly Disagree / Somewhat Disagree (SD/D)	6 (8.11%)	4 (9.30%)	2 (7.41%)	0 (0.00%)
Neither Agree Nor Disagree (NA/D)	6 (8.11%)	2 (4.65%)	3 (11.11%)	1 (25.00%)
Strongly Agree / Somewhat Agree (SA/A)	62 (83.78%)	37 (86.05%)	22 (81.48%)	3 (75.00%)

Even though the participants largely agreed that the application felt easy, usable, and fitting for their purpose, many users expressed frustrations with the app’s user experience and interface. The main frustration for 25% of the participants was with the messaging feature. Participants, in their short answer responses, sought improvements for and also expressed frustrations with paid versus free features, the need for more filters, better safety and regulatory

features, stopping the “Never Ending Swipe”/ mindless swiping, reducing the gameplay aspect, and the layout.

Participants who SA/A that Tinder had an easy, usable, and fitting layout were twice as likely to believe that this design influenced how they interacted with the application.

4.2.2 Influence of Design

Participants were asked, “Does Tinder’s design, such as color, placement, interactions (i.e., swiping, tapping), or other features feel like they influence how you interact with the application?”. Almost half of the participants (45.21%) agreed that Tinder did influence how they interacted with the application. Equal parts of participants said maybe to its influence (27.40%), or no, it did not influence them (27.40%). The 31-35-year-old group was the only age group where the majority (57.14%) did not believe that Tinder influenced how they interacted with the application. Males were 5.33x more likely to believe Tinder’s design did influence them. Females were split across the board, with 37.21% saying yes, 34.88% saying no, and 27.91% saying maybe. Non-binary participants were the only group where more participants believed it did not (50%) rather than it did (25%). However, when looking at whether or not these participants mindlessly swiped while using the application or believed it felt like a game/ shopping experience, participants who did not believe Tinder influenced how they interacted with the application were nearly twice as likely to mindlessly swipe Often /All of The Time and were 7.5x more likely to SA/A with it feeling like a game/shopping experience.

Participants were asked to explain how they saw Tinder's design, influence how they interacted with and used the application. At equal positions at the top, participants believed that the application encouraged commoditization and a lack of humanity (20.27%) as well as quick thinking and instant gratification (16.22%). Participants who SA/A that Tinder had an easy layout were 1.25x more likely to think that Tinder influenced its users by encouraging commoditization and lack of humanity. The third highest response was that users got stuck in cycles of use (13.51%). Other responses included seeing others as commodities/ forgetting that the other profiles were real people, chasing likes for the high numbers rather than actually trying to date, it was like shopping, it encouraged mindless/automated swiping, and it was easy to make a mistake.

Participants left some positive comments regarding the apps' design, saying the colors represented love, it kept them coming back for more, that the animations, when matching, made them feel happy, and that it was user-friendly.

4.2.3 Hierarchical Design

Design hierarchy is used across disciplines to help encourage and guide users to perform particular behaviors, react with certain manners, and subconsciously understand the order of importance of tasks and information (Interaction Design Foundation, 2023). One of the main ways hierarchical design is used in online dating is in the card-like profiles users create and interact with when swiping for potential matches.

In this study, participants were asked to rank users' interests, bios, ages, names, and profile pictures in order of importance from 1 to 5. Participants were

first asked to “Put the following items in order of importance (1 being the most important and 5 being the least) based on how Tinder’s profile is designed/laid out.” (See Table 3.0).

Table 3.0

Rank Order of Importance (Tinder’s Design)

Order of Importance	All (n=74)	Female (n=43)	Males (n=27)	Non-Binary (or Third Gender) (n=4)
1 (Most Important)	Profile Picture (68.92%)	Profile Picture (65.12%)	Profile Picture (74.07%)	Profile Picture (75.00%)
2	User Name (28.38%)	User Name (30.23%)	User Bio (37.04%)	User Name (50.00%)
3	User Age (32.43%)	User Age (32.56%)	User Interests (33.33%)	Users Age (50.00%)
4	User Bio (28.38%)	User Bio (34.88%)	User Age (33.33%)	User Bio (50.00%) User Name (50.00%)
5 (Least Important)	User Interests (27.03%)	User Interests (30.23%)	User Name (40.74%)	User Interests (75.00%)

Regardless of gender or years of use, the participants agreed that Tinder wanted them to believe that the profile picture was the most important part of the profile. Overall, participants agreed that the interest section was prompted as the least important; however, when separated by gender, male participants believed the name to be the least important and interests to be third. When breaking the results down by age, the youngest group of participants, 18-21 year-olds, said age was the least important, whereas 22-25 year-olds and 26-30 year-olds said

interests, and 31-35 year-olds said name and age.

Participants were then asked to perform the same process but in terms of their personal beliefs about what was important. “Put the following items in order of importance (1 being the most important and 5 being the least) based on what you think is the most important parts of a profile.” (See Table 4.0).

Table 4.0

Rank Order of Importance (Users’ Personal Opinion)

Order of Importance	All (n=74)	Female (n=43)	Males (n=27)	Non-Binary (or Third Gender) (n=4)
1 (Most Important)	Profile Picture (45.95%)	Profile Picture (39.53%) User Interests (25.58%) User Age (32.56%)	Profile Picture (62.96%)	User Interests (50.00%) User Bio (25.00%)
2	User Interests (28.38%)	User Interests (25.58%)	User Interests (33.33%)	Profile Picture (50.00%) User Bio (25.00%)
3	User Bio (33.78%)	User Bio (39.53%)	User Bio (25.93%)	User Age (50.00%) User Bio (25.00%)
4	User Age (25.68%)	User Age (25.58%)	User Age (29.63%)	Profile Picture (50.00%) User Bio (25.00%)
5 (Least Important)	User Name (44.59%)	User Name (39.53%)	User Name (48.15%)	User Name (75.00%)

Participants still believed that the profile picture was the most important and that the name was the least. Male (n=27) and Female (n=43) participants agreed that profile pictures were the most important and names were the least.

However, non-binary (or third gender) (n=4) participants believed the interests to be the most important and names to be the least, with profile pictures as second to least important. All age groups except for 31-35 year-olds agreed that the name was the least important, whereas those in the 31-35 year-olds (n=7) believed the age to be the least important.

After completing competitive analysis and cross-examination between the Tinder Design, Personal Beliefs, and other factors such as gender, age, years on Tinder, mindless swiping tendencies, agreement/disagreement with different feelings while using the application, as well as opinions on whether or not the application and experience felt like a game/shopping experience, and more, the following conclusions have been drawn:

Overall, participants ranked the profile picture as the most important 96.2% of the time and ranked the name as the least 75.6% of the time. Based on how participants interpreted Tinder to show them what was the most important, the profile was ranked as the most important 100% of the time, and the name was ranked as the least 56.4% of the time. Participants' personal beliefs on what is most important, profile picture was ranked as the most important 92.3% of the time, and name was ranked as the least 89.7% of the time. From this data alone, one can assume that the design of Tinder's profile cards is attempting to influence what users find important.

4.2.4 The Never-Ending Swiping* (Ordinal Scale Adjustment- See Section 3.9.0)

One of the concerns often raised when discussing online dating is how users get stuck in a cycle and end up swiping without much thought. In this

study, this is referred to as mindlessly swiping.

When asked, “When using Tinder, I often find myself numb to what I’m doing, often swiping left or right without a second thought?” the majority of users (40.54%) said that this occurred often, 20.27% said it happened all the time, and only 4.05% of users said this never happened (all of which were male participants). Non-binary (or third gender) participants, just over half (53.48%) of females and (66.66%) males, said that it happened either Often or All of the time. Overall, participants are 4.5x more likely to mindlessly swipe Often (O)/ All The Time (A) than they were to mindlessly swipe Rarely (R)/ Never (N). Results suggest that the younger a user is, the more likely they are to O/A mindlessly swipe (18-21: 17x; 22-25: 12x; 26-30: 4.67x). The 30-31-year-old group was the only group more likely to R/N mindlessly swipe over O/A (2.5x more likely). The data produced a low-level negative correlation between mindless swiping and age (-0.309; p=0.007).

Participants who O/A mindlessly swipe were 12.33x more likely to SA/A than SD/D that Tinder has an easy, usable, and fitting layout. Participants who O/A mindlessly swipe were 4x more likely to say Online Dating with Tinder is “Just About Hook-Ups,” 6x more likely to say Online Dating with Tinder is “A Waste of Time,” 5.33x more likely to say Online Dating with Tinder is “A Way to Pass the Time,” and 7.5x more likely to say Online Dating with Tinder is “A Game.”.

Of the participants who said they O (n=30) or A (n=15) mindlessly swipe, 42 of the 45 also said SA (n=31)/A (n=11) that they feel as though the interaction on the app feels like they are playing a game or participating in

shopping experience. Participants who O/A mindlessly swipe are 42x more likely to SA/A vs. SD/D, with it feeling like a game. The data showed a low-level positive correlation between mindless swiping habits and whether or not users agreed with Tinder feeling like a game/shopping experience (0.393, p=0.001), suggesting that the more users mindlessly swiped the more they agreed that Tinder felt like a game/shopping experience.

4.2.5 Game/Shopping Experience* (Ordinal Scale Adjustment- See Section 3.9.0)

Across multiple questions, users mentioned in different ways how the applications' design and features can make them feel as though the application itself is a game/shopping experience. Participants were given the statement, "The way Tinder is designed and how it is used can often make online dating feel like a game/shopping experience" and asked to choose how much they agreed or disagreed with the statement using a Likert scale. Table 5.0 shows that the majority of users, regardless of gender, agree that the current design of Tinder and its use makes them feel as though they are playing a game or participating in a shopping experience.

Table 5.0

User Agreement: Tinder Feeling Like A Game/Shopping Experience

Tinder Feeling Like A Game/Shopping Experience	All (n=74)	Female (n=43)	Males (n=27)	Non-binary or Third Gender (n=4)
Strongly Disagree / Somewhat Disagree	5.41%	4.65%	3.70%	25.00%
Neither Agree Nor Disagree	5.41%	4.65%	7.41%	0.00%
Strongly Agree / Somewhat Agree	89.19%	90.70%	89.89%	75.00%

Participants who SA/A that Tinder feels like a game/shopping experience are 9.33x more likely to SA/A that Tinder has an easy, usable, and fitting layout. Participants who believe that Tinder's Design influences their interactions were 32x more likely to SA/A than SD/D, with it feeling like a game/shopping experience. Their counterparts who do not believe that Tinder's Design influences their interactions were 4.5x less likely to do so.

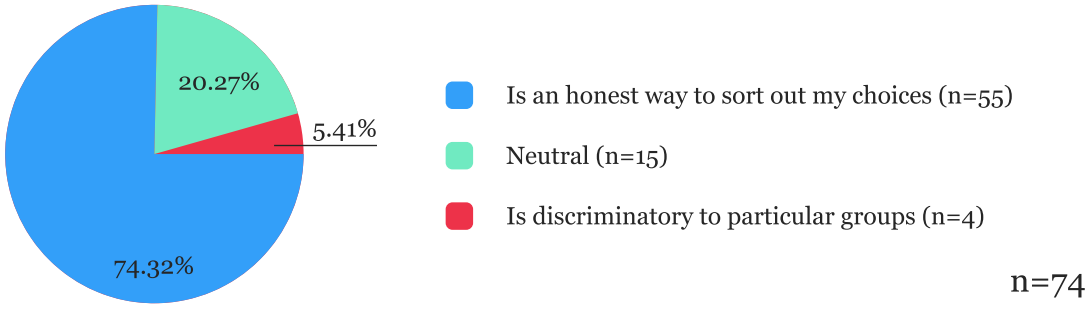
Participants who believe it encourages commoditization and lack of humanity only SA/A that it feels like a game/shopping experience. Participants who believe it encourages quick thinking and instant gratification are 11x more likely to SA/A than SD/D, that it feels like a game/shopping experience.

Participants who SA/A with Tinder feeling like a game/shopping experience are 12.5x more likely to believe preferences are honest versus discriminatory. Participants who believe preferences are discriminatory only Strongly Agree with it feeling like a game/shopping experience. Participants who believe preferences are honest are 16.67x more likely to SA/A with it feeling like a game versus SD/D.

4.2.6 The Use of Filtering and Preferences

Figure 7.0

Participants' beliefs regarding filtering and preferences (n= 74)



Using filters and preferences on dating apps has become a controversial topic, with some users believing it promotes discrimination; however, current data suggests the contrary. Overall, regardless of age, gender, or years of use, the majority of participants believed that preferences and filters were an honest way to sort out their choices. When asked, "I believe applying preferences or filters …" 74.32% chose the response "Is an honest way to sort out my choices.". Females were just above the average overall response at 79.07%, while males were just below at 70.37%, and non-binary (or third gender) were at 50.00%. Participants were 13.75x more likely to believe it was honest rather than discriminatory.

4.2.7 Anonymity of Online Dating

Anonymity within online dating has been a recurring issue since the beginning. Almost half (45.95%) of the participants agreed that the anonymity afforded by online dating was a problem, while only 10% disagreed. While all age groups believed anonymity was a problem, the 26-30-year-old group was the most likely to believe it was a problem at 6x as likely, whereas the 31-35-year-old

group was the least likely to believe it was a problem at 2.5x more likely.

Males were 3.25x more likely to believe anonymity was a problem, whereas females were 5x more likely. Non-binary (or third gender) participants were the most indecisive, with 75.00% saying maybe. Females were 1.54x more likely than males to find anonymity a problem with online dating. Participants who had been using Tinder on and off for multiple years were the most likely to say it was a problem.

