TikTok, Privacy, and Young Adults

by

Sami Ortiz Huayhua

A thesis submitted to the Faculty of Graduate and Postdoctoral Affairs in partial
fulfillment of the requirements for the degree of

Master of Applied Science

in

Human Computer Interaction

Carleton University

Ottawa, Ontario

Abstract

We explore young adult's perceptions, understandings, and behaviors related to privacy on TikTok. We utilized a pre-interview questionnaire and in-depth interview with 25 participants ranging in ages 18-25. Our findings indicate that TikTok has permeated the lives of young adults, influencing culture inside and outside the app. Through shared cultural practices on TikTok, young adults reinforce social bonds with peers, which outweigh any infrastructural privacy concern of the app itself. However, users present high levels of concerns in relation to other users on the app. Additionally, users express concerns with misaligned personalization of their feed. In turn they employ privacy enhancing behaviors which are influenced by users' experience with the For You Page and reflections on the societal implications at large. The tactics they employ include follower segmentation, management of settings, self-censoring, and selective commenting.

Acknowledgements

First, I would like to acknowledge my supervisors Dr. Robert Biddle and Dr. Sonia Chiasson, whose guidance was instrumental in the completion of this work. Your **true** dedication to students' success and generosity with your knowledge is rare, honorable, and exemplary. The honest discussions, patience, support, and advice have been essential to my growth as a person and a highlight in this step of my career. Thank you deeply.

I would also like to thank the HCI program at Carleton University for their commitment to generating, supporting, and advancing holistic researchers into the field. I would like to thank the sitting committee of my thesis for taking the time to read this study. Thank you Dr. Moacdieh for chairing the session and Dr. Stobert, Dr.McArthur, for the insightful observations and questions which have improved my work.

I would like to acknowledge the participants in this study, and thank them for the trust, their openness and clarity in which they shared their thoughts and concerns with me.

Finally, I would like to acknowledge and honor my family whose work ethic, fortitude and resilience don't cease to amaze and inspire me. I would specially like to thank my mother, Margarita Huayhua, whose relentless dedication to education, courage to stand by her convictions, and compassion for others have taught me the importance of respecting the golden borders of love, courage, and ethics.
I would like to acknowledge and thank my godparents, Margie and Michael Rudd and godfamily, whose support, understanding, and cheerleading have accompanied me throughout this process and beyond. Thank you!

Table of Contents

List of Tables

List of Figures

Chapter 1: Introduction

1.1 Motivation

TikTok is an audio-visual social media platform where users share short-form videos. TikTok was rapidly adopted by young people around the world with a growth in popularity during the pandemic. Forced to retreat from face-to-face interaction with family and friends, people were facing long periods or isolation and limited social interaction. In this context, computer mediated interactions became crucial to maintain and cultivate social bonds, leaving users to rely on social media platforms. TikTok became the dominant space for audio-visual social media platforms, where people could socialize, share content, and participate in a wider cultural conversation. The research described in this thesis looks at how young adults experience and manage their privacy on TikTok, specifically how the recommendation algorithm influences the content they consume and its relationship to privacy management in young users.

Findings indicate that participants are heavily influenced by the effectiveness of personalized content of the For You Page (FYP), which predicts and molds their interests and values. They express privacy concerns regarding data collection and cross-site tracking; however, their larger privacy concerns are related to other users on the platform. They utilize different tactics and strategies to protect themselves which include post management, management of comments, management of settings and follower segmentation.

1.2   Research Goal

This study aims to understand young adults' perceptions, understanding and behavior related to privacy management on TikTok. In particular, we were interested in addressing the following research questions:

- How do young adults engage with TikTok?

- How do privacy concerns influence their behavior on the platform?

- How do they manage their privacy on the platform?

1.3   Contributions

This work contributes to the larger conversation on online social networks and privacy. As TikTok's popularity is a recent phenomenon, it is important to understand the implications of its success with young adults. We offer a better understanding of how new users conceptualize, understand, and manage privacy on the app.

This work also contributes by looking into the factors influencing privacy management, concerns and strategies users employ to feel safer on the platform. More explicitly, we investigate the relationship between content and privacy behaviors, observing how certain content elicits specific privacy management behaviors. Finally, we share how young adults equip themselves with privacy management techniques and whether these are effective responses to their concerns.

1.4   Thesis Outline

Chapter 2 focuses on prior literature related to TikTok and privacy, where we give an overview of work about the social media platform, how TikTok differs from other online social media networks, digital resignation and Gratification Theory. Chapter 3 focuses on the methodology, including pre-interview questionnaires, interviews, and analysis process. Chapter 4 lays out the results from our findings in our quantitative data. Chapter 5 presents the results from our qualitative data, which are grouped into themes that reflect the common threads we found in the interviews. We support these findings with direct quotes from participants. Finally, Chapter 6 presents our discussion and conclusion, where we elaborate on the important findings, contributions, limitations, and future work.

Chapter 2: Literature Review

2.1 TikTok as a social media platform

TikTok is an audio-visual social media platform owned by ByteDance. It was first introduced as Douyin to the Chinese market in 2016. The parent company then launched an international version known as TikTok [K.E. Anderson, 2020]. Tiktok is a primarily algorithm-driven app featuring the *For You Page* (FYP) as the main differentiator from other online social networks services [K.E. Anderson, 2020] (see Figure 1). In this audio-visual platform, users can create videos and share them with other users. The algorithm is used to generate the default For You Page by recommending what videos a user should watch.
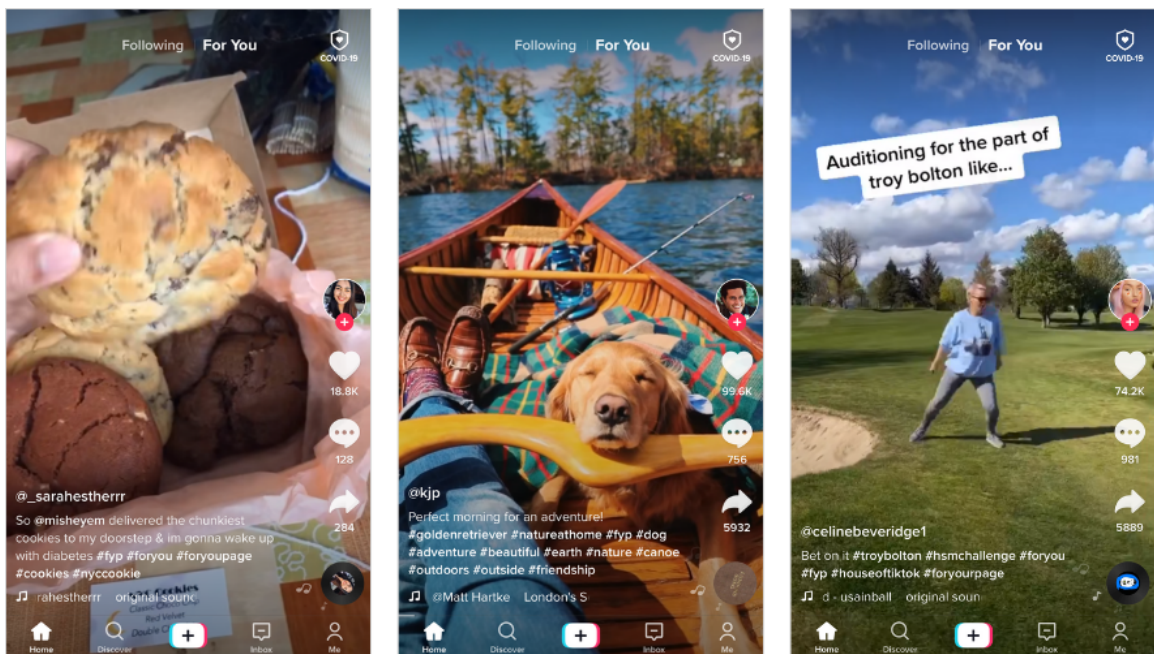
Figure 1: TikTok For You Page (FYP). Image source: Flow journal.org

Figure 1 shows the For You Page which tailors a continuous feed of videos on a mobile device. Users can swipe up to see the next video. The video will play on a loop if the user stays on it or they can swipe down to see the prior one. On the right-hand side of the screen, icons include the users' avatar, heart icon, chat icon, share icon, and spinning circle with musical notes. The avatar brings the user to their profile page. The heart icon enables the user to like videos and comments. The chat icon shows the number of comments associated with the current video and clicking on it shows those comments. The share icon shows different sharing options, lets the user download the video if it is enabled by the content creator, enables saving a portion of the video, and enables adding the video to favorites. The spinning circle with musical notes brings up information on the video's soundtrack and shows other videos using the same soundtrack [K.E. Anderson, 2020].

