

Imagining Algorithms to Believe In: Comparing OkCupid and Tinder Users' Perceptions of Algorithms to Uncover Alternatives to Algorithmic Exploitation on Dating Apps

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Although the advance of algorithmic media into everyday life by phone apps has been decried as exploitative, these apps remain extremely popular. To explore why this is, I compare the algorithmic imaginary of a prototypical dating website (OkCupid) with that of a prototypical dating app (Tinder). These imaginaries were derived from Reddit forums and interviews. By comparing these imaginaries, I show that transparency and reciprocal disclosure of private information were affordances valued by online daters prior to the widespread adoption of dating apps to find dates. I argue these affordances, well suited for the social connections users turn to algorithmic media for, could inform more compelling alternatives to algorithmic exploitation than calls for more privacy.

Keywords: critical algorithm studies, algorithmic imaginary, media archaeology, surveillance capitalism, surveillance realism, Tinder, dating apps, online dating

As touchscreen phone apps extend the reach of algorithmic media into more and more domains of everyday life, critiques of them have become more pointed and well read (Benjamin, 2019; Noble, 2018; O'Neil, 2016; Pasquale, 2016). These critiques are important, but if users cannot imagine better alternatives, they may feed into the widespread user resignation to algorithmic exploitation that is actively cultivated by media corporations (Draper & Turow, 2019). If both scholars and media corporations foster resignation to algorithmic exploitation, "surveillance realism" (Dencik & Cable, 2017)—a cultural milieu where there seems to be no alternative to algorithmic exploitation—will become overwhelming. Because critical algorithm scholars rarely work to imagine better algorithms, I propose conceptual and methodological tools to do so in this article.

Although critical algorithm scholars rarely attempt to imagine better algorithms, they have started investigating how algorithmic exploitation might be resisted (Benjamin, 2019; Couldry & Mejias, 2019; Draper & Turow, 2019; Markham, 2021; Ytre-Arne & Moe, 2021; Zuboff, 2019). These investigations usually consider algorithmic exploitation in general and propose increasing privacy as their go-to solution. But users'

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concerns are specific to the type of platform they are using and rarely focused on a lack of privacy (Haber, 2019; Markham, 2021). In this article, I thus interrogate what online daters think about algorithms to uncover their actual concerns.

Empirical studies of dating apps tend to problematize the sexist and racist messages users send to each other (Hess & Flores, 2018; Lee, 2019; Mason, 2016; Narr, 2021b; Shaw, 2016). Instead of focusing on how users feel about each other, I consider how users feel about algorithms in this article. I thus contribute to the literature on users' perceptions of algorithms that has recently been addressed with respect to dating apps (Courtois & Timmermans, 2018; Wang, 2020) by comparing users' perceptions of algorithms on two dating platforms designed for different material hardware rather than a single platform. In this way, I investigate how perceptions of algorithms may have changed after the widespread adoption of dating apps for finding dates.

Methodologically, I investigate this possible change by comparing OkCupid's and Tinder's "algorithmic imaginaries" (Bucher, 2017)—or how users of these platforms think their algorithms work and the affects, emotions, and feelings induced by these imaginings. These imaginaries were derived from an analysis of OkCupid and Tinder subreddits and 48 "media go-along" interviews, where I questioned respondents as they used their dating apps (Jørgensen, 2016). After presenting these imaginaries, I then analyze them using a media archaeological lens, a perspective that scholars have developed to flesh out details from past media contexts (Kittler, 1992; Parikka, 2012).

OkCupid and Tinder are suitable for a media archaeology because they are prototypical dating platforms that have been dominant within subsequent material contexts. OkCupid was the most popular dating platform before 2015, when most online daters were using personal computers (PCs), whereas Tinder has dominated the ecology of dating platforms since 2015, after which most online daters have been using phone apps (Abolfathi & Santamaria, 2020; Clement, 2019; Romano, 2014).

Dating websites use static algorithms to generate "compatible" matches from questions users deliberately answer for that purpose, whereas dating apps use dynamic algorithms analyzing habitual behaviors to recommend users to each other (Fellizar, 2015; Tinder, 2019). This change in algorithmic sorting aligns with the tendency within data-driven capitalism to make use of the ubiquitous datafication gathered by touchscreen phones by channeling increasing domains of everyday life through dynamic algorithms (Albury, Burgess, Light, Race, & Wilken, 2017; Couldry & Mejias, 2019; Srnicek, 2016; Weltevrede & Jansen, 2019; Wilken, Burgess, & Albury, 2019). This transition to phone apps also correlates with a pessimistic turn in the way people perceive the algorithms governing their engagement (Dencik & Cable, 2017; Draper & Turow, 2019; Zuboff, 2019). Through this media archaeology of algorithmic imaginaries, I situate the imagination of online daters within these broader trends in data-driven capitalism.

