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The Multimodal Rhetoric of Tinder and the Algorithms that Shape Our Choices

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The Multimodal Rhetoric of Tinder and the Algorithms that Shape Our Choices

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ABSTRACT OF THESIS

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As the popularity of online dating applications continues to grow in the digital world, so does the use of algorithms and multimodal rhetoric in shaping user experiences. Both multimodality and algorithms are related to online dating. Dating app profiles are multimodal in the way they incorporate different modes of communication such as images, texts, and videos. Users are presented with a swipe stack and can indicate their level of interest in other users by swiping left to dismiss the profile or right to express interest. Algorithms rely on the multimodality of these dating profiles to match the user's preferences and interests which can create a more personalized experience. The algorithm is controlling who might show up in the swipe stack, which means users are in control of the information they put on their profiles, but not in control of who they are seeing. The lack of transparency from dating apps like Tinder regarding the inner workings of their algorithm raises questions about the selection of profiles that users are presented with in their swipe stack. Despite many rumors surrounding the workings of algorithms, such as the one used by Tinder, little is known about their exact functionality.

This thesis conducts a comprehensive analysis of Tinder profiles to gain a better understanding on how the app's algorithm influences our online behavior. The most significant finding demonstrates that one of the algorithm's major functions is to mirror users' profiles back to them. That is, regardless of the preferences and multimodal content a user inputs into the app, the algorithm seems to show the user profiles that mirror their own. This thesis contributes to the critical understanding of understanding multimodal composition and the role algorithms play in shaping online dating experiences and the love lives of Tinder users.

The Multimodal Rhetoric of Tinder and the Algorithms that Shape Our Choices

Online dating apps have transformed the dating landscape, offering new opportunities for connection and changing the way people approach romantic relationships. With the growth of technology and digital communication, this has led to a normalization of online dating and a shift away from more traditional methods of dating, such as meeting through friends or at social events. Additionally, online dating apps like Tinder have facilitated more casual forms of dating, such as hookups and casual sex, which were previously less common or stigmatized in many cultures. This has further challenged traditional dating norms and expanded the options available to people seeking romantic connections.

Swiping right or left on Tinder has become a mindless activity or a game to some when it comes to online dating. There is an aspect of gamification on Tinder to see how many matches a user can get. Last spring, my friends and I got together to play a game of "Hot or Not" on Tinder. This game consisted of swiping right on profiles we either thought was attractive or swiping left if we were not interested in that user's profile. While this aspect of Tinder might be entertaining for some, it also raises questions about the deeper implications of this behavior. For example, what does it mean for people to reduce others to mere "hot or not" judgments, based solely on their appearance?

When my friends and I played the game of "Hot or Not" on Tinder, I quickly realized that the emphasis on the number of matches had overshadowed the actual content of the profiles. While my friends were fixated on accumulating as many matches as possible, I found myself questioning the quality of the profiles that we were swiping

through. It made me wonder if the sheer number of matches that people accumulate on dating apps is truly a measure of success. On my own time, as I swiped through profile after profile, I began to notice patterns in the way that people presented themselves, and I couldn't help but wonder if the algorithm was considering the information on my own profile to reflect users back to me. It made me question the authenticity of the profiles I was seeing and whether or not I could trust the information that was being presented to me. This also led me to question the ways in which algorithms might be influencing our behavior and shaping our online identities, and whether or not we are aware of the extent to which we are being manipulated by these systems. In a world where dating apps are becoming increasingly popular, it's important that we take a critical look at the role of algorithms in shaping our experiences and consider how we can maintain our agency and authenticity in an environment that often feels artificial and curated.

In that same spring semester of last year, I was enrolled in a course called “The Rhetoric of Zines” with my professor Dr. Johnson. In the class, I got the opportunity to make my own zine titled “The Ridiculous Rhetoric of Men on Tinder.” In the zine, I was looking at how men responded to different bios in my profile. Ultimately, I was using the assignment to make fun of profiles and the way that men respond to my profile by changing the multimodal elements about it. The assignment sparked the idea for this thesis paper to analyze the multimodality of Tinder profiles and look at the algorithmic influence it has on which profiles Tinder chooses to show to users while swiping. While technology and digital communication has changed the way dating works in the 21st century by making the dating scene primarily take place on dating apps, dating apps are

controlling who users see based on the information that they provide in their profile. This paper focuses on the multimodal rhetoric and algorithmic influence on Tinder.

Before beginning this project, I had reservations due to the stigma attached to online dating, especially Tinder. Despite the app's intentions of facilitating various relationships, it has gained notoriety for being associated with hookup culture. This association has led to a perception of Tinder as immoral and inappropriate, making some people hesitant to use the app. The app's use of swiping and superficial profiles has also been criticized for promoting shallow judgments based on appearance and reinforcing traditional gender roles. This has contributed to a perception of Tinder as a controversial app, particularly among more conservative or traditional communities. Many people have found success and happiness through online dating, but there is still a reluctance to fully embrace it as a legitimate way of finding love. The perception of online dating may change in the future as attitudes towards relationships and technology evolve, and people become more accepting of its potential. My hesitancy faded as I realized that the only way that stigma surrounding dating applications will be removed is if there is a discussion about it. The algorithms used in dating applications are shaped by the multimodality provided by my own profile and other users. This led me to question why I am being shown some of the users that I have seen or matched with. Dating applications users are in control of what is shown in a profile, but there is little control that we have on how the algorithm works. We are allowing algorithms to dictate the dating lives of everyone by determining which profiles are shown to users which is why this research is being explored in this study.

Online dating applications, multimodal rhetoric, and algorithms appear to be distinct entities, but they are intertwined and cooperate to create the user experience of online dating. Tinder's multimodality and algorithms are the reason for the diverse experiences that users encounter, potentially explaining why some people have strong positive or negative feelings about the app. With millions of users swiping left and right to seek out potential matches, Tinder has become one of the most widespread dating apps worldwide.

While the app's success can be attributed in part to its user-friendly interface and sleek design, its algorithmic features also play a crucial role in shaping user experiences. As users navigate the app's interface and engage in conversations with matches, they are exposed to a range of multimodal rhetorical strategies that are designed to influence their choices and behaviors. From the carefully curated profile pictures and biographical information to the real-time notifications and messaging prompts, Tinder's algorithmic features employ a variety of persuasive techniques that are aimed at optimizing user engagement and retention. Algorithms are not neutral or objective; they are designed and programmed to make value judgments and decisions about what data to use and how to weigh it. This means that algorithms can perpetuate biases and reinforce existing social norms and stereotypes, particularly around gender, race, and attractiveness.

The following chapters will explore the implications of multimodality and algorithms on Tinder. Chapter 1 is a literature review that examines the existing research on online dating, multimodal rhetoric, and algorithms. The chapter highlights the importance of using multimodal rhetorical strategies in dating apps, which often employ

images to showcase users' appearance and lifestyle, and text to provide additional information about their interests and personality. By integrating these different modes, dating apps can create a dynamic user experience that encourages engagement with the platform and other users. The chapter also identifies gaps in the research and proposes that while online dating, multimodal rhetoric, and algorithms are typically studied separately, they intersect in shaping how dating apps function and creating unique user experiences.

In Chapter 2, I discuss the methods used to conduct the study, which consisted of two stages: Part I and Part II. Part I involved collecting a large dataset by analyzing 100 profiles. In collecting this data, I created categories to place the profiles in which were called High, Medium, and Low-content. To do so, I opened the Tinder app and swiped through the first 10 profiles before refreshing the swipe stack and collecting the next 10. Based on the initial findings from this dataset, I proceeded to Part II where I collected additional profiles by changing my profile to both a Low- and High-content profile to observe the algorithm's behavior. However, for this stage, I reduced the sample size from 100 profiles to 30 to test whether the algorithm's behavior was consistent across a smaller dataset.

I discuss my findings in Chapter 3. I conclude from the data collection that Tinder mirrors users who have the same amount of content in their own profile. The findings of this study shed light on the profound impact of algorithms on our lives, often without our awareness. While algorithms that mirror our interests and behaviors, as demonstrated by this study's findings, can be advantageous by connecting us with like-minded individuals, it also poses risks for unintended consequences. As digital

technology continues to proliferate, the importance of transparency and accountability in algorithmic decision-making, particularly in online dating, cannot be overstated. Users must have a clear understanding of how algorithms are shaping their experiences. It is important to recognize that these technologies are here to stay and will continue to shape the way we connect and form relationships.

Online dating has become a highly rhetorical activity where users employ various features such as photos, bios, hobbies, musical tastes, locations, and age to express themselves and make judgments about potential partners. However, the most influential factor that shapes our interaction in these spaces is the algorithm. These algorithms not only determine our matches but also dictate which profiles we are presented with. Despite many rumors surrounding the workings of algorithms, such as the one used by Tinder, little is known about their exact functionality. This thesis conducts a comprehensive analysis of Tinder profiles to gain a better understanding on how the app's algorithm influences our online behavior. The most significant finding demonstrates that one of the algorithm's major functions is to mirror users' profiles back to them. That is, regardless of the preferences and multimodal content a user inputs into the app, the algorithm seems to show the user profiles that mirror their own.

Chapter One

Literature Review on Online Dating, Multimodality and Algorithms

Online dating, multimodality, and algorithms are all interconnected in the way people present themselves on dating apps and in digital spaces. Online dating refers to the practice of using dating apps and websites to find romantic partners. These platforms are often designed to be multimodal, incorporating text, images, and videos in user profiles to help people express themselves and attract potential partners. Multimodality refers to the use of multiple modes, or forms of communication, in a single message. In the context of online dating, multimodality can refer to the use of text, images, and videos in a user's profile to communicate different aspects of their identity and interests. Algorithms are sets of rules and calculations used by dating apps and websites to match people based on their preferences and behaviors. They rely heavily on user data, such as age, gender, location, and interests, to generate matches that are most likely to be compatible.