Like other social media platforms, TikTok allows the user to create, share, tag, like and comment. A unique feature of TikTok is "reacting" or "duetting" to a video which enables the user to respond to a video by making a video of their own. The original video and the new one appear side-by-side for a simultaneous, coordinated performance [K.E. Anderson, 2020]. Figure 2 shows an example of "duetting" with another video. Through these features, TikTok affords connection between content creators and followers, through iterative sequential steps: create, share, consume content [Y. Yang et al., 2021]. The video creation features of TikTok are simple to use. They enable users to save or share portions of videos and to keep work-in-progress in "drafts" where only they can see them. Figure 3 shows a user's "drafts," videos, which they are able to edit before publishing.
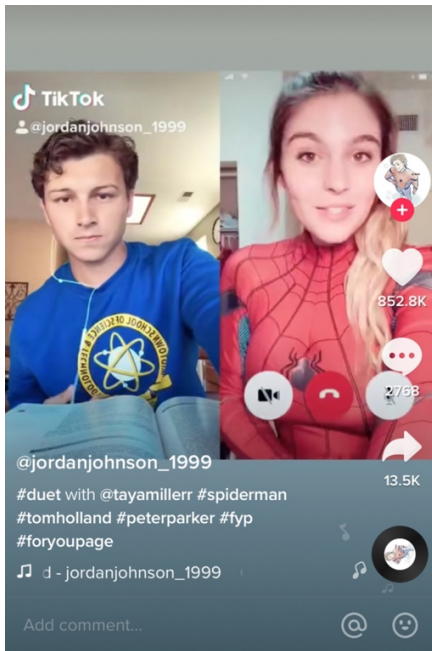
Figure 2: Duetting. Image source: One37pm.com
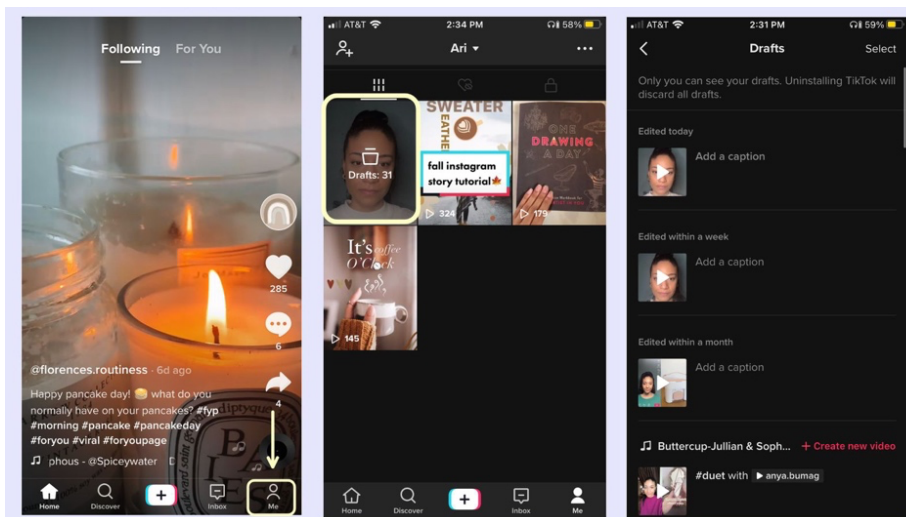
Figure 3: TikTok drafts. Image source: kapwing.com
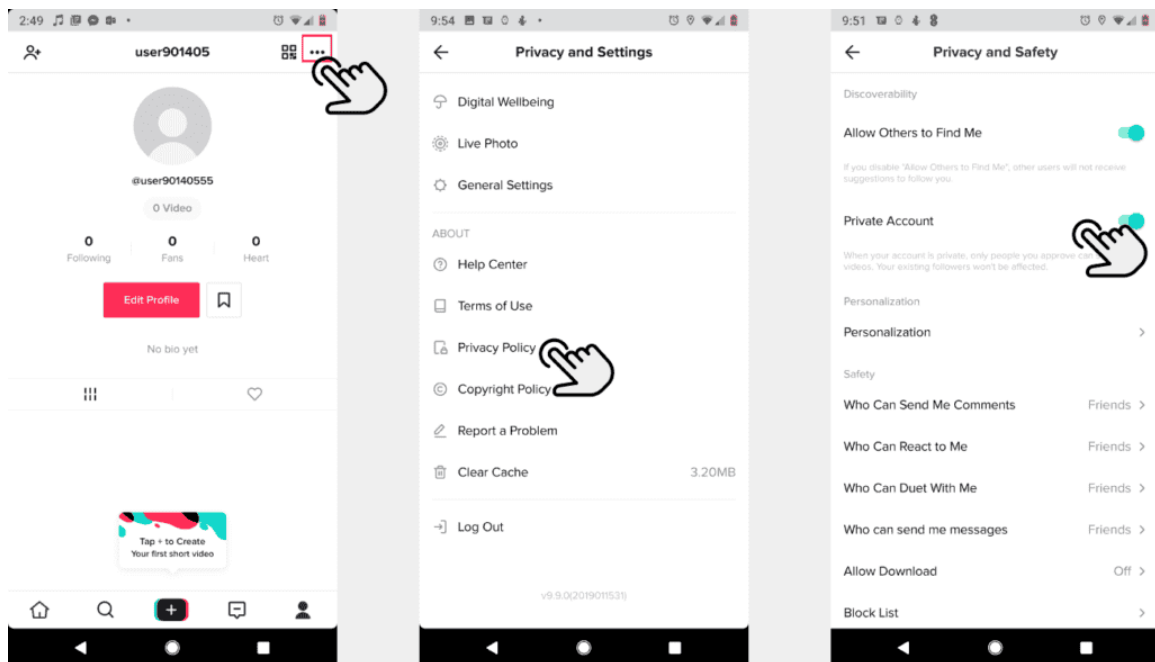
Figure 4: TikTok Privacy settings. Image source: internetmatters.org

Clicking on the user's avatar leads to profile page which includes the privacy and safety settings. The default setting is for a public account, but users can set up their account as private. Users can also limit who can view their content and account using the filters provided under "Safety." Users can also set a time limit for their screen use under "digital well-being."

Users take two different roles while engaging in the app: creator and follower. When they take on the role of *content creator*, they make videos and post them for others to see. When they take on the role of a *follower*, they passively browse and consume content through watching others' videos. While people who create content always assume both roles, those who passively browse or only follow content don't post videos for the public. Rather, they use TikTok as a means of entertainment where they mainly observe and react with likes or comments to others' videos.

2.2   Reasons for adopting TikTok

T. Nabity-Grover, et al. [2020] highlight that COVID-19 heavily influenced the rapid growth and appeal of TikTok in young adults. The shift to remote forms of communication represented not only a change at an interactional level, but it also signified a cultural shift in the practices employed to cultivate and preserve those social bonds. Building on this, some literature [C. Montag et al., 2021] attribute specific design choices and affordances of TikTok for its success and others point to gratifications and the influence of para-social relationships in engagement [Y. Yang et al., 2021].

Research highlights how social media platforms saw a 61% increase in usage in 2020 [T. Nabity-Grover et al., 2020] as people moved to social platforms to stay connected. In the same year, US children spent 16% more time on TikTok than other social media [T. Nabity-Grover et al., 2020] and TikTok was the most downloaded app by 2020 [K. E. Anderson et al., 2020].

T. Nabity-Grover, et al. [2020] point out that the increased social media usage can be explained by the global social distancing measures brought by the pandemic when the act of sharing information about users' lives promoted interpersonal connectedness and relationship development online. The pandemic changed the way in which people disclosed information about themselves, leading them to engage in "self-disclosure" of everyday activities in a different way than prior to the pandemic [T. Nabity-Grover, et al., 2020]. Other factors and considerations also played a role in how people reached the decision to

self-disclose. These factors include evaluating the costs and benefits of sharing information and shifting perceptions of what is sensitive or private information, especially regarding personal health information. Topics people did not previously disclose are now socially encouraged, including health conditions and utilitarian information for others [T. Nabity-Grover, et al., 2020].

Other work looks at users as consumers and frames the relationship between the platform and users as a place where para-social relationships are crucial to incentivizing activity and engagement on the app [Y. Yang, et al., 2021]. That is, users form a para-social relationship with creators or influencers, which is a pseudo friendship and a psychological association between an audience and a performer [Horton and Wohl, 2016]. In turn, this relationship fuels engagement on the app as users value entertainment but may also take the opinions of those influencers into their purchasing decisions. Thus, influencers' relationship with their audience is vital for consumers' purchase intentions and consumption in and outside the app [Y. Yang, et al., 2021].

Another approach to understanding TikTok's popularity points to specific design decisions for the app. For instance, C. Montag, et al. [2021] highlight the addictive qualities of the app itself: "the landing page learns quickly via AI what users like, which likely results in longer TikTok use than a user intended which may cause smartphone TikTok related addictive behavior." Although these ideas still have to be confirmed, Buckwell and Kottasz [2020] suggest that the most relevant drivers for engagement were people's need to expand their social network, seek fame, and express oneself creatively.

Other studies use Gratification Theory as a framework to understand TikTok use --- that is, the simple idea that using certain media can result in gratification of a person's needs, and users will continue to use this media, digital platform, or social media only if relevant needs of a person are gratified by the particular media [C. Montag, et al. 2021; Vaterlaus & Winter 2021]. To this point, research highlights that the need for escapism in users predicted their TikTok content consumption [C. Montag, et al., 2021]

2.3   Digital resignation and data collection

Research related to TikTok and privacy includes work on digital resignation and algorithmic influence on personal privacy [Draper & Turow, 2019]. Draper and Turow posit that users generally demonstrate low levels of privacy concerns while using social media; however, they also experience digital resignation. To this point, users experience a sense of helplessness in response to routine corporate surveillance practices on users. While people feel dissatisfied with pervasive monitoring in the digital space, they are convinced that such surveillance is inescapable. Research highlights how corporate cultivation of digital resignation makes individuals confused and indecisive about privacy self-management. Work by De los Santos and Klug [2021], for instance, demonstrates how users trade or tolerate TikTok's privacy policy in exchange for access to free entertainment on the app. While users appreciate the customization of their content, they also express concerns with the algorithm's accuracy. When encountering this situation, they default to a state of digital resignation, where they are forced to laugh at 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 in which their data is being used and sold [De los Santos & Klug, 2021; Draper & Turow, 2019].

2.4   Culture and implications for privacy

Some research posits that there is a direct correlation between TikTok and popular culture, both influencing and shaping each other [De Los Santos & Klug, 2021; De Leyn et al., 2021; Abidin, 2021]. Work with teenagers highlight how their perceptions of TikTok as an online social network lays somewhere between play and pop culture. It is perceived as relatively harmless by both parents and tweens, and viewed as a way to create connection. Simultaneously, it affords a form of endless entertainment relevant to their age group and preferences. In this manner, TikTok transforms traditional private spaces into a public stage [De Leyn, et al., 2021]. For instance, minors' rooms have become public stages where teenagers make dancing videos for the public as a way of participating in trends, which are part of TikTok culture. At first glance, it seems like a playful, harmless way of passing time and participating in activities that are culturally encouraged; however, it also places prior private lived environments in the hands of the public domain. As a result, tweens perceive their profiles as a semi-public space, with aspects that are deemed to belong to themselves and other aspects to belong to the public in the form of cultural artifacts, such as dance videos. These findings give insight into how young adults, once out of parents' supervision, may negotiate their concerns and privacy management on the app, as they rely on themselves to make those decisions after coming of age.

Under the same thread, there is a correlation between celebrity-making and culture on TikTok where attention economy, or limited human concentration, has become a form of

cumulative wealth [Abidin, 2021]. Following on Michael Goldhaber's notion of 'attention economies,' Abidin [2021] suggests that TikTok users rely on visibility labor, that is, work people perform to be noticed on the platform as a way to get picked by the For You Page or to get a "golden ticket" to fame. These users tend to follow what is "trending" or "going viral" at that moment to remain visible on the app; therefore, feeding into the mainstream culture. These trends create sensationalizing spaces with multiple privacy implications for users and non-users of the app. These may imply the normalization of invading the privacy of others and the normalization of violence as entertainment (see Sections 5.3.5, 5.3.6). Unlike earlier platforms that may accommodate niche subcultures and communities, TikTok has moved to a post-based fame platform, where users are performers competing to be the most up-to-date, or relevant, according to requirements of the dictating culture of the platform [Yang et al., 2021; Abibin, 2021].

2.5   Management of privacy

Studies on how people manage their privacy on TikTok is limited; however, some work highlights how users' awareness of the algorithm's functionality can influence how they manage their privacy settings and posting habits [D. Klug, et al., 2021]. For instance, users develop ideas and skills to trick and please the algorithm to optimize their experience as consumers and creators. They manage their engagement through comments and timing of posts to gain more traction. The data shows a correlation between a high number of comments and a high number of play counts. They also found that videos posted at specific times correlated with reaching the top 10% of play counts. De Leyn, et al. [2021], however presented that young users relied on their parents to manage their privacy. This work

highlights that parents helped manage their tweens' privacy on TikTok through surveilling their posts and having access to passwords. In response to these measures, tweens reported to not mind and even had a sense of comfort knowing their content is being evaluated and monitored by parents. Other work points to privacy implication in online social networks in general, but they do not touch on TikTok specifically [Kayes & Iamnitchi, 2017]. However, their findings are closely related to the types of attacks that TikTok users face. For instance, according to Kayes and Iamnitchi, the entities that perform the attacks may be humans like other users, computer programs, or organizations. To this effect, they claim that privacy management measures and technical advances in security and privacy countermeasures for online social networks only have a limited effect if not backed by legislative measures.