I then develop my theoretical and methodological framework, describe how dating apps and sites differ, and present three questions to animate a comparison of the imaginaries of dating sites with that of dating apps. These questions are especially designed to help me uncover affordances users find more or less exploitative about dating apps with respect to dating sites. After a note on methods, I present and discuss the algorithmic imaginaries of OkCupid and Tinder users. Finally, I conclude with two main findings:

(i) a media archeology of algorithmic imaginaries can uncover valued algorithmic affordances from the past, when it was easier for users to imagine algorithms were aligned with their desires, and (ii) being able to disclose private information through transparent algorithms was valued by online daters prior to the rise in popularity of dating apps. I ultimately suggest these insights are helpful for envisioning algorithms worth striving for despite the atrophy of imagination induced by surveillance realism.

Theoretical Framework: Algorithmic Exploitation and Surveillance Realism

Data relations between users and algorithmic media have been critiqued as exploitative because they foster habitual engagement, stoke hate and bigotry, exacerbate inequality, and shape behavior through proprietary algorithms subject to little oversight (Couldry & Mejias, 2019; Pasquale, 2016; Sampson, 2020). Proposals to reduce this exploitation largely focus on increasing user privacy. For instance, Zuboff (2019) argues that social media eradicates the private space for sovereign and autonomous individuals to flourish. She thus calls for the “the sanctity of ‘disconnected’ time and space” to allow for “the ripening of inward awareness and . . . reflection on and by oneself” (Zuboff, 2019, p. 448). Although Zuboff’s (2019) call for privacy seems like a logical solution to surveillance capitalism, most users believe personal data are used by algorithms to provide them with a better experience (Kapsch, 2022), knowledge of algorithmic exploitation does not lead users to engage differently with algorithms (Lomborg & Kapsch, 2020), and interventions designed to raise critical consciousness about algorithmic exploitation do not help users imagine alternatives to this exploitation (Markham, 2021). Users may seem unconcerned about the lack of privacy on platforms because privacy is tangential, if not directly counter to, the social goals users turn to algorithmic media for (Chun, 2016; Haber, 2019; Markham, 2021). A more nuanced understanding of what users actually find exploitative in particular contexts may thus be needed if compelling solutions to algorithmic exploitation are to be devised.

Exploitative media may also be hard to resist because users feel they lack alternatives, an outcome of a cultural milieu that Dencik and Cable (2017) call “surveillance realism.” Surveillance realism occurs when “lack of transparency and knowledge in conjunction with the active normalization of surveillance through discursive practices and institutional sanctions manifested in its ubiquity comes to negate prominent concerns, ultimately limiting possibilities for alternative imaginations of organizing society” (Dencik & Cable, 2017, p. 777). This indicates opacity and information asymmetry—not data gathering in and of itself—are key factors contributing to the difficulty of imagining alternatives to algorithmic exploitation. Thus, though some users think they can game algorithmic media to their advantage or do not care about algorithmic exploitation (Albury et al., 2017; Cotter, 2019; Wang, 2020), many become resigned to it because alternatives are hard for them to imagine. Indeed, media corporations actively cultivate user resignation to algorithmic exploitation (Draper & Turow, 2019). Some users also avoid thinking about or become irritated with algorithmic exploitation (Petit, 2020; Ytre-Arne & Moe, 2021). Users tend to become more irritated with algorithmic exploitation as they learn more about it (Sander, 2020). And they become especially irritated when they feel they have little control over whom they share personal information with (Lutz et al., 2020).

Irritation and resignation can be seen as affective moods permeating algorithmic imaginaries. Affective moods have been interrogated by media scholars to uncover how users’ feelings, emotions, and habitually performed behaviors become entwined with algorithms, material hardware, and interface

protocols (Bucher, 2017; Clough, 2018; Gregg, Seigworth, & Ahmed, 2010; Hansen, 2015; Paasonen, 2021; Sampson, 2020). Affective moods are central to the algorithmic imaginary as it is conceived by Bucher (2017). According to her, people experience affects that algorithms generate by speaking through users. That is, by orchestrating user interaction, algorithms produce affective moods permeating digital spaces. Understanding the affective moods of algorithmic imaginaries may help pinpoint contexts where compelling solutions to algorithmic exploitation are more likely to be embraced.

Methodological Framework: Media Archaeology of Algorithmic Imaginaries

The hardware shift within the ecology of dating platforms throughout the 2010s makes media archaeology a promising framework to interrogate how this shift may have influenced how users perceive dating platforms. A media archaeology is a perspective that follows “descent in terms of computer infrastructures” as a way to revisit past sociocultural milieus (Parikka, 2012, p. 81). This perspective is useful for uncovering how media was imagined in the past and, in turn, envisioning better media for the future. Media archaeologists rarely work their way back to the PC as a mode of material hardware predating the predominance of touchscreen phones for everyday social engagement (Kittler, 1999; Parikka, 2012). But this archaeological shift in material infrastructure is important to investigate because touchscreen phones are different from PCs insofar as they incorporate touch and incessantly extract data from users (Parisi, 2018).