While algorithms are used to facilitate matching, multimodal profiles are used to attract potential partners. Users carefully craft their profiles to present an idealized version of themselves, using images and text to construct a particular image or persona. Algorithms may then use this information to generate matches that are based on more than just basic demographic information. Algorithms, online dating, and multimodality are all interconnected in the way people present themselves and connect with others on dating apps and websites. While algorithms facilitate matching, multimodal profiles are used to attract potential partners and express different aspects of one's identity and interests.

Online dating

The most prominent discussion in scholarship surrounding online dating is self-presentation. Academic scholars have explored how people construct their online dating profiles, what factors influence their rhetorical choices in creating a profile, and the impact of self-presentation in successful online dating. Most scholarship surrounding online dating focuses on how successful individuals are based on their self-presentation, which is important in terms of multimodal rhetoric because it shows how big a role it plays in online dating. However, there are many missing gaps in existing research, particularly how the algorithm matches potential partners and the lack of transparency in this process. This poses the question of whether multimodality even matters in online dating profiles if algorithms are actually in control.

Self-representation and multimodal rhetoric refer to the ways in which individuals use various modes of communication, such as text, images, and video, to construct and present their identities in online environments. In the context of online dating, individuals use various forms of self-presentation to craft a digital persona that is intended to attract potential partners. David and Cambre's (2016) article "Screened Intimacies: Tinder and the Swipe Logic" examines the ways in which the mobile dating app Tinder mediates and shapes romantic relationships through its "swipe" mechanism. They argue that the app's design encourages users to view potential partners as commodities, requiring little investment or emotional attachment. The article argues that Tinder operates on a logic of self-presentation and consumption. Through an analysis of the app's interface and user practices, David and Cambre demonstrate how Tinder's swiping mechanism facilitates a commodification of potential partners, where users quickly and easily reject or accept

individuals based on a limited set of criteria. This research offers a critical perspective on the impact of mobile dating apps like Tinder on contemporary romantic relationships, highlighting the ways in which these technologies shape our interactions and expectations with potential partners.

While there is a growing body of scholarship on self-presentation and online dating, there is still much to be explored in terms of the intersection of self-presentation and multimodal rhetoric. Specifically, there is a need for more research on the ways in which individuals use different modes of communication, such as images and videos, to present themselves in online dating contexts. Additionally, there is a need for more critical analysis of the ways in which online dating platforms shape and constrain self-presentation practices. The article "What Are You Doing on Tinder? Impression Management on a Matchmaking Mobile App" by Janelle Ward (2017) explores how individuals use "impression management" strategies on the dating app Tinder. I would compare "impression management" to the multimodal elements used in a user's profile. Ward argues that the mobile dating app Tinder, which is designed around the swiping of users' profile photos, presents a unique challenge for individuals seeking to manage their impression, as it places a strong emphasis on visual appearance. The study concludes that individuals on Tinder engage in a range of impression management strategies. For example, individuals may use carefully chosen profile photos and flattering angles to present themselves in the best possible light. The implications of her findings show that individuals engaging in impression management on dating apps like Tinder can help researchers to better understand the complex social dynamics of online dating. Ward suggests that online dating platforms may need to consider ways to reduce the emphasis

on visual appearance and to promote more authentic and meaningful interactions between users. However, I argue that while this is valuable insight on how much effort is put into profiles, it neglects the role of algorithms in determining whose profiles users are shown.

The other focus in academic scholarship surrounding online dating is hookup culture. However, I pose the question, how are users supposed to participate in hookup culture? Or more importantly, which users are being shown to other users to hook up with? The people that users meet off dating apps are shown to them based on algorithms which is further proof that algorithms are controlling dating lives of users who are choosing to use apps like Tinder. The article "The More We Tinder: Subjects, Selves and Society" by Johanna Degen and Andrea Kleeberg-Niepage (2022) explores the societal and cultural implications of Tinder. Degen and Kleeberg-Niepage focus on the ways in which users present themselves and interact with others on the platform. Like David and Cambre, Degen and Kleeberg-Niepage highlight the ways Tinder encourages a commodification of the self, in which users are reduced to a set of marketable attributes that can be bought and sold in the marketplace of online dating. The article also explores the ways in which Tinder and other dating apps are changing our social and cultural norms. They argue that these apps are contributing to a "hookup culture" in which casual sex is normalized and emotional intimacy is devalued. They also argue that Tinder is contributing to a culture of instant gratification and superficiality, in which relationships are valued primarily for their immediate pleasure and entertainment value. The authors suggest that we need to be more critical of the impact of these apps on our social norms and values, and to consider the ways in which we can use technology to support more meaningful and authentic relationships. As mentioned earlier, I question how users are

supposed to create more meaningful and authentic relationships. Users are creating relationships based on who they are shown in their algorithm, which shows that while there are multimodal elements that play into who users choose to interact with, algorithms are controlling who users will see and therefore they control who users hookup with as well.

Identity markers in online dateline dating are widely researched. Identity markers are the characteristics or attributes that individuals include in their dating profiles to describe themselves and to signal their identity to potential partners. Markers are normally demographic information such as age, race and gender. Identity markers are analyzed to better understand how users construct and present their identities online. The most prevalent scholarship would be race and the impact on dating behaviors and preferences. In the article “Positioning Multiraciality in Cyberspace: Treatment of Multiracial in an Online Dating Website” the authors use data from major online dating websites that allow users to self-identify their race and ethnicity. Users who are multiracial are being analyzed in comparison to monoracial users. They found that multiracial individuals are often positioned as either “exotic” or “different” in their profiles, which leads to fetishized and being sexually objectified by other users (Curington et al., 2015). While I might not be multiracial, my race has definitely created significant bias and scrutiny in my experience with online dating. For this study, I am excluding race from my analysis of rhetorical trends because on Tinder, the only filters available for users to use are based on age and distance. There are no explicit options for filtering or inputting race. However, considering race to analyze as a rhetorical trend in this study if repeated can be something worth researching in the future.

Multimodality

The current academic scholarship surrounding multimodal rhetoric explores the ways in which individuals use various modes of communication, such as text, images, video, and sound, to construct meaning and create persuasive messages in a variety of contexts. Multimodal rhetoric is particularly relevant in today's digital age, as individuals increasingly rely on digital platforms to communicate with others and to shape their identities on things such as social media platforms and dating apps. Social media platforms and dating apps differ in their main purpose and functionality. Social media platforms are designed to allow users to create and share content, connect with friends and family, and engage with others through various features such as comments and likes. Dating applications, on the other hand, are specifically designed to facilitate romantic connections and help users find potential partners. Dating apps typically require users to create a profile and provide information about themselves, such as their interests and preferences, and allow them to search for and connect with other users based on mutual attraction and compatibility. Dating apps like Tinder are the same in how they use multimodality in order for users to express themselves.

In the article, "What People Look at in Multimodal Online Dating Profiles: How Pictorial and Textual Cues Affect Impression Formation," van der Zanden et al. discuss the role of visual and textual cues in impression formation of online dating profiles. The study employs a multimodal analysis, integrating both verbal and visual cues in a comprehensive analysis of online dating profiles. Online dating profiles are multimodal texts that contain both visual and textual information. The study builds upon previous research by examining the relative importance of visual and textual cues in shaping

impression formation. The study finds that participants spent significantly more time looking at pictures than at text, suggesting that visual cues play a more important role in impression formation than textual cues. Online daters should pay close attention to the visual cues in their profiles and consider how they can be used to enhance their overall impression. The study also has implications for online dating platforms, as it highlights the importance of incorporating visual elements into profiles and suggests ways in which platforms can better facilitate the use of visual cues in impression formation. The scholarship on dating applications note that multimodality is an important element in creating profiles and creating impressions to other users.

Academic scholarship with dating applications is focused on multimodality. This ties back to self-presentation users have in their dating profiles as mentioned earlier. The article "A Multimodal Discourse Analysis on Grindr Profiles" by Yat Han Lai (2016) explores how gay men use multimodal elements in their Grindr profiles to construct their identities and present themselves to potential partners. Grindr differs from tinder as it is dating app for gay men. It functions similarly to Tinder, but the users are gay. Through a multimodal discourse analysis of Grindr profiles, Lai identifies the different modes of communication that users employ to convey information about themselves, including text, images, and emojis. Lai's article provides an insightful analysis of the ways in which gay men use multimodal elements in their Grindr profiles to construct their identities and present themselves to potential partners. The use of multimodal discourse analysis allows for a nuanced exploration of the complex ways in which language and imagery are used to convey meaning, and the author's discussion of the broader social and cultural influences on Grindr profiles adds an important dimension to the analysis.

The role of multimodality in digital communication is important in terms of rethinking composition practices, especially in terms of online dating profiles.

Multimodality plays a large role in how users perceive other users for finding a potential partner. While the aspect of multimodal rhetoric is important, the research lacks how multimodality plays into how algorithms work. Online dating scholarship is more focused on things such as communication between users, self-presentation through multimodality, and the element of hookup culture in dating. I argue that there is a gap in research where online dating and multimodality play into how algorithms work on dating apps.

