

A Study of Datafication and Digital Intimacy on Tinder

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Abstract: Dating apps like Tinder reshape modern intimacy through data-driven systems, converting user behavior into quantifiable metrics (profiles, geolocation, interaction data) and mediating connections via algorithmic tools (swiping, GPS matching). While this creates "digital intimacy" that allows users to navigate relationships through technology, it reveals contradictions: Features like instant matching empower users, yet algorithmic biases and platform designs perpetuate normative relationship standards, marginalizing unconventional forms. Commercial data exploitation and privacy concerns further expose how datafication commodifies intimacy. This analysis demonstrates how technology both enables and restricts contemporary digital relational practices.

1. Introduction

Mobile-based dating applications have become common in the contemporary world, and individuals seeking intimacy and companionship in today's world resort to them. It is argued that mobile dating applications, owing to their data-driven approach, mediate intimate connections in contemporary urban metropolis [1]. They show their users people's archives that happen to be algorithmically arranged and afford interactions between connected networks [1]. In other words, digital dating applications have reformed human communication and connections by merging intimate parts of human beings' lives with technology. One of the mobile dating apps that has gained immense popularity in the global sphere is Tinder, where people swipe left or right on individuals who are presented to them like cards from a deck, and where intimacy, sex, and love are at stake [2]. This ability of the application to connect individuals through the swipe feature is data-driven, based on data input by users in their profile and data analysis of real-time activity of nearby people through employing GPS systems [2]. This implies that data plays a significant role in helping individuals establish intimate connections on digital dating applications, i.e., a kind of digital intimacy is established.

Consequently, a key theme of datafication and the key issue of digital intimacies arise in the case of mobile dating applications like Tinder, i.e., intimacies are shaped by digital data. Datafication is the process in which practices, objects, and subjects are transformed into quantifiable data [3]. People's social lives have become 'datafied' too; whereby, in the digital realm, human beings' interactions in the form of comments, likes, shares, online shopping, and web browsing become data that are stored to analyze human habits and trends. On the other hand, digital intimacies have become a common phenomenon as well; wherein, humans now make use of digital platforms like social media sites to establish, negotiate, and sustain their personal relationships [4]. These arguments suggest that

platforms like Tinder store the social life interactions and activities of their users in the form of quantifiable data to help them establish and sustain their intimate relationships. This essay aims to critically analyze the implications of datafication on the mobile dating application -- Tinder -- and what kind of digital intimacies are afforded by the dating platforms. The essay first introduces and describes Tinder, later it shows how Tinder engages in datafication and algorithmic matchmaking, and in the third section, it emphasizes how datafication on Tinder helps individuals establish digital intimacy. This essay shows how datafication on Tinder has not just reformed human connection and intimacy, but also has other serious implications for human intimacy vis-à-vis algorithmic biases and user agency. This essay also shows how though Tinder facilitates digital intimacies that are empowering and give agency to its users, its structures and algorithms techno-structurally regulate and limit the formation of non-normative forms of intimacies.

2. The Case of Tinder

Tinder was founded in 2012 and is one of the most popular mobile dating applications in the contemporary world. The application is a geosocial algorithmic matchmaking platform that connects people who want to engage in platonic and romantic relationships [5]. In 2023, Tinder's users surpassed 75 million users [5]. The users of the app swipe to the right to show interest and to the left to ignore an individual. At first glance, this appears to be a simple control, but behind this action is a sophisticated technology that can connect individuals based on distance, desire, and conduct [6]. That is, Tinder works on a complex algorithm that connects different individuals based on their preferences, geographical proximity, and behavioral patterns [6]. Regarding the sociodemographic on the application, a study has found that older youths aged between 18-26 years, sexual minorities, single people, and men were the majority of users of the dating app [7]. Tinder then seems an easily accessible dating app for diverse groups of people, and given its popularity, it opens the nuanced discussion of how it has transformed intimacy.

Interestingly, Tinder is not just a dating app but also an advanced technological platform. It does not simply connect individuals but also gathers and evaluates their behavior and activities and transforms them into quantifiable data [7]. This collected and analyzed data is then used by various algorithms to recommend suitable matches to the users [7]. Here, Tinder exemplifies Web 3.0, which functions on algorithms that are codes that accommodate people's personal interests [8]. Tinder then codifies the personal preferences, personal characteristics, and behaviors of a person and performs math on it to make suitable suggestions and recommendations. Consequently, Tinder has been chosen as a case because it highlights the intersection of human relationships (intimacy) and technological innovation (Web 3.0 and datafication), making it a compelling case for nuanced sociological analysis.