Imagining better media is important because media affordances are rarely engaged if they are not imagined (Nagy & Neff, 2015). Bucher (2017) notes that imagining algorithmic affordances is important because algorithmic imaginaries affect how users engage algorithms and, in turn, how algorithms function and develop. As archives housed in libraries and museums are increasingly supplanted by databases like Twitter, Reddit, and Instagram, media archaeologists are looking for ways to leverage this dynamic cultural memory to envision better media (Parikka, 2012). A media archaeology of algorithmic imaginaries leveraging Reddit forums is proposed in this article, in part, to uncover how online daters imagined algorithms when they were primarily using PCs, a time when users’ perceptions of algorithmic media were more optimistic (Dencik & Cable, 2017; Draper & Turow, 2019; Zuboff, 2019). Later, I justify using Tinder and OkCupid as case studies for tracking historical descent in terms of dominant computer infrastructures used by online daters.

Differences Between OkCupid and Tinder

How OkCupid and Other Dating Website Algorithms Work

Popular dating websites—such as OkCupid.com, Match.com, and eHarmony—recommend users according to algorithms ostensibly designed to make good matches from questions users deliberately answer for that purpose. For instance, the algorithm OkCupid originally devised to make recommendations calculates thousands of multiple-choice questions that users answer, called match questions. Users are also prompted to indicate what answers they would like from their dates, how important they find each question, and whether they would like to answer questions publicly. Although this “match percentage algorithm” is no

longer OkCupid's default recommender system, it can still be used if one takes the time to find and select it. However, the functionality of this algorithm is drastically reduced on its app.

The algorithms touted by dating websites may account for some of the rise in popularity of online dating over the past 20 years, with 40% of couples in the United States meeting online by 2017 (Rosenfeld, Thomas, & Hausen, 2019). Algorithms may have enticed users to join dating websites and contributed to the rise of online dating. But dating website algorithms have been critiqued because there is no scientific evidence that compatibility can be determined before people meet (Joel, Eastwick, & Finkel, 2017). They have also been critiqued for fostering a market mentality that saps the affective intensity romantic relationships had hitherto been founded on (Heino, Ellison, & Gibbs, 2010; Illouz, 2007). These are important critiques of dating website algorithms. But the algorithms dating websites tout have also been found to mitigate the information overload and overabundance of choice that often thwarts online daters' attempts to find dates (Ansari & Klinenberg, 2016; Illouz, 2012; Tong, Hancock, & Slatcher, 2016). In addition, believing in matching algorithms tends to increase personal disclosure before a date, making a successful date more likely (Sharabi, 2020).

How Tinder and Other Dating App Algorithms Work

Whereas matching algorithms are often touted by dating websites, the most popular dating apps do not call attention to their recommender systems. Tinder became the first dating app not geared toward the gay community in 2012. It became popular, in part, because of its swipe protocol, where users swipe right on a profile if they wish to be matched with someone and left if they do not. Subsequent dating apps copied Tinder's two signature features: minimalistic profiles and a swipe interface. In fact, OkCupid's app, which has been more popular than its website since 2015, copied Tinder's swipe interface down to its very code (Ludwig, 2013; Romano, 2014). Since 2015, the two most popular dating apps have been Tinder and Bumble, overtaking OkCupid's place as the most popular dating platform and dwarfing the usage rate and market share of dating websites (Abolfathi & Santamaria, 2020; Clement, 2019). These apps both show users a stack of profiles to either "like" or "dislike" by swiping right or left. They only allow users who have both "liked" each other to chat. And they match users through dynamic algorithms based on swiping and messaging patterns (Fellizar, 2015; Tinder, 2019). Tinder users believe its algorithm is calibrated to make it hard for them to find quality dates, so they will pay for special features (Courtois & Timmermans, 2018; Narr, 2021a; Narr & Luong, 2022). And though dating app users have found ways to game their algorithms, these strategies are easily discouraged by algorithmic adjustments made by dating apps (Albury et al., 2017).

The Public Images of OkCupid and Tinder

The different data logic of dating sites compared with dating apps outlined earlier is reflected in different public images for OkCupid and Tinder. For instance, one of the founders of OkCupid's website claimed he devised OkCupid as an ethical alternative to subscription-based dating websites (Rudder, 2015). In a popular blog post, he argued subscription-based dating sites restrict intimate connections to extract profits, which he found unethical. By contrast, he claimed OkCupid's business model of selling advertising was preferable because it did not curtail intimate connections. He also claimed he devised OkCupid's matching algorithm to make the intractable messiness of intimacy more intelligible, and he wrote popular

blogs where he shared the insights he gleaned from user data. In this way, he claimed he was giving users a return on the data they gave to the site (Rudder, 2015). In sharp contrast to OkCupid, Tinder has been close-lipped about its algorithmic recommender system, leading to many speculative accounts of how it works. The shift to opaquer platforms on dating apps is also reflected in the erosion of OkCupid's public image starting in 2014, when the use of its app overtook that of its website (Romano, 2014). In that year, it received backlash for artificially inflating match percentages (Wright, 2014).