Algorithms

An algorithm is a set of instructions or rules followed by a computer or other machine to perform a specific task. It is a step-by-step procedure for solving a problem or achieving a goal, typically expressed in a programming language that can be executed by a computer. Algorithms are used in a wide range of applications, from computer programs and software to scientific research, engineering, and finance. Academic scholarship on algorithms is vast, varied, and growing as algorithms play a significant role in various fields such as computer science, mathematics, engineering, and social media. In recent years, there has been a growing interest in the social, ethical, and political implications of algorithms, as they are increasingly used to make decisions that affect people's lives. In the article "What an Algorithm Is," Robin K. Hill (2016) seeks to clarify the concept of algorithm and provide a comprehensive understanding of its nature and function. Algorithms are more than just mathematical formulas or computer programs. They have become increasingly important in our digital world, shaping our lives in various ways. Hill proposes a broader definition of algorithm as a "set of rules or

instructions that specifies a sequence of operations, leading to the production of a desired output or result" (p. 37). The author emphasizes that algorithms are not just mathematical formulas or computer programs, but can also be found in various domains, such as social, economic, and political systems. Furthermore, algorithms can be embedded in human practices and institutions, shaping the way we think, act, and interact with one another. For these reasons, the transparency for how algorithms work when using a dating app like Tinder is important because it means that algorithms are controlling or creating a bubble in the dating pool for users.

Algorithms are controlling society, but who is creating these algorithms? The article "Do Algorithms Really Control Society?" by Kalev Leetaru, (2018) published in Forbes, discusses the widespread concerns that algorithms are increasingly dominating and controlling society. Leetaru acknowledges the impact that algorithms have had on our daily lives, such as personalized advertising, search engine results, and social media feeds. This includes considering the potential biases and impacts of algorithms on different groups and ensuring transparency and accountability in their use. However, he argues that algorithms alone do not control society and that the real power lies in the hands of the individuals and institutions that design and use them. Human decision-making and actions can override the predictions and recommendations of algorithms. Algorithms often rely on human input and training data, which can introduce biases and inaccuracies. This makes algorithms not inherently good or bad, but rather a tool that can be used for both positive and negative purposes.

Exploring more on how algorithms are controlling and creating filters and bubbles in everyday life, Algorithms of Oppression written by Safiya Umoja Noble discusses how

search engines such as Google perpetuate and reinforce racial and gender biases, leading to discriminatory and unjust outcomes. This relates back to Leetaru's point in his article—that human decision-making is contributing to algorithmic bias. The book is a significant contribution to the growing body of literature on the impact of algorithms on society, particularly about issues of social justice. Search engines are not neutral but rather reflect and amplify the biases that exist in society. She points out that when people conduct searches, they assume that they are being provided with objective and unbiased results, but in reality, the algorithms used by search engines are influenced by factors such as advertising, politics, and corporate interests. Moreover, Noble suggests that the ways in which search engines function often reinforce existing stereotypes and prejudices about marginalized communities, such as people of color, women, and the LGBTQ+ community.

Algorithms have become essential in many areas of modern technology in everyday lives, like on apps such as Tinder. Tinder uses algorithms to match users with potential partners based on their preferences, behaviors, and other factors. The algorithm considers a user's location, age, gender, sexual orientation, and other preferences, as well as their swiping behavior (i.e., the profiles they swipe right or left on). The algorithm then presents users with potential matches who fit their preferences and have also shown interest in them. Tinder's algorithm is proprietary, which means that the exact details of how it works are not publicly disclosed. I speculate that Tinder does not release information on how their algorithm works to create an advantage over other dating apps or so that users do not manipulate the system such as creating fake profiles to appear more frequently in the swipe stack to other users. The lack of transparency can lead to

mistrust to users as they are unaware how their information is being used to shape their experience. Non-transparent algorithms have risks on society, especially digitally. These algorithms might perpetuate bias in either intentional or unintentional ways,

Framework of the Research

The academic scholarship of online dating, multimodal rhetoric, and algorithms might seem like their own entities, but they are intertwined. There needs to be more research on how algorithms essentially create filters for users on online dating platforms with the use of multimodal rhetoric. Online dating, multimodal rhetoric, and algorithms are interconnected in the way they shape our digital interactions and relationships.

Understanding how they work together can provide insight into how we communicate and connect in the digital age.

The existing research on online dating looks more specifically at how individuals present themselves through their profiles and the ways in which they interact with others through various digital platforms. These studies investigate topics such as self-presentation, impression management, identity construction, authenticity, and the use of multimodal elements such as images and text. Additionally, some of the studies examine the role of algorithms and how they shape online interactions. Collectively, the research aims to better understand the complex dynamics of online dating and the ways in which digital technologies are changing the nature of romantic relationships.

The research in this study is at the intersection of online dating, multimodal rhetoric, and algorithms. As algorithms have slowly taken control over our everyday lives, there is also

algorithmic decision-making in the realm of romantic relationships. This study aims to look at how multimodal rhetoric plays an important role in shaping the data that algorithms use to make recommendations on online dating platforms. Understanding how multimodal communication affects algorithmic decision-making is an important area of research for scholars studying online dating and algorithms because this also intersects between technology, identity, and social interaction in the digital age.

Chapter Two

Methods in Collecting Data

Multimodal rhetoric is defined as the “textual combination of different modes and their integration in terms of structure, discourse, semantics, and rhetorical function within the context of social interaction” (Pflaeging & Stöckl, 2021, p.319). There is a multimodal element within profiles on dating applications which show what users are choosing to present about themselves. Users are creating a persona that represents themselves to other users while still being analyzed by other users who may or may not believe that persona. Analyzing profiles on both ends of creating a profile and viewing profiles creates meaning when considering all aspects of a dating profile. According to Pflaeging and Stöckl (2021), “Rhetoric and multimodality meet in an orientation towards the practicalities of meaning making and its effects on the recipients. Combining the different modes in a variety of media and genre is invariably guided by rhetorical situations” (p. 319). Like social media, dating profiles offer users the chance to show who they are to other users. However, instead of presenting themselves to their friends, they are presenting themselves to potential partners. The information a user would present on their private social media account may differ to how they choose to represent themselves on a dating application, which might be a different persona from who their friends think they are. The information provided in the profile that a user creates goes into consideration when entered in the Tinder algorithm. This means that users are inputting information and in return, the profiles that Tinder show the user is the output of their own

multimodal rhetoric they provided in their own profile. Algorithms are showing users who they might be interested in based on what is shown in their own profile.

Selecting Tinder as Research Site

Online dating is the practice of searching for a romantic or sexual partner on the internet with a dedicated website. There are a number of dating websites as the internet and social media has been growing over the past decade. Each dating site has their own niche audience of users since they are targeted toward different users. Tinder is among the most common dating app; however, this dating application has been associated as a hookup app over the years since its creation in 2012. Tinder is the most popular due to the fact that the app is initially free for users. Tinder has over 75 million active users on the application with over 10 million users who are subscribers that pay for advanced features of the dating app (Iqbal, 2023). There is also an imbalance of users on the app with the disparity between men and women, where men make up the larger sum of users which means that women will likely receive more likes and matches than men.

On a surface level, algorithms aside, “Tinder isn’t your average dating site — it’s the most diverse dating app, where adults of all backgrounds and experiences are invited to make connections, memories, and everything in between” (Tinder, 2023). Unlike other dating apps like Bumble and Hinge, on Tinder, users can only limit their preferences in age and distance. Bumble and Hinge allow users to filter the users that they can see in terms of religion, race, body type, political affiliation, intentions, alongside age and distance like Tinder. However, they can only filter out other users if those users provide that information on their profiles. Tinder shows every user within a certain mile radius in

the age range that the user chooses. A user can view profiles that are up to 100 miles away and the age ranges from 18-99 years old.

The premise of Tinder is similar to most dating apps. Tinder uses the “swipe” function where users can swipe left on other users who they are not interested in and users can swipe right on potential partners they are interested in. The user cannot message other users until they match (unless they have a premium subscription). A match would indicate that both users swiped right on each other. There is also an option of giving a “super like,” in which case they would swipe up. This indicates to the user that they swiped on that they super liked them. Users are only given a limited number of super likes to give; if they want to super like more users, they must pay for it with a premium subscription. Premium members are able to do more with the application like change their location, hide their age or location, and send unlimited likes. Most users are free users; however, the premium “gold” or “platinum” members are targeted towards men since there are more men who use the application. While this is not confirmed by Tinder themselves, other online research suggests that men outnumber women on Tinder. GlobalWebIndex “has found that about 62% of all location-based dating app users are male...13% of American males were on dating apps or sites like Tinder compared to only 9% of women” (Hakala, 2015). Presumably, since men are seeing less women, buying premium memberships might make male users more desirable to women by receiving more matches.

Tinder is constantly changing and updating the app for the user experience. This means that the profile features change, and profile features might be different for users based on what area they are located in for beta testing. Upon creating an account, a user

must include their name and enter their birthdate to show their age. A user's name will always be shown to other users and their age will be shown if they do not have it hidden (users can only hide their age if they have a paid membership). The minimum amount of information that a user must include in their profile is at least one photo and their age for free users. Tinder allows users with the minimum amount of information on their profile to still use the application, unlike other dating applications that require users to include more information in order to access the rest of the features. Below is a list of what Tinder users could include in their profiles at the time of this research:

- 9 photos (the minimum requirements are 1 photo)
- “About Me” section (biography up to 300 words)
- “Interests” (an extensive list of hobbies, from which users can select up to 5 to showcase on their profile. E.g., Hiking, video games, gym, walking)
- “Basics” and “Lifestyle” (e.g., Zodiac sign, personality type, drinking, smoking)
- Job Title, Company, School, City, Sexual Orientation
- Social Media (users can connect their Instagram, which will show their Instagram photos; users can also connect their Spotify and show off their top artists)

Since starting research, Tinder updated the app and users can now include what they are looking for on the app. They also added more options under “Basics” which include: COVID vaccine status, communication style, love style, education level, and family plans.