The greatest concern expressed by participants was that other users would be lying about who they were, more specifically, how they looked (e.g., different weight or entirely different person), and their age. The second highest concern was safety.

4.2.8 Payment For Extra Features, Likes, or Priority Status (n=69)

A popular feature for online dating sites is to offer extra paid features. More than a third of participants said they refused to pay, and the majority of participants did not care about pay features (47.30%). The second highest belief was that having to pay suggested that money mattered more (39.19%) than finding a connection.

The 18-21-year-old group was the only group where more participants believed that it felt like money mattered more (54.17%) than those who did not care (33.33%). Males and females were opposites, with 55.55% of males feeling like money matters more and 29.63% saying they did not care, whereas females had 60.47% saying they did not care and 25.58% saying money mattered more. 75% of Non-binary (or third gender) felt like money mattered more, and 25.00%

said they did not care.

Free responses included feeling that paying was weird; desperate; embarrassing; pathetic; a waste of time and money; pointless as the free version seemed good enough; that it was gatekeeping against those who could not afford to pay and that paying made it feel more like a game. Only one participant thought positively about paying for features, saying that as long as it increased their likes, they did not see it as an issue.

4.3.0 USER PSYCHOLOGY

4.3.1 Online Dating With Tinder Is... (n=74)

Users were asked about their beliefs when it came to online dating. Participants were asked to select all that applied to the statement “Online Dating With Tinder is...” and then given a list of responses they could choose from. Regardless of age, gender, or amount of time they had been using Tinder, the majority of participants believed that online dating with Tinder was... “A Way To Pass The Time.”. Participants were 1.7x more likely to say online dating with Tinder was a way to pass the time than they were to say it was a good way to meet people.

Younger participants (18-25 yrs old) were 1.16x more likely to think Online Dating with Tinder was about passing the time, 1.52x more likely to think it was about hooking up, and 2.10x more likely to think it was hopeful than the older participants (26-35 yrs old).

Females were 3.2x more likely to think that online dating with Tinder was about passing the time rather than it being hopeful. They were also 1.45x more

likely to believe it was about passing the time rather than hooking up but were 1.72x more likely to believe it was about hooking up than males. Participants who say Tinder is “Just About Hook-Ups” were 4x; “A Waste of Time: were 6x; “A Way to Pass The Time” were 3.67x; “The Future of Dating” or “A Game” were 8x were more likely to O/A mindlessly swipe than R/N.

4.3.2 Success With Online Dating (n=57)

Success with online dating can mean different things to different people; for some, it is finding a long-term partner; for others, it is finding someone just for the night (See Table 6.0). When asked what success on Tinder looked like, the largest majority of responses were regarding finding a relationship partner (59.46%), followed by meeting new people (16.22%).

Table 6.0

What Users Believe Success Looks Like

What does success using Tinder look like to you, and have you had it?	All (n=74)	Female (n=43)	Male (n=27)	Non-Binary or Third Gender (n=4)
No Answer	15 (20.27%)	11 (25.58%)	3 (11.11%)	1 (25.00%)
Finding A Relationship	44 (59.46%)	23 (53.48%)	19 (70.37%)	2 (50.00%)
Meeting New People	12 (16.22%)	4 (9.30%)	6 (22.22%)	2 (50.00%)
Meeting People For Sex	4 (5.41%)	0 (0.00%)	3 (11.11%)	1 (25.00%)
Self Validation	1 (1.35%)	1 (2.33%)	0 (0.00%)	0 (0.00%)
Having Fun	2 (2.07%)	0 (0.00%)	2 (7.41%)	0 (0.00%)
Success Is Dependent on The User	6 (8.11%)	4 (9.30%)	1 (3.70%)	1 (25.00%)

Note: Participants' responses had the ability to fall into multiple categories.

When asked if they had found success with online dating, 55.10% of respondents said that, by their definition, they had been successful. While 4.08% said they had not been successful by conventional standards, they had found success in making friends.

Figure 8.0

Were Participants Successful

Participants were 1.35x more likely to say that they had had success with online dating than not. The 26 - 30-year-old group was the most likely to say they were successful, and the 30 - 35-year-old group was the only group to say they were less successful.

Males were 3.67x more likely to say they had success and 1.32x more likely to believe success with online dating was finding a partner than females. Males and Females were 1.2x more likely to believe success with online dating is finding a partner than non-binary (or third gender) participants. No female participants said that meeting people for sex or having fun were signs of success with online dating. Females were the only participants to say self-validation was a sign of success with online dating.

When looking at the longevity of use, participants who used Tinder for only one year (n=17) were equally as likely to have been successful as unsuccessful, participants who were on for two years (n=4) only said they had been unsuccessful, the majority of participants who were on for three or more years (n=7) said they had been successful. The rest said they had been successful

under non-conventional means (making friends), and participants who were on and off for years (n=46) were 1.55x more likely to have had success than not.

Success in online dating can help make the overall experience more positive or negative and can significantly impact how users feel about themselves and their interaction with the application.

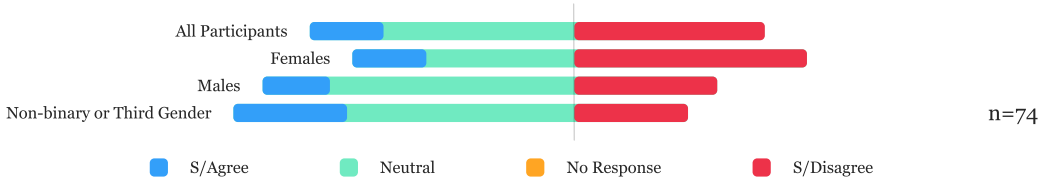
4.3.3 While using Tinder, I feel...* (Ordinal Scale Adjustment- See Section 3.9.0)

Participants were given the statement “While using Tinder, I feel..” and a table listing emotions or feelings followed by a Likert scale ranging from Strongly Disagree to Strongly Agree (to see all of the emotions and feelings in comparison to one another, see Appendix N Table N1.0 and M Figure M1.0).

Safe (n=74)

Figure 9.0

While Using Tinder, I Feel Safe



Safety is one of the main concerns of many users, as the app encourages people to self-disclose to and physically meet with strangers. More often than not, the safety of users is focused on the female and LBGTQIA+ population. Overall, the participants were split between SD/D and ND/A regarding feeling safe.

When broken down by gender, the majority of females SD/D with feeling safe. Males and non-binary (or third gender) had the largest responses, saying

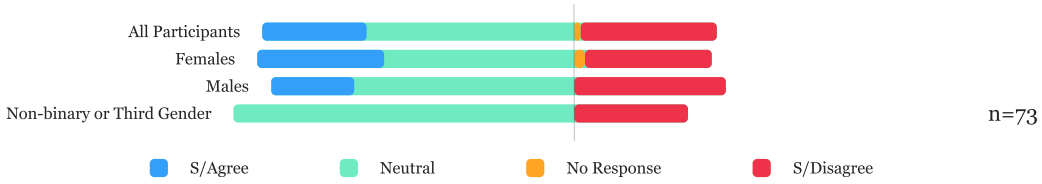
they neither agreed nor disagreed (NA/D) regarding feeling safe. The majority within each age group SD/D with feeling safe except for those ages 22-25 years old, who had the majority who felt neutrally. The data found a low-level positive correlation between feeling safe and feeling welcome (0.378; p=0.001) as well as feeling safe and feeling happy (0.340; p=0.003).

Participants who SD/D with feeling safe were 5.5x more likely to say Yes that anonymity is a problem with online dating. More specifically, they were twice as likely to believe that anonymity was a concern regarding other users lying about their identity. Participants who SA/A that it feels like a game/shopping experience were 2.9x more likely to SD/D with feeling safe.

Welcome (n=73)

Figure 10.0

While Using Tinder, I Feel Welcome



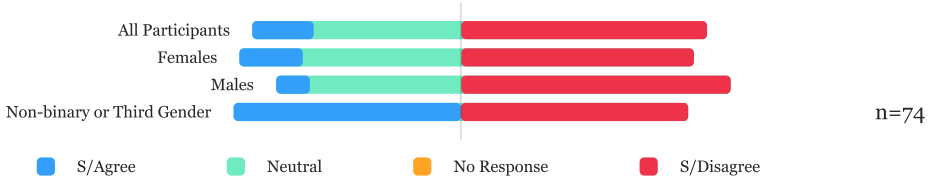
Overall, most participants, regardless of gender, age, or years on Tinder felt neutral about feeling welcome. Participants who SA/A that it feels like a game/shopping experience were 1.36x as likely to SD/D than SA/A with feeling welcome. Participants who said paying extra made them feel poor were 5x, and those who said money matters more were 2.75x more likely to SD/D than SA/A with feeling welcome. A moderate positive correlation of 0.665 with a P-value of 0.000 was found between users feeling welcome and accepted. The data also

found a low-level positive correlation between feeling happy and satisfied (0.374; p=0.001), open (0.403; p<0.000), happy (0.371; p=0.001), and opportunistic (0.338; p=0.004). There was also a low-level negative correlation between feeling welcome and mindlessly swiping (-0.342; p=0.003), suggesting that the more welcome users felt, the less likely they were to mindlessly swipe.

Satisfied (n=74)

Figure 11.0

While Using Tinder, I Feel Satisfied



Overall, participants SD/D (54.05%) with feeling satisfied while using Tinder. Accounting for age, gender, and years on Tinder, only two groups disagreed with the overall pattern; non-binary (or third gender) participants were split evenly between SD/D and SA/A (50%), while the 31-35-year-old group SA/A (42.86%). There was a moderate positive correlation found between users feeling satisfied and open (0.563, p<0.000) and happy (0.511, p<0.000). There were low-level positive correlations between users feeling satisfied and users feeling accepted (0.464, p<0.000) or opportunistic (0.491, p<0.000). In addition, there were low-level negative correlations between feeling satisfied and mindless swiping (-0.442, p<0.000) and users' agreement regarding whether or not Tinder felt like a game/ shopping experience (-0.305, p=0.008).

Participants who said they had experienced success with Tinder were 10x

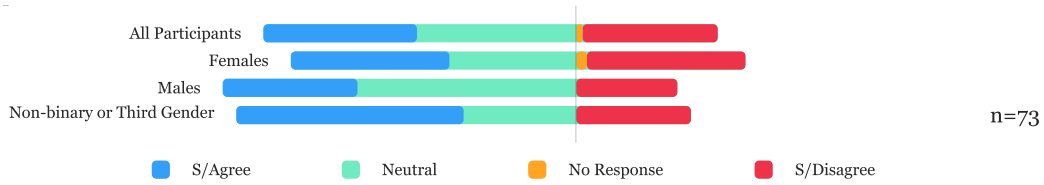
more likely to say they SD/D with being Satisfied vs. their counterparts who said they had not experienced success, who were 4.33x more likely to say they SD/D with being satisfied. Participants who SA/A with feeling satisfied were equally likely to N/R mindlessly swipe as they were O/A. However, participants who SD/D with feeling satisfied were 15.5x more likely to O/A mindlessly swipe than they were to N/R.

Participants who SD/D satisfied were 2.33x more likely to have felt online dating with Tinder was "Hopeful," 6.33x more likely to feel like it is about "Hook-Ups," 6.33x more likely to say it was a "Waste of Time," and 9.5x more likely to think it is "A Game." All participants who SD with being happy also SD with being satisfied.

Open (n=73)

Figure 12.0

While Using Tinder, I Feel Open



Overall, participants were nearly evenly split between SD/D, Neither Agree nor Disagree (NA/D), and SA/A with feeling open. When looking at gender, the majority of males (48.15%) NA/D, whereas females were evenly split between SD/D (34.88%) and SA/A (34.88%) and non-binary (or third gender) participants had a majority that SA/A (50%) with feeling open. Males were slightly more likely (1.33x) to SA/A than SD/D than women.

Interestingly, the two age extremes were more likely to SD/D than SA/A (18-21: 1.75x & 31-35z: 1.5x), and the middle-aged groups were more likely to SA/A than SD/D (22-25: 1.63x & 26-30: 1.5x). Based on how long participants had been using Tinder, the only group to SD/D more than SA/A were those who had been using Tinder on and off for multiple years.

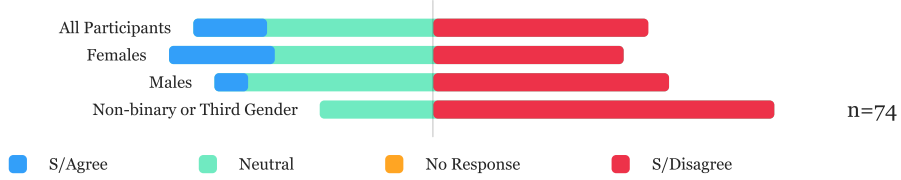
There were low-level positive correlations between users feeling open and users feeling happy (0.397, p=0.001), accepted (0.431, p<0.000), and opportunistic (0.378, p=0.001). In addition, there was a low-level negative correlation between feeling open and overloaded (-0.372, p=0.001).

Participants who SA/A to being open were 17x more likely to believe filters/ preferences were honest, not discriminatory. Participants who said anonymity was not a problem were 2x as likely to SA/A with feeling open than SD/D. Participants who were concerned about lying, afforded by the anonymity involved in online dating, were 1.25x more likely to SD/D with feeling open rather than SA/A. Participants who said Yes to being successful were 2.2x more likely to SA/A, while participants who said they were not successful were 1.5x more likely to SD/D.