2.1. Tinder and Datafication -- A Critical Analysis

It is now imperative to analyze how datafication is reflected in the digital mobile dating app Tinder. Datafication refers to the phenomenon where all kinds of media texts and social interactions that happen to be natural phenomena are translated into quantifiable data [9]. A case in point is the algorithm as it converts user information such as swipes, likes, and user profile information into data to make predictions about who might suit whom and facilitate matches [10]. This process corresponds to Bucher's (2018) view on "algorithmic power," which describes the functions of algorithms as not only sorting and ranking information and data but also as affecting social conditions by placing specific people and things in the spotlight [8]. That is, Bucher (2018) argues that algorithms rank and sort data and thereby influence what is knowable and visible to the users of digital platforms [8]. Besides, algorithms also happen to be dynamic, i.e., they exist in relation to how people interact with them; whereby, people's clicks, likes, and shares are observed by algorithms that then alter their

outputs [8]. Algorithms also have ontological politics where they construct realities in which they function by recommending, categorizing, and sorting specific kinds of conduct [8]. The power of algorithms lies in the fact that they can construct social and mediated realities that shape what people see and do not see, which has serious implications. Thus, datafication is the process where users' activities, profiles, and behaviors are transformed into data-based quantifiable information by algorithms.

On Tinder, datafication is quite visible and deeply embedded in how the mobile dating app functions. On Tinder, every swipe left or right, or every match, is regarded as a piece of information about the users' choices by the platforms' algorithms, which it collects, evaluates, and quantifies to enhance its accuracy in subsequent recommendations and matches [11]. Likewise, profile characteristics like sex, locality, and hobbies become structured information, thus allowing the system to sort users into databases and make suggestions in accordance with similar characteristics or vicinity [11]. This implies that relationships and connections on Tinder are motivated by a datafication process where social interactions become datafied, and they do not occur naturally. Here, social and personal information becomes key data for establishing social relationships, which reflects shifts in dating culture in the contemporary world.

Furthermore, it has been established that there is a gender and racial bias within Tinder, where gender and race greatly influence the attractiveness of a person; whereby, conventional attractiveness and standards of beauty are prioritized [12, 13]. For example, it was found that people of color were routinely met with fewer matches than they deserved, which contributed towards the ongoing social discrimination against them [13]. This is reflective of Bucher's (2018) argument; whereby, Tinder's algorithm reinforces social constructs and puts them in the spotlight who are 'socially' more beautiful and are socially considered to be normal [8]. Pre-existing biases are normalized, which substantiates Bucher's (2018) argument that algorithms do not just sort personal data and preferences of users but also determine what they see -- while middle-class male and women's profiles are prioritized and privileged -- while people of color and individuals from sexual minority groups remain marginalized [8]. This indicates the power of Tinder's algorithms as they shape mediated realities that normalize exclusion and inclusion and mold users' interactions and perceptions.

Moreover, Tinder's algorithms also create ontological realities that are very much based on how the users respond to the platforms through their activities and preferences. Tinder helps its users by displaying potential matches that are predicted computationally by the algorithm to be desirable and appealing [11]. Desirability and appeal by the algorithm are then decided based on the activities and behaviors of users who tend to swipe right on white middle-class individuals while ignoring other groups of people [11]. This creates an ontological reality; whereby, Tinder's datafication shapes the reality based on user conduct and, in broader terms, alters social relations by further embedding the socioculturally defined standards of attractiveness as well as the likelihood of pairing preference. Datafication on Tinder indicates that while algorithms are employed to optimize compatibility between different individuals, complex human emotions and actions are merely reduced to quantifiable data metrics. This is indicative of a datafication critique that asserts that datafication is an oversimplification of various complex human behaviors and emotions, which results in ignorance of the emotional depth and nuance of social relationships and interactions [14]. Datafication reinforces the status quo despite being an advanced technological innovation, which also restricts user agency and autonomy because here users are not making decisions freely, but their decisions are limited and shaped by platform affordances and algorithms.