What this project aims to look at is the multimodal rhetoric of profiles shown based on the first 100 profiles upon opening Tinder. I looked at how much information is provided in each profile to see what the Tinder algorithm will show users based on their

own profiles. I first collected 100 profiles while using a Medium-content profile (described below). However, based on those findings, I then collected 60 more profiles using High and Low-content profiles.

In order to determine the different levels of information, profiles were categorized between High-, Medium-, and Low-content profiles. High-content profiles have the most information to analyze. Medium-content profiles have less information than the High-content but provide more information than Low-content profiles. In my experience, medium-content profiles appear to be the most common profiles. And from my understanding, a medium-content profile is what other users would want to seek out. A medium-content profile provides enough information about the user without revealing too much information the way that a high-content profile does. Users may not want to include too much information about themselves due to a number of reasons. I speculate that users do not reveal too much due to privacy issues in relation to their job or seeing other users that they may know on Tinder. Including too much information might also come across as desperate since they are revealing too much. This means that there is a fine line between too much or too little in a Tinder profile.

Below is what High-, Medium-, and Low-content profiles will include:

- **High Content:** 7 or more photos, About Me (bio included), City/job, Interests (hobbies), Lifestyle/Basics (zodiac sign, pets, drinking etc.), and Social Media (Instagram and/or Spotify)
- **Medium Content:** 4-6 or more photos (must have Interests, Lifestyle/Basics, and Social Media to be considered High Content), About Me (must have a bio to be considered Medium-content), Interests, Lifestyle

- **Low Content:** 4 or less photos, About Me (bio or no bio)

While swiping on Tinder, there are different variations of profiles a user will see due to the different amounts of information other users will provide on their profile. Sometimes a profile contains one image only with minimal information in their bios or others might contain the maximum amount of photos and provide a long biography about themselves. Due to the wide range profiles that I might encounter while swiping, these profiles need to be categorized. However, the categorization lines may be blurred due to other factors; for example, a profile might contain only 5 photos, but have no bio. Because the profile has 5 photos, it normally would fall under Medium-content, but since the profile has no bio, it would be considered a Low-content profile. The amount of content that profiles have is itself worth analyzing. But the actual multimodal rhetoric of that content, what I refer to in the next chapter as “rhetorical trends,” depends on the content of the bios and photos used.

Creating a Generic Profile

In order to begin this study, I created an entirely new Tinder profile. No profile can be completely unbiased or unaffected by the app’s algorithms. For this reason, I focused on creating a very generic, medium-content profile to try to offset any algorithms. Resetting and creating a new Tinder account gets rid of existing matches and any conversations. On any dating application, new users are generally shown first to existing users. This means that new profiles are often the first profiles other users see when opening the app. Speculation from dating application experts state that “New users are shown often early on to train the algorithm and get people hooked. Most of these likes might be from people far away, influencers or people testing the waters” (Hernandez, 2023). Therefore,

creating a new profile will put this profile up first for existing users, which will make Tinder show me who my best matches might be.



Image 1 Screenshot of my profile.

Multimodal rhetoric plays a large part in dating profiles on how an individual represents themselves to other users. For the sake of this project, I have chosen to include a bio in the About Me section that is generic and a profile that falls into the Medium-Content category so that the profile has “just enough” information for other users. The most common bio with a hidden meaning is “Here for a good time, not a long time,” which has become code to other users that signify which users are willing to hook up. The photos I include in the profile are what I would consider “stock” dating profile

photos. This includes a photo with a pet, a travel photo, a photo doing an activity/hobby, or a candid headshot photo. For creating a Medium-Content profile, I included 4 photos:

- **Photo 1:** Portrait of me with a dog. I am including a photo of me and my dog because it shows that I like dogs—and most people like dogs. This is the first photo that users will see on my profile, so it becomes a strong indicator that I am a pet-lover. (See Image 1 above).
- **Photo 2:** Portrait of me traveling. The second photo is a photo of me in London in front of Tower Bridge to show to other users that I have traveled before.
- **Photo 3:** Candid photo of me hiking. Third photo is a photo of me hiking with a waterfall in the background in an undisclosed location.
- **Photo 4:** Portrait of me at a restaurant. Fourth photo is a photo of me in front of a plate of food eating at a restaurant.

These photos were chosen based on previous observations of the majority of profiles containing photos like these.

The ways that my profile would include bias is mainly from the bio and my race. According to a study by NPR, “all women except black women are most drawn to white men, and men of all races (with one notable exception) prefer Asian women” (NPR). In the past with dating applications, as an Asian woman, I received many fetishized messages from primarily white men who exoticize Asian women. With this new profile, I do not expect anything different; however, I am not looking at the messages, I am only examining profiles. However, with the Tinder AI that they use for their algorithm, being Asian might boost my profile or not show my profile to other users.

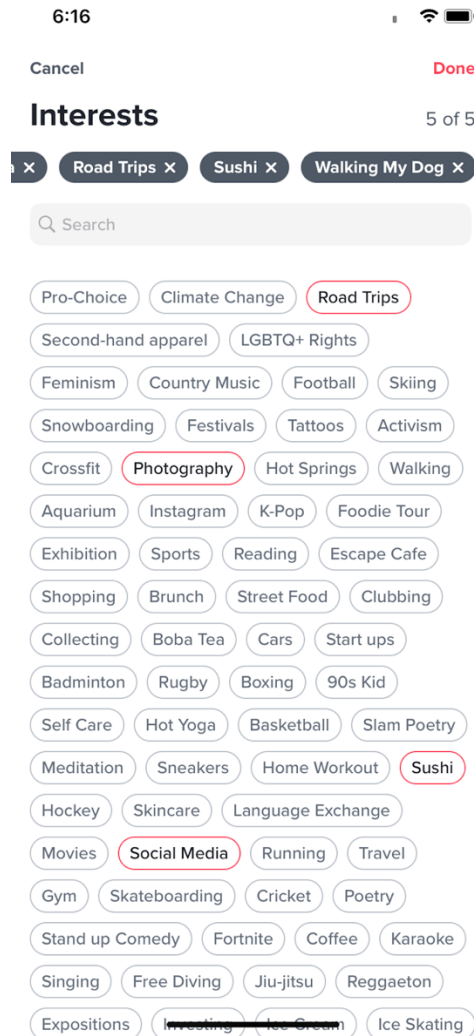


Image 2 Screenshot of “Interests” selection.

Other elements also included in my profile are Lifestyle and Interests. Under Lifestyle, I have “dog” selected, indicating that I have a pet. Under Interests, I selected hiking, walking my dog, road trips photography, and social media. Even though these might not be my actual interests, for the sake of this project I have chosen these interests because they feel “stock” or what other users might be interested in. There are many more niche interests from the list that Tinder offers; however, I want the profile to be as generic as possible (see Image 2 above).

Social media is also connected, but I connected only my Spotify, not Instagram. I chose not to connect my Instagram because my profile is private and users can only connect and share their profiles if it is public. For this study, I thought sharing my private Instagram profile was too personal, whereas sharing my Spotify is only showing the music that I am listening to. I have my top Spotify artists and song of choice, which Tinder calls “My Anthem,” to show other users my favorite song. This actually connects to the Spotify that I use, so it gives a wide variety of artists that I listen to, and Tinder allows users to choose specific artists to display on their profile. In this case, I have chosen Drake, The Weeknd, Miley Cyrus, and Tame Impala from the suggested list it gave me. I felt like those are neutral choices since most people would know who they are.

Everything shown on my profile is as follows: my name (Demi), age (25), About Me (short bio), photos (4), Interests (hiking, movies, bar hopping, photography, and Instagram), Lifestyle (dog), Social media (Spotify Top Artists: Drake, The Weeknd, Miley Cyrus, Tame Impala). My location will state “X miles away” to other users based on my location and theirs, so that will constantly change.

While creating my profile, I kept it hidden until I was ready to start swiping and looking at other profiles. There is speculation among Tinder users that new accounts and accounts that are new to new locations are boosted to the top of the “swipe stack” to other users. This means that any new account is automatically pushed to existing users or any account that is new in a new location is pushed to the top of the stack. So until the profile was ready, I did not want my profile to be out there circulating without the curated information.

Tinder has controls on who users can see on their swipe stack through filters. In comparison to other dating applications, Tinder has the least amount of filters, which generally gets rid of demographic issues. Other dating apps like Hinge or Bumble allow users to set filters on things like: race, education, height, body type, religious beliefs, family plans, and many more. By using those filters, Bumble and Hinge create a more curated algorithm based on the user's preferences. Tinder will only filter the age and location of other users. While Tinder does allow users to provide some demographic information like education or family plans, a user cannot filter out this information. This makes the Tinder algorithm less focused on demographics provided by users and perhaps focuses more on rhetorical choices that users provide on their profile.

On Tinder, a user can only filter results by age range (18-99 years old) and location (0-100 miles). For collecting the 100 profiles to analyze, I set the age range from 18-99 and the location from 0-100 miles to see who the Tinder algorithm would suggest to me based on my profile. This means I had no filter and Tinder would show me profiles from all ages in a 100-mile radius. However, this does not mean that I would be shown in everyone else's stack because they might have a specific age range and location set. For example, if a 35-year-old man has his age range set from 30-40 years old and his location set to 10 miles, and I am further away, there is no way that I would show up on his stack unless I had swiped right on him already. Even if I was within the 10-mile radius, I would still not show up unless they lowered their age range to 25. Normally, if a user sees someone outside of their age and location range, that user has already swiped right on them. For this study, I did not interact with any other users, only taking the public information on their profile.