The transition to opaque algorithms on dating apps coincides with the transition to surveillance capitalism Zuboff (2019) has outlined. She notes that digital companies started out transparently fulfilling users' desires in the early 21st century, but they soon began exploiting users solely to maximizing profits by extracting more and more data from them and analyzing this data using inscrutable algorithms. Touchscreen phones exacerbate this tendency by providing media companies with ubiquitous data, vast networks to conduct behavioral experiments within, and few legal regulations on how data can be used (Gorwa, 2019; Srnicek, 2016).

Because GPS data seem so central to the functioning of dating apps, they help to naturalize analyzing this rich data through sophisticated algorithms, which constitutes a big step in the increased cultivation of data (Albury et al., 2017). Furthermore, the reliance of dating apps on many platforms and networks creates interdependencies that obfuscate their mode of governance (Weltevrede & Jansen, 2019). The ownership of dating apps has also become concentrated within a few large corporations, which mirrors a trend in social media more broadly (Wilken et al., 2019). This may be why Tinder users are more concerned that Tinder will leak or sell their personal information than that other users will have access to it (Lutz & Ranzini, 2017).

Three Animating Questions

The preceding sections have outlined a shift from dating websites to dating apps and positioned OkCupid as a prototypical dating website and Tinder as a prototypical dating app. Given this background, three questions emerge to animate the rest of this article.

RQ1: How do users feel about dating websites as opposed to dating apps?

RQ2: What are users' reasons for using dating apps if they feel dating apps are more exploitative than dating websites?

RQ3: What algorithmic features do users feel are more or less exploitative about dating sites and apps?

Methods

The proprietary nature of algorithms makes them hard to study. It has thus been argued that critical algorithm scholars should use a combination of methods "to compensate for the drawbacks of" using a single method in isolation (Kitchin, 2017, p. 22). I thus combine an analysis of interviews with a content analysis of Reddit forums in this article. I explain why I use Reddit forums after describing my interviews.

Interviews

The interviews analyzed for this study were taken in 2017–2018, with IRB approval given by The Human Research Protection Program (HRPP) for all aspects of this protocol. Forty-eight respondents were found using snowball sampling. I branched out from my network of “friends” on Facebook and in real life, and I ultimately invited anyone who had used a dating platform in the past to participate. Although I did interview a few friends and acquaintances, most of the sample was strangers. The most common platforms used by my respondents were Bumble, Tinder, and OkCupid. The average age of the sample was 32 years old, with a range of 19–56. Three respondents were students, 41 were working in NYC, and 4 were unemployed. There were 18 men, 30 women, 29 White, 19 non-White, 27 straight, and 11 non-straight users. The respondents were diverse in terms of nationalities, being originally from Spain, India, England, Australia, Peru, Sweden, China, and Japan. Interviews were open-ended to allow respondents to expand upon unique experiences and included a “media go-along,” where I asked respondents questions as they navigated their dating apps (Jørgensen, 2016).

The interviews took 56 minutes on average. After transcribing them, I changed identifying information, coded them for recurring experiences, and grouped these codes into broader themes using thematic analysis, critical discourse analysis, and ATLAS.ti (Guest, MacQueen, & Namey, 2012). I used the following codes for this article: algorithm, app convenience, crapshoot, digital attractiveness, physical attractiveness, images, deep learning, monetization, and numbers game. These codes overlap with a key theme of this article pertaining to why users began investing more in dating apps than dating websites: addictiveness. Only a few of my respondents were familiar with the algorithmic systems used by dating websites or apps, as is consistent with other research on dating platforms (Sharabi, 2020; Tong et al., 2016).

Content Analysis of OkCupid and Tinder Subreddit Forums

Algorithmic effects can be inferred from my interviews, but because Reddit users are technologically savvy (Sattelberg, 2019), they provide greater detail to flesh out the algorithmic imaginaries of online daters. Reddit forums also provided longitudinal data, with posts and comments spanning from 2010 to 2020, a period when perspectives of algorithmic media became more pessimistic (Dencik & Cable, 2017; Draper & Turow, 2019; Zuboff, 2019). Reddit users skew White, young, and male compared with the U.S. population (Clement, 2020; Sattelberg, 2019), and the semi-anonymity of Reddit allows users to express how they feel about politically volatile topics (Lee, 2019).

To hone in on the most prominent themes discussed in these forums pertaining to algorithms, I searched for “algorithm” and sorted by the “top” posts of “all time.” I chose this “top” filter because I wanted to avoid privileging new posts, which happens in all the other sorting mechanisms Reddit offers. These other sorting mechanisms are useful for being part of the discussion. But as an archeological investigation, my goal was not to be part of the discussion; instead, I wanted to analyze posts and discussions that had garnered the most attention in the past. I thus read posts starting from the most popular until I reached thematic saturation, when no new themes were discovered in three posts and discussions in a row.