In related work that investigates privacy management in other online social networks, Zhao et al. [2022], highlight how users understand navigating their privacy through the concept of "networked privacy," where privacy management is a cross-platform dynamic. In turn, Users configure privacy across multiple social media networks, changing contexts and interpersonal relationships to keep their privacy. This includes negotiation of wanting to share personal information with friends and creating a social media identity while also preventing unwanted users from seeing their content. Additionally, affordances per platform influence and dictate privacy management for users. Zhao et al. [2022] point out that Instagram users engage in riskier behaviors such as allowing to be followed by more people than whom they follow as the platform encourages asymmetrical relationships. While on Snapchat, users curated more carefully their 'friends' group, as the app itself encourages for symmetrical relationships, which leads users to engage in more self-

disclosing behaviours. As Choi and Sung [2018] highlight, "Snapchat operates exclusively on smartphones, content is generated in the device and is unable to be browsed. With this affordance, users can let loose and be free to show their hidden aspects of self." Therefore, users of Snapchat are less concerned about sharing personal information on the app as they have "more perceived control" in a "lower stakes medium" [E. Hollenbaugh, 2019] compared to Instagram users. In turn, privacy management on Instagram focused on indirect threats (other users) or authority figures in the case of teenagers (e.g., parents) where users managed their privacy by using secondary accounts or filtering followers' requests through the built-in features [Zhao et al., 2022]. Prior findings also take into consideration the role of gender in privacy management, where women perceived more risk in self-disclosure behaviours out of the need to protect themselves from other users or "creeps" on social media [E.Hollenbaugh, 2019]. Additionally, recent work suggests that users engage in "privacy calculus" or self-disclosure practices taking into consideration risks and benefits [Kramer & Schawel, 2020]. Users evaluate risk and gratification of disclosing information about the self to other users; however, these decisions may be based on false or biased emotions, assessments, estimations evaluations of a situation [Kramer & Schawel, 2020].

2.6   Research Gap

Although new literature on TikTok continues to study many aspects of the social media app, there are still opportunities for expanding on the privacy-specific questions. For example, there is the need to investigate how adults manage their privacy on the app after they stop relying on their parents' supervision or safekeeping.   Our work addresses

perceptions, understanding and privacy management on TikTok. We focus specifically on the strategies young adults employ to feel safer on the platform, and the relationship with users' unique experience as creators and followers of content. Furthermore, we explore how exposure to different types of content that do not align with users' belief systems affect and influence their privacy concerns and behaviors.

Chapter 3: Methodology

We conducted semi-structured interviews and questionnaires with TikTok users to gain insight into their perceptions, understanding and behavior in the social media platform. The procedure, participants, and approach are presented in this Chapter. The objective of this study was to investigate the perceptions and understanding of the social media platform *TikTok* in young adults as it relates to their privacy. REB clearance was received for the study.

3.1 Participant eligibility

We focused on recruiting young adults ages 18 to 25 who used the social media platform TikTok and were able to participate in a verbal interview in English.

3.2 Recruitment

The following methods were employed to recruit participants; (1) posters on university campus, (2) the University's research participant Facebook page and (3) Reddit. Interested TikTok users who met the recruitment criteria contacted the researcher to be considered for participation. Selection of participants was on a first come-first-served basis.

Once we gathered a dozen participants, we assessed the sample for creators and followers. The category '*creator*' was assigned to those participants who created and posted content on the app for people other than themselves (i.e., friends, family, followers, general public). The category '*follower*' was assigned to participants who passively browsed on the app or created content only to be viewed by themselves or privately with friends. At this point, we opted to prioritize recruitment of creators to gather an approximate equal sample

between creators and followers. After Ethics clearance on a change in the protocol, we asked interested users to disclose the category they belonged to and changed recruiting materials to prioritize creators.

Participants completed an informed consent form on the online survey platform *Qualtrics* followed by a pre-interview questionnaire on the same platform.

3.3 Pre-Interview Questionnaire

Participants were invited to complete the questionnaire a day before their interview. The questionnaire focused on usability and gaps in functionality in TikTok. The full questionnaire is available in Appendix B.

The questionnaire included:

Demographic questions regarding age, gender, language selection, education level, frequency of use, type of user (creator, follower, both). These were multiple-choice questions.

Usage habits questions regarding their content management habits, patterns of engagement including consumption habits, type of content they watch or post, and experience with the For You Page (FYP). These were Likert scale and multiple-choice questions.

Privacy management questions on the privacy clause, their understanding of the privacy clause, their management of settings, limitations of the platform, and concerns. These were multiple choice, Likert scale and open-ended questions.

3.4 Semi structured Interviews

3.4.1 Procedure

Selected participants were provided instructions to schedule a time to be interviewed by the lead researcher. Semi-structured interviews were administered where participants who consented to be video recorded kept their camara on for the interviews, while participants who consented to only be audio recorded kept their camara off. The sessions lasted up to 60 minutes (including questionnaire and interview session)

The 25 interviews were conducted using the online video-conferencing platform *Zoom*. The researcher took observational notes and recorded the interviews using the same service. The sessions were audio and video recorded according to participants' consent. It is important to note that a few of the participants who agreed to be video recorded on the consent form chose to be only audio recorded once they met for the interview (see 6.2).

The audio and video recording were uploaded to the online transcription service *Trint* for transcription. Participants were compensated 20 CAD at the end of the session in the form of an Amazon Gift card.

3.4.2 Sessions

We focused on questions that gave us a broad understanding of participants' perceptions, assumptions, understandings, behavior, concerns, and experience (positive and negative) with TikTok. We kept technical terms out of the interview unless brought up specifically by the participant. For instance, we didn't ask about the algorithm unless participants themselves mentioned the word in the interview.

3.4.3 *Interview guide*

The protocol guided participants through a series of questions regarding their experience with the For You Page their consumption habits, content management, posting habits, behavior inside and outside the app, general concerns, privacy concerns and privacy management. The full interview guide is available in in Appendix C.

3.5 Analysis Plan

Our analysis methodology was influenced by Rocheleau and Chiasson [2021]'s work about online privacy with teens. We used a single coder who was very familiar with the data and regular in-depth discussions with the thesis supervisors throughout the analysis process.

Our analysis plan included:

Transcription of data: We utilized the online transcription service Trint alongside manual edits on all interviews. The lead researcher edited the transcripts by reviewing the audio-video footage alongside the transcripts produced by the transcription system.

Coding and Thematic analysis: The lead researcher proceeded to use an inductive coding approach. We supported our coding using paper and the online graphical collaborative service Miro's whiteboard tool, where we created the codes, categories, and themes.

First, the lead researcher grouped the data (researcher notes and paper transcripts) by followers and creators. The researcher annotated the paper transcripts and interviewer notes with codes and compared it across all data in the same group (followers or creators) and against the second group. **Second**, the most important notes per question were transferred to the Miro board, where we initially broke down categories by question. This included

important quotes related to privacy. The interviewer notes and transcript notes were added to the Miro board iteratively, refining with each pass. **Third,** we iteratively defined codes, focusing on the quotes and notes that were most relevant to privacy, which then also allowed us to iteratively refine the categories. **Fourth**, in order to ensure the data was representing all voices and ensuring equal participation, the lead researcher went back to relisten to transcripts to make sure it was adequately representing all the different perspectives, while contrasting with researchers notes. **Fifth,** finally we identified the major themes that emerged from out data.

Regular meetings: We held weekly meetings to discuss results, codes, and come up with categorization and themes for the data.

Chapter 4: Survey Results

The questionnaire results are divided into demographics, usability questions, and privacy questions.

4.1 Participants Demographics

All 25 participants completed the pre-interview questionnaire and selected English as their language of use on TikTok. 24 participants primarily consumed content in English. Participants' highest level of education was distributed as follows: 16% had attended or completed high school, 72% had attended or completed university, 12% had attended or completed graduate school.

This sample included 13 followers and 12 creators. All participants in the creator group had higher education, while followers included a wider range in education. Both followers and creators were relatively experienced with using the app, with 22 participants having been using it for 2-5 years.

4.2 Creator specific results

Categories of content and posting habits
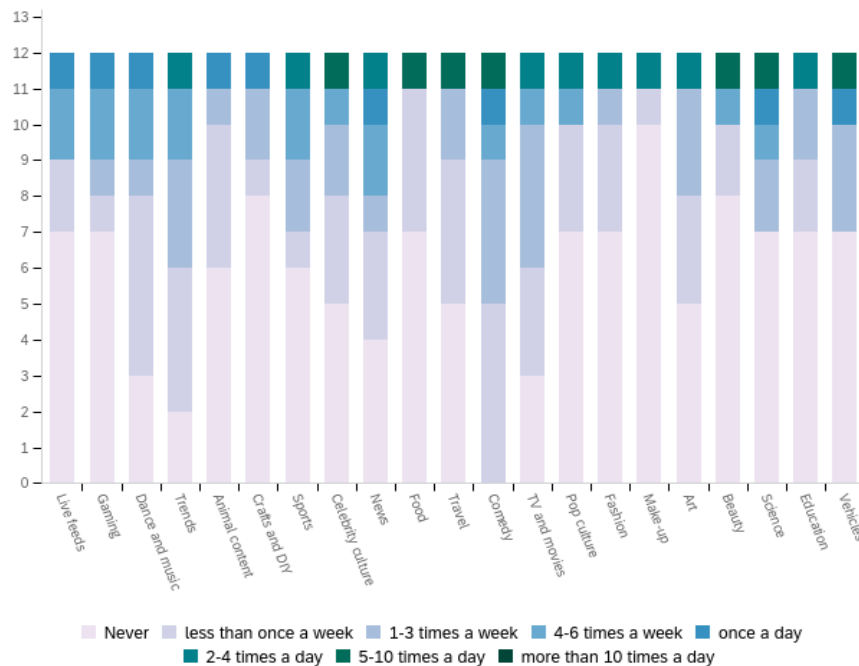
Figure 5: Creators' posting habits and type of content

Figure 5 shows how creators distribute the type of content they post and how they manage their posting habits. Most creators post from 1 to 6 times a week and produce the most content in the travel, tv and movies, dance and music, and sports categories. 11 creators had a follower base under 10,000. Only 3 creators in this study monetized their content, ranking *selling merchandize, in-feed ads,* and *virtual gifts* as important to most important monetization methods (see Figure 6). Most participants reported their total views ranged from 10000-49999, with their most popular video acquiring views in the 1000-4999 range.
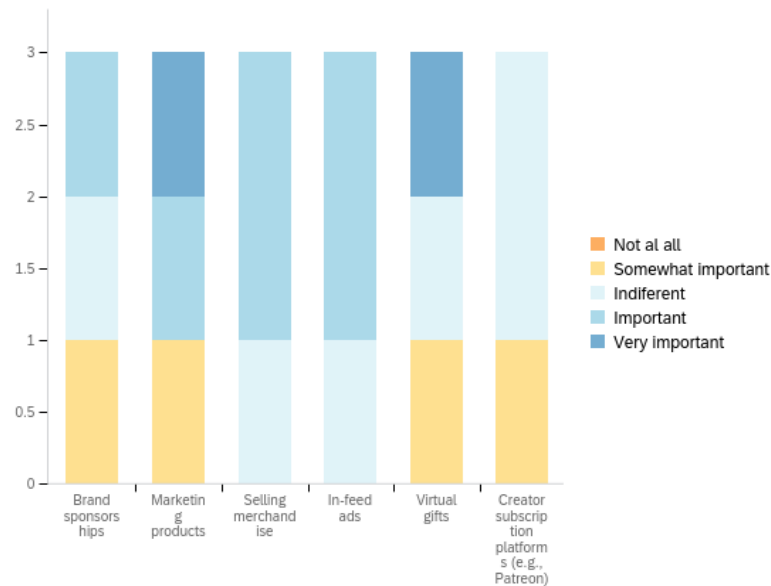
Figure 6: Importance of monetization methods for creators who reported monetizing content.