Data Collection & Analysis, Part I

I analyzed 100 Tinder profiles by recording the information from the first 10 profiles that showed on the swipe stack when first opening the app. This means the profiles were grouped from 1-10, 11-20, 21-30, 31-40, and so on. This is so that the stack is fresh and so that these profiles can be grouped and numbered. It also allowed me to break up the data collection process while still maintaining a level of consistency in which profiles were analyzed. It is rumored that Tinder's algorithm works on a score of rating a profile by attractiveness. The more attractive and popular users will show first to entice users to keep swiping, even if they are not necessarily matches. Tinder has not confirmed this, but the way the algorithm works is highly speculated among many other sources. According to DatingApp World, "The Tinder algorithm works by giving every user a score. Users increase their scores by getting more likes on the platform. This score acts as a popularity score for the user and helps Tinder decide which users to show to other users on the app." Even if physical attractiveness matters, the multimodal information of the photos and bio combined plays into how much people will either swipe left or right on a user: "Tinder has multiple data points to ensure that 'attraction' is filled by more than just a pretty face. Profile bio, pictures, and much more go into having a successful profile that can accumulate a high ELO score" (DatingApp World, 2020). The more multimodally effective a profile is, the more likely it is to be shown to more users.

From the first initial 100 profiles analyzed, most of the profiles were categorized as Medium-content profiles. There were 28 High-, 63 Medium-, and 9 Low-content profiles. It can be assumed that either the majority of users have medium-content profiles

or that I was only being shown medium-content profiles because I have a medium-content profile. While more than half of the profiles are medium-content profiles, the order that the profiles came up while in the stack should be noted. There was not a specific method or order that they came in, but High- and Medium-content profiles seemed to come bunched together. Whereas Low-content profiles came at random and seemed to be outliers. When collecting and grouping 10 profiles at a time, the majority of the profiles were either a majority of High- or Medium-content profiles with Low-content profiles being more sporadic and inconsistent. At times, there were profiles that were in between the High and Medium content category—things like profiles having 9 photos even though they did not have their Interests or Lifestyle filled out. However, due to the lack of other profile elements, they were categorized as Medium-content profiles.

As mentioned earlier, while the amount of content that profiles have is worth analyzing, the actual multimodal rhetoric that those profiles include can be referred to as rhetorical trends like photos and bios in the About Me section of a profile. For photos, there are different categories that photos fall under:

- **Portrait:** Portraits are photos taken of the person. These are normally posed photos or headshots in different contexts
- **Selfie:** Selfies are photos taken by the user themselves normally by the front-facing camera
- **Candid:** Candid photos are photos of the user that is taken by someone else; they are normally caught off guard or it can be considered an action shot
- **Group photo:** Group photos involve multiple people in the picture that are either cropped or uncropped

- **Mirror picture:** Mirror pictures are similar to selfies since they are taken by the user themselves, but there are taken in the mirror by the back camera
- **Other:** Other types of photos would be scenic photos, dog photos, or meme type of pictures

Among all types of photos, the most popular ones that users uploaded were typically selfies. Most of these selfies were in the context of being taken in their car or with their pet. Other popular photos are cropped group photos or photos of their dog.

Bios in the About Me section are limited to 500 characters which means that users are able to write a pretty lengthy bio, but most users do not. Bios were divided in categories of Long, Medium, and Short. Long bios are 50 words or more, Medium bios are 15-50 words, and Short bios are less than 15 words. The only time that users wrote a Long bio was if their profile was categorized as a High-content profile. Most users wrote a short bio even if their profile was categorized within the High-, Medium-, and Low-content profile, my profile included.

Even though the age range was set from 18-99 years old, the average age range that was shown to me was 24-30. I am assuming that Tinder is showing me users closer to my own age. While swiping, there was never a user over the age of 35 shown to me in my stack. This means that users who are older than 35 did not set their age range to at least 25, or Tinder will only show people within a certain age range, even if the limit is set to 18-99 years old.

Data Collection & Analysis, Part II

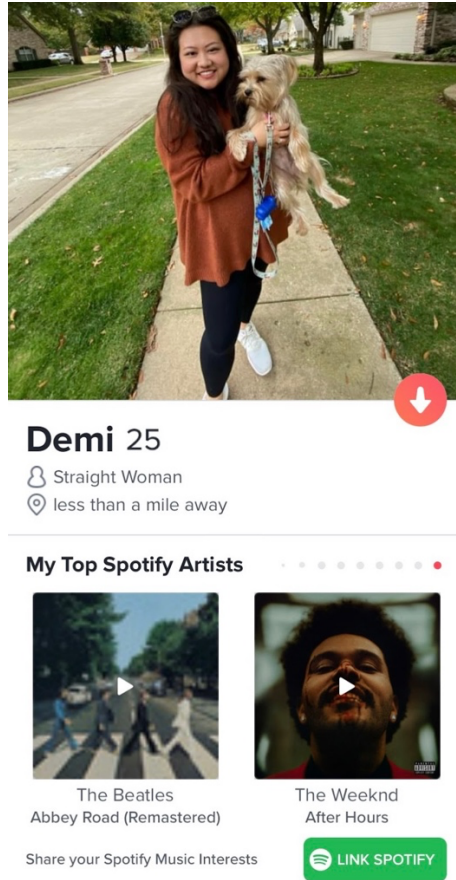


Image 3 Screenshot of my Low-content profile

Due to more than 50% of profiles shown to me while my profile was a Medium-content profile, I wanted to see what Tinder would show me if my profile was categorized as a Low- and High-content profile. To do this, I started with creating a Low-content profile by deleting most things that were already on the profile. The Low-content profile consists of: my name (Demi), age (25), About Me (no bio), and photos (2). Two photos, Interests, Lifestyle, and Social media were all deleted from the profile. I used the same method of collecting the first 10 profiles when opening Tinder; however, this time, my profile was categorized as a Low-content profile—so much so that Tinder is encouraging me to “Link Spotify” on my profile (see Image 3 above). When other users

see my profile, they would only see my two photos (not the “My Top Spotify Artists” as this view of my profile is in the preview mode).

Instead of collecting 100 profiles, I collected 30 profiles all together. Of the 30 profiles, there were 18 Low-, 9 Medium-, and 3 High-content profiles. A little bit more than half (60%) of the profiles was Low content. While collecting the profiles in sets of 10, the profiles given in the stack were random, alternating between mostly Low- and Medium-content profiles.



Image 4 Screenshot of High-content profile with a new image

For creating a High-content profile, I re-added the things that were in the Medium-content profile and added more photos so that it would now categorize as higher: (Demi), age (25), About Me (medium bio), photos (9), Interests (hiking, walking

my dog, road trips photography, and social media), Lifestyle/Basics (dog, zodiac sign, in grad school), Social media (Spotify Top Artists: Drake, The Weeknd, Miley Cyrus, Tame Impala, Lana Del Rey and Spotify Anthem: a SZA song).

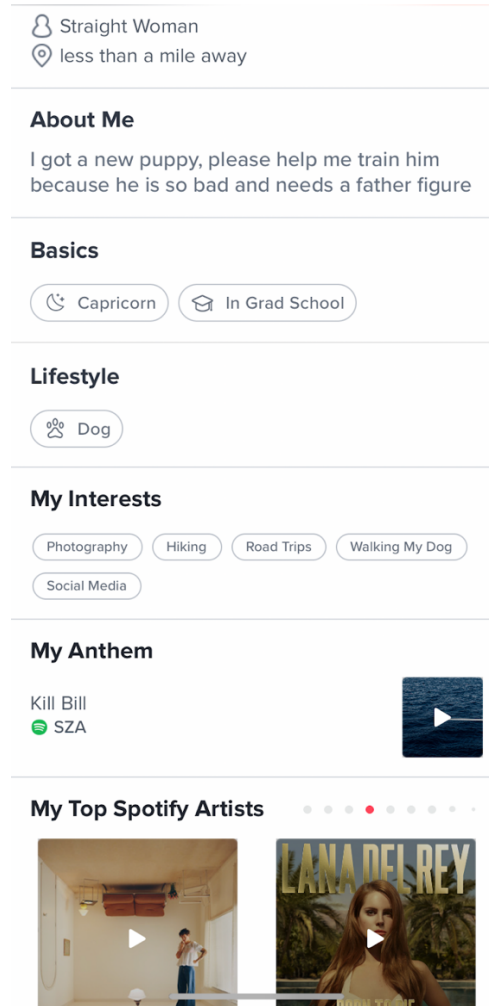


Image 5 Screenshot of High-content profile

The bio in the About Me section changed from a short to a medium bio. I changed “Here for a good time, not a long time” to “I got a new puppy, please help me train him because he is so bad and needs a father figure.” This new bio is suggestive in its own ways--men typically love dogs, and they will want to meet the puppy, and the bio suggests that I am looking for a partner to help train the dog (men love a challenge). I

thought that this would add an element of humor and personality because other users with High-content profiles seem to feature more of their personality due to the amount of multimodal content included in their profile (see Image 5 above). I should note that even though this profile is categorized as a High-content profile, I tried to add as little information as possible for privacy purposes and tried to create a “stock” profile that might blend in with other profiles. In addition to making the About Me section slightly longer, 5 new photos were added to reach the maximum number of photos that Tinder will allow:

- **Photo 5:** Mirror picture of me wearing a blazer. Might indicate to other users that I am a professional or going somewhere fancy.
- **Photo 6:** Selfie in a car. Using this photo since other users upload this type of photo to their profile.
- **Photo 7:** Portrait photo posing at a museum.
- **Photo 8:** Group photo cropped.
- **Photo 9:** Picture of me and the puppy.