My sample included 25 posts and their comments from OkCupid’s subreddit and 14 posts and their comments from Tinder’s subreddit. I used thematic analysis to code these threads. After reading through

these threads two times, I formalized the following list of codes: exploitation, manipulation, monetization, glitchiness, too much information, counterproductive, gaming the system, working with the system, cynicism, optimism, transparency, and reciprocal disclosure. I used “transparency” and “reciprocal disclosure” as themes for OkCupid. I collapsed counterproductive and gaming the system into the theme of addiction for Tinder. And I collapsed exploitation, monetization, and manipulation into the theme of manipulation for Tinder.

To better answer my first animating question, I also coded the 25 posts in my sample of OkCupid posts on a 1–5 optimism/pessimism scale. Optimism was operationalized through words such as best, good, accurate, and efficient, whereas pessimism was operationalized through words such as worst, bad, horrible, and inefficient. On a scale of 1–5, with 5 being the most pessimistic, the period from 2011 to 2015 had an average pessimism score of 1.8, whereas the period from 2016 to 2020 had an average pessimism score of 3.4. This is statistically significant, with a W value of 34.5 and a p value of .007, using a nonparametric Mann Whitney U test. This scale suggests OkCupid users became more pessimistic about its algorithm after 2015, the year that its app usage exceeded its website usage, but it does not pinpoint why this happened. Later, I present themes from posts and comments prior to this pessimistic shift to approximate OkCupid’s algorithmic imaginary when most of its users were still using its website. I also omit the handles and identifying information of Reddit users, as is appropriate when presenting online comments (Hallinan, Brubaker, & Fiesler, 2020).

Findings: The Algorithmic Imaginaries of OkCupid and Tinder Users

I present two themes in each of the two imaginaries that follow: transparency and reciprocal disclosure for OkCupid and manipulation and addiction for Tinder. Each theme will start with a brief description, followed by an exemplary quote from my interviews and then exemplary quotes from Reddit forums. Although the concerns of my respondents and redditors align, redditors provide more detail about how they think algorithms work. I analyze these imaginaries with respect to my research questions in the discussion section.

OkCupid’s Algorithmic Imaginary

Users’ Perceptions of OkCupid’s Transparent Algorithm

The first theme within OkCupid’s algorithmic imaginary is that users value the transparency of its algorithm because they think it affords them control over their recommendations.

For instance, respondent Diana says:

On OkCupid, I guess I look at the match percentage, and I kind of go with that quite a bit. So below eighty, I don’t think I would even read their profile, or seventy-five actually. I have it filtered, and anyone under seventy-five, I don’t get their messages directly to my inbox.

Diana expresses a general belief that OkCupid's algorithm is useful for filtering out incompatible matches that many of my respondent's echo. Although none of my respondents explain how OkCupid's algorithm works in detail, redditors do.

In a typical exchange on OkCupid's subreddit, someone asks, "Do you know what the difference is between Match % and Friend %?" Someone then responds,

You need to take the match % for what it is: Just a possibility of a match. For the number [match percentage] to be really a good indicator, both parties need to answer enough number of questions and assign proper weights.

Another redditor then links to an explanation from an ask-me-anything subreddit session, where someone working at OkCupid had answered questions from users in real time. Frequent exchanges like this indicate OkCupid users value the transparency of its algorithm. They believe that this transparency allows them to understand how OkCupid's algorithm works and that this helps them use it to find quality dates.

Users' Perceptions of OkCupid's Reciprocal Disclosure

The second key theme in OkCupid's algorithmic imaginary is that users value being able to reciprocally disclose private information with others by making their answers to match questions public. They think this allows them to get the most out of OkCupid's algorithm and overcome the limitations of reducing attraction to the match percentage alone. For instance, respondent Alexis expresses the common sentiment that she likes being able to look at answers to match questions that users have made public.

Because of my ex-husband being an alcoholic, I was very concerned with how much people liked to drink or use drugs. You know, they ask questions like, "what do you think is an appropriate amount of dates before you sleep with someone," for instance. So those were useful for me.

Many of the respondents echo this sentiment that they like looking through publicly answered match questions.

Although none of my respondents describe how they think match questions function with respect to OkCupid's algorithm, redditors do. For instance, in a typical exchange on OkCupid's subreddit, a redditor says, "I'm pretty sure all great relationships are built on knowing what Stale is to Steal." This is a sarcastic comment referencing a match question many redditors see as irrelevant to compatibility. But the next commenter explains in detail why this question is especially useful to him. He begins, "Man, seriously, this is my number one question to judge women on." This exchange exemplifies the idiosyncratic value users attribute to different questions, making it useful for them to be able to see how dating prospects answer individual match questions.