Happy (n=74)

Figure 13.0

While Using Tinder, I Feel Happy



Overall, the majority (47.30%) of participants, regardless of age or gender, SD/D with feeling happy while using Tinder. Regardless of age, all participants were between 2-4x more likely to SD/D than SA/A about feeling happy (18-21:4; 22-25:3; 26-30:2; 31-35:3). Males were 3.89x more likely to say they SD/D happy than female participants.

There was a moderate positive correlation found between users feeling happy and accepted (0.552, $p< 0.000$) and a low-level positive correlation between feeling happy and feeling opportunistic (0.430, $p<0.000$). There were low-level negative correlations between feeling happy and overloaded (-0.348, $p=0.003$) as well as mindlessly swiping (-0.429, $p<0.000$).

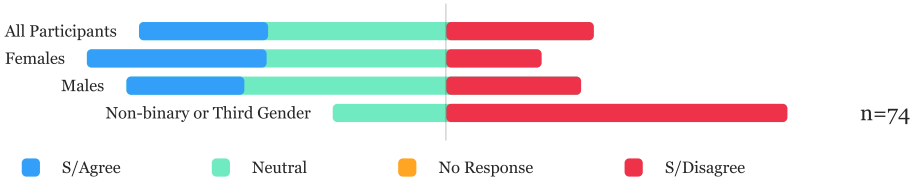
Participants who O/A mindlessly swipe were 9.33x more likely to SD/D than SA/A with being happy. Participants who SA/A that it feels like a game/ shopping experience were 3.2x more likely to SD/D than SA/A with being happy.

Participants who SA/A with feeling happy were 3x more likely to have said they were successful. However, participants who answered Yes to being successful were 1.67x more likely to SD/D to feeling happy than SA/A. Participants who SD/D to feeling happy were 1.2x more likely to respond they were not successful, and participants who said they were not successful were 6x more likely to SD/D rather than SA/A with being happy.

Accepted (n=74)

Figure 14.0

While Using Tinder, I Feel Accepted



Overall, participants were 1.14x more likely to have SD/D with feeling accepted than SA/A, while the largest majority NA/D (39.19%). Non-binary (or third gender) participants were the only group where no participants SA/A with feeling accepted, while 75% SD. Males were 3x more likely to SD/D than SA/A, with the majority of participants NA/D (44.44%). Males were 2.16x more likely to SD/D with feeling accepted than females. Females were the only gendered group that was evenly split between NA/D (39.53%) and SA/A (39.53%).

When looking at age differences in feeling accepted, 18-21 were the only group that was equally likely to SA/A as they were to SD/D; 22-25-year-olds were twice as likely to SA/A, 26-30-year-olds were 2.5x as likely to SD/D and the 31-35-year-olds were the highest with 3x as likely to SD/D.

The amount of time users had been on Tinder played a role in how accepted they felt, suggesting that the longer they were on Tinder, the less accepted they felt. Users who had been on Tinder for one year were 3.5x more likely to SA/A rather than SD/D. Users who had been on Tinder for two years were the only group where no participants SD/D. Users who had been on for three or more years (3x) and those who had been on and off for multiple years (1.59x) were both more likely to SD/D than SA/A.

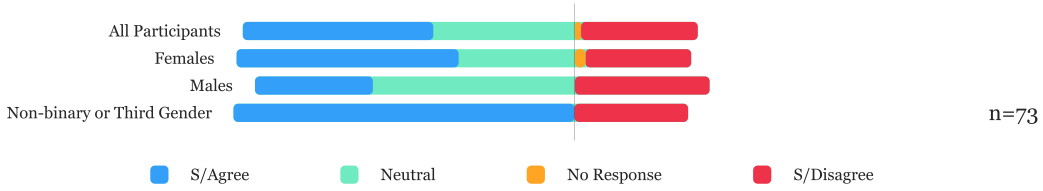
There was a low-level positive correlation between users feeling accepted and users feeling opportunistic (0.395, p=0.001). In addition, there were low-level negative correlations between feeling accepted and shameful (-0.342, p=0.003), rejected (-0.331, p=0.004), overloaded (-0.329, p=0.005), and engaging in mindless swiping (-0.385, p=0.001).

Participants who SA/A with feeling accepted were 2.5x more likely to have said they were successful, and those who said yes to being successful were 1.43x more likely to SA/A with feeling accepted. Participants who SD/D with feeling accepted were 1.40x more likely to have said they were successful. Participants who said they were unsuccessful were 1.25x more likely to SD/D than SA/A with being accepted.

Opportunistic (n=73)

Figure 15.0

While Using Tinder, I Feel Opportunistic



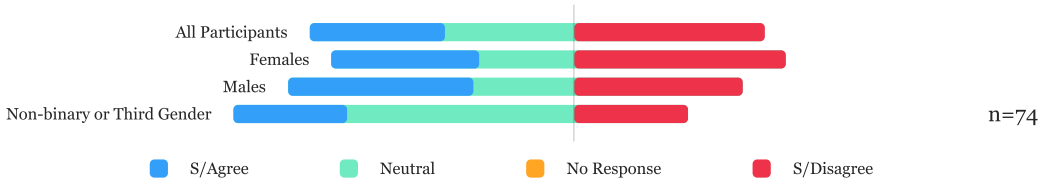
Overall, participants were 1.63x more likely to SA/A (41.89%) than SD/D (25.68%) with feeling opportunistic. All participants were more likely to SA/A than SD/D regardless of age. Male participants were 2.4x more likely to SD/D rather than SA/A than females and 3.43x more than non-binary (or third gender). The majority of female (48.84%) and non-binary (or third gender) (75.00%) participants SA/A.

Participants who mindlessly swipe “All of The Time” were twice as likely to SD/D than SA/A. Meanwhile, all other levels of mindless swiping were more likely to SA/A than SD/D. Participants who SA/A that Tinder feels like a game/ shopping experience are 1.5x more likely to SA/A rather than SD/D with feeling opportunistic.

Shameful (n=74)

Figure 16.0

While Using Tinder, I Feel Shameful



Overall, participants SD/D (41.89%) with feeling shameful while using Tinder. While the majority of all age groups SD/D with feeling shameful, there was a low-level negative correlation (-0.371 with a P-Value of 0.001) between users’ age and feeling shameful, implying that as users get older, the less shameful they felt while using Tinder. There were low-level positive correlations between users feeling shameful and users feeling rejected (0.349, p=0.002) and overloaded (0.426, p<0.000).

Female participants were twice as likely to SA/A with feeling shameful than their male counterparts. Participants who had been on Tinder for two years were twice as likely to SA/A with feeling shameful. Whereas participants who had been using Tinder for three or more years were evenly split, and both those who had been on for one year (2.67x) or on and off for years (1.36x) were more likely

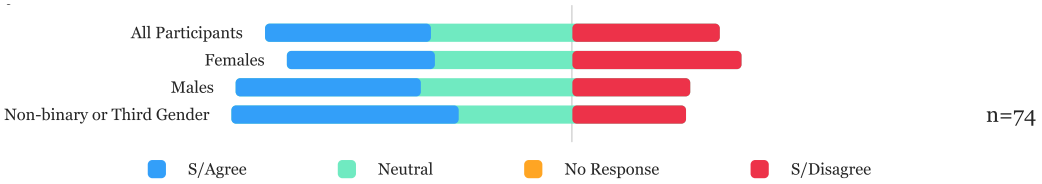
to SD/D rather than SA/A with feeling shameful.

Participants who SA/A that Tinder feels like a game/shopping experience were 1.42x more likely to SD/D than SA/A with feeling shameful. Participants who said the idea of paying for using the app makes them feel unworthy were 5x more likely to SA/A feeling shameful than SD/D, and those who said it made them feel poor only SA/A with feeling shameful.

Rejected (n=74)

Figure 17.0

While Using Tinder, I Feel Rejected



Overall, participants were only slightly more likely (1.13x) to SA/A vs. SD/D with feeling rejected, with the majority (36.49%) SA/A. Age had a small effect on whether or not the group SA/A or SD/D to feeling rejected. 18-21 year old's (1.43x), as well as the 31-35-year-olds (1.5x), were more likely to SD/D than SA/A, whereas the 22-25-year-olds (1.13x) and 26-30-year-old (3x) were more likely to SA/A than SD/D with feeling rejected. That said, participants in the 18-21 and 31-35-year-old groups were 2.36x more likely to have SD/D than SA/A to feeling rejected than the 22-25 and 26-30-year-old groups.

Female participants were 1.8x more likely to SD/D than SA/A with feeling rejected than males and 2.29x than non-binary (or third gender). Male (1.8x) and non-binary (or third gender) (2x) participants were both more likely to SA/A

than SD/D with feeling rejected. Non-binary (or third gender) were 1.27x more likely to SA/A with feeling rejected than males and 2.29x than females.

Participants who have only used Tinder for one year were 1.9x more likely to SD/D than SA/A with feeling rejected than participants who had been on Tinder for two, three or more, or on and off for multiple years combined. Participants who had SA/A with feeling rejected were 2.17x more likely to SA/A to feeling overloaded while using Tinder. A high positive correlation of 0.749 with a P-value of 0.000 was found between users feeling rejected and overlooked.

Participants who SA/A that Tinder feels like a game/shopping experience were 1.3x more likely to SA/A vs. SD/D with feeling rejected. Participants who felt like being asked to pay to use the application made them feel "poor" were 2.5x more likely to SA/A vs. SD/D with feeling rejected, and those who felt like it was saying that "Money Matters More" were 1.63x more likely to SA/A than SD/D with feeling rejected.

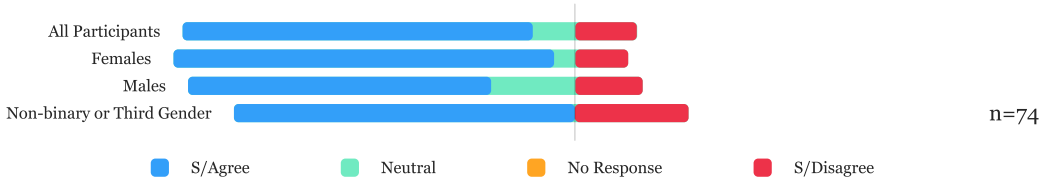
Participants who SA/A with feeling rejected were 20x more likely to O/A mindlessly swipe over N/R. Participants who O/A mindlessly swipe were 1.42x more likely to SA/A with feeling rejection than SD/D. Participants who N/R mindlessly swipe were 4x more likely to SD/D with feeling rejection than SA/A.

Participants who SA/A with feeling rejection are 1.44x more likely to say Tinder had a negative impact versus a positive one on their sense of self.

Picky (n=74)

Figure 18.0

While Using Tinder, I Feel Picky



Regardless of age, gender, or time spent on Tinder, participants unanimously SA/A with feeling Picky while using Tinder. The data showed a low-level negative correlation between users' age and feeling picky (-0.342 with a P-Value of 0.003), suggesting that the older users got, the less picky they felt. Participants who rarely (R) mindlessly swiped only said that they SA/A with being picky. Those who O/A/S mindlessly swiped were all more likely to SA/A than SD/D with feeling picky, with those who often mindlessly swiped having the highest with being 8.33x more likely.

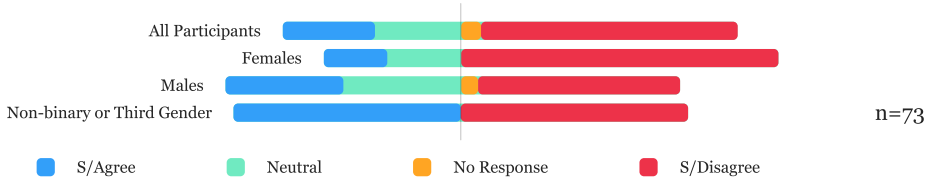
Participants who SD/D with feeling picky were 2.27x more likely to SD/D than SA/A with feeling mean while using Tinder. Participants who SD/D with feeling mean were 4.25x more likely to SA/A than SD/D with feeling picky. Participants who SA/A with feeling picky are 2x more likely to SA/A to feeling overloaded rather than SD/D.

Participants who SA/A that Tinder feels like a game/shopping experience were 6.63x more likely to SA/A than SD/D with feeling picky. Participants who had SA/A to feeling picky were 17.67x more likely to SA/A vs. SD/D with Tinder feeling like a game/shopping experience.

Mean (n=73)

Figure 19.0

While Using Tinder, I Feel Mean

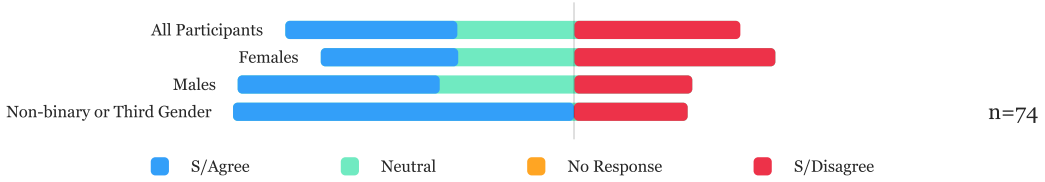


The majority of participants SD/D (59.46%) with feeling mean while using Tinder. The only group that did not SD/D over SA/A were the non-binary (or third gender) participants, who were evenly split between SA/A and SD/D. All other groups of participants, regardless of age, gender, or years on Tinder, had the largest majority of participants SD/D with feeling mean. Participants who SA/A that Tinder feels like a game/shopping experience are 12.67x more likely to SD/D than SA/A with feeling mean.