With the additional photos, I tried to use the most common photos that I was seeing among other users on their profiles. This would further try to create this “stock” profile only under a High-content instead of the Medium-content profile.

The method for collecting profiles while having a High-content profile was the same as collecting them having a Low and Medium profile. I analyzed thirty profiles in total in increments of 10. Out of the 30 profiles, there were 1 Low-, 9 Medium-, and 20 High-content profiles. Similar to the Low-content profile, the High-content profile had a higher number (66%) than the Low and Medium profiles that were shown combined.

While collecting in sets of 10, the swipe stack showed multiples of either High or Medium profiles right after another with only 1 Low profile in the first set of 10 profiles.

Based on the data from these three methods, how much information that is shown on a profile seems to mirror what a user sees in their swipe stack with potential partners. Within each category of the profile that I created, the algorithm showed me the corresponding profile. While having a Medium-content profile, 63% of those profiles out of the 30 were Medium-content. When my profile was shown as a Low-content profile, 60% of those profiles out of the 30 were Low-content. And when my profile was shown as a High-content profile, 66% of those profiles out of the 30 from the data collection were High-content profiles meaning that more than half of the profiles in each data collection mirrored my own profile.

All three methods had the age range set from 18-99 and the location set to a 100-mile radius. Even with the lack of filters, from all three methods, the Tinder algorithm only showed users from ages 20-35, which suggests that Tinder might only show a user other users around the same age range even if they have their filter at a wider range. From the speculation of how the Tinder algorithm works on a scale of a user's attractiveness, the amount of effort and the information revealed about a user from their profile might also affect who they are shown and who they are shown to. The multimodal rhetoric of a Tinder profile is equally or arguably more important than attractiveness based on photos in order to be shown to more users.

Profiles that fall under the High-content profile categories tend to reveal more about that user in terms of personality and interests. More importantly, with these profiles, some users are more clear or upfront on what they are seeking using Tinder. On

the other hand, with Medium-content profiles, their intentions might not be clear based on the lack of information. Overall, the findings based on this study might indicate that dating applications take the types of multimodal content in profiles into consideration; however, Tinder also simply considers the amount of information provided in profiles and mirrors other users with the same amount of information.

Chapter 3

Findings on Tinder

The Tinder Algorithm

Tinder's algorithm uses a combination of factors to match users with potential partners. These factors include the user's location, their age, and the preferences they set in their profile, such as their desired age range and gender of potential matches. In this study, I set the location to a 100-mile radius, set the ages from 18-99 years old, and set the gender to men.

There are numerous rumors on how the Tinder algorithm allegedly works which I took into consideration while conducting this study. An article written by Vox states that the algorithm also takes into account the user's activity on the app, such as how often they use it, how many matches they make, and how frequently they message their matches (Tiffany, 2019). I collected the data set of 100 profiles within a 4-week period. For every 10 profiles, I closed the app and started again because the first couple of profiles are considered the “best match” for the user or the app showcasing their most popular users. These factors allow the algorithm to learn more about the user's preferences over time and make better matches. However, this poses the question of what exactly “better” means.

The algorithm also works using artificial intelligence. For instance, it uses image recognition technology to analyze the user's photos and extract information about their physical appearance, which puts users on a scale of attractiveness which is referred to as the Elo system (Tiffany, 2019). This information is used to make more accurate matches based on users' preferences. Additionally, it can also use other data from the user's social

media and location data to create a more accurate profile. This means that Tinder is taking the multimodal content of a user's profile into account and sharing profiles they think that user would match with if these rumors of the Elo system are true.

As mentioned above, I only collected the first 10 profiles after first opening the application each time since Tinder is rumored to show the "best matches" first and the less desirable profiles as a user continues to swipe. Tinder might profit from this method because as a user swipes further into their swipe stack, they will not find the best matches for them. This will entice users to buy the premium subscription to Tinder in which they are shown more people and given an unlimited number of swipes since users are limited to 100 right swipes a day. Another theory about the Tinder algorithm is that the second profile that shows up on a user's swipe stack is always a match because that user has already swiped right on them. Related to this theory, users who set their age preferences to a certain age range will sometimes see an outlier profile whose age is either much higher or lower to their set range—this indicates that the user has already swiped right on them. However, for the sake of this study, every profile was given a left swipe meaning that I did not interact with anyone's profile.

Multimodal rhetoric is used in dating profiles to present a compelling and attractive image of oneself to potential partners. This can involve using text, images, videos, and other modes of communication to convey information about oneself and what one is looking for in a relationship. For example, a user may use images to showcase their physical appearance, interests, and lifestyle. They may also use text to describe their personality, values, and goals, and to highlight what makes them unique. Video can be used to add another dimension to the profile, showing off personality and sense of humor.

By using multiple modes of communication, dating profiles can present a more nuanced and dynamic image of the user, making them more appealing and memorable to potential partners. The user can also highlight different aspects of their personality and lifestyle, making it easier for potential partners to determine whether they are a good match.

Multimodal rhetoric can also help users to convey a sense of authenticity, allowing them to present a more accurate and honest representation of themselves, which can build trust and increase the chances of making a successful match. However, users can also create a false persona with the use of multimodal rhetoric in order to attract a different type of audience they may not attract with their authentic self.

It's worth noting that the algorithm also considers the activity and behavior of the other users on the app. For instance, if a user receives a lot of swipes or matches, their profile will be shown more frequently to other users in their swipe stack. Based on the study conducted, the profiles shown to me mirrored the amount of information that I had on my profile, which is why I collected a dataset in High, Medium, and Low content settings. In this case, “better” matches might mean matches that mirror a user’s own profile instead of the contextual information on a user’s profile.

Rhetorical Trends

There are trends in each category that I examined—the profile content level, the user age, and the user distance. The median and average age is important to look at because the median age number will provide a good measure of central tendency when the data has skewness or outliers, as it provides a more stable and representative value for the data since the age range was set from 18-99 years old. Whereas the average will be sensitive to the outliers and skewness in the age range.

Distance and location play a crucial role in Tinder matches because the app uses a swiping system based on proximity. When users set up their profiles, they have the option to set a preferred search radius, which determines how far they are willing to look for matches. The app uses this information to only display profiles of users who are within the designated distance. This allows users to connect with people who are within close proximity, which increases the chances of actually meeting in person. The distance shown in the collected profiles is important to take into account to see who Tinder believes is a user's best match based on what distance range is set—would the “best” match be someone who is located closer or further away?

Photos chosen on a profile play a crucial role on Tinder because they are the first thing users see when browsing potential matches. The amount of photos a user provides also helps determine which category their profile falls under for this study. They can impact how users perceive and judge a profile, and the type of photos chosen can also indicate personal interests, style, and physical appearance. Photos can be used to build a positive first impression, showcase interests and personality, and attract the right kind of matches. Therefore, it is important to choose photos that accurately represent oneself and are appealing to the desired target audience. The way a user presents themselves in their photos can play a significant role in attracting or deterring potential matches. This can be based on the quality of the photos or the content of the photos that are chosen for a Tinder profile.

For the purpose of this study, these factors were not considered when making a decision to swipe either left or right since every profile was swiped left. The profiles that were collected were based on who showed up in the swipe stack. None of these profiles

were “matched” with or rejected based on any type of preference for photo choice or other information provided on the profile. Even though the context of photos is important in multimodality, the context within the photos are also not being analyzed for their rhetorical trends. This is based on the findings that the majority of profiles that were shown in the swipe stack to me did not factor into photos that I included in my own profile. Instead, what was matched was the amount of photos, not the context of the photos. It should also be noted that I focused on the amount of photos which contribute to the profile content category, age, and distance because these are things that users can control. I decided not to collect data about race or ethnicity in this study because there is not an option to put a user’s race nor is there an option to filter race when swiping. Users can only use age and distance as a filter for their swipe stack.

Another significant piece of information that should be noted is that these profiles were collected in the Southern-Midwest region of the United States. In general, for the majority of profiles, the trends for the context of the photos consisted of hunting and fishing pictures in all categories: portrait, selfie, candid, group photo, mirror picture, and other. The types of photographs could be considered stereotypically accurate for the location of the data collection. However, the photos on my profile are not stereotypically representative of the location where the data was collected. If anything, the photos chosen for my profile were as generic as possible and did not give any indication to my geographic location. Since the majority of the profiles shown to me had a country/southern context, I do not think that Tinder’s algorithm takes this into account. They seem to take the number of photos into consideration over the content of the photo. While collecting the first 100 profiles, my profile was designed as a medium-content

profile where I had 6 photos, and I was shown profiles with the same number or more photos in return. Tinder seems to mirror the same amount of information that is in a user's profile, but not the content within a user's profile.

Content Level (100 profiles)	
High content	28
Medium content	63
Low content	9

Table 1 Findings in Content Level, Part I

Findings in Part I: Medium-Content Profile (the first data set out of 100 profiles)

Based on the Part I of the data collection, the majority of profiles shown to me were Medium-content profiles. At this time, my profile was also considered a Medium-content profile. A Medium-content profile contains at least 4-6 or more photos, About Me, Interests, and Lifestyle section filled out. With the first set of data collection, I was shown 28 high-content, 63 medium-content, and 9 low-content profiles. After seeing the trend of medium-content profiles being shown to me the most, I decided to test my profile using both high and low-content in each.

