

The TikTok Tradeoff: Compelling Algorithmic Content at the Expense of Personal Privacy

Maya De Los Santos
delossantos.m@northeastern.edu
Northeastern University
Boston, Massachusetts, USA

Daniel Klug
dklug@andrew.cmu.edu
Carnegie Mellon University
Pittsburgh, Pennsylvania, USA

ABSTRACT

This paper presents the results of an interview study with twelve TikTok users to explore user awareness, perception, and experiences with the app's algorithm in the context of privacy. The social media entertainment app TikTok collects user data to cater individualized video feeds based on users' engagement with presented content which is regulated in a complex and overly long privacy policy. Our results demonstrate that participants generally have very little knowledge of the actual privacy regulations which is argued for with the benefit of receiving free entertaining content. However, participants experienced privacy-related downsides when algorithmically catered video content increasingly adapted to their biography, interests, or location and they in turn realized the detail of personal data that TikTok had access to. This illustrates the trade-off users have to make between allowing TikTok to access their personal data and having favorable video consumption experiences on the app.

CCS CONCEPTS

- Human-centered computing → Empirical studies in HCI;
- Security and privacy → Social aspects of security and privacy.

KEYWORDS

social media, TikTok, privacy, user perception, algorithm

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1 INTRODUCTION

Social media platforms apply algorithms to provide users with preferred content which in turn influences users' perception of reality [17] and how they present themselves online [3]. Users generally only see the output of algorithms but not the input of personal data needed to collect for processes to generate it [12]. However, social media users generally show a degree of algorithmic literacy,

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meaning they have a general awareness that algorithms are present and responsible for how information is gathered [7]. In this context, we conducted a qualitative interview study to analyze users' awareness, perceptions, and experiences with privacy on the social entertainment app TikTok that allows users to create, consume, and engage with short videos through commenting, sharing, and liking [16]. Users must in general consent to terms and conditions of social media apps including a privacy policy which explains how their personal data is used, how it is kept safe, and how users can exercise their rights over their information. However, social media privacy policies are commonly extremely long and require a certain effort to read [9] with TikTok currently exhibiting the most complex [13] as well as most misleading social media privacy policy [2] (see Fig. 1). On the other hand, TikTok is the most popular social media app because its recommendation algorithm fast and effectively caters favorable video content to users [6]. Our research focuses on this tradeoff between receiving compelling algorithmically catered content and disregarding privacy. We ask the following questions: (1) *How do users behave to protect their privacy on TikTok?*; (2) *To what extent do users understand TikTok's privacy policy?*; and (3) *How do users feel the benefits of TikTok outweigh the privacy terms they must consent to?*

The purpose of our study is to investigate user awareness and opinion of how their personal data is utilized in the context of social media entertainment and video consumption on TikTok. We generally find users do not consider privacy policies and only realize their effect when the TikTok content they consume mirrors the personal information the app has about them. Users then enter a tradeoff between receiving compelling content catered by the TikTok algorithm based on their user behavior and the expense of personal privacy.

2 PRIVACY AND DIGITAL RESIGNATION

Previous research shows many users generally have little privacy concerns when engaging with social media content [15] but also express a high level of general privacy resignation [5], for example, meaning they skip right to the agreement button in order to use a service [11]. While users should take active interest in understanding how their data is used, user neglect of privacy is largely caused by social media companies purposely facilitating the disconnect between users and their data [1]. This relates to the broader concept of digital resignation, that is, a person may care about protecting the digital data online marketers have on them but feel powerless to exercise control over it [4]. Furthermore, it shows many social media users might value horizontal privacy, meaning privacy relationship amongst peers (e.g. family), higher than vertical privacy as the privacy relationship amongst institutions (e.g. companies) in