Overlooked (n=74)

Figure 20.0

While Using Tinder, I Feel Overlooked



Participants were slightly more likely (1.04x) to SA/A with feeling overlooked than SD/D. Looking at the different age groups, the two older groups, 26-30 and 31-35 year-olds, were significantly more likely to SA/A with feeling overlooked than SD/D (26: 2.25x & 31: 4x). Whereas the two younger groups,

22-25-year-olds were neither more nor less likely to SD/D or SA/A and the 18-21-year-old group was actually (1.13x) slightly more likely to SD/D with feeling overlooked than SA/A.

Males and non-binary (or third gender) participants were more likely to SA/A feel overlooked at 1.71x and 3x, respectively, than SD/D. Female participants, however, were 1.46x more likely to SD/D with feeling overlooked than SA/A. Males were 2.5x more likely to SA/A than SD/D with feeling overlooked than their female counterparts.

When looking at the effect of the years having used Tinder, those who had only been on for one year were twice as likely to SD/D with feeling overlooked, whereas those who had been on for three or more years were 2.5x more likely to SA/A with feeling overlooked. Participants who had said they were on for only two years or on and off for years were closely divided between SD/D and SA/A with feeling overlooked.

There were low-level positive correlations between users feeling overlooked and users' rate of mindless swiping (0.308, p=0.008). Participants who O/A mindlessly swiped while using Tinder were 1.57x more likely to SA/A than SD/D. Participants who SA that Tinder felt like a game/shopping experience were 1.73x more likely to SA/A than SD/D with feeling overlooked. Participants who somewhat A that Tinder feels like a game/shopping experience are 1.86x more likely to SD/D than SA/A with feeling overlooked.

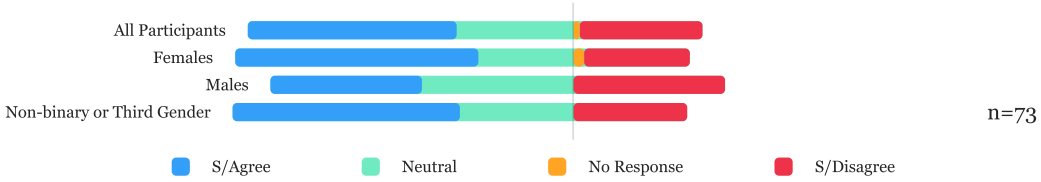
Participants who believed that having to pay for extra options made them feel "Poor," "Unworthy," or "Like Money Mattered More" were all more likely (1.67x; 2.5x; 2x) to SA/A than SD/D with feeling overlooked. Those who said

they did not care about the extra pay features were 1.3x more likely to SD/D than SA/A with feeling overlooked.

Overloaded (n=73)

Figure 21.0

While Using Tinder, I Feel Overloaded



Overall, the majority of participants (45.95%) SA/A with feeling overloaded while using Tinder and were 1.7x more likely to SA/A than SD/D. The majority of the different age groups were between 1.71x and 8x more likely to SA/A than SD/D, while the 22-25-year-old age group was the only group that was equally as likely to SA/A as they were to SD/D. Females and non-binary (or third gender) participants were more likely to SA/A than SD/D with feeling overloaded, while the male participants were equally as likely to feel neither.

When considering the amount of time participants had spent using Tinder, those who had been on for only one year were the only group that was more likely to SD/D than SA/A with feeling overloaded. In comparison, participants who had been on for three or more years or on and off for multiple years were more likely to SA/A over SD/D, while those who had only been on for two years were the only group to only SD/D.

Participants who SA/A to feeling overloaded were 1.3x more likely to say yes than no to whether Tinder's design influenced how they interacted with the

application. Participants who said yes to Tinder influencing their interaction with the application were 1.18x. In contrast, participants who said no were 2.5x more likely to say SA/A to feeling overloaded than SD/D.

There were low-level positive correlations between users feeling overloaded and users' rate of mindless swiping (0.377, p=0.001). Participants who SA/A to feeling overloaded were 12.5x more likely to O/A mindlessly swipe rather than R/N. Participants who SD/D to feeling overloaded were 3x more likely to O/A mindlessly swipe rather than R/N. Participants who had SA/A with feeling overloaded were 3.75x more likely to SA/A than SD/D, that it feels like a game/ shopping experience. Participants who SA/A that Tinder feels like a game/shopping experience were 1.67x more likely to SA/A than SD/D feeling overloaded.

Participants who SA/A that they felt overloaded were 1.30x more likely to SA/A to feeling rejected. Participants who SD/D that they felt overloaded were 1.5x more likely to SD/D to feeling rejected. Participants who had SA/A with feeling overloaded were 5.6x more likely to SA/A to feeling picky rather than SD/D.

Participants who strongly disagreed (SD) with feeling overloaded were 3x more likely to SD/D rather than SA/A to feeling overlooked. Participants who strongly agree (SA) with feeling overloaded were 4x more likely to SA/A to feeling overlooked rather than SD/D.

4.3.4 Users' Sense of Self (n=74)

Figure 22.0

Tinders' Impact on Users' Sense of Self

Understanding the impact on participants' sense of self while using Tinder was a vital part of understanding the application's effect on users' overall well-being. Participants were asked to explain how online dating has impacted their sense of self. The majority of participants agreed that it had both positive and negative effects on their sense of self. Overall, participants were 1.7x more likely to say it had both positive and negative impacts on their sense of self rather than solely positive or negative. When looking at gender, males had more negative impacts. In contrast, females had more positive impacts, and non-binary (or third gender) participants were the only group with zero exclusively positive impacts. When looking at how long participants had been on Tinder, the data suggests that the longer the amount of time, the more likely the participants were to say that it had had a negative impact on their sense of self.

Participants who O/A mindlessly swiped were 2.5x more likely to say it had a negative impact on their sense of self. None of the participants who said it had a negative impact on their sense of self SD/D that it felt like a game/shopping experience. Participants who SA/A that Tinder had an easy layout were 1.65x more likely to have had a negative impact on their sense of self.

SD/D or SA/A with feeling different emotions while using the application

increased or decreased the odds of participants feeling like they had had a positive or negative impact on their sense of self. SD/D with feeling welcome, satisfied, or happy increased the odds that the participants felt a negative impact on their sense of self. In contrast, SA/A with those emotions did the opposite, increasing the odds they felt it positively impacted their sense of self. When participants SD/D with other emotions, such as shameful, rejected, or overlooked, they were more likely to experience a positive impact on their sense of self, while SA/A with these emotions led to a negative impact on their sense of self. Some emotions, like feeling overloaded, only had a negative effect on their sense of self regardless of whether or not they SD/D or SA/A with the emotion.

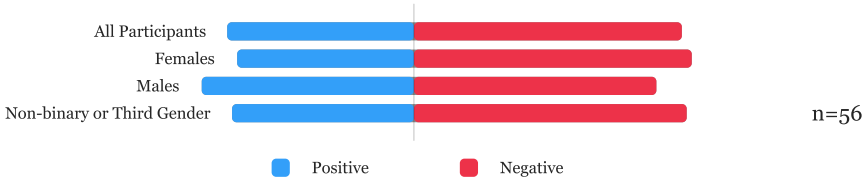
The effect was similarly shown when looking at whether or not participants had had negative or positive impacts on their sense of self and how that affected how they felt.

Participants who said they had had positive impacts on their sense of self were more likely to SD/D with feeling shameful, rejected, overlooked, and overloaded and were more likely to SA/A with feeling welcome. Participants who said it harmed their sense of self were more likely to SA/A with feeling shameful, rejected, overlooked, and overloaded, while SD/D with feeling welcome. Emotions like shameful and happy were unaffected by the impact on one's sense of self, with participants SD/D over SA/A with both emotions regardless of impact.

4.3.5 Users' Mental Health (n=57)

Figure 23.0

Tinders' Impact on Users' Mental Health



One of the main topics of this study was understanding how using the online dating application Tinder affected users' mental health. While elaborating on how using Tinder affected their sense of self, participants also explained its impact on their mental health. Of those who responded, more than 50% implied that it had a negative effect on their mental health. Some responses included: feeling lonely, empty, judgmental, exposed, devalued, insecure, unsure or doubtful, like shit/gross, desperate, ashamed, exhausted, or worthless. Of the nearly 40% who implied positive effects on their mental health, their statements included topics like feeling good about themselves in general, feeling more attractive, hopeful, motivated, and empowered.

In some cases, their experience with online dating were extremely adverse; with negative impacts on their mental health. Participants mentioned it led to sexual assault, fat shaming, extreme depression, that their self-worth was dependent on how many likes they could get. Many indicated that they felt it had reduced them to less than a person.

Breaking down the effect of mental health by age, the 18-21-year-old group was the only group with more participants who believed it had a positive effect on their mental health. Participants in the 22-25 and 26-30-year-old groups were

both approaching 60% of responses, saying it harmed their mental health, while the 31-35-year-olds were evenly split between the two. Looking at the impact on mental health through the lens of gender, males were only slightly more likely, whereas females and Non-binary (or third gender) were far more likely to have had negative impacts. Females were 1.38x more likely to say online dating harmed their mental health than males. Based on the amount of time users had used Tinder for, the impact on user mental health did not show any significance.

Participants who said Tinder had a negative impact on their mental health were twice as likely to SA/A vs. SD/D that Tinder had an easy layout. Participants who SA/A with it feeling like a game/shopping were 1.45x more likely to have had a negative impact on their mental health, while those who SD/D were twice as likely to say it had a positive impact on their mental health.

As was shown above, whether or not participants SD/D or SA/A with particular feelings affected the likelihood that they would have a negative or positive impact on their mental health, and contrarily.

Participants who SD/D with feelings such as happy, accepted, or opportunistic were more likely to have had a negative effect on their mental health. In contrast, SD/D with feeling shameful had a positive effect on their mental health. SA/A with feelings like safe, open, and shameful were more likely to cause them to have a negative impact on their mental health, while SA/A with feeling accepted or mean were more likely to have had a positive effect on their mental health.

Participants who had negative impacts on their mental health were more likely to SD/D with feeling things like accepted or mean and were more likely to

SA/A with feeling shameful. Participants who said it had a positive effect on their mental health were more likely to SA/A with feeling accepted.

4.3.6 Users' View of Themselves and Relationships (n=10)

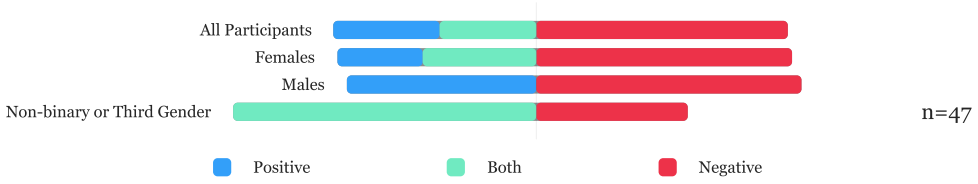
In a short response about how online dating had impacted users' sense of self, some participants acknowledged that the positive and negative effects of the application had not only impacted their sense of self, mental health, and self-esteem but also changed their view on relationships and/or themselves. Female participants were the most likely to have had their views of relationships changed. Females and those ages 22-25 were the most likely to have changed their views of themselves due to online dating.

Participants who SD/D with feeling satisfied or mean were more likely to say they had had their view of themselves changed. Participants who SD/D to feeling mean or SA/A to feeling open were more likely to say they had their views on relationships change due to online dating.

4.3.7 Users' Self-Esteem (n=47)

Figure 24.0

Impact of Tinder on Users' Self-Esteem



There was an overall impression made by participants that online dating with Tinder had negatively impacted their self-esteem (53.32%). Participants

were 1.71x more likely to have had a negative impact on their self-esteem. Regardless of gender or age, the participants said it had harmed their self-esteem; the only group to have a higher percentage response as a positive impact on their self-esteem were users who had only used Tinder for one year.

Participants who SA/A that Tinder had an easy layout were 1.58x more likely to have had a negative impact on their self-esteem. Looking at it from the other side, participants who said it had positively impacted their self-esteem were 9.5x more likely, while participants who said it had a negative impact on their self-esteem were 30x more likely to have said SA/A that Tinder had an easy layout.

One of the many attributes of online dating is its ability to allow users to mindlessly swipe. The data in this study shows that the more often participants mindlessly swipe, the more likely they are to have had a negative experience. Participants who never mindlessly swipe indicated that they only had positive impacts on their self-esteem, whereas those who did it "All of The Time" were 5x more likely to have had a negative impact on their self-esteem.

Another attribute of the online dating world, particularly Tinder, is the sense that users are playing a game or involved in a shopping experience. As previously mentioned, the majority of participants agreed that Tinder does feel like a game/shopping experience. The participants who SA/A with it feeling like a game/shopping are 1.78x more likely to say it had a negative impact on their self-esteem, whereas participants who SD were twice as likely to say it had a positive impact on their self-esteem.

Users' emotions while using the application can influence how the

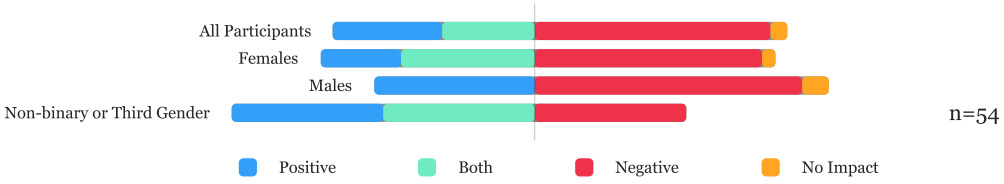
application and the interactions they have on it affect them. Participants who SD/D with feeling satisfied and accepted were more likely to have had a negative response. In contrast, those who SA/A with feeling satisfied were equally likely to have had a negative as a positive impact on their self-esteem, and those who SA/A with feeling accepted were more likely to have had a positive impact on their sense of self.