4.3   Usability questions results

Figure 7 details how much of the content they consumed from their FYP. 53% of participants disclosed that they *often* watch all videos in their FYP. This is followed by 16% of creators who noted they *always* watch all videos, and 16% of followers, who *sometimes* watch all videos in their FYP.
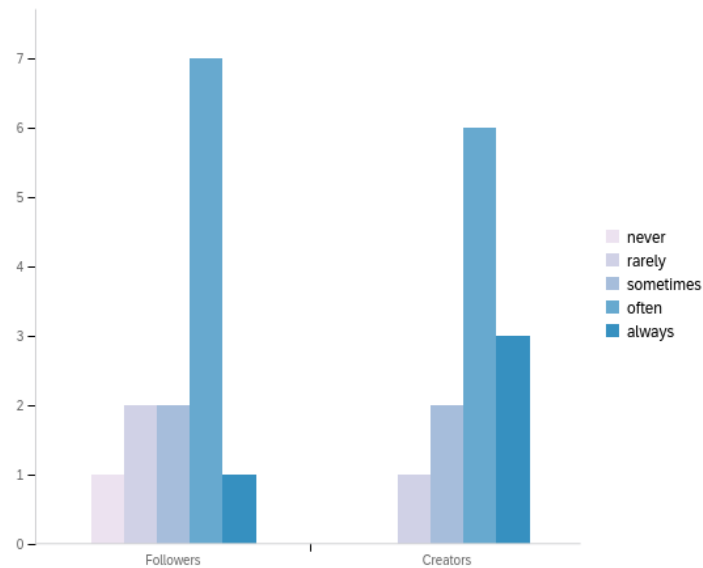
Figure 7: Do you watch all videos in your For You page?
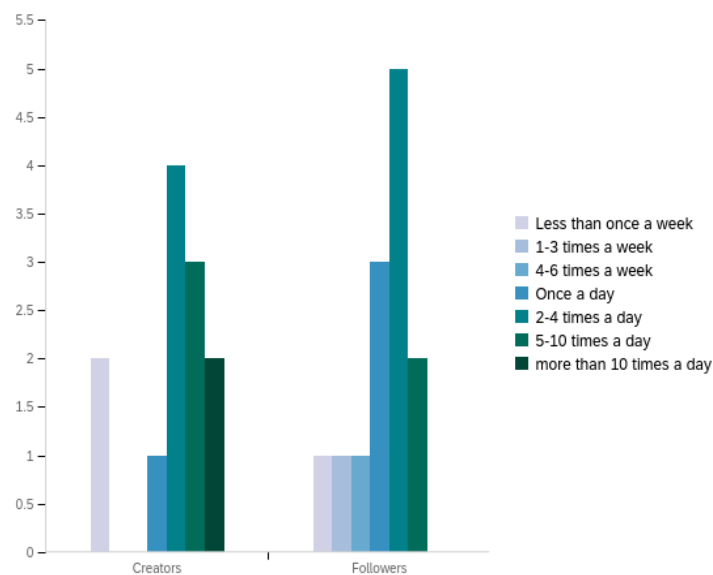
Figure 8: Frequency in which participants check their feeds

Figure 8 shows how often participants in each group check their feeds. Most participants check their feed from 2-10 times a day. Participants were most likely to follow friends,

content creators, influencers and celebrities. The most consumed type of content for both groups was *comedy* followed by *dance* and *music, news, trends, fashion, tv and movies* and *sports.* As shown in Figure 9, creators spent 1-8 hours daily on the app, while most followers spent half an hour up to 3 hours on the app daily.

Daily time spent on TikTok
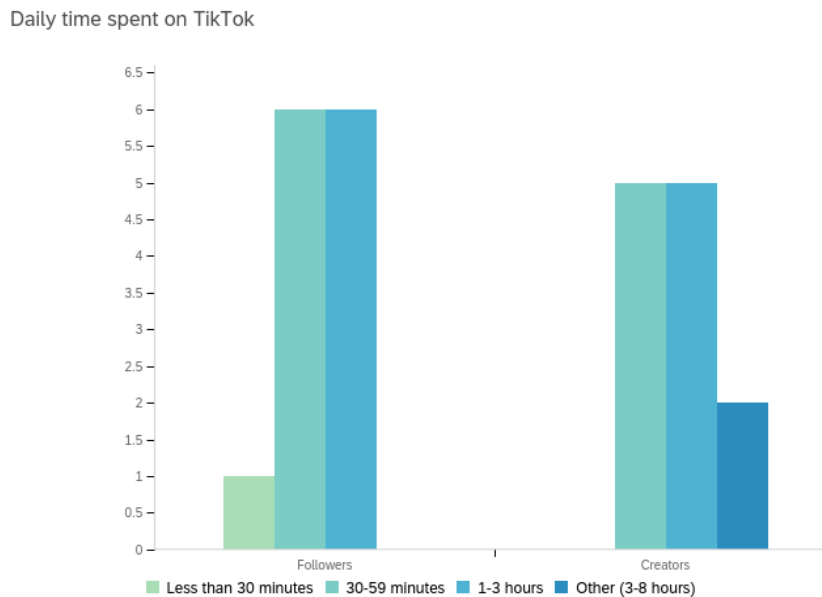
Figure 9: Time spent on TikTok daily

4.4   Privacy questions

Participants answered questions that focused on privacy. These included perceptions and understanding of the privacy clause, privacy settings, and comfort levels in trusting Tiktok with their content and data. Figure 10 shows most participants reported being *comfortable* to *very comfortable* using TikTok. However, there were differences regarding privacy management and habits between the two groups.
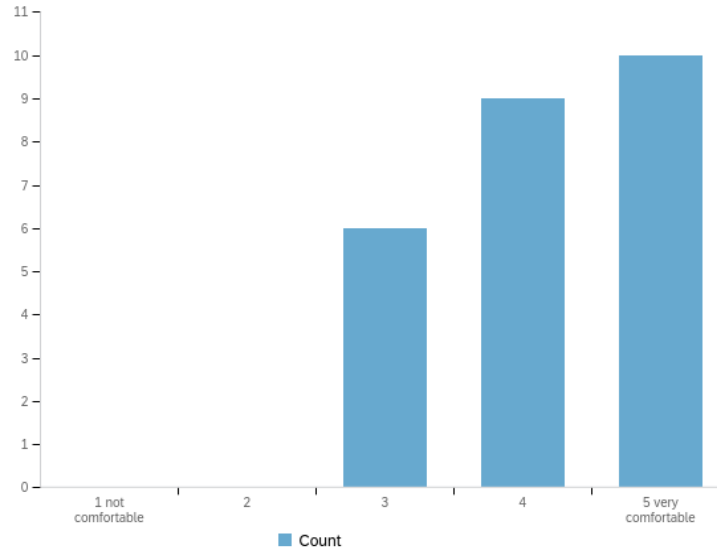
Figure 10: Comfort level using TikTok across all participants.
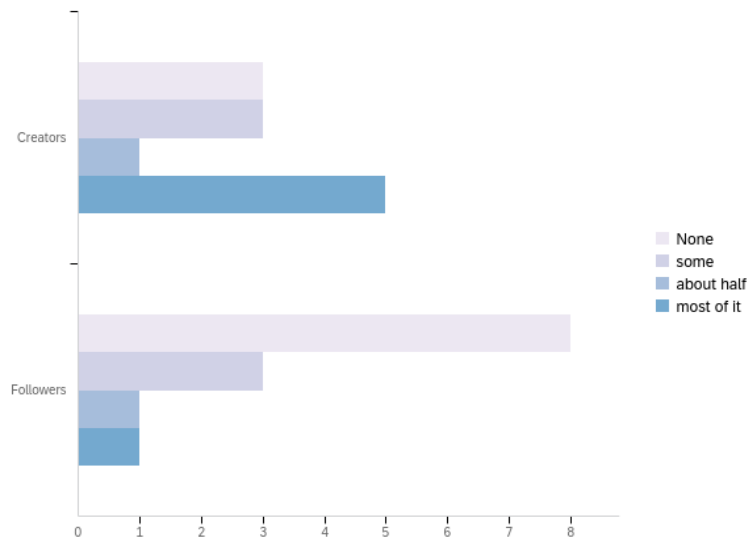
Figure 11: How much of the privacy clause participants read.