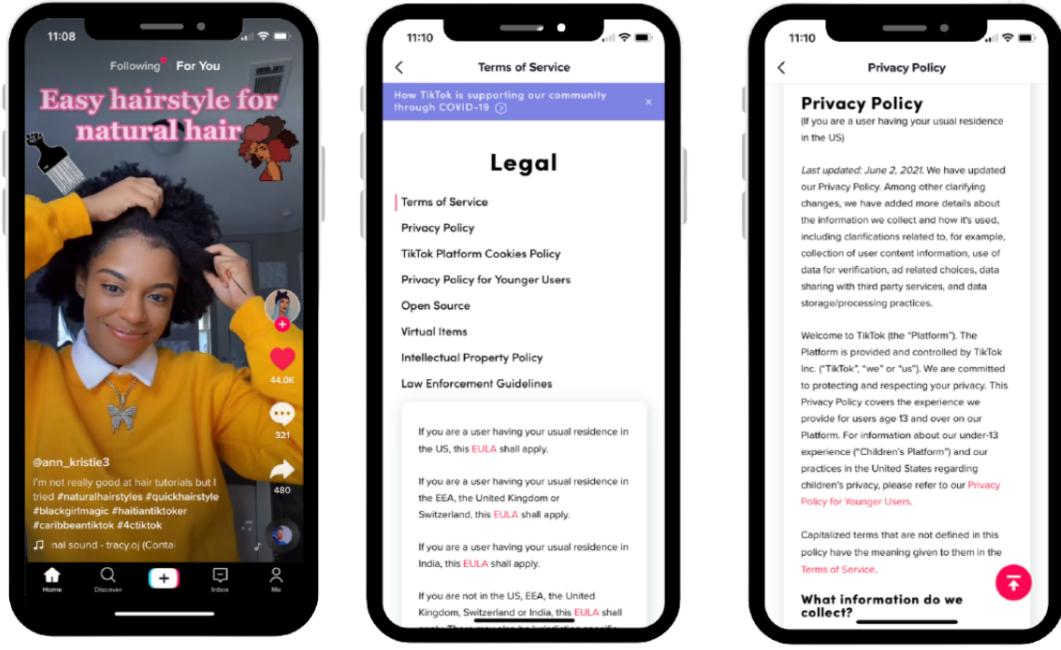


Figure 1: This figure shows the TikTok interface (left), where to find the privacy policy hidden in the app's Terms of Service (middle), and how the privacy policy terms are presented to the user as a long, unstructured stream of text (right).

relation to the user. We assume such behavior to be true for TikTok because of the app's overly complex privacy statement in contrast to fast and easy access to entertaining video content.

3 INTERVIEW STUDY

3.1 Data Collection and Analysis

We conducted twelve qualitative interviews [8] with TikTok users in July 2021 to answer our research questions. Participants were recruited through location-based hashtags on TikTok (e.g. #philly, #pittsburgh) and contacted via Instagram. At the time, participants were 18–52 years old¹, had 2.4k to 767k followers and 127k to 12.2m likes on TikTok, and had posted between 43 and 757 videos on their profiles (see Table 1). Interview questions revolved around their understanding of privacy in relation to consuming TikTok, and any measures they take to protect and manage their privacy while on the platform. The interviews were analyzed following an open coding process [14] in which three researchers created and revised initial codes with a high level of agreement [10], resulting in eleven unique categories. We will discuss the three categories most relevant for our research interest: (1) *user awareness of TikTok's privacy policy*, (2) *user perceptions of benefits and downsides of TikTok's privacy policy*, (3) *user experiences about TikTok's algorithm related to privacy*.

3.2 User Awareness of TikTok's Privacy Policy

When looking at *user awareness of TikTok's privacy policy*, most participants (P1, P3, P7, P8, P10) described feeling distant from their data as so much of it already resides online. This causes them to

¹Only four participants shard their age as they were not explicitly asked to.

Participant	Followers	Likes	Videos
P01	42.7k	4.3m	408
P02	3122	136k	168
P03	2388	127k	291
P04	767k	12.2m	162
P05	95.5k	7.2m	46
P06	274k	5.9m	171
P07	41.9k	1.6m	64
P08	16.6k	350k	757
P09	219k	7.6m	405
P10	12.1k	468k	66
P11	11.2k	400k	78
P12	31k	1m	43

Table 1: This table shows the demographic information for the participants of our study.