Participants who had positive impacts on their self-esteem were more likely to SD/D with feeling shameful but were more likely to SA/A with feeling welcome and accepted. Those who said they had negative impacts on their self-esteem were more likely to SD/D with feeling welcome and accepted and more likely to SA/A with feeling shameful.

4.3.8 Overall Impact On User Psychology (n=54)

Figure 25.0

Tinders' Overall Impact On User Psychology



The majority of participants (51.85%) experienced a negative overall impact on themselves while using Tinder. Female participants were nearly twice as likely as their male counterparts to have had negative overall experiences, while non-binary (or third-gender) participants were evenly split. Participants ages 18-25 were 2.04x more likely to have had a negative overall impact compared to those ages 26-35, with those ages 22-25 being 2.6x more likely than

those 18-22. The overall impact on users was negative regardless of how long they had been using Tinder. However, users who had been on Tinder for more than one year or on and off for multiple years were twice as likely to have had negative overall impacts.

Whether users were successful in using Tinder did affect the application's overall impact on them. Those who were unsuccessful were 1.35x more likely to have had a negative overall impact. However, having had success made it less likely that the user would have a negative overall impact. Those with positive overall impacts were 1.35x more likely to have had success than those with negative overall impacts.

The more participants mindlessly swiped, the more likely they were to have had negative overall impacts due to using Tinder. The more participants thought Tinder felt like a game/ shopping experience, the more likely they were to have negative overall impacts.

Participants who SD/D with feeling safe and accepted were more likely to have had negative overall impacts, whereas those who SA/A with these feelings increased the likelihood that they would have positive overall impacts. The emotional implications of interacting with Tinder and having a negative overall impact increased the likelihood that participants would SD/D with feeling safe, welcome, open, accepted, and mean and SA/A to feeling shameful and overloaded. Those with positive overall impacts were more likely to SD/D with feeling safe, open, and mean, while SA/A with feeling welcome, accepted, and overloaded.

CHAPTER 5.0 CONCLUSION/ DISCUSSION

5.0.0 INTRODUCTION

This research offers both support and discourse regarding the use of the online dating application Tinder and its impact and influence on its users. This study observed two main topics: User Interface and User Experience, and User Psychology.

The first topic examined how the UI/UX of Tinder afforded, impacted, and influenced its users. The focus was to understand whether or not these affordances, impacts, and influences were positive or negative for the users. The data showed that many of Tinder's UI/UX design elements did, indeed, give users affordances, impacted and influenced how users used the application, viewed the level of importance of particular information, viewed the overall experience of online dating, as well as how safe they felt while using the application.

The second topic examined how Tinder's design impacts and influences users' mental health. More specifically, it looked at understanding how users perceived success within the application and how that, in combination with other design elements, impacted and influenced their sense of self, overall mental health, view of relationships and themselves in said relationship, self-esteem, and personal overall impact. The data showed that the majority of the impacts it had on users were negative; however, some positive aspects were perceived.

5.1.0 User Interface and User Experience

Understanding the affordances, impacts, and influences the UI/UX design of Tinder had on its users is an essential step in finding areas for improvement

in the design of online dating. The data in this study substantiates the claims that the different UI/UX elements can offer its users many affordances as well as impact and influence them in both positive and negative ways.

5.1.1 Research Question 1

Is the current UI/UX for Tinder easy, usable, and fitting for user needs and desires?

The data confirmed that the majority of users find Tinder's layout easy, usable, and suitable for their needs and desires. However, some users elaborated by saying that they wished for better features regarding the messaging section, safety, the addition of more filters/preferences, and a reduction in mindless swiping and gameplay-like design.

5.1.2 Research Questions 2 - 5

2 - Does the UI/UX of Tinder influence how users interact with the application?

3 - How does the hierarchical design of Tinder influence its users' beliefs and behaviors regarding dating?

4 - How does the designed swiping motion affect the way in which users interact with Tinder?

5 - Do users find that the UI/UX of Tinder makes them feel like they are participating in a game/shopping experience?

The results of this study show that Tinder's design influences how users interact with the application's fellow users on both a conscious and subconscious level. On a conscious level, almost half of the participants believed Tinder's

design influenced how they interacted with the application.

When asked more specifically about how they believed Tinder's design had influenced them, the top beliefs were that it encouraged commoditization and a lack of humanity, instant gratification, and quick thinking. This was further supported when participants showed that Tinder's profile design/ layout was trying to push information at them in a particular order of importance.

The majority of participants agreed with Tinder that the most important aspect of a profile was its pictures. However, participants did not agree with the order of importance of information following the profile pictures, contradicting the belief that Tinder's profile impacts what users found to be the most important personally versus what they believed they were being pushed to believe.

On a subconscious level, the data suggests that the majority, if not all, of the participants are influenced by Tinder's design. In particular, the simplicity of interaction and design layout encourages users to swipe mindlessly and see other users as commodities in a game/shopping experience.

5.1.3 Research Question 6

How do users feel about the filtering and preferences options while using Tinder?

The results of this study show that the majority of users do not find filtering or preferences to be discriminatory. In fact, the majority of users wish they had access to more options when it came to using preferences and filters.

5.1.4 Research Question 7

How do users feel about the anonymity afforded to others while using Tinder?

The majority of participants found the anonymity afforded to users in online dating to be concerning. More often than not, their concerns were regarding credibility, potential catfishing, and significant safety concerns.

5.1.5 Research Question 8

What are users' opinions on having to pay for extra features, likes, or priority status while using Tinder?

The majority of users found that having to pay for extra features, such as likes or priority status, when using Tinder was demeaning, with some users specifically stating it made them feel embarrassed or made others look desperate and pathetic.

5.2.0 User Psychology

The research in this study also examined the impact of using Tinder on users' mental health. The study wanted to understand what users believed success looked like and whether or not they felt they had succeeded. It also explored how the use of this application impacted and influenced their sense of self, overall mental health, view of relationships and themselves, self-esteem, and the overall impact it had on them. The results suggest that the majority of participants were not successful and that the impacts and influences were predominantly negative.

5.2.1 Research Questions 1 & 2

1 - What do users believe is the purpose of using Tinder?

2 - Have users had success with online dating while using Tinder? And if so, what does that success look like?

The data suggests that many users believe that Tinder is, at its core, an application to meet new people. The majority of users believed it to be used in a more romantic or intimate context. It also suggested that the purpose of using Tinder varied with the mindset of those who used it, and that mindset is what set the stage for whether one saw success with using the application.

5.2.2 Research Questions 3 - 8

3 - How do users feel while using Tinder?

4 - How has using Tinder impacted users' sense of self?

5 - How has using Tinder impacted users' mental health?

6 - How has using Tinder impacted users' views of themselves or relationships?

7 - How has using Tinder impacted users' self-esteem?

8 - How has using Tinder impacted users overall?

By and large, the data suggests that the dating app Tinder's current design negatively impacts the psychology of its users. The User Interface and User Experience create an atmosphere that negatively impacts users' sense of self, mental health, view of themselves and/or relationships, and self-esteem.

5.3.0 DESIGN IMPLICATIONS

Design is influenced in a multitude of ways, from personal preferences to social constructs, religious beliefs, and the age or gender of its desired users. Research, such as what is collected within this study, aids in understanding how current designs and design elements impact and affect their users. Data like this is imperative to assist in the altering and improving of its design. The data and results within this study show how the design of dating apps impacts their users and influences how they interact with the design as well as with themselves and others. Using this data will allow designers, both within the dating app realm and outside, to understand how design can impact and influence their users. Using the information within this study, designers can be motivated to redesign current apps or begin designing new and improved apps, particularly social or dating apps, to reduce the negative impacts and lead with positive and encouraging incentives.

5.3.1 Implication 1 - Information Organization

One of the most important takeaways from this research is the impact of the hierarchy of design on users' understanding of importance. Looking back at the section in Chapter 4 entitled Hierarchical Design (section 4.2.3), one can see the implications of the current profile card layout on users' understanding and interpretation of what is important. Here, one can see that users' personal beliefs do not align with Tinder's provided and prescribed ideal information organization. This information, in combination with the information provided in other questions throughout this survey, suggests that redesigning the platform's

User Interface and User Experience to better meet the desires and beliefs of importance in regards to the informational structure and areas of importance could increase users' overall mental health and satisfaction with the application itself.

5.3.2 Implication 2 - Swiping

This study shows that the swiping design popularized by Tinder has clearly impacted how users interact with the application and with one another. Based on the research gathered in this study and previously conducted research, designing a new way for participants to interact with each other regarding how to match would positively impact the users. Designing a new interaction that allows users to reassociate online dating as interaction with real people and reduce the gameplay and shopping experience would positively impact the mental health of all users. Finding a new design that prevents users from getting stuck in reoccurring loops that lead to mindless swiping could also aid in increasing the overall satisfaction and positive experience for users.

5.3.3 Implication 3 - Viewing Preferences

The data implies that allowing users to choose what they want to see when interacting with the application could greatly assist in determining how well the users feel about using the app. Designing multiple profile card options would allow users to have their profiles display the information in an order that best fits their needs and preferences. For example, allowing users who believe user interests are more important than age or geographical location to display

their interests higher and more prominent on the profile page. Participants who alternately believed interests and a user's bio were more important could opt for those profile cards that mask the profile picture until they read through the interests and bio written by the users so as not to be first influenced by appearances. This design personalization could potentially decrease the gamification and shopping-like experience many users have suggested currently exists. By allowing users to see what was important to them first may also work to reinforce that while online dating is through a screen, the people they are looking at are real and not just a commodity.

5.3.4 Implication 4 - Additional Safety Elements

When looking at the research gathered within this study as well as across many other studies (See Sections 2.11.0, 2.14.0, 2.21.0, 4.2.1, and 4.3.3: Safe), safety is a critical concern. This study only reiterates that many users do not feel safe while using Tinder, and some even specifically said improvements to Tinder's design should include additional robust safety features. The study and previous research suggest some areas for improvement could be a monitoring system within the application that checks profiles to ensure the users are not catfishing (See Sections 2.13.0 and 4.2.7) but also include a criminal background check to eliminate those convicted of stalking, aggravated assault, rape, and more. Adding additional design features to aid users in recognizing "safe" users may increase participation in online dating; such as the option to report an individual for negative interactions or clearing profile information after someone unmatches them.

5.3.5 Implication 5 - Reframing and Redesigning The Filtering Processes

The data in this study shows that the majority of participants believe the filtering process and preferences to be an honest way to sort through their options. This implies that adding more preferences would be an additional positive to the application and the process altogether. Additional filtering questions and designing better filtering tools to help users make their selections can help alleviate feelings of discrimination or preferences and make them feel better about their options. Such a change in design could significantly improve the online dating world to help users feel like they are in control of who they see and interact with, as well as impact the community as a whole to view dating as about inclusion rather than exclusion.

5.3.6 Implication 6 - Artificial Intelligence

The research gathered within this study and in outside research reveals a need for technology to learn from human behaviors. Machine Learning and Artificial Intelligence systems should be integrated into the dating app's User Interface and User Experience. Systems like this could help regulate looping effects from swiping, adjust hierarchy designs of display pages, notice patterns of habit and check in with users about how they are feeling, monitor conversations, and track the safety of users by running continuous background checks and alerting them to dangerous behaviors.

5.4.0 FUTURE RESEARCH

5.4.1 Future Research - Revisions

The main challenge that occurred during this research was in data collection. This study was completed and run in the spring of 2022, during the COVID-19 pandemic. Many people were using online dating and believed it to be their only option in terms of communicating with others. Many users were frustrated and had been loudly vocalizing their unhappiness and desire to stop using dating applications. This could have potentially impacted the data; however, upon review of other studies and previous research, it is believed that the data is largely unaffected by this and accurately represents the greater population, as discussed within the results section (See 4.1.0) of this study. Another challenge also related to COVID-19 was attracting participants. Much of the communication was done using social media, and without a large following, relying on snowball sampling was the best way to gain traction for the study. However, this resulted in lower numbers than were desired.

Revisions - Participants

If this study was redone, a larger, more representative sample of participants would be needed. A larger population that was more representative of the current population of singletons and online dating participants would significantly impact and increase the accuracy and ability to generalize the results to the greater population. Understanding how users describe their sexuality, political views, years of education, income level, mental health classifications, and disabilities would greatly aid in a more extensive, well-rounded understanding

of the dating landscape and how particular groups are more or less affected by dating apps and their design. Such information could greatly assist dating applications in creating more customizable settings that allow people to adjust their needs and make the overall experience more positive for them.

Revisions - Longer Period of Study

If this study were redone, a longitudinal study would aid in understanding the effects of dating apps over time and how the design implications affect users, as apps are often updating and making design changes. Having users interact with a survey of the same set of questions over a few years while apps change, society changes its views, and people go through life would help to better understand the actual impact dating apps have on users.

Revisions - Alter Questions and Responses

If this study were redone, fixing the wording for some questions and responses would greatly help with statistical analysis and limit potential errors. Firstly, the Likert scales used throughout the survey would be reduced from five points to three with Agree, Neutral, and Disagree as response options with a secondary section where they are able to explain or elaborate if they wish on their choice.