4.4.1 Privacy clause

Figure 11 shows how most followers reported having read *none* of the privacy clause, while

75% of creators reported having read at least *some* of it. Figure 12 presents reasons for

reading the privacy clause and rankings from *strongly agree* to *strongly disagree*. Most creators *agreed* to *strongly agreed* with most of reasons, while many followers were *undecided* or *disagreed* with most reasons. This could indicate that creators were more comfortable reading, understanding, and agreeing to the terms of service, while followers demonstrated to be uncomfortable and apprehensive in relation to the privacy clause, possibly because they had not read it.
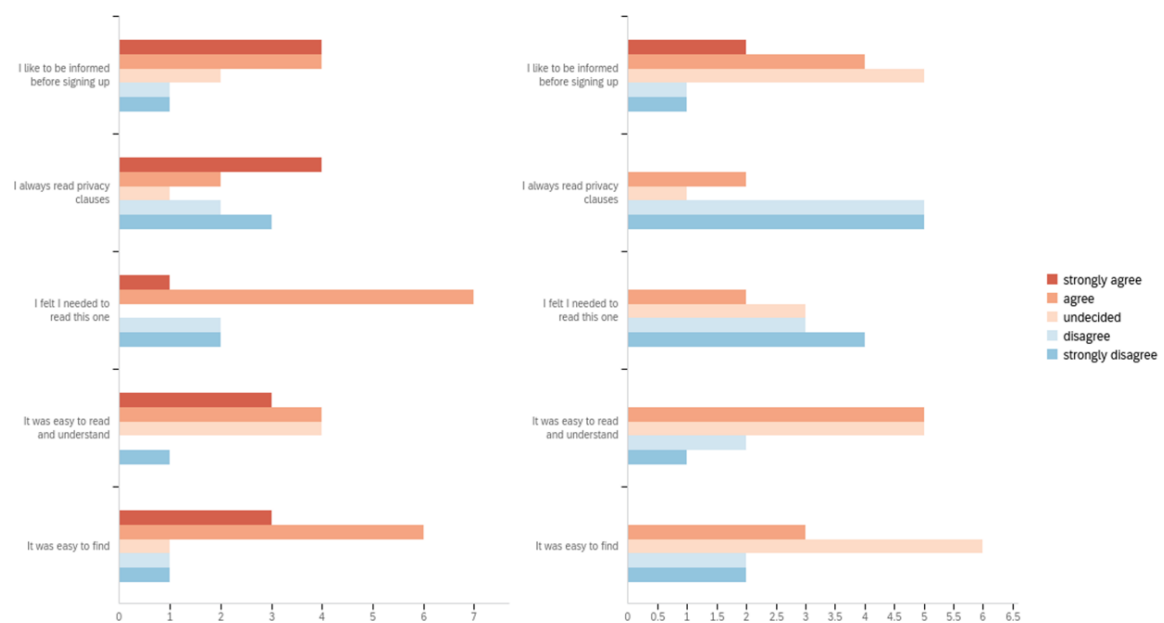
Figure 12: Reasons for reading the privacy clause, Creators (left), Followers (right).
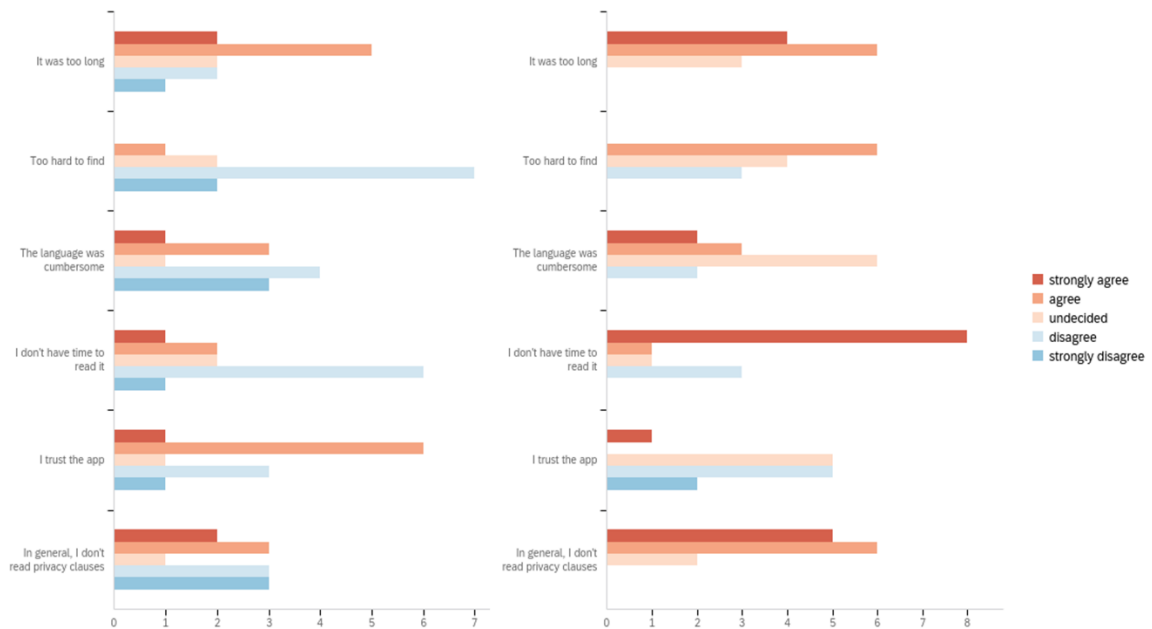
Figure 13: Reasons for not reading the privacy clause, Creators (left), Followers (right).

Figure 13 details reasons for not reading the privacy clause, ranked from strongly agree to strongly disagree. Most creators highlighted that it was too long; however, they trusted the app and had considered they had time to read it. Most followers agreed that the privacy clause was too long, hard to find, that they don't have time to read it, and that in general they do not read privacy clauses. Followers were undecided or did not trust the app all together. From these results, creators demonstrated a more favorable attitude and a deeper understanding of the privacy clause; they were more comfortable overall.

Followers appeared to be burdened and wary of TikTok's privacy clause. Despite claiming they liked being informed before signing up for a service, they found the privacy clause cumbersome in all aspects and untrustworthy.

4.4.2   Personal data
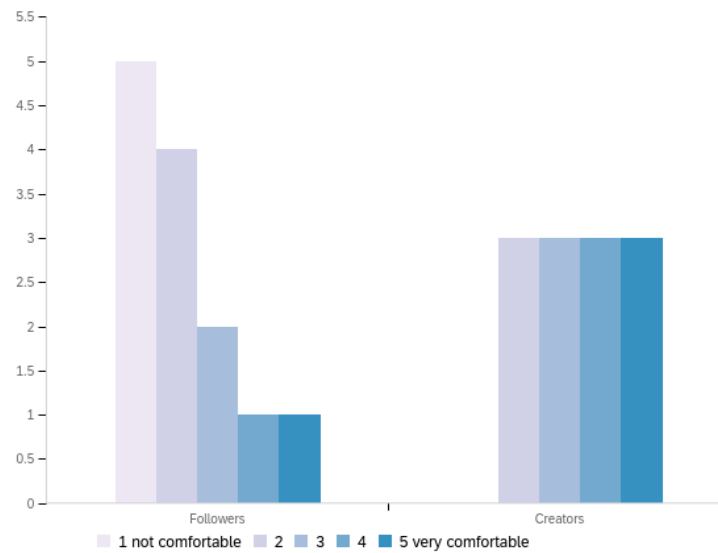
Figure 14: Comfort levels trusting Tiktok with your personal data.

When asked about participants' comfort levels trusting TikTok with their personal data, the difference between groups were palpable (Figure 14). Most followers reported being uncomfortable trusting their data to the app, while rankings from creators were evenly distributed from not comfortable to very comfortable.
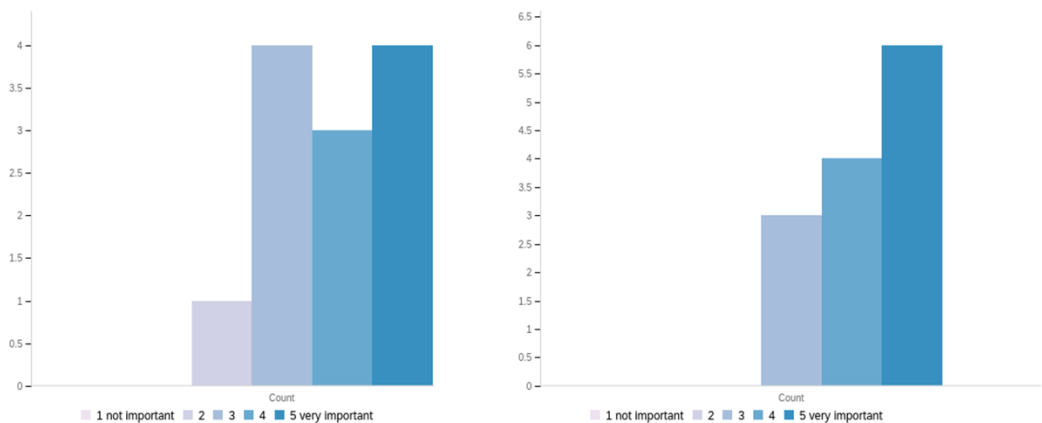
Figure 15: Importance of privacy; Creators (left), Followers (right).

As shown in Figure 15, participants from both groups deemed their privacy to be important to very important. However, most followers were uncomfortable trusting TikTok with their personal data, while creators were mostly comfortable.

Figure 16 shows how comfortable participants were trusting TikTok with their content. Most creators were comfortable trusting the app, while followers were indifferent or uncomfortable. This could indicate that creators need to trust the app in order to continue participating as content creators.
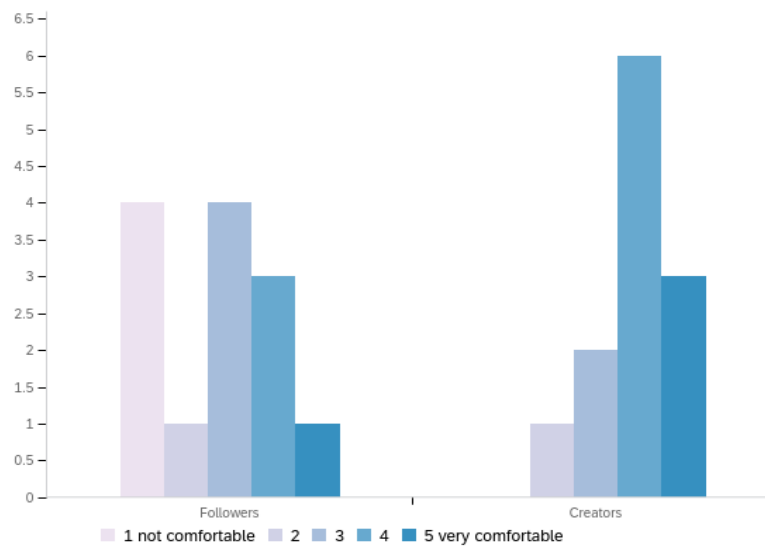
Figure 16: Comfort levels trusting TikTok with content.