Age (100 profiles)	
Median	27
Average	26
Mode	24 & 25

Table 2 Findings in Age, Part I

The median age in this first data set is 27 years old and the average age is 26. Even though the age range was set to 18-99 years old, the swipe stack only showed me profiles

with ages ranging from 20-37. The age that is on my profile is 25 years old, which is why I suspect that Tinder only gave me an age range with people who are only a couple of years older and younger than the age on the profile. The age range on Tinder is important because it allows users to filter potential matches based on their desired age range. This allows people to match with individuals who are in a similar age range and, therefore, more likely to have similar interests and lifestyles. Additionally, the age range can also be a factor in terms of legal and cultural norms around dating, as well as personal preferences for partners. By specifying the desired age range, users can increase the chances of finding matches that align with their preferences and ultimately increase the likelihood of forming meaningful connections on the platform. This likely explains why the profiles I was shown were closer in my age range as opposed to seeing profiles that have a 50-year age gap. The mode of the ages is important to note because it shows the age that occurs the most within the data set. Within this data set out of the first 100 profiles, profiles with ages 24 and 25 were shown the most. They occur 12 times each, which means that 24% of profiles shown make up the mode for this set of data.

Distance (100 profiles)	
Average Miles Away	26
Median Miles Away	16
Mode Miles Away	1

Table 3 Findings in Distance, Part I

The distance in the profiles shown averaged from about a 1 to 30-mile radius from my location. My location was always set at the same place in the same city, so that data was not skewed. While swiping, there were several profiles that were a further distance away from what Tinder allows users to set. 100 miles is the maximum setting for users

without a premium subscription. If there was a profile that was further than 100 miles away, that would mean the user swiped right on my profile since they were out of range or that user has a Tinder subscription which allows them to view profiles even farther away from their location. Even though my distance range was set to 100 miles away, the average distance was 16 miles away from the profiles. The majority of profiles were located only 1 mile away since the mode from the data was 1. This suggests that even if a user sets up a certain distance, they might only see the profiles of users who are nearby.

Findings in Part II

After analyzing 100 profiles using a medium-content profile, the second part of my research consisted of comparing the first 30 profiles collected using a medium-content profile, the first 30 profiles collected using a high-content profile, and the first 30 profiles collected using a low-content profile. I chose to use 30 profiles because I wanted to see what profiles would be shown even when looking at a smaller data set in comparison to 100 profiles.

Content Level (medium)	
High content	13
Medium content	15
Low content	2

Table 4 Content level in Medium-content, Part II

Medium-Content Profile (30 profiles)

As mentioned earlier, the initial data collection was completed with my profile being categorized as a Medium-content profile. Therefore, the table above reflects the first thirty profiles from the initial 100 profile data set which show the number of profiles

within the High, Medium, and Low-content categories. This data set is taken from the initial 100 profiles which show that the majority of profiles that were presented were Medium-content even taken from only the first 30 profiles. Even when only looking at the first 30 profiles out of the 100, the first 30 profiles were still Medium-content profiles. Medium-content profiles consume 50% of the data from the first 30 profiles with Low-content being .06% and High-content accounting for 43% of profiles shown.

Age (medium)	
Median Age	27
Average Age	32
Mode Age	27

Table 5 Age in Medium-content, Part II

Age trends within medium content profiles consisted of men with the average age of 32, but with the median age being 27 among the first thirty profiles. With the age range still being set from 18-99 years old, Tinder only showed profiles with ages ranging from 20-37.

Distance (medium)	
Average Miles Away	27
Median Miles Away	22
Mode Miles Away	1

Table 6 Distance in Medium-content, Part II

Even though the range for distance was set from 1-100 miles, the furthest distance was 312 miles away which might skew the average. However, the one profile that was an

outlier being 312 miles away must have been an account that was using a Tinder premium subscription. The closest was 1 mile away, and most profiles within this set were only located 1 mile away even though the range was set from 1-100 miles away which indicates that Tinder is showing profiles that are closest to wherever the user is swiping, prioritizing those profiles over the ones that are further away.

High-Content Profile (30 profiles)

Content Level (high)	
High content	20
Medium content	9
Low content	1

Table 7 Content level in High-content, Part II

Creating and swiping my profile as a High-content profile, showed more than half (66%) of the profiles mirroring my own. 33% of profiles were Medium-content and .33% of profiles were Low-content. Having more information on a dating profile allows users to show off more of their personality to potential partners. Based on these findings, it seems that Tinder is rewarding me for providing so much information about myself on my profile by showing me users who primarily have High-content profiles. These findings are also suggesting to me that this will be the same case when presenting a Medium or Low-content profile. This could possibly be seen as a tactic or incentive for providing more or less information in a user’s profile if the algorithm is mirroring users.

Age (high)	
Median	27
Average	26
Mode	25, 27, 28

Table 8 Age in High-content, Part II

I was surprised with the numbers in the data set collected using a high-content profile. I hypothesized that the age range would be higher than 25 years old. Stereotypically, older users tend to have more information on their dating profile. My rationale behind this is that older people may have more information on their dating profiles than younger people, as they may have more life experience and a better understanding of what they are looking for in a partner. However, this may not always be the case as younger people may also have a clear idea of what they want and be just as thorough in their dating profiles. Additionally, it ultimately depends on the individual and how they choose to present themselves on the dating app. In this case, I do think that Tinder is mirroring or only showing users that are closer in range to my age (25) listed on the profile as the mode of the ages that showed up the most among these profiles were ages 25, 26, and 27. There were 6 profiles of each which means that they made up 60% of the profiles shown within the 30 profiles while swiping with a high-content profile.

Distance (high)	
Average Miles Away	51
Median Miles Away	16
Mode Miles Away	1

Table 9 Distance in High-content, Part II

The average and median miles away for distance differed slightly for the data set under High-content. The average miles away from other users was 51 miles. However, even with those 51 miles as the average distance, while having a High-content profile, more than half of the profiles shown to me were reflecting my own profile also being a High-content profile.

Low-Content Profile (30 profiles)

Content Level (low)	
High content	3
Medium content	8
Low content	18

Table 10 Content Level in Low-content, Part II

For the Low-Content profiles, it should be noted that the numbers that are shown are out of 28 of the profiles. There were two profiles that the users did not share their age and distance. Users who pay for the Tinder premium subscription can hide their age and distance from other users. Due to these numbers being out of 28 profiles instead of 30 like the previous data sets, there might be a minor skew. I thought about skipping the profiles that did not show the user's age or distance and, instead, collecting the next one that did. However, I believe that would skew the data even more since it would not be truly collected out of the first 10 profiles (out of three times) from opening and closing Tinder to refresh the swipe stack. This also might skew the number of Low-content profiles included in the count.

Age (low)	
Median	27
Average	27
Mode	25, 28

Table 11 Age in Low content, Part II

The two most shown ages within these profiles were 25 and 28 years old, both ages showing up 7 times. These profiles make up for 50% of the profiles among the 28 profiles that provided the information needed.

Distance (low)	
Average Miles Away	19
Median Miles Away	1
Mode Miles Away	1

Table 12 Distance in Low-content, Part II

Distance for Low-content profiles has a median and mode for 1 mile away. This further proves that even if a user's radius is set to the max range, Tinder's algorithm favors the closest profiles for that user regardless of the range that I set.

Consistencies and Other Tinder Factors

It appears that the median age is the same for all four data sets at 27 years old. While there are some differences in the average and mode ages throughout the data collection sets, it seems that the median age is consistent across the data sets which was 27 years old. This shows that the algorithm was mirroring profiles to me that were closer to my age range even while my range was set from 18-99 years old.

Subscriptions. This study was conducted with a regular Tinder profile. As mentioned earlier, there are subscriptions that users can pay for. Paying for the dating app

can also shape the potential partners that users will see in their swipe stack. Below are the three types of profiles a user can have:

- **Regular Tinder:** The basic and free version of Tinder allows users to swipe left or right on potential matches based on their location and preferences. Users can create a profile with pictures and a short bio and can chat with matches once they have both swiped right on each other's profiles.
- **Tinder Gold:** Tinder Gold is a premium subscription service that offers several additional features beyond the basic version of the app. With Tinder Gold, users can see who has already swiped right on their profile before they swipe, allowing them to match with people who have already expressed interest in them. Tinder Gold also offers unlimited swipes, the ability to swipe in other locations around the world, and the ability to "like" an unlimited number of profiles. Users are also able to hide their age and location from other users which unrestricts them from other users who might have set their age range to either a lower or higher age group. Tinder Gold users are also able to change their location using "Tinder Passport," where they can set their location to their desired location to match with users.
- **Tinder Platinum:** Tinder Platinum is the newest subscription service offered by Tinder. This version includes all of the features of Tinder Gold, as well as several new ones. With Tinder Platinum, users can prioritize their profile to be shown to potential matches, even before they start

swiping. They can also use the "Message before Match" feature, which allows them to send a message to a potential match before swiping on their profile. Finally, Tinder Platinum users can access the feature called "Likes You," which shows users a list of all the people who have already swiped right on their profile.

As mentioned earlier in the chapter, the algorithm is made to entice users to buy a subscription so that they can access these features. There is no publicly available data on the gender breakdown of Tinder Premium subscribers that Tinder provides. Therefore, it is impossible to determine whether more men or women buy Tinder Premium.

However, I argue that women do have the upper hand on dating applications like Tinder. Based on profiles that appeared on my swipe stack with some user's distances being more than 100 miles away, they appear to have either a Tinder Gold or Platinum subscription. This is not confirmed by Tinder, but some studies have suggested that women may have more control as they receive a higher number of matches and messages on average compared to men. Additionally, women may be more selective in their swiping and messaging behavior, leading to a more favorable dating experience overall. It's important to note that dating app experiences can vary widely from person to person, and there is no one-size-fits-all answer to this question.