Secondly, when asking participants' opinions regarding preferences or filters, there would be an expansion regarding particular preferences and filters such as height, age, weight, political affiliation, education levels, etc., and how the participants felt about each specific filter. There would be an option for

participants to elaborate on their thoughts on using these preferences as well.

In addition to the questions regarding anonymity, adding questions that discussed catfishing, specifically regarding physical appearance and disabilities and the dangers of anonymity regarding personal safety and people with criminal backgrounds or interactions regarding hate and/or discrimination.

Expanded questions could be asked regarding whether or not Tinder's design influenced how participants interacted with the application. These questions could be more in-depth and ask about specific elements, such as the colors used for specific action buttons and the placement of buttons or information.

Finally, asking additional questions regarding what types of improvements they would make to the application's design. How other applications may be designed better in comparison, and how they could see those implementations impacting how they currently use the Tinder application.

Revisions - What Was Learned

While completing this study, a significant amount of insight and knowledge was gained regarding the best practices for running a successful study. The main takeaways were: first, a large amount of data and participants would have contributed more accurate and generalizable data. Second, pairing down the complexity of questions and making them more pointed and direct would aid in gaining more specific data to better understand users' beliefs. Lastly, collecting data during historic times can be troublesome.

5.4.2 Future Research - Needs Further Exploration

Based on the research and data collected within this study, the following topics and areas should be researched in more depth in the future.

Further Exploration - Comparative Analysis

Additional research in the future should consist of comparative analysis with other dating apps and other ways in which people date, such as “Sliding into DMs” online, “Doc-Dating,” and more. Understanding how the other dating apps and other ways in which people date affect the users and finding the ways each has positive impacts can help to aid in the design of a dating app that does little to no harm to their users and helps to create a safe and welcoming environment for all.

Further Exploration - UI/UX User Testing

Further exploration using User Testing revolving around different User Interfaces and User Experience designs would greatly benefit research in this area. Setting up different profile cards where the information was constructed in different hierarchical patterns allowing users to discern which elements were most important based on the card design and which cards they felt expressed their beliefs about viewing profiles the most. Also exploring, different matching behaviors outside of the standard swiping method should be explored to determine which may allow users to feel more personable and less like they are participating in a game/shopping experience. Through this testing, designers may

also come to understand how to help prevent the looping and mindless swiping behaviors.

Further Exploration - More Defined Users

Further exploration into more niche and specific users would exponentially impact the design of dating apps. There are two schools of thought when designing; in particular, these are most commonly discussed when designing with those with disabilities in mind. There is Accessible and Universal Design. Accessible Design is when something is designed with the intention of making it accessible to those with disabilities, altering a pre-existing product, service, etc., for those who are disabled (Pruett, 2017). Universal Design is when something is designed for everyone regardless of abilities (Pruett, 2017). Within these two schools, it has been found that, more often than not, Universal designing (when designing for those with disabilities to be included as well as all other users) designers often solve problems that may resolve the errors non-disabled users have as well, in essence, making the design more inclusive and more usable for all.

Along this line of thinking, working with and studying smaller, more specific groups within the online dating realm, such as users with mental or physical disabilities, could also be used as an opportunity to become more inclusive and expand the audience to embrace those with specific religious desires, and those within polyamorous relationships or kink dynamics. Additionally, focusing on specific cultures, ethnicities, or religions and how their beliefs, ideals, goals, and political climates affect the use of dating apps

and the impact dating apps have on their user groups could aid in developing dating applications that meet their needs and desires. It may also increase use as well as decrease potential ostracism or deterrents currently occurring to the groups as members of the broader online dating realm. This globalization to be inclusive for these purposes would significantly impact the design of dating apps. Understanding what users within these more niche groups need, find helpful, or see as a deterrent could only help and elevate designers to create a more welcoming and/or unique space for all types of users.

Further Exploration - Filters and Preferences

Further exploration into whether users' beliefs regarding the use of filters and preferences come from a sense of political correctness or more personal beliefs. Social media and other platforms have broached this topic repeatedly, that the question requires further in-depth research. This research could begin to help tease apart the differences between preferences and discrimination. Interviews and surveys could be used to help understand at what point the use of filters or preferences are appropriate and acceptable versus discriminatory or hurtful. This additional research could greatly add to an overall more positive and accepting online dating experience.

Further Exploration - Female Beliefs Regarding Tinders Purpose

In this study, female participants stated they believed Tinder's purpose was mainly to find hook-ups. Unlike purpose, success with online dating was about finding a romantic partner. Further research exploring this paradox of

beliefs could yield interesting results. Is it that female users see the behavior awarded or discussed regarding online dating as being about hooking up and therefore believe that, at its core, that is its purpose, but unadmittedly continue to use it for an off-label purpose hoping for a different result? What drives them to have these two separate beliefs? How would changing the application's design aid in developing an application where what they want the application to do and what it is intended to do match? Further research to uncover the answers to these questions and similar ideas could help designers create an application with fewer errors or counterintuitive belief structures, which could make for an overall more successful, satisfied, and happy user base.

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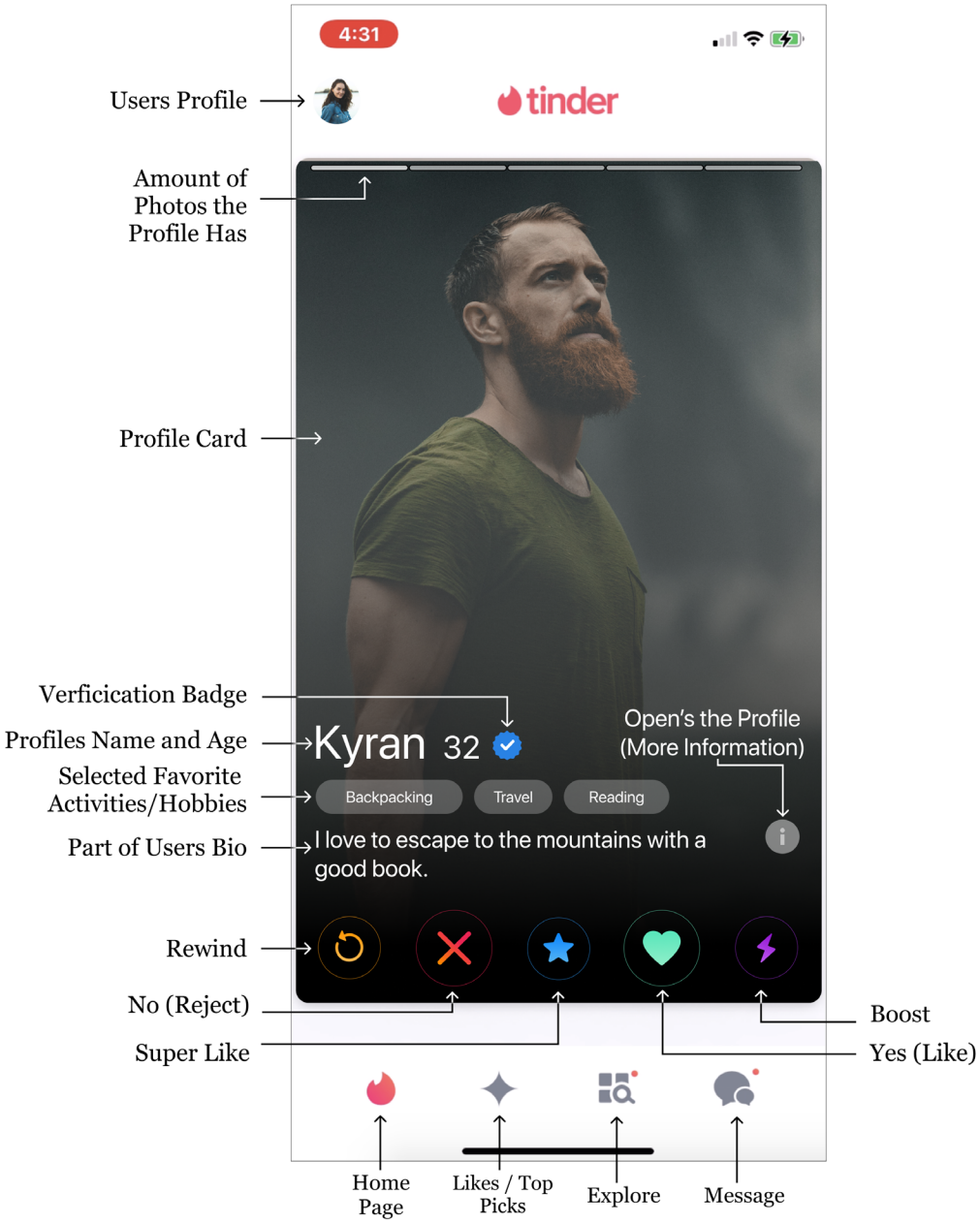
APPENDIX A

TINDER HOME PAGE DIAGRAM

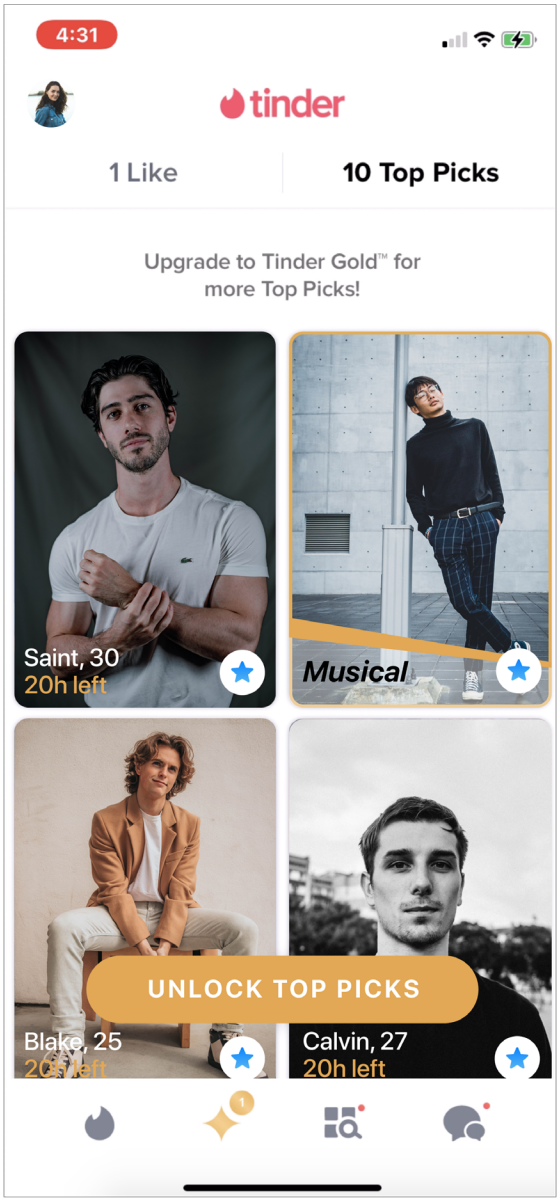
HOME PAGE


4:31
tinder
Users Profile
Amount of Photos the Profile Has
Profile Card
Verficication Badge
Profiles Name and Age
Kyran 32
Open's the Profile (More Information)
Selected Favorite Activities/Hobbies
Backpacking
Travel
Reading
Part of Users Bio
I love to escape to the mountains with a good book.
Rewind
No (Reject)
Super Like
Boost
Yes (Like)
Home Page
Likes / Top Picks
Explore
Message