4.4.3   Settings

64% of creators changed their privacy settings, compared to only 27% of followers. Participants gave reasons dissuading them from changing privacy settings. Figure 17 shows that creators who did not change their privacy settings ranked "don't think it will help" and "I don't know how" as the main reasons. Followers chose "I don't think it will help" as the main reason dissuading them from changing their privacy settings.
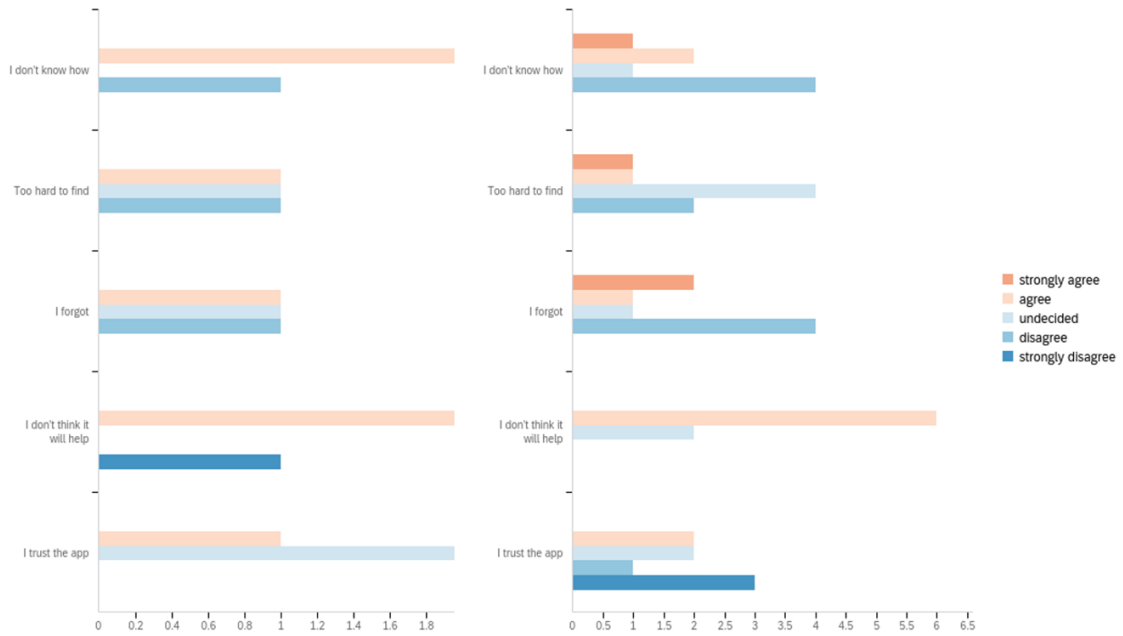
Figure 17: Reasons for not changing the privacy settings; Creators (left), Followers (right)
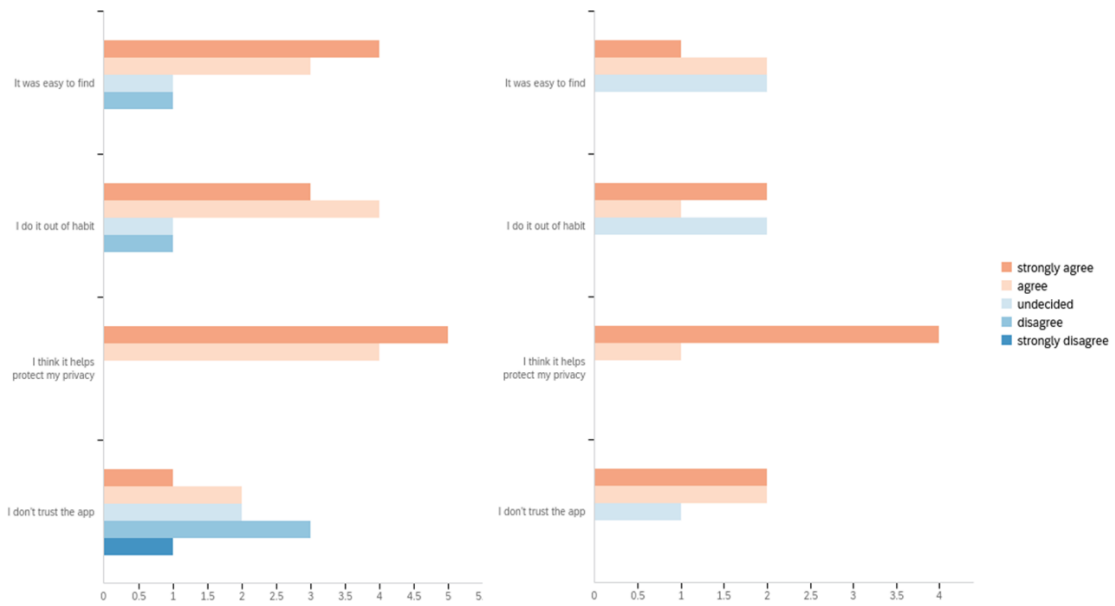
Figure 18: Reasons for changing the privacy settings; Creators (left), Followers (right)

In order to understand contributing factors in participants' decision to change their settings, we asked them to say how much they agreed with reasons provided in Figure 18. Creators agreed and strongly agreed with statements "I think it helps protect my privacy," "I do it out of habit," and "it was easy to find." In addition, most disagreed with the statement "I don't trust the app." This could indicate that creators feel confident about managing their privacy settings, which gives them a sense of trust in the app. Most followers who changed their settings also agreed or strongly agreed with statements "I think it helps protect my privacy," "I don't trust the app," which suggests followers changed their settings as they do not consider the app to be trustworthy and employ available strategies through TikTok settings to manage their privacy.

4.5   Summary of questionnaire results

Considering demographics, usability and privacy, the questionnaire results revealed that most of the participants are college or university level educated. In general creators post about travel, TV and movies, dance, music and sports and only a few of them monetized their content posts. Most participants check their feed 2 to 10 times per day. Most followers were revealed to be more distrustful of the app by their feelings of resignation to the privacy default settings as they don't deem or think such measures will help them. To this point, results also indicate that creators read at least part of the privacy clause and managed their settings because they believed it helped protect their privacy. These results highlight that creators are more trusting of the app than followers and they believe that the designed tools exist for their benefit. In contrast, those followers who change their privacy settings still revealed high levels of distrust of the same tools.

Chapter 5: Interview Results

5.1 Thematic Analysis

Next, we present findings from the thematic analysis of the creators and followers transcripts. Our findings first describe the adoption of TikTok, the relationship and perceptions of the algorithm and For You Page (FYP). We identify participants as C for creators and F for followers, (e.g., C1).

The findings are organized into themes that emerged from trends in the data. There were 21 original codes and merged from the data. We then clustered the data and focused on five main themes that related to privacy: *Culture of TikTok, Misaligned personalization, Infrastructural surveillance, Peer privacy concerns, Society implications*, and *Privacy management*. In the next sections, we discuss each of the five main themes followed by discussion of how these relate to each other.

Table 1: Miro Board. Part of followers table categorization of codes

Followers	Why they like?	How did they start	Engaging aspects	Experience with the FYP (+)
P2- (F1)	to kill time Habit: "it is part of my routine" "I check Instagram, Ill check FB, Ill check like whatever and its just one of the social media apps that I open and scroll for a bit"	Begging of COVID March 2020	• it knows you very well • algorithm • FYP • Other apps are not as good with the tailored content as Tiktok is (instagram Reels) • tailored experience • "the algorithm knows you so well the its going to give you videos that you will enjoy" • FEATURES: message friends,	good and bad: "I enjoy what is on my FYP, and that's what makes it so addicting" "so you are like oh like ill just watch one more video and then , oh one more, and you get stuck in this like, endless cycle"
P8 (F-2)	funny content relatable "I feel like it's also a platform where God speaks to me as well" (through other creators it can be used to promote stuff. (small business)	when it was Musically	variety of content • FEATURES: catchy sounds or tunes. saving tiktoks in a collection • FYP	"relatable, like on my FYPlike I guess like post there that will really relate to me God speaks to me sometimes"

miro

Table 1 is a portion of the 'followers' Miro online whiteboard that we used to categorize codes. On the leftmost column, participants are named in their anonymized form. The top row identifies categories based on our interview guide. Each cell presents responses from each participant per category along with our initial summary notes. In this manner, the table helped us organize the data per question, which we then coded and categorized. We proceeded in this manner with all interview transcripts. Figure 19 shows the full view of the table and the thematic analysis process using color coding and sticky notes.
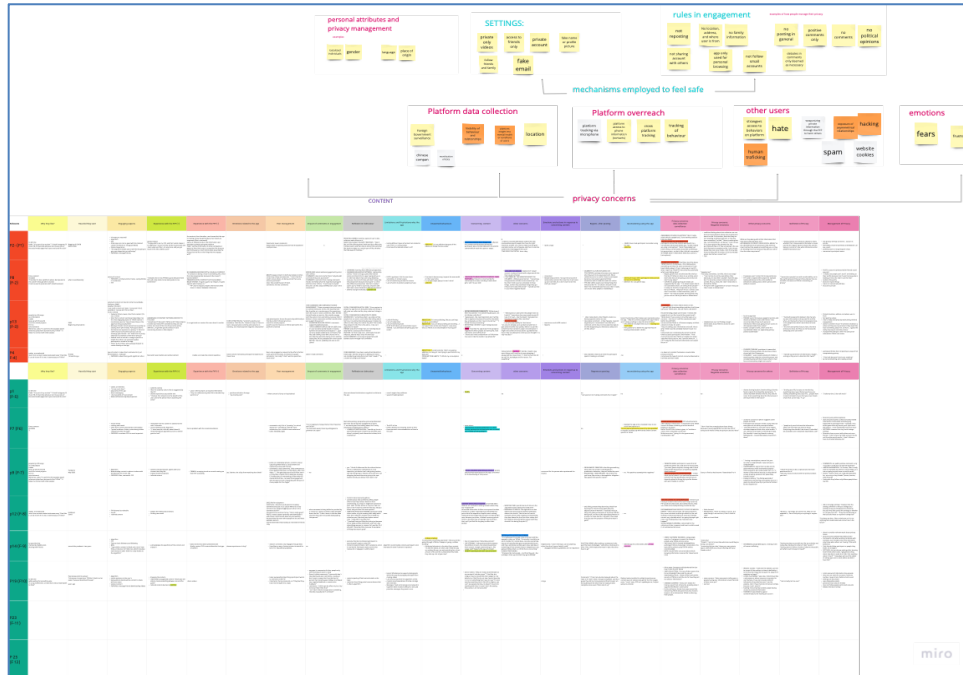
Figure 19: In-progress Miro board for Follower data

Table 2 provides examples of our thematic analysis procedure, where we coded quotes from participants answers, then assigned them a category and finally allocated them into a theme. Table 2 offers two examples of how a quote became part of a theme. For instance, in *"I am pretty spooked by being canceled by association"* the main idea the participant is trying to convey is their fear of cancelation. We proceeded to code it under "cancelation," which we categorized under Impact of Comments on Engagement, as the fear of cancelation was a direct result of observing others getting 'cancelled' in the comments section. Finally, we assigned this category to the Peer Privacy Concerns theme.

Table 2: Coding examples

QUOTE:	CODE	CATEGORY	THEME
"I am pretty spooked by being canceled by association"	Cancelation	Impact of Comments on Engagement	Peer Privacy Concerns
"It feels like it picks up on like my conversations with my friends, even though like, I don't know if I give that, gave them that data"	Audio surveillance	Data collection	Infrastructure Surveillance

5.2 Culture of TikTok

In this section we discuss how TikTok was adopted into participants' lives through everyday shared practices, which in turn build social bonds with others. We present the aspects that keep them engaged and how these are part of the culture of TikTok.

5.2.1 Adoption

Most participants in both groups started using the app during the COVID-19 (SARS-CoV-2) pandemic. Between 2020 and 2021 people around the world were obliged to stay home; thus, people needed to "kill time" as asserted by many respondents. Participants started using the app to entertain themselves, keep socializing with family and friends, and even for school projects since in-person classes switched to an online delivery method. A few of the participants joined the app because of peer pressure accompanied by the desire to participate in culture as TikTok specific content had been adapted into routine conversations in social circles. As one participant detailed a conversation that took place

with a friend, *"oh we (participants' friends) want to send you TikToks, I think it's a lot easier if you just download the app"* (F10).