Another typical example of users valuing having access to match question answers is given in a discussion under the post "the algorithm doesn't care about your explanation." This post links to a screenshot of a match question that has been answered with an explanation. The question is, "If you had a one-night

stand during a relationship, would you confess to your mate?" The answer is no, and the explanation is, "Because . . . i would not do that." This post is poking fun of users who give explanations to match questions because the algorithm cannot factor them into its calculations, but many redditors disagree with this sentiment. One says, "I definitely care more about the explanation than the algorithm." Another redditor then explains the flaw in this strategy, saying, "You won't even have the opportunity to read the explanation if the algorithm determines the match % is too low because of bad answers like this." This debate about how to approach match questions is played out many times, but more users say they value publicly answered match questions more than the match percentage. They believe having access to these answers allows them to use the match algorithm without having to blindly trust its match percentage.

Tinder's Algorithmic Imaginary

Users' Perceptions of Tinder's Algorithm as Manipulative

The first theme in Tinder's algorithmic imaginary is that users believe its algorithm manipulates them for the sole purpose of generating profits. For instance, respondent Sara notes,

The problem with these apps is the algorithms that they have behind them determines most of it—the what?—the algorithms. The algorithms, you know? The algorithms built in these apps produce shit for most of us, pardon me, because, and I have tested this a bit, where if you are a paying member or a non-paying member, what gets presented to you, or what you get matched with, will be different.

Few of my respondents are as precise as Sara about how they feel algorithms work on dating apps, but redditors go into greater detail. I give just three typical examples of the manipulation redditors attribute to Tinder's algorithm here: (i) "don't ever upgrade. Apparently once they know you are willing to pay money they'll make your account shit whenever you aren't paying;" (ii) "it's the guaranteed mathematical end result of any system with microtransactions and a profit motive;" and (iii) "they could defend this manipulation in court . . . by blaming the 'bugs.'" The prevalence of comments like these indicates users think Tinder's algorithm is calibrated to manipulate them in search of profits instead of helping them find quality dates. And this manipulation seems unavoidable because users think it is facilitated by larger systems, such as the economy and the criminal justice system, that make this manipulation both lucrative and legal.

Users' Perceptions of Tinder's Algorithm as Addicting

The second theme in Tinder's algorithmic imaginary is that users feel its algorithm is designed to be addicting because of the way it is calibrated to keep users swiping. For instance, respondent Tom expresses the common sentiment that Tinder is addicting because of its swipe protocol:

Some people are on Tinder just for the dopamine. They're just like, "Oh cool!" and then like they're done. And then that's it. And they just want to be liked. I have done that sometimes. Like, "Ahhhh! I don't know why I'm swiping!"

Although many of my respondents felt swiping is addicting, they did not link this addictiveness to Tinder's algorithm, as redditors do. Redditors describe Tinder's algorithm as addicting because of the way it modulates the timing of enticing profiles for users to swipe on. For instance, the post "a romantic doesn't believe in algorithms" features a cartoon character under the heading, "when Tinder only shows me hotties to make me use the app more again." The character is saying, "You son of a bitch, I'm in." This image conveys the common sentiment that Tinder's algorithm works to keep users swiping by sending them enticing profiles as soon as their interest begins to wane.

Redditors also feel Tinder's algorithm incentivizes counterproductive swiping strategies, so users become habituated to swiping. A typical example of this sentiment is expressed in the post "gotta play to the algorithm," which is a meme featuring two images of a famous rapper. In the top image, he is disdainfully giving the hand to the camera while saying, "Superliking a girl because she is super hot." In the bottom image, he is smiling triumphantly at the camera while saying, "Swiping left because she is way out of your league." This meme depicts the absurd satisfaction users believe Tinder's algorithm encourages them to get from rejecting attractive profiles. They believe this occurs because rejecting attractive profiles is thought to increase their own algorithmically determined "attractiveness" rating, in turn bumping them up in the stack of profiles others swipe through. I discuss these imaginaries with respect to my three animating questions next.

Discussion: Comparing the Algorithmic Imaginaries of OkCupid and Tinder Users

RQ1: How do users feel about dating websites as opposed to dating apps?

The imaginaries above suggest online daters believe dating apps are more exploitative than dating sites. OkCupid users became more pessimistic as more users began turning to its app instead of its website to find dates. And whereas OkCupid users felt its algorithm could be used to find quality dates prior to the widespread adoption of dating apps, Tinder users believe its algorithm is calibrated to maximize profits rather than provide them with quality recommendations.

RQ2: What are users' reasons for using dating apps if they feel dating apps are more exploitative than dating websites?