APPENDIX B

TINDER TOP PICKS DIAGRAM

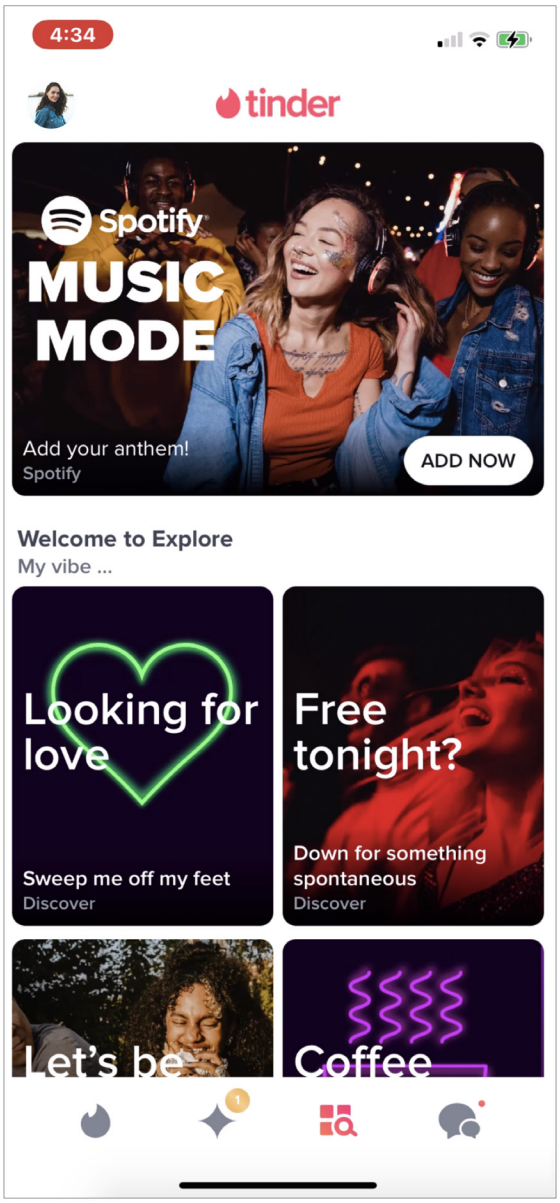
LIKES / TOP PICKS



APPENDIX C

TINDER EXPLORE PAGE DIAGRAM

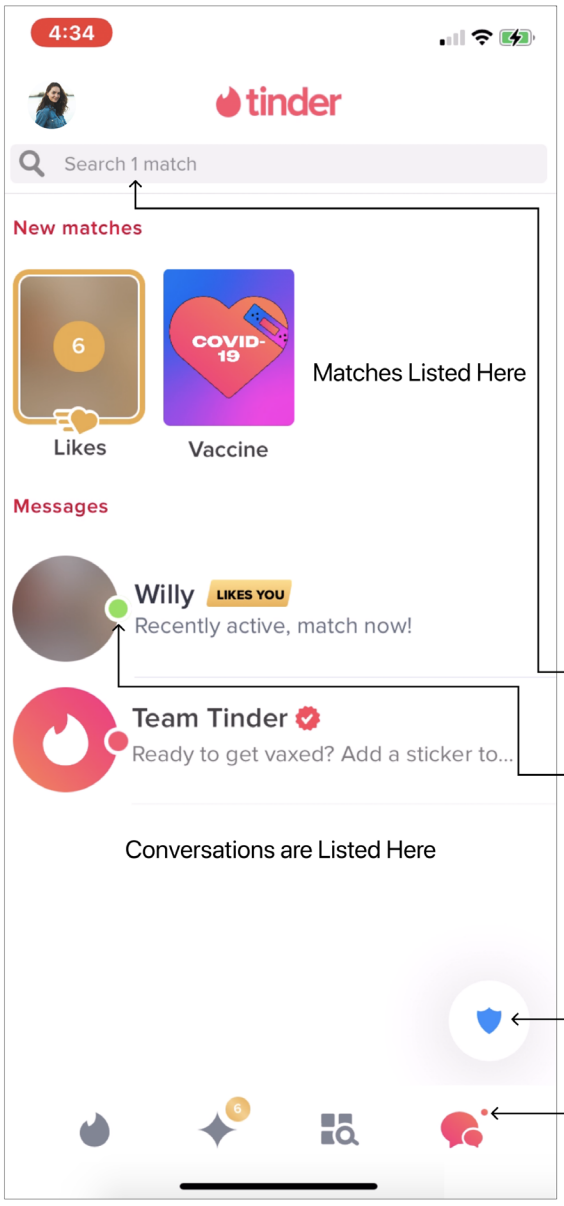
EXPLORE PAGE



APPENDIX D

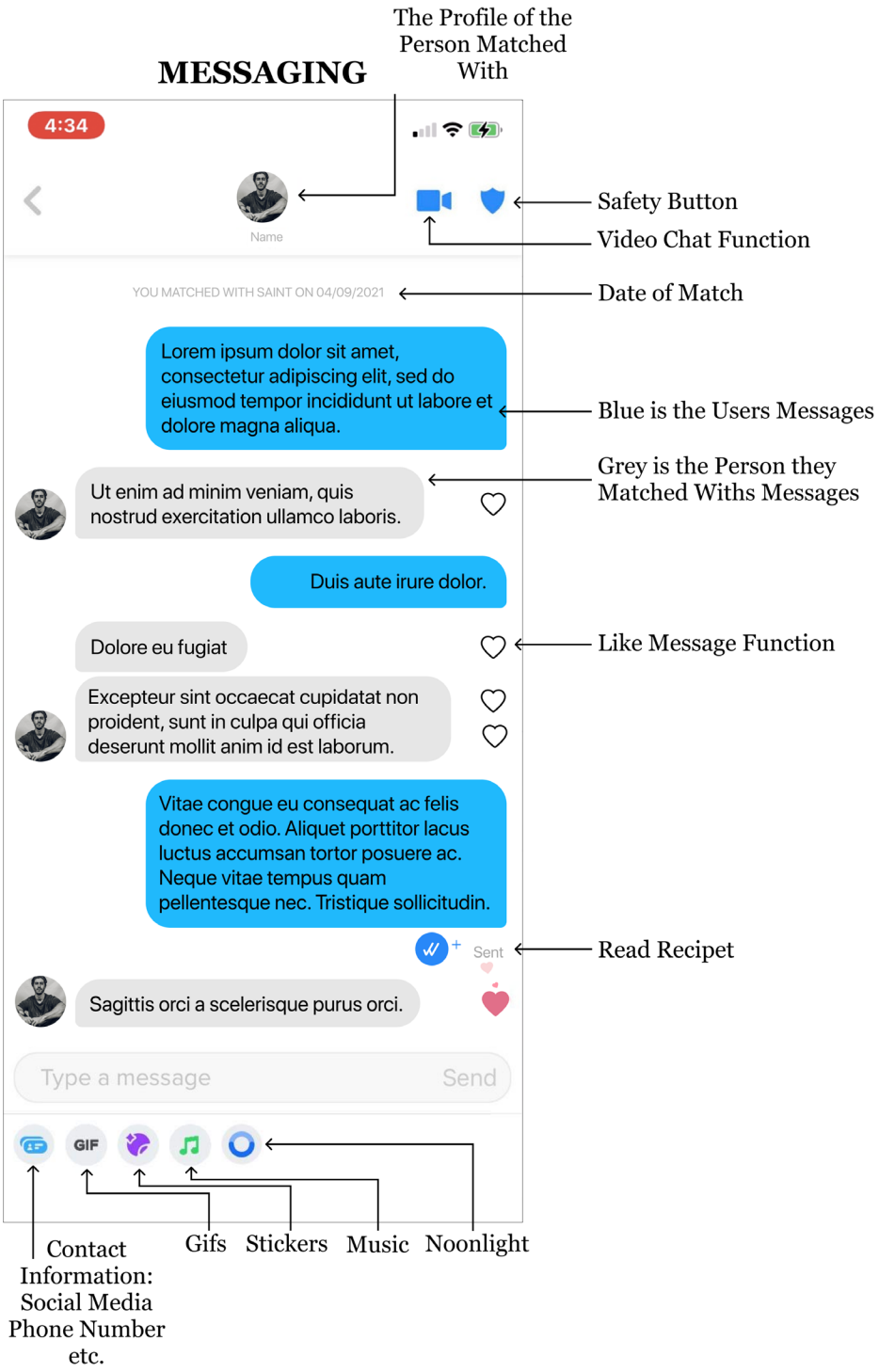
TINDER MESSAGING CENTERS DIAGRAM

MESSAGING CENTER



APPENDIX E

TINDER MESSAGING PAGE DIAGRAM


MESSAGING
The Profile of the Person Matched With
4:34
Name
Safety Button
Video Chat Function
YOU MATCHED WITH SAINT ON 04/09/2021
Date of Match
Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.
Blue is the Users Messages
Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris.
Grey is the Person they Matched Withs Messages
Duis aute irure dolor.
Dolore eu fugiat
Like Message Function
Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.
Vitae congue eu consequat ac felis donec et odio. Aliquet porttitor lacus luctus accumsan tortor posuere ac. Neque vitae tempus quam pellentesque nec. Tristique sollicitudin.
Sent
Read Recipet
Sagittis orci a scelerisque purus orci.
Type a message
Send
GIF
Contact Information: Social Media Phone Number etc.
Gifs
Stickers
Music
Noonlight

APPENDIX F

TABLE F1.0 AGE DEMOGRAPHICS

I am...	All (n=74)	Female (n=43)	Male (n=27)	Non-Binary or Third Gender (n=4)
18 - 21	24 (32.43%)	12 (27.91%)	9 (33.33%)	3 (75.00%)
21 - 25	27 (36.49%)	20 (46.51%)	7 (25.93%)	0 (0.00%)
26 - 30	16 (21.62%)	7 (16.28%)	8 (29.63%)	1 (25.00%)
31 - 35	7 (9.46%)	4 (9.30%)	3 (11.11%)	0 (0.00%)
Arithmetic Mean	24.19	24.09	24.67	22.00
Median	24	24	25	21
Mode	21	24	21	21
Max	35	35	33	26
Min	19	19	19	20

APPENDIX G

TABLE G1.0 ETHNICITY DEMOGRAPHICS

Ethnicity	All (n=74)	Female (n=43)	Male (n=27)	Non-Binary or Third Gender (n=4)
American Indian or Alaska Native	-	-	-	-
Asian	9 (12.16%)	3 (6.98%)	5 (18.52%)	1 (25%)
Black or African American	3 (4.05%)	2 (4.65%)	1 (3.70%)	-
Native Hawaiian or Pacific Islander	-	-	-	-
White	54 (72.97%)	32 (74.42%)	19 (70.37%)	3 (75%)
Hispanic or Latino or Spanish Origin	6 (8.11%)	4 (9.30%)	2 (7.41%)	-
Prefer Not To Say	2 (2.70%)	2 (4.65%)	-	-

APPENDIX H

TABLE H1.0 OCCUPATION DEMOGRAPHICS

Occupation	All (n=74)	Female (n=43)	Male (n=27)	Non-Binary or Third Gender (n=4)
Empty	5 (6.76%)	4 (9.30%)	-	1(25.0%)
Student	32 (43.24%)	17 (39.53%)	13 (48.15%)	2(50.00%)
Teacher	4 (5.41%)	3 (6.98%)	1 (3.70%)	-
Engineer	4 (5.41%)	1 (2.33%)	2 (7.41%)	1(25.0%)
Medical Field	1 (1.35%)	1 (2.33%)	-	-
Army	1 (1.35%)	1 (2.33%)	-	-
Business/ Desk Job	10 (13.51%)	6 (13.95%)	4 (14.81%)	-
Mental Health	3 (4.05%)	3 (6.98%)	-	-
Design	2 (2.70%)	-	2 (7.41%)	-
Animal Care	1 (1.35%)	1 (2.33%)	-	-
Finance	1 (1.35%)	-	1 (3.70%)	-
Research	2 (2.70%)	1 (2.33%)	1 (3.70%)	-
Sports	1 (1.35%)	-	1 (3.70%)	-
Food Services	7 (9.46%)	5 (11.63%)	2 (7.41%)	-

APPENDIX I

TABLE I1.0 TIME USING TINDER X GENDER

Time Using Tinder	All (n=74)	Female (n=43)	Male (n=27)	Non-Binary or Third Gender (n=4)
No Answer	0	0	0	0
1 Year	17 (22.97%)	10 (23.26%)	6 (22.22%)	1 (25.00%)
2 Years	4 (5.41%)	2 (4.65%)	2 (7.41%)	0 (0.00%)
3+ Years	7 (9.46%)	4 (9.30%)	3 (11.11%)	0 (0.00%)
On and Off for Multiple Years	46 (62.16%)	27 (62.79%)	16 (59.26%)	3 (75.00%)

APPENDIX J

TABLE J1.0 TIME USING TINDER X AGE

Time Using Tinder	All (n=74)	18 - 21 (n=24)	22 - 25 (n=27)	26 - 30 (n=16)	31 - 35 (n=7)
No Answer	0 (0.00%)	0 (0.00%)	0 (0.00%)	0 (0.00%)	0 (0.00%)
1 Year	17 (22.97%)	8 (33.33%)	4 (14.81%)	3 (18.75%)	2 (28.57%)
2 Years	4 (5.41%)	2 (8.33%)	2 (7.41%)	0 (0.00%)	0 (0.00%)
3+ Years	7 (9.46%)	3 (12.50%)	2 (7.41%)	1 (6.25%)	1 (14.29%)
On and Off for Multiple Years	46 (62.16%)	11 (45.83%)	19 (70.37%)	12 (75.00%)	4 (57.14%)

APPENDIX K

TABLE K1.0 WERE USERS SUCCESSFUL

What does success using Tinder look like to you, and have you had it?	All (n=74)	Female (n=43)	Male (n=27)	Non-Binary or Third Gender (n=4)
No Answer	25 (33.78%)	9 (20.93%)	13 (48.15%)	3 (75.00%)
Have Been Successful	27 (36.49%)	16 (37.21%)	11 (40.74%)	0 (0.00%)
Have Not Been Successful	20 (27.03%)	16 (37.21%)	3 (11.11%)	1 (25.00%)
Haven't been successful by conventional standards, but made friends	2 (2.07%)	2 (4.65%)	0 (0.00%)	0 (0.00%)