According to participants, the reasons for adopting the app range from its rapid growth in popularity during the pandemic, to having a means of entertainment and some peer pressure. People use the app to pass the time, and to keep up with friends, events, pop-culture, and news. Both creators and followers use the app for fun and entertainment. Many participants find the type of humor on TikTok particularly appealing and aligned to their preferences. Participants highlight "*funny content*" and "*relatability*" as a major appealing aspect for engagement. A few participants suggest they use the app for individual needs such as getting motivation to complete tasks or for school projects. The last set of responses include those who suggest that the app can be a channel for "God" truths emanating through creators. "*I feel like it's also a platform where God speaks to me as well*" (F2).

Participants in the creator group describe the app to be a great tool to advertise their business. In the creator group specifically, the business possibilities from using the app weigh more than for the follower group.

Participants in both creators and follower groups highlighted that TikTok is a space where they participate in culture. Participants follow news or world events and simultaneously use it to shape parts of popular culture. Many participants use references specifically from TikTok trends in informal social situations. For instance, participants point out that there are specific jokes and humor on TikTok that they reference when talking online and outside the platform with peers:

"People were saying things I didn't get, so I wanted to like, be on top of that and understand what jokes they were making"(C1).

"It used to be Vine people would reference jokes from but now it's like, TikTok" (F3).

As people consume, share, and reference the content they watch, they further disseminate ideas, values, and experiences from TikTok into the mundane, thus influencing culture. Through trends, humor, 'cute videos,' or news, TikTok shapes the culture inside and outside the app. It infiltrates itself in everyday conversations as it has become the point of axis upon which people form social bonds. As a result, young adults report certain levels of pressure to participate on TikTok because they do not want to feel 'left out' of the culture they are 'supposed' be part of.

5.2.2   Social Bonding

Most participants who downloaded TikTok during the pandemic highlighted the importance of keeping in touch with loved ones over long distances. Some participants from both creator and follower groups downloaded the app with the intention of keeping in touch with family and friends. They began using the app to share content, thus having a common topic or ground to carry out informal conversations.

"It in a way it builds community with my friends because we have kind of the same lingo, because we are watching kind of the same TikTok" (C2).

"We (friends) are sending the same videos back and forth to each other because we just kind of are into that type of content" (C1).

"We spit out TikTok references like every time we meet and it is always different" (C2).

Through this practice, TikTok became a space that helped reinforce social bonding with friends, peers, and families inside and outside the app. This aspect was significantly important to followers and the main reasons behind adopting the app.

5.2.3   TikTok and the "Algorithm"

Both creators and followers highlighted the For You Page (FYP) as the most engaging aspect of TikTok. Most participants are aware of the role the algorithm plays in tailoring their FYP.

> *"I am aware of my engagement and like, the like, the comments and how it affects my FYP" (C2)*

> *"The algorithm knows you so well that it's going to give you videos that you will enjoy"(F1).*

Participants overall perceived the personalization of content unique to TikTok's FYP and deemed this customization to be the most engaging aspect of TikTok. Most participants deemed the FYP as positive as they reported to enjoy most of the content in their feed. A few participants in the follower group noted the personalized and tailored experience on their FYP to be unique to TikTok in contrast to other audio-visual platforms like YouTube or Instagram. "*(TikTok is a) special medium of short, entertaining videos compared to like YouTube*"(F6). They deemed the short form content to be stimulating where they could go for limitless videos, which made it feel "*so much freer*"(F5) as opposed to other audio-visual platforms. Participants observed the customization of their FYP and they also attributed the 'algorithm' for exposing them to new things:

"I get similar content on TikTok, and a lot of new things I discover on TikTok too, which I develop new interest in, and I think it's really thanks to the algorithm" (F9).

Participants in both groups also enjoyed the discoverability aspect of the 'algorithm,' which for the most part customized content aligned with their interests and values, but sporadically included seemingly unrelated content in their feed. Participants presented mixed emotions regarding the latter aspect (see 5.2.4).

5.2.4   *Emotions regarding the personalization of the FYP*

Most participants in the creator group expressed a positive outlook on the recommendation algorithm, as they enjoyed the content, and deemed it conducive to social bonding, work, entertainment and activism. Likewise, participants in the follower group deemed their experience with the FYP as mostly positive; however, they also presented some concerns and mixed feelings relating to the recommendation algorithm.

A few participants expressed only positive feelings regarding this aspect: "*I believe that all posts are for the benefit of the user and to the person that is watching the video*" (F5). These participants expressed their excitement and fascination with their tailored feed. While a few participants demonstrated indifference and took a neutral stand "*I have learned a little bit about these AI recommendation algorithms and it is neither good or bad*" (F6).

Most participants in the follower group presented mixed emotions and concerns with algorithm and its ramifications including addiction (see 5.2.5). Participants were "*annoyed*" or frustrated when presented with content that did not reflect their belief systems in their FYP "*it (recommended content) goes against my religion, it goes against what I believe in*" (F2) They were also annoyed with the repetitive nature of trends and sounds

outside their preferences. As a result, they deemed the untailored content as a negative experience. A few participants expressed fear of the ramifications this personalization of content might have in society:

> *"(TikTok) sell that information to other companies. I guess it's like a little scary in a way that like they are just finding out so much information about like the things that we like or the things that we engage with" (F1).*

5.2.5   TikTok and addiction

Participants in both groups expressed their experience with patterns of addiction within TikTok. In the follower group, all women participants reflected on the addictive qualities of TikTok. In the creator group, only women expressed this concern; however, for the follower group, both men and women highlighted this behavior.

"*I enjoy what is on my FYP, and that's what makes it so addicting*" (F1) Participants described continuous engagement with their FYP as unwanted addictive behavior. They attributed this phenomenon to the recommendation algorithm.

> *"So you are like oh like I'll just watch one more video and then, oh one more, and you get stuck in this like, endless cycle" (F1).*

> *"You can keep scrolling and scrolling ... I can hyper fixate on like one thing for a very long time, so TikTok is not very helpful in that regard" (F3).*

> *"Maybe it does get too specific sometimes, because then I'll just sit there and I'll be like. Oh, 3 hours has gone by" (C4).*

Participants understand the impact of the recommendation algorithm on their content consumption habits and addiction to the app. They highlighted that their conduct led to waste of time and focus. They attributed specific features contributing to these habits, such

as short form video content, endless scrolling, amounts of content, and specificity of the tailored feed.

> *"it's very time consuming, you know; you are like going through a TikTok, it keeps on going, endless scrolling" (F9).*

> *"it is designed to be very like, addictive and that, like it never ends and that there is just such a big amount of content to go through." (C2).*

Participants employ different techniques to deviate from this unwanted behavior such as limiting their time on the app or deleting it for a specific timeframe. *"On the bad side, I feel I am getting addicted. So I kind of. I am trying to put limits for my daily use"* (F4). They employed different techniques when aware of their addictive patterns (see 5.2.6).

5.2.6 *Reconsidering using the app*

Participants in both groups have reconsidered using the app multiple times. However, reasons vary between followers and creators. On the followers' side, participants deleted the app or have considered deleting it as they observe their addiction patterns and 'wasting time' on the app.

As one participant expressed, "*It's the most unproductive use of my time possible*" (F6). These participants deleted and reinstalled the app around exams or when they need a 'break.'

It is important to note that the creator group had different criteria to delete or consider deleting the app. The predominant factor points to lack of engagement with their content or disinterest from the general public. By the same token, participants expressed they are discouraged from using the app as their content does not get enough exposure on the FYP

as other larger creators. One participant observed their content performance on the app in comparison to other creators:

> *"(large content creators) with hundreds of thousands of followers, then it's um, and they are on you FYP and you don't see any with like 200 likes or anything like that" (C1).*

Creators reconsidered using app at first when engagement or performance of the content was deemed as insufficient. These concerns lead to self-doubt, frustration and feeling depressed. As one participant noted, *"…then I saw someone posted something better and then I felt like, okay I didn't do that much good, so why should I keep it?"* (C5). Public reception to their content not only played a major role in considering keeping or deleting the app, but also on self-esteem and confidence.

Other reasons for considering deleting the app included: lack of monitoring of concerning or triggering content, and privacy concerns. Some participants in both groups have never deleted or considered deleting the app. A few expressed that the positives 'outweigh the negatives.'

5.3   Misaligned personalization

This theme discusses participants' thoughts on what they considered to be objectionable content displayed on their FYP. Participants expressed favorably towards the personalization of their FYP and to behavioral tracking as long as it tailored "happy" content or content that reflected their values and belief systems. However, participants in both groups expressed severe discomfort and objections when personalization led to negative content or content that didn't reflect their values or belief systems. They were

particularly disturbed when content seemed to violate privacy of others or spaces that were never before part of the public stage.

When presented with misaligned personalization of content they were incentivized to manage certain aspects of their engagement or to use the available tools to fix such misalignment.

The main thread in this content fall under the umbrella category "violence." Violent content made participants uncomfortable and concerned. In the next section we give some examples of violent content participants reported.

5.3.1   Animal abuse

Participants in the creator group expressed their disgust and concern with content that exploits animals for engagement. For instance, a creator detailed the type of content they had encountered:

> *"The creator made multiple videos abusing their pet and making posts about it. It turns out that she like, would like, touch her bird and like, arouse it just for fun and like she knew it was bad. She was like, Oh my God, I am such a terrible person"* (C4).

The participants who expressed concern for animals reported this type of content to the platform.

5.3.2   Eating Disorder Content

Women participants in both groups expressed their concern with content that promoted eating disorders. Some participants' own experience shaped their discomfort with this type of content "*So although they might not be directly, like graphic, or like bad, just like, I*

don't like what it is preaching and the kind of damage it's sending out" (C3). Participants regarded the glorification of eating disorder content in audio-visual culture negative and consequential to people's health.

> *"(Videos) where people like, are very toxic, like workout diet culture… I started getting these like fast slim quick like videos" (C3).*

> *"People post, like new inspiration, but it will be like an apple and a piece of bread for the whole day and people are like 'I want to be skinny! … I found this very concerning" (F3).*

Women participants expressed that they were targeted this type of content on their FYP. They all deemed the promotion of unhealthy eating habits as problematic for health and culture in general.

5.3.3 Body specific content

Participants across both groups reported concerns regarding body-specific content. In other words, content that revealed specific body parts, specific bodies in relation to gender, and specific bodies in relation to age. Although it might not be clear at first, it is important to note the implications for privacy in what participants reported.

They reported being deeply uncomfortable by the privacy implications for minors, specifically young girls, as the culture of TikTok encourages the commoditization of their bodies through their performance and exposure in the public stage (e.g., `thirst traps', trends). Participants understand that prior private lived environments, like teenagers' rooms, now belong to the public and are up for scrutiny, praise, and even commoditization.

Underage objectification and sexualization of the body: Participants presented concerns regarding the sexualization of children and minors. Some participants displayed concerns specifically with the sexualization of young girls' bodies and trends. For instance, a participant highlighted their experience with their partner's FYP as concerning, as it tailored content by young girls exposing parts of their bodies, which included *"half naked girls and 12-year-old"* bodies (F2).