It is clear from Tinder's algorithmic imaginary that many dating app users feel dating apps are exploitative, yet they continue to use them. This is because they feel Tinder's algorithm is calibrated to be addicting. That is, they think it gives users lots of enticing profiles to swipe on and many matches early on to get them hooked. Although users note that these enticing matches and profiles soon become scarce, they think the algorithm provides them with additional enticing matches and profiles if their interest begins to wane. They thus feel that that the excitement and recognition provided by the app—in the form of appealing profiles and matches—are calibrated by the algorithm to keep them hooked rather than to link them with compatible users. They thus feel compelled to swipe while being cynical about finding what they are looking for. The effect of this addictiveness is compounded by the fact that there does not seem to be an alternative to using dating apps. For instance, though dating websites like OkCupid might seem to provide an alternative to dating apps, OkCupid's algorithmic imaginary has shifted over the past 10 years to become more pessimistic. In fact, users now believe that its algorithm is quite similar to Tinder's. A typical example of

this sentiment is expressed in a post written in 2018. It says, "The match % has gotten less helpful over time, and they [OkCupid] seem to be stubbornly focused on getting people to swipe instead of encouraging people to write and read thoughtful profiles. It's a shame." As dating apps became more popular throughout the 2010s (Abolfathi & Santamaria, 2020; Clement, 2019), OkCupid users perceived a broad shift in the ecology of dating platforms to a business model like the one Tinder inaugurated. This suggests that as more users began reaching for their phones instead of their PCs to find dates, a shift in the algorithmic imaginary of online daters occurred, with dating websites no longer being seen as viable alternatives to dating apps.

RQ3: What algorithmic features do users feel are more or less exploitative about dating websites and apps?

The Alignment of Dating Apps With Data-Driven Capitalism

Tinder users think Tinder's algorithm is exploitative because it manipulates them solely to maximize profits and is calibrated to be addicting rather than to help them find quality dates. They feel this is done by modulating the flow of enticing profiles and matches to keep users swiping. Users understand that they are swiping because of this addicting algorithm, even though they are cynical that this engagement will lead to a good date. This perception aligns with the addicting and habitual nature of algorithmic media that many scholars have highlighted (Chun, 2016; Paasonen, 2021; Pettman, 2016; Sampson, 2020). According to scholars, habitual behaviors can be nudged into a profitable orchestration of engagement, in turn making it possible for algorithmic media to colonize increasing domains of everyday life and profit from exploiting behaviors misaligned with users' conscious thoughts, desires, and interests (Clough, 2018; Couldry & Mejias, 2019; Narr, 2021b; Sampson, 2020; Zuboff, 2019). As Tinder's algorithmic imaginary reveals, Tinder users are aware of the misalignment of their behavior with their conscious wishes, yet they cynically engage, in part, because they do not think an alternative to Tinder's data logic is possible.

The misalignment of users' behaviors with their conscious desires is expressed by the sentiment that Tinder's algorithm incentivizes counterproductive swiping strategies by allocating valued resources according to "attractiveness" ratings, which are based on a calculus of right and left swipes users give and receive. The counterproductive swiping that Tinder's algorithm is thought to incentivize is exemplified by the meme of a famous rapper gleefully swiping left on attractive profiles, indicating Tinder users believe they are increasing their "attractiveness" ratings through this counterintuitive swiping strategy. In some cases, swiping becomes so habitual from these strategies that users forget why they are doing it, leading them to echo Tom's exasperation when he says, "Ahhhh! I don't know why I'm swiping!"

The manipulation users attribute to Tinder's algorithm is conveyed in pithy comments describing it as "the guaranteed mathematical end result of any system with microtransactions and a profit motive." Users bemoan the fact that there is no ready solution to this manipulation, because Tinder could easily get off by "blaming the 'bugs.'" Tinder's algorithm is thus seen as compelling more and more engagement for the sole purpose of maximizing profits while making it harder for users to achieve their goal of finding compatible dates. This perception of a disconnect between users' desires and Tinder's algorithm exemplifies the way scholars have found algorithmic media increases engagement through dissatisfaction (Dean, 2014; Fisher, 2018; Sampson, 2020). The counterintuitive relation between dissatisfaction and engagement Tinder

users point to is understandable in a context where users do not think platforms exist where they could engage algorithms in which they believe.

Irritation Within the Algorithmic Imaginaries of Online Daters

Tinder users think they are governed by an algorithm that exploits them to maximize profits. But they are not entirely resigned to this. Nor do they avoid thinking about this exploitation to circumvent the futile anxiety it would likely induce. Instead, they express irritation that the data logic of swipe-based dating apps is aligned with the profit motive platforms must adhere to if they wish to survive within today's dominant mode of data-driven capitalism. Even OkCupid users think the exploitative data logic Tinder popularized has spread throughout the entire ecology of dating platforms, making the algorithmic affordances they had initially liked about OkCupid's algorithm harder to access and less useful.

Irritation thus permeates the algorithmic imaginary of online daters as an affective mood emerging from and shaping the discursive realm of possibility for imagining the algorithms governing their engagement. Highlighting this irritation here is not meant to deny the widespread resignation to algorithmic exploitation others have detailed (Draper & Turow, 2019). Nor is it to deny that many users avoid thinking about algorithmic exploitation (Petit, 2020). But though resignation and avoidance seem to feed into surveillance realism—making it unlikely that users will work to imagine better algorithms—irritation seems more likely to reveal contexts where surveillance realism could be resisted if algorithms worth striving for were proposed.