"become numb" (P7) or feel desensitized to the idea that TikTok is collecting and sharing their personal information. For example, Participant 12 expressed the impersonal nature of data privacy, elaborating *"it feels like I have a lot to gain from using a free service and it doesn't have very physical, negative impacts. So I don't think about it much"*. This distance to personal privacy online makes it harder to recognize how by default agreeing to company policies influences user experiences on the platform, compared to much more apparent consequences offline (e.g. signing a paper contract). It is then further distracted from by the free entertainment users receive from TikTok which serves as an incentive to continue using the service despite concerns. In turn, this fuels the habit to skip

privacy policies and get straight to the engaging content apps provide. This becomes a problem because users miss out on important information detailing ways they can control how companies use their data.

3.3 User Perceptions of TikTok's Privacy Policy Impact

Regarding the *impact of TikTok's privacy policy*, we find that participants perceived some TikTok features both as benefits and as downsides. This mostly concerned participants' feelings towards personalized content with some (P4, P5, P6, P11, P12) describing both an appreciation for tailored video feeds as well as a fear of the algorithm's accuracy. For example, one participant said: *"I think a lot of people love it because you don't have to go find that content. It comes to you through the algorithm, kind of learning more and more about you.* (P4). Moreover, multiple participants demonstrated algorithmic literacy on how content is recommended to users based on their interests and how they interact with content they receive. While other social media apps operate on a similar system, for many participants TikTok's allure stems from its continuous delivery of new and relevant content, essentially saving them the time and energy of searching for entertainment they enjoy. Contrary to many participants' knowledge, this is made possible by disregarding their privacy and letting TikTok access personal data from other apps and their phone. This is covered in TikTok's overlong privacy policy users routinely agree to.

3.4 User Experiences with TikTok's Algorithm and Privacy

We find a certain fear based on content accuracy to be most participants' (P1, P5, P6, P7, P12) predominant *experience with TikTok's algorithm and privacy*. Participant 5 expressed their discomfort because *"it [the recommendation algorithm] is so specific. I don't want to be one of those people that's like, oh my phone is listening to me, but sometimes I'm like maybe it is"*. It is worth noting the hesitancy in the statement in regard to sounding similar to *"one of those people"*, which can be interpreted as individuals who theorize about devices listening in on conversations and reporting back to companies. Their emphasis on wanting to differentiate themselves from these opinions can be attributed to the perceived stigma around sounding overly paranoid when it comes to privacy. In addition to digital resignation, this has the effect of turning privacy into a taboo topic, forcing people to laugh away their discomfort whenever a recommended video relates to them a little too well. As a result, users are once again able to remain oblivious to the ways their data is being used and sold. This being said, participants did share topics they found to be the most unnerving when shown on their feeds, including content related to their location, sexual identity/orientation, and specific life experiences: *"Even things I hadn't talked to people about as far as gender identity or sexual expression. Even before I came out about things, it was like TikTok knew that's what I was interested in"* (P5). This determination of when tailored content becomes uncanny to users suggests there is an implicit, highly contextual line drawn between what is reasonable for the algorithm to know and reflect back to the individual and what personal information is off limits. The difference between

what information is acceptable to use can further be categorized by what users remember consciously sharing with the algorithm through platform interactions versus what was predicted about them based on gathered online behaviors in the background. Part of users' concern may also come from believing they are doing the most to protect their privacy, when in fact they are more likely to know about and utilize settings that protect against their peers rather than companies collecting their personal data.

4 DISCUSSION

We find participants largely give in to the TikTok tradeoff, meaning they do not consider but rather tolerate the app's privacy policy in turn for favorable user experiences and beneficial content. Beyond the aspect of receiving free entertainment and carelessly accepting privacy policies, our results also hint at the limits of personalization and the question of how much we want social media services to know about us. Yet, the described downsides demonstrate a need to improve the delivery of TikTok's privacy policy to allow users to better manage and protect their data in relation to algorithmic content presentation and tracking of user engagement. Due to their limited understanding of TikTok's privacy policy users are unaware of the best practices or sometimes even necessity to protect their privacy when on the app. Since their awareness of how TikTok uses their personal data is obscured online and drowned out by the free content they receive, users do not feel a strong enough impact to warrant them quitting the app. Future research could further address users' decision-making processes in the described tradeoff, for example, in relation to participating in viral social media trends.

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