Trends were also highlighted as a contributing factor for the encouragement of body specific content by young girls. As a participant explained their feelings about 'thirst trap' trends by young girls:

> *"It is this weird back and forth of like, or this weird contradiction of feeling very grossed out by it, but at the same time, there is almost this idea of like, it's disgusting, but I am seen as desirable. You know?" (C3).*

Participant deemed trends like 'thirst traps' concerning for young girls as it exposed them to commoditization of their bodies.

Commoditization and sexualization of women's bodies: A main concern brought up by women participants in both groups highlighted the potential for the commoditization of women's bodies. For instance, a participant explained how normalized power dynamics between consumer and young women's bodies are on the app.

> *"It is a normal thing for girls to be like, 'oh yeah three sugar daddies or a message I got three sugar daddy requests today of creepy guys like wanting to pay me and all this stuff' So I definitely worry that, you know, we have the sense to go, okay this is a scammer or this is a creep, but other people might, you know specially if they are vulnerable and uninformed, like they could fall for that kind of thing" (C3).*

Participants found the ramifications of this type of approach and dynamics potentially dangerous to young women.

A few men participants deemed exposure of women's bodies as 'immoral' or against their values. For instance, a participant was uncomfortable with body specific content created by women.

> *"It is the ladies who tend to put some serious, you know, trying to be more seductive... and I am a kind of person, I tend to, I respect my morality through this kind of content...they are trying to be more seductive by their presentations in the videos. So, content like that gets me upset" (C6).*

Participants were hesitant to describe specifically what about the videos were explicitly 'seductive' or presented 'nudity.'

5.3.4 Hate

Some participants in both creator and follower groups highlighted their concerns with hate speech, hate content on the app. These included acts that exposed private matters on a person to the public eye through TikTok, or cyberbullying and inflicting hate speech on specific identities or communities on the basis of their faith, gender, or cultural association. Participants reported having seen or experienced these types of attacks on women, racialized individuals, and minority religious individuals. In short, otherized individuals were reported as more likely to be a target or reported as having been the object of hate speech and cyberbullying.

For instance, a participant detailed how 'stitching' is used to bully people on the platform.

"...stitching videos. I find often in those, it will just be someone minding their own business, making their own video and then someone will like stich it and just completely, like bash that person or you know just start saying very derogatory and demeaning things ...but I have seen lots and lots of those persons, particularly targeting women" (C3).

Some women participants expressed concerns with misogynistic content on TikTok. For instance, a participant noted how the content on their FYP exposed them to content creators like Andrew Tate, who posts misogynistic commentary for the general public: "*they are allowed to be very rude to women*" (C1).

Another participant reflected on some hate speech content they encountered on their FYP and deemed it appalling; "*I have seen more antisemitism on TikTok than I've seen in like the media in my whole life*" (F3). Participants found that people can be easily bullied on TikTok, and that some demographics are especially exploited through hate speech and cyber-bulling. Participants were concerned with magnitude of the content that promoted any type of hate speech, the speed at which it was propagated, and the audience reach on the platform.

5.3.5   Sensationalization of the poor

A few participants found content that sensationalized the poor concerning. For instance, a participant described their experience with a video on their FYP:

"It was like a very poor woman, in like, a hut, with like eight or nine stillborn babies, like dead. Like either miscarried or but like still very far along in the, in the pregnancy because they were like visibly like you could tell that they are babies" (C10).

They found this type of content violent and deeply worrying. While this piece of content is deeply violent and exploitative, it is important to note the deeper implications of its influence on perceptions of the private versus the public. Participants found this content triggering as they encountered death (something usually reserved for family or a close selected few) as spectacle, available for public consumption. This concern speaks to the type of content they encounter, to the implications for consent, and to the new practices blurring the lines of what are socially acceptable domains for exploitation in the name of likes and engagement.

5.3.6   *"Pranks": The theater of violence*

Pranks videos were deemed as violent and dangerous. Videos that exposed people to dangerous situations as 'pranks' were concerning to some participants. Some examples included controversies involving celebrities drinking and driving and accidents which resulted in the death of people. "*It was a content that was making a jest of someone who fell from a car*" (C7).

Participants considered that not all material was appropriate for posting, especially if it resulted in violence and accidents. "*They are recording, and their posting is a dangerous thing. Not everything should be posted on it*" (C5). A few participants suspected that this type of content gained more traction on the app because it played into sensationalizing violence and used suspense. Similarly, to the new ways of sensationalizing the experience of the poor, 'pranks' gives an avenue for violence to become part of the public spectacle where it can be exploited and glorified in the public stage of TikTok.

5.3.7   *Traumatic events shared by content creators*

A few participants deemed content that revealed people's traumatic experiences uncomfortable.

> *"People will start talking about, like traumatic events they have gone through or show like graphic videos, and that, and obviously without any proper trigger warnings" (C3).*

Other topics included sexual violence and assault experiences. These types of videos have taken personal events to a shared space, where traumatic events become shared commodities with the public.

5.4   Infrastructure Surveillance

This theme tackles privacy concerns related to the infrastructure of the app. We look at issues relating to platform surveillance, perceived outreach, and data collection.

5.4.1   Audio surveillance

Most participants in the follower group expressed concerns with audio surveillance. A few in the creator group shared the same concern. One participant was "spooked out" by seeing their FYP tailor specific content that featured items or themes from a conversation they had with friends in real life. "*I feel like it picks up on like my conversations with my friends, even though like, I don't know if I give that, give them that data*" (C2). Another participant expressed how their FYP directly related to the topic of conversation they had with friends:

> *"We were just having a random talk and the next thing I open my FYP and that's what I see. So, I believe that too, they are, TikTok are actually listening to what we say" (F8).*

Similarly, participants noticed their FYP advertised products right after phone conversations. For instance, a participant describes how, after having a conversation about jewelry on a phone call, they immediately saw advertisement specific to that topic. "*I would see some TikTok account that was marketing a certain brand of jewelry on my feed*" (F6).

These types of scenarios elicited fear, discomfort, and helplessness. As one participant noted, "*I think TikTok kind of takes it to a new level because the content that they specifically curate for you is decently related to things that you, like, discuss with your friends in real life*" (F7). These participants felt helpless and unequipped with the existing tools to protect themselves. As one participant noted,

> "*I feel like it is for everyone. It is like important, but we don't know what to do about it. Or like there is no, or like it is difficult to see, some actionable steps as to what to do*" (C2).

These participants felt their privacy was being compromised; however, they also claimed they had become desensitized to it. For instance, this participant expressed a sense of helplessness when reflecting on their suspicions of surveillance, "*there is nothing I can do...but even though I am used to it, I don't think it's right*" (F8). Although participants claimed they had become used to it, these situations led to distrust of TikTok in general.

5.4.2 Cross-site tracking

Most participants in the creator group were concerned with cross-site tracking and hacking. They noticed how their activity on other platforms (i.e., Google, Instagram) was tracked by TikTok and vice-versa.

".. I can't tell if it is because I looked it up on TikTok that I am now being shown that in my For You Page, because that would happen, like I'd look something up and then it would be in the FYP, or if it is tracking data across other apps" (C10).

These situations elicited anger and mistrust. For instance, one participant described their frustration with cross-platform tracking, *"(It is) unnerving that you don't have your own private space, even when you are just chatting with your friends online"* (F9). Others reported being desensitized to targeted ads and brand sponsorships in the videos they watched: "*I am used to where social media knows what you are looking for and they will post it in front of you either to make you buy it or make you think about it more*" (C1).

5.4.3   *Data collection*

Participants in both groups expressed some concerns with data collection:

"It is one of the reasons that I kind of avoided Tiktok and the idea of downloading Tiktok... I knew of like how bad the security of TikTok is and the site for how they sell out all your information" (F10).

These participants had conflicted feelings about data collection. While they presented some concerns, it mostly related to government surveillance and malicious actors. For instance, F6 was only concerned about data collection when reflecting on governments, *"(if data is given to) malicious actors, then I would be concerned.*" When asked to define malicious actors the participant responded, "*giving it to the government, tracking what I do*" (F6). A few participants echoed the same concern, especially reflecting on implications for war; however, they deemed it to be a problem of social media in general.

Other participants expressed fear, yet at the same time, reassured themselves they didn't have "anything to hide." For instance, a participant detailed their contradiction:

"There is nothing that like, I am hiding what I am doing… I don't know if it is just trying to like, advertise for like purchasing things or if they are going to, like use this information somehow to like, I don't know, design like new social media, I don't know what they are doing with the data so that is probably where like the fear comes from" (F1).

Lack of agency over their data made them feel afraid and helpless. Similarity, a few participants were also concerned with access to all information on their devices:

"How much of my own (information) does TikTok, or maybe even other apps like have access to that I am not aware of…I can't really, like, find as much information as I would like on it" (F3)

These participants' felt equally helpless when not provided with the information about privacy management and permissions on the app.

A few participants, although aware of data collection, deemed it to be inherent to using social media in general. "*I don't feel that strongly about these things, because I have accepted the fact that the cost of using social media is they are going to use your data*" (F6). These participants highlighted that the positives outweighed negatives or risks in using the app. They were desensitized to data collection or security risks. To this point, another participant explained:

"There is people, some people who say that like, just having the app on your phone is like a cyber risk where, like people could be easily stealing your data...I am of the opinion, of my usage data, like what apps I use really isn't that interesting" (C3).

Both participants who presented concerns with data collection and those who didn't believed their data was not interesting enough therefore, they deemed it to be an acceptable trade-off to continue using the app.

5.5   Peer Privacy Concerns

This theme describes fears related to other users on the app, and their influence on privacy behaviors. Participants deemed other people online as potentially harmful which influenced the tactics they used to feel safer on the platform. Privacy concerns related to strangers included: stalking, cyber-bullying, sexual harassment, and body trafficking.

5.5.1   *Revealing location and lived spaces on TikTok*

A few participants in the creator group were concerned with revealing house and living environments to strangers from fear of judgement: "*Sometimes people are judgmental to see the, where I am living or they are not actually seeing my content*" (C5). As they considered building a following important, they wanted to keep criticism to a minimum. Other participants deemed revealing location potentially harmful as they were afraid of getting unwanted direct messages, spam, or being victim of human trafficking. For instance, this participant deemed sharing location, favorite things, favorite foods as parts of life that should be kept private. "*I advise my fellow TikTokers like me, they should never share everything about his life, because it will haunt them in the future*" (F5).

5.5.2   *Revealing of asymmetrical social relationships*

Participants in both groups highlighted their discomfort with having the platform recommend acquaintances or individuals from their non-TikTok contacts list. This participant explained how alarming it was to see people they knew recommended:

> *"it shows like people that I am like, how did they even know?! TikTok doesn't have access to my other apps or contacts ... but then it's still like somehow knows" (F3).*

Participants were concerned and felt their privacy compromised by the suggestions to follow people from their non TikTok contacts.