Unfortunately, many online daters feel there is no alternative to swipe-based dating apps. Instead of seeking better platforms, they devise strategies to game dating app algorithms, even while they believe these algorithms are irreparably exploitative. These strategies often align with the imperative within data-driven capitalism to compel more habitual engagement (Chun, 2016). On Tinder, for instance, users feel compelled to spend more time swiping left to increase their "attractiveness" ratings. This is aligning with the business model of dating apps to get users to habitually engage so that they can datafy everyday life and colonize it for profits (Couldry & Mejias, 2019; Weltevrede & Jansen, 2019). In addition, dating apps can easily make algorithmic adjustments if users' methods for gaming their algorithms reduce profits (Albury et al., 2017). It is thus important to envision algorithms that can inspire more than a new round of gaming the system.

Uncovering OkCupid's Data Logic to Resist Surveillance Realism

OkCupid users feel OkCupid is no longer a viable alternative to dating apps because the data logic of dating apps has spread throughout the entire ecology of dating platforms. But by revisiting the algorithmic imaginary of OkCupid before the perceived spread of this data logic, valued affordances from the recent past—when it was easier for users to believe algorithms were aligned with their desires—are discernable. For instance, users of OkCupid's website valued the transparency of its algorithm. They felt this transparency allowed them to understand how OkCupid's algorithm was intended to work. They also spent a lot of time helping each other get the most out of its algorithm, often while referencing Reddit sessions where people working at OkCupid answered questions posed by users in real time. In addition to transparency, users

valued being able to look at answers they and their matches had answered publicly. They felt these publicly answered questions allowed them to eliminate incompatible users and focus on questions they found especially revealing. They also liked being able to see explanations dating prospects had given to match questions. They felt this granted them insights that would otherwise be lost within the reductive confines of multiple-choice questions. In sum, OkCupid users valued the reciprocal disclosure of private information facilitated by OkCupid's transparent algorithm because they believed it allowed them to weave idiosyncratic paths through its parameters without having to blindly trust its final output: the match percentage.

The reciprocal disclosure of private information OkCupid users valued may be more enticing to online daters than increased privacy because they engage dating platforms to encounter others, not to be private. Because this desire to encounter others can be said of most social media users, this insight may be generalizable to other social media platforms. Indeed, social media users may find it hard to imagine alternatives to algorithmic exploitation if solutions to it tend to focus on the need for more privacy—something that, at best, is tangentially related to their actual desires (Haber, 2019; Lomborg & Kapsch, 2020; Markham, 2021).

Rather than an increase in the realm of privacy where autonomous and sovereign individuals can discover their true selves, as Zuboff (2019) calls for, compelling proposals for better algorithmic media will have to address the desire to connect and be seen that most users want from algorithmic media. The findings in this article suggest that the problem with algorithmic media may not be that users have no privacy, but that unaccountable companies are determining how their private data are used. Reciprocal disclosure of private information between users brought together by a transparent algorithm may thus inform more compelling alternatives to resist surveillance realism than calls for more individual privacy.

Limitations and Future Research

Insofar as the sample size of the interviews used for this article was 48 and not randomized, it cannot be said to be generalizable to all online daters. The interviews were also conducted in the United States. Thus, a study conducted in a different country may have produced different findings. In the future, surveys could flesh out more generalizable details. Interviews with former users would also have provide interesting insights, which this article does not focus on. The Reddit data and interviews also do not coincide temporally. Although positive comments about Tinder's algorithm were not prevalent, users did try to explain how they were able to game Tinder's algorithm. In the future, these practices might be interesting to explore under the framework of gaming the system.

Conclusion

The media archaeology of algorithmic imaginaries presented in this article reveals a pessimistic shift in the imaginary of online daters as they began reaching for their phones instead of their PCs to find dates. Tinder users believe Tinder's algorithm manipulates them by modulating the flow of valued resources and incentivizing addicting swiping strategies. Yet they do not seek alternative platforms because they think Tinder's algorithm is calibrated to the exigencies of today's mode of data-driven capitalism. Contemporary OkCupid users are just as fatalistic as Tinder users. They believe the data logic Tinder initiated has spread throughout the entire ecology

of dating platforms, including OkCupid itself. This suggests the imagination of online daters began to atrophy as more of them began reaching for their phones instead of their PCs to find dates.

It is hard to know how surveillance realism could be resisted today, because many users are either resigned to or avoid thinking about algorithmic exploitation. But a mood of irritation permeating the algorithmic imaginary of online daters suggests it is a context where surveillance realism could be resisted if compelling alternatives were put forth. To imagine such an alternative, algorithmic affordances OkCupid users valued in the recent past—before dating apps became so popular—were uncovered: transparency and reciprocal disclosure of private information. Users felt these affordances allowed them to forge their own paths through OkCupid's algorithm in search of idiosyncratic attraction. These affordances, well suited for the social engagement users turn to social media for, could inform more compelling alternatives to algorithmic exploitation than the many calls for more individual privacy being made today. This article thus ultimately suggests that a media archeology of algorithmic imaginaries can hone imaginative capacities that have atrophied from surveillance realism.

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