The Implications of How Algorithms Are Shaping Our Lives

Algorithms play a significant role in shaping our lives by making automated decisions and predictions based on large amounts of data—the large amounts of data being the multimodal rhetoric that users provide on Tinder. Algorithms are used in many areas such as online search engines, social media, finance, marketing, and healthcare.

They can personalize experiences and make tasks easier, but they can also introduce biases, limit our choices, and obscure decision-making processes. Therefore, understanding how algorithms work and their potential impact is important for individuals and society. Algorithms and multimodal rhetoric can shape the way we experience and perceive reality. For example, the content we are exposed to on social media is often curated by algorithms that prioritize content that is likely to keep us engaged, leading to a filter bubble where our worldview is limited to what the algorithm thinks we want to see. Therefore, it is important to be aware of how algorithms and multimodal rhetoric affect our lives and to question their influence on our decisions and perspectives.

It can be alarming when an algorithm is used to make decision that can impact people's lives, but its functioning remains undisclosed. This leaves users in the dark about the multimodal factors that contribute to algorithmic decisions. The lack of transparency in algorithms can produce discriminatory and prejudiced results which results in the reinforcement of preexisting biases. For example, prejudice and unfairness may result in dating algorithms favoring some users over others depending on their color, race, and gender. Algorithm transparency is essential because it encourages accountability and fairness. People can better grasp how judgements are made and contest any biases by learning how the algorithm works. Therefore, transparency is key in ensuring that algorithms are fair and unbiased which gives the best interest to individuals who use dating applications.

Every aspect of a Tinder profile affects your dating life and who you are shown and who Tinder believes your "best match" is based on the information that a user puts

on their profile. This shows that multimodal rhetoric plays a large part in showing who a user will see on their swipe stack, which in turn, can affect the outcome for potential partners for Tinder users. This poses the question of what the “best match” for users entails. In *Algorithms of Oppression*, Noble argues that search algorithms are not neutral, but rather reflect the values, beliefs, and interests of those who design them. Algorithms can only be as objective as they are created. Search engines like Google can perpetuate harmful stereotypes and misrepresent marginalized groups. This is similar for online dating and how the algorithm works in these applications.

From this study, the algorithm mirrors a user’s profile by showing them other profiles with the same amount of information. The proprietary algorithm determines a user's "best match" based on location, age, gender, sexual orientation, and interests. The exact details of how the algorithm works are not publicly disclosed, but as mentioned earlier in the study, there are various rumors as to how it works. Tinder's goal is to show users the most relevant and compatible profiles based on their preferences and behavior on the app—in this case, the best match is not based on the content, but the amount of content a user has on their profile.

Multimodal representation on dating profiles is important because it allows potential matches to get a more comprehensive understanding of the individual. This can include not only their physical appearance, but also their interests, hobbies, personality, and lifestyle through text, photos, videos, and other forms of media. This helps to build a more accurate and well-rounded picture of the person, which can improve the chances of finding a compatible match and reduce the likelihood of disappointment or misunderstandings when meeting in person. The overall goal of Tinder is to connect other

users to create meaningful connections, even if Tinder is known as the hookup dating application. However, this data shows that Tinder does not consider the context of a user's profile information they provided. Instead, the algorithm seems to show users with a similar amount of information that reflects their own profile.

In conclusion, the findings in this study highlights how algorithms shape our lives in significant ways without us realizing it. While the mirroring effect of the algorithm can have benefits, such as connecting users with similar profiles in terms of content like this study shows, it also raises concerns for the potential harm. As the digital world continues to grow, there should be a greater demand for transparency of algorithms since they are shaping experiences, especially when used in online dating.

Conclusion

The Algorithm is a Mirror

In this study, I focused on how multimodal rhetoric plays a role in shaping data that algorithms use for users on Tinder. The goal of this thesis project was to look at what type of profiles were shown to someone using Tinder. Chapter 1 provides a literature review of online dating, multimodal rhetoric, and algorithms. The review highlights the importance of using multimodal rhetoric in dating apps, as it creates a dynamic user experience that encourages engagement with the platform and other users. Chapter 2 discusses the methods used to conduct the study, which consisted of collecting a large dataset of 100 profiles and placing them in categories based on the amount of content. Chapter 3 presents the findings that demonstrate that Tinder's algorithm mirrors users who have the same amount of content in their profile. The study sheds light on the profound impact of algorithms on our lives and highlights the importance of transparency and accountability in algorithmic decision-making, particularly in online dating.

As I got further into the study, I realized that looking at the age and distance were the most important factors because these are the only filters that a user can apply on Tinder when looking for a potential partner. Initially, I hypothesized that I would see a wide range of profiles since my age and distance was set to the widest possible range. Based on the results, this was not the case. Tinder only seemed to recommend users whose profiles matched my own in the amount of content, as well as in age and distance. However the actual algorithm works, it did not take into account the context or quality of information in my profiles. Instead, the algorithm only focused on the amount of

information I provided and reflected that back in the profiles of other users I was shown in my swipe stack.

The link between multimodality, algorithms, and online dating reveals the creation of a bubble for users who might not be aware of this. Online dating uses multimodality as an integral part of the design and functionality of their platforms. These platforms use algorithms to match users based on their preferences, but the algorithms also mirror the user's profiles back to them which potentially reinforces the app's biases and preferences. This bubble effect can have both positive and negative effects. On one hand, it can help users find matches that align with their interests and preferences. On the other hand, it can limit exposure to new people and ideas, potentially reinforcing existing biases and contributing to social polarization. The lack of transparency around how algorithms work and the data they use to make decisions exacerbates this problem, as users may not be aware of how their information is being used or manipulated. As a result, users may be unknowingly trapped in a bubble of their own making, potentially missing out on valuable connections and experiences.

Limitations

In the future, if I were to repeat this study, there are various things that I would add to make the research uncover more information. In this study, when analyzing rhetorical trends, I focused on age and distance only because these are the only things that you can filter on Tinder. Initially, before starting the study, I believed that race would be a factor—however, there is no way to identify race in Tinder's settings. The only indication of race is determined through photos users provide in their profile, which is why I chose not to use race as a factor when analyzing profiles. I should note that during

this study while I collected data, the majority of profiles appeared to be of white men. There were 10 or less profiles of men who appeared to be of a different race other than white. If I were to redo this study, I would include race in the multimodal analysis so that I could reach a better understanding on how the algorithm might work when contextualizing race from photos in profiles. On the profile I created, even though it was as generic as I could make it, I was still using my own pictures which identified me as an Asian woman. I knew that my race might create bias with how Tinder's unknown algorithm works, which is interesting since I primarily saw white men over any other race. I assumed that because I am Asian, I would see other Asian men or different races other than white. The trend of only seeing white men might be an indicator of some of the limitations in the study.

A large limitation in this study was the location of collecting data. The data set in both Part I and II were collected in the Southern-Midwest region of the United States. Since the data was only collected in this location, the race factor might change if the data was collected elsewhere in perhaps a more metropolitan city where there might be a diverse population. Location plays a large part in who is shown to a user while swiping. For example, while analyzing the profiles, there was an over-representation of fishing and hunting pictures due to the location. I imagine that the context of photos would be stereotypically different in Denver with skiing and hiking pictures. If I were to include an analysis of photos in the future, location would be an important factor into the study. In the findings of this study, the mode of users in every data collection set was only 1 mile away. Tinder was showing me who was closest and who had the same amount of information that I had on my profile.

It could be plausible that my race from the context of the photos from my profile were not considered in whatever Tinder's algorithm may be which is why I did not see a diverse group while swiping. Or this might suggest that in this location, users were predominantly white. If this study was conducted in the same way with changes, there could be room for exploration on this idea. The study would work the same in analyzing the rhetorical trends of content, age, distance and then race would also be examined from the data being collected. If the study was expanded into a larger city with a larger sample size and with multiple researchers who used a profile with a different race, I believe that there would be more significant findings to see how much multimodal rhetoric is taken into how the algorithms of Tinder works. This same method could be applied to other popular dating apps such as Hinge or Bumble; however, there would need to be more rhetorical trends taken into consideration since those apps allow users to filter out sociodemographic information such as education level, height, weight, religion and much more.

Future Research

This study highlights the interconnectedness of multimodal rhetoric and algorithms in shaping user experiences on dating apps, which can have social implications such as reinforcing biases or perpetuating certain cultural norms. This study focused on the amount of content included in profiles, age, and location, but there is room for further research into the ways dating apps match users with others similar to them. If Tinder mirrors profiles who have the same amount of information as their own, what happens when sociodemographic factors are considered in the dating app algorithms? As I mentioned above, further research needs to be done since algorithms are using the

multimodality of user profiles to mirror back potential partners. This will only reinforce the way that these bubbles and filters are created.

We should care about how multimodal rhetoric and dating apps and algorithms work because they have a significant impact on our personal lives and relationships. Online dating has become increasingly popular in recent years, and dating apps use complex algorithms to match users with potential partners. However, these algorithms are not transparent, and we don't always know how they work or what data they use to make decisions. This lack of transparency raises questions about how these algorithms may be influencing our behavior and shaping our online identities. Additionally, dating apps often encourage users to present curated versions of themselves, which may not accurately reflect who they are in real life. Therefore, understanding how multimodal rhetoric and algorithms work can help us make more informed decisions about how we present ourselves online, who we choose to interact with, and how we navigate the complex landscape of online dating. Moreover, studying multimodality and algorithms in the context of online dating can teach us more about multimodality and algorithms in general. The findings from this study do not only show the functionality of dating apps like Tinder, but also on the benefits of multimodal composition and the potential risks for non-transparent algorithms as the digital world continues to grow.

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