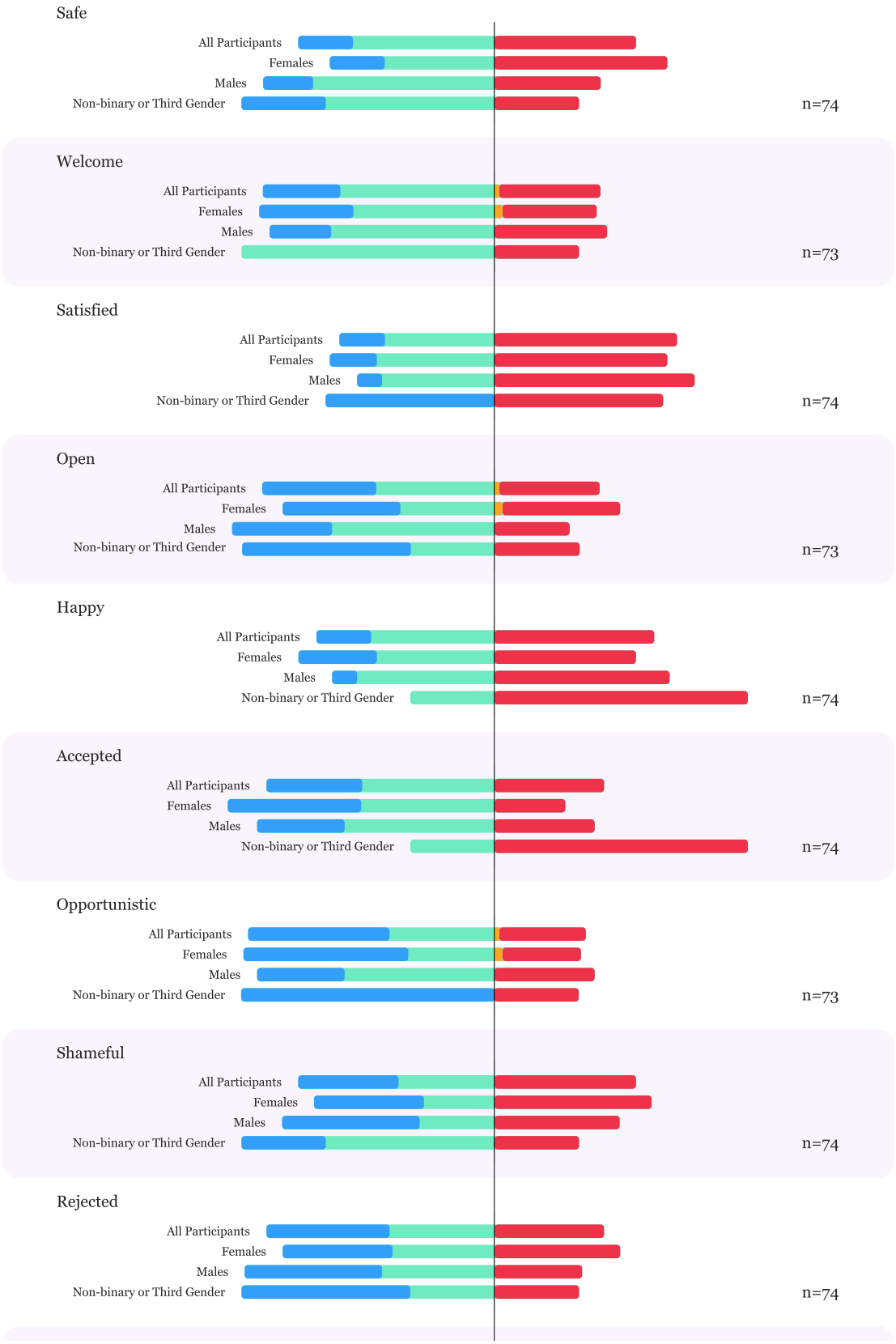
APPENDIX L

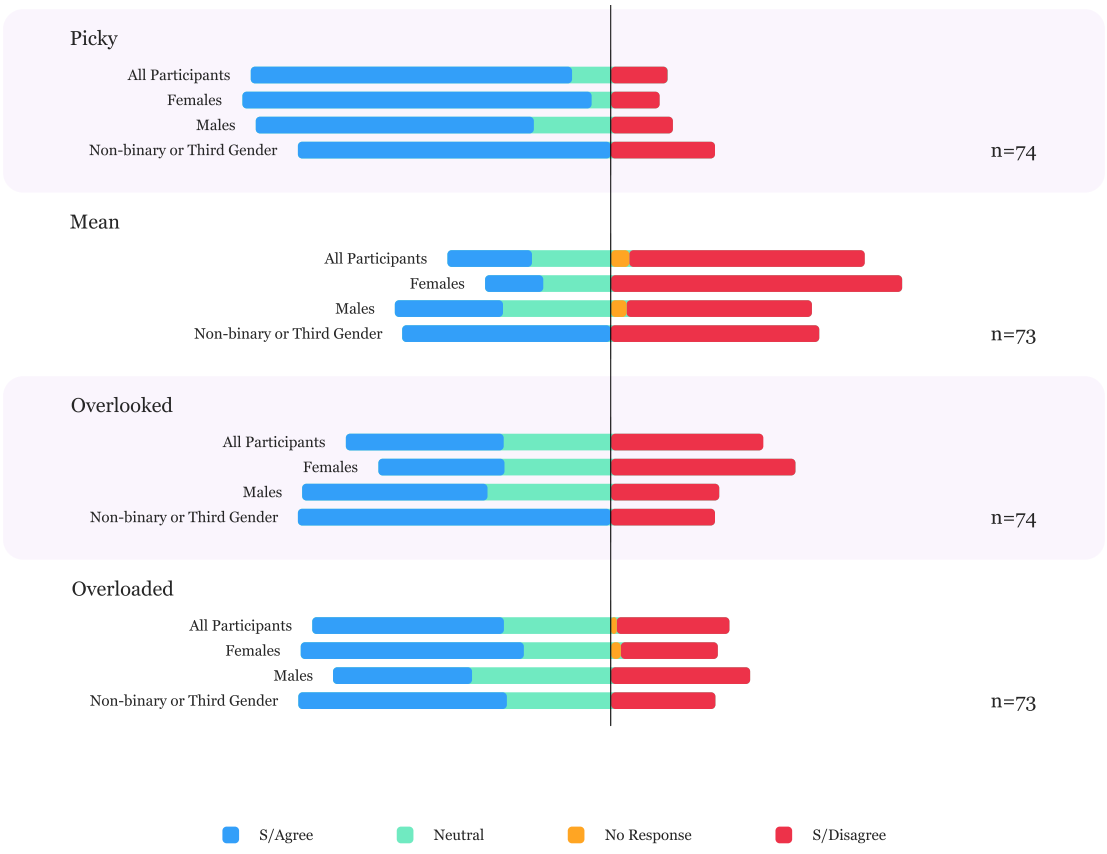
TABLE L1.0 WHILE USING TINDER, I FEEL

While using Tinder, I feel…	All (n=74)	Female (n=43)	Males (n=27)	Non-binary or Third Gender (n=4)
Safe	S/Disagree (41.89%) Neutral (41.89%) S/Agree (16.22%)	S/Disagree (51.16%) Neutral (32.56%) S/Agree (16.28%)	S/Disagree (29.63%) Neutral (55.56%) S/Agree (14.81%)	S/Disagree (25.00%) Neutral (50.00%) S/Agree (25.00%)
Welcome**	S/Disagree (29.73%) Neutral (45.95%) S/Agree (22.97%)	S/Disagree (27.91%) Neutral (41.86%) S/Agree (27.91%)	S/Disagree (33.33%) Neutral (48.15%) S/Agree (18.25%)	S/Disagree (25.00%) Neutral (75.00%) S/Agree (0.00%)
Satisfied	S/Disagree (54.05%) Neutral (32.43%) S/Agree (13.51%)	S/Disagree (51.16%) Neutral (34.88%) S/Agree (13.95%)	S/Disagree (59.26%) Neutral (33.33%) S/Agree (7.41%)	S/Disagree (50.00%) Neutral (0.00%) S/Agree (50.00%)
Open**	S/Disagree (29.73%) Neutral (35.14%) S/Agree (33.78%)	Disagree (34.88%) Neutral (27.91%) S/Agree (34.88%)	S/Disagree (22.22%) Neutral (48.15%) S/Agree (29.63%)	S/Disagree (25.00%) Neutral (25.00%) S/Agree (50.00%)
Happy	S/Disagree (47.30%) Neutral (36.49%) S/Agree (16.22%)	S/Disagree (41.86%) Neutral (34.88%) S/Agree (23.26%)	S/Disagree (51.85%) Neutral (40.74%) S/Agree (7.41%)	S/Disagree (75.00%) Neutral (25.00%) S/Agree (0.00%)
Accepted	S/Disagree (32.43%) Neutral (39.19%) S/Agree (28.38%)	S/Disagree (20.93%) Neutral (39.53%) S/Agree (39.53%)	S/Disagree (29.63%) Neutral (44.44%) S/Agree (25.93%)	S/Disagree (75.00%) Neutral (25.00%) S/Agree (0.00%)
Opportunistic**	S/Disagree (25.68%) Neutral (31.08%) S/Agree (41.89%)	S/Disagree (23.26%) Neutral (25.58%) S/Agree (48.84%)	S/Disagree (29.63%) Neutral (44.44%) S/Agree (25.93%)	S/Disagree (25.00%) Neutral (0.00%) S/Agree (75.00%)
Shameful	S/Disagree (41.89%) Neutral (28.38%) S/Agree (29.73%)	S/Disagree (46.51%) Neutral (20.93%) S/Agree (32.56%)	S/Disagree (37.04%) Neutral (37.04%) S/Agree (25.93%)	S/Disagree (25.00%) Neutral (50.00%) S/Agree (25.00%)
Rejected	S/Disagree (32.43%) Neutral (31.08%) S/Agree (36.49%)	S/Disagree (37.21%) Neutral (30.23%) S/Agree (32.56%)	S/Disagree (25.93%) Neutral (33.33%) S/Agree (40.74%)	S/Disagree (25.00%) Neutral (25.00%) S/Agree (50.00%)
Picky	S/Disagree (13.51%) Neutral (9.46%) S/Agree (77.03%)	S/Disagree (11.63%) Neutral (4.65%) S/Agree (83.72%)	S/Disagree (14.81%) Neutral (18.52%) S/Agree (66.67%)	S/Disagree (25.00%) Neutral (0.00%) S/Agree (75.00%)
Mean**	S/Disagree (56.46%) Neutral (18.92%) S/Agree (20.27%)	S/Disagree (69.77%) Neutral (16.28%) S/Agree (13.95%)	S/Disagree (44.44%) Neutral (25.93%) S/Agree (25.93%)	S/Disagree (50.00%) Neutral (0.00%) S/Agree (50.00%)
Overlooked	S/Disagree (36.49%) Neutral (25.68%) S/Agree (37.84%)	S/Disagree (44.19%) Neutral (25.58%) S/Agree (30.23%)	S/Disagree (25.93%) Neutral (29.63%) S/Agree (44.44%)	S/Disagree (25.00%) Neutral (0.00%) S/Agree (75.00%)
Overloaded**	S/Disagree (27.03%) Neutral (25.68%) S/Agree (45.95%)	S/Disagree (23.26%) Neutral (20.93%) S/Agree (53.49%)	S/Disagree (33.33%) Neutral (33.33%) Agree (33.33%)	S/Disagree (25.00%) Neutral (25.00%) S/Agree (50.00%)

APPENDIX M

FIGURE M1.0 WHILE USING TINDER, I FEEL COMPARISON CHART


Safe
All Participants
Females
Males
Non-binary or Third Gender
n=74
Welcome
All Participants
Females
Males
Non-binary or Third Gender
n=73
Satisfied
All Participants
Females
Males
Non-binary or Third Gender
n=74
Open
All Participants
Females
Males
Non-binary or Third Gender
n=73
Happy
All Participants
Females
Males
Non-binary or Third Gender
n=74
Accepted
All Participants
Females
Males
Non-binary or Third Gender
n=74
Opportunistic
All Participants
Females
Males
Non-binary or Third Gender
n=73
Shameful
All Participants
Females
Males
Non-binary or Third Gender
n=74
Rejected
All Participants
Females
Males
Non-binary or Third Gender
n=74


Picky
All Participants
Females
Males
Non-binary or Third Gender
n=74
Mean
All Participants
Females
Males
Non-binary or Third Gender
n=73
Overlooked
All Participants
Females
Males
Non-binary or Third Gender
n=74
Overloaded
All Participants
Females
Males
Non-binary or Third Gender
n=73
S/Agree
Neutral
No Response
S/Disagree

APPENDIX N

IRB APPROVAL LETTER

APPROVAL: EXPEDITED REVIEW

Liesel Sharabi
CLAS-SS: Human Communication, Hugh Downs School of
-
Liesel.Sharabi@asu.edu

Dear Liesel Sharabi:

On 3/21/2022 the ASU IRB reviewed the following protocol:

Type of Review:	Initial Study
Title:	Understanding Mental Health and Online Dating
Investigator:	Liesel Sharabi
IRB ID:	STUDY00015637
Category of review:	
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	• Interview Short Form Consent T2.pdf, Category: Consent Form; • IRB Social Behavioral 2022 (Understanding Mental Health and Online Dating) Trial 2, Category: IRB Protocol; • recruitment_methods_emailflyeradvertisement_17-03-2022 T2, Category: Recruitment Materials; • supporting documents 17-03-2022 (User Mental health and Online Dating Interview Demographic Survey) T2.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • supporting documents 17-03-2022 (User Mental health and Online Dating Survey) T2.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • supporting documents 4-03-2022 (Interview

	Protocol).pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • Survey Short Form Consent T2.pdf, Category: Consent Form;

The IRB approved the protocol from 3/21/2022 to 3/20/2023 inclusive. Three weeks before 3/20/2023 you are to submit a completed Continuing Review application and required attachments to request continuing approval or closure.

If continuing review approval is not granted before the expiration date of 3/20/2023 approval of this protocol expires on that date. When consent is appropriate, you must use final, watermarked versions available under the "Documents" tab in ERA-IRB.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

REMINDER - - Effective January 12, 2022, in-person interactions with human subjects require adherence to all current policies for ASU faculty, staff, students and visitors. Up-to-date information regarding ASU's COVID-19 Management Strategy can be found here. IRB approval is related to the research activity involving human subjects, all other protocols related to COVID-19 management including face coverings, health checks, facility access, etc. are governed by current ASU policy.

Sincerely,

IRB Administrator