However, the innate oppressive nature of mobile dating apps and their oppressive algorithms have been problematized. Tinder has given a safe space to people with a non-mainstream sexual orientation to meet and build connections with people. In China, LGBTQI+ people make use of Tinder via VPN services, and the application has proved to be immensely empowering for sexual minorities and

women [15]. In Uganda as well, Tinder and other mobile dating apps have given gay men and other LGBTQ counter-publics opportunities for expression [16]. That is, Tinder algorithms do not always overshadow gendered minorities and, instead, help sexual minorities to build connections that might be difficult to establish in the real world. However, what is important here is that big tech corporations like Tinder extract profits from datafication of intimacy and love [17]. Consequently, while Tinder facilitates LGBTQ connections, it eventually reduces their information and connections into data, and they are reduced to 'commodities' and 'products' through which the platform extracts profits. Thus, Tinder privileges profit over inclusivity; wherein, datafication helps platforms in the extraction of profit and revenue generation.

2.2. Tinder and Digital Intimacy: A Critical Analysis

The mobile dating app Tinder also exemplifies the key issue of digital intimacy. Digital intimacies can be described as physical and emotional closeness that human beings establish, maintain, and curtail through means of digital technologies [2]. Tinder helps and facilitates individuals to connect with unfamiliar people based on the profiles curated by both parties, and this is reflective of 'stranger intimacy.' That is, Tinder allows and multiplies encounters and openness with strangers across the globe with much efficiency through preference-based filters and is transforming intimacy and encounters, thereby exemplifying digital intimacy [18]. Besides, digital intimacies are the kind of intimacies that are characterized by empowerment and agency because the users have immense freedom to choose a communication channel from a variety of them available based on with whom and how they want to build intimacy [19]. Digital intimacies are built with a degree of control because the users can choose whom to connect with and how. This is evident again in the case of Tinder; where the individuals who are looking to establish romantic and platonic relationships choose Tinder to do so from a variety of other dating mobile apps. Besides, they also have the choice to swipe right on individuals they want to and left on individuals they want to ignore.

A couple of studies have highlighted the agency and empowerment that arise in digital intimacies. Fernandez and Birnholtz (2019) in their study have demonstrated transgender experience of self-disclosure on dating apps and showcased the concept of self-empowerment and exercising agency in the context of digital intimacy [20]. Transgender dating users opt for self-disclosure [20], which empowers them by directly controlling their narrative and their interactions. This guarantees that their narrative remains safe and authentic [20] as they determine the conditions which, in turn, allows them to reveal sensitive information on their terms. This ensures their right to make decisions on how sensitive information is handled, portraying a sense of autonomy and intention in shaping the actions and representation of their online identities. Furthermore, another study focused on China has argued that digital intimacies not only help gay men in the People's Republic of China to have control over their sexualities but also enable them to engender feelings of authenticity, belongingness, and community [21]. This implies that digital intimacies establish safer and more empowering kinds of intimate spaces for gendered minority groups who do not have to remain in fear owing to their marginalized social identities.

This empowerment and agency are also reflected in the case of Tinder. It has been argued that for transgender and other LGBTQ groups, Tinder is not always a platform to find love; instead, often it is a space that they use to meet new people and build new and authentic friendships and companionships [22]. For them, Tinder is a semi-anonymous mobile app that offers them a free and safe environment where they have the choice to disclose or not disclose their sexualities [22]. This indicates that Tinder has reformed intimate relationships, especially for gender minority groups who now have the choice and freedom to control their dating choices and narratives. Besides, Tinder also helps them to build an intimate community -- here, intimacy is not reduced to just romance -- which

is often difficult for gender non-conforming people in the real social world. That is, Tinder facilitates a kind of digital intimacy that is not shaped by transphobia or homophobia but rather fosters feelings of belongingness and community.

However, not always does Tinder facilitate empowering and autonomous digital intimacies for gender minority groups. Digital intimacies are now being increasingly regulated. Foucault (1988) has argued that when possibilities for maintaining intimacies arise, potential ways in which intimate lives can be regulated also proliferate [23]. One such way in which digital intimacies are now being regulated is techno-structural; whereby, structural frameworks of technological digital platforms, i.e., its algorithms and designs, shape the user behaviors, activities, and social interactions [24]. This regulation on digital dating apps is done through codification; whereby, relationships are codified into social, emotional, professional, familial, sexual, committed, casual, normal, deviant, and so on [25]. Such codification often forecloses possibilities of building intimate relationships that might challenge the normative forms of intimacies, thereby sustaining the social world's normative expectations [25]. Thus, digital intimacies fostered by mobile dating apps are not always empowering and give agency to their users because the codification of relationships prevents the establishment and maintenance of non-normative types of intimacies that do not fit within conventional forms of relationships. That is, digital intimacies are regulated; whereby, some forms of it are privileged while others remain non-codified and thereby, excluded.

The techno-structural regulation is very much embedded in Tinder as well. Tinder has been created within Silicon Valley, which though claims of democracy are primarily based on ideas of white upper-middle-class heterosexual males and thereby perpetuates their visions [26]. That is, the algorithms of the platforms are wired along the lines of gender and sexual orientation social divisions and inequalities [27]. This makes these platforms rigid and thereby exclusionary for those individuals who do not conform to traditional racial, sexual, and gender identities like transgender people and bisexual people. This has been demonstrated in the above section as well; whereby, it has been shown that Tinder's algorithms do not prioritize profiles of people of color and people belonging to gender minorities [12, 13]. This is evident in techno-structural regulation on Tinder, which limits the agency of people from marginalized backgrounds from building digital intimacies that are empowering because the kind of intimacies that they engage in are excluded because of the way the platform has been structured.

Tinder becomes not only exclusionary but also uncomfortable and antagonistic to people who do not fit within codified forms of relationships and sexual and gendered identities that are considered to be the norms by the platforms. Thus, digital intimacies are then regulated and monitored by the technological structures, designs, and algorithms, and such regulations shape user behaviors, reinforce the status quo, and mold user interactions. Such techno-structural regulation of digital platforms on Tinder is also indicative of reductionistic datafication. That is, by storing people's sexual and gendered identities in the form of homogenous quantifiable data, not only social identities are simplified, but more complex and fluid identities find no space in Tinder's algorithms, which leads to their marginalization. Moreover, by storing information on relationships in the form of data codes, complex human relationships and emotions are simplified, and more fluid forms of intimacies remain unaccommodated.

3. Discussion and Conclusion

In the previous sections, this essay has focused on how Tinder, one of the most popular mobile dating apps, illustrates the datafication of what many perceive as intimate relations. In other words, the preferences and actions of the users are harvested in the form of data, and the algorithms of Tinder use this data to create relationships among users. However, this process also contradicts many

concerns about algorithmic bias and users becoming voiceless. Tinder essentially employs a datafication model where users' actions such as swipes and matches are recorded and then used to forecast if there will be a possible connection between two users. This is consistent with the concept of "algorithmic power" coined by Bucher (2018): algorithms not only process data, but they also alter society by deciding which individuals and which social interactions are put at the forefront [8]. As a result, the algorithms employed by Tinder alter the way users think and act, thus maintaining pre-established biases and stereotypes.

Moreover, the essay has argued that digital dating apps like Tinder allow and multiply encounters and openness with strangers across the globe with much efficiency through preference-based filters and are transforming intimacy and encounters, thereby exemplifying digital intimacy. Moreover, Tinder has reformed intimate relationships, especially for gender minority groups who now have the choice and freedom to control their dating choices and narratives. Besides, Tinder also helps them to build an intimate community -- here, intimacy is not reduced to just romance -- which is often difficult for gender non-conforming people in the real social world. That is, Tinder facilitates a kind of digital intimacy that is not shaped by transphobia or homophobia but rather fosters feelings of belongingness and community. However, the app's techno-structural regulations fall short of permitting a wider variety of intimate relations that limit agency and empowerment within digital intimacies.

Thus, in conclusion, Tinder's algorithm is a fusion of social discrimination and societal trends and is also an example of how data tools impact the formation of intimate ties. This adds to digital sociological insights by demonstrating how social media tools can act as a social mirror and a social-schemata reinforcement tool, further demonstrating the complicated relationship between technology, information, and social interaction. While Tinder offers different ways of making connections in the ever-growing digital world, it also is an example of the issues that emerge with the datafication of intimacy, where emotions and relationships that are highly intricate are simply reduced to a singular data point that restricts the amount of diversity and truth within intimate interactions. This study adds to the field of digital sociology and illuminates how technology and human relationships interact with one another. This essay seeks to provide a nuanced understanding of the relationship between datafication and digital intimacies, and how algorithms are used to manipulate users, thereby perpetuating structural bias, and forcing us to think about the ethics of digital technologies used in 21st-century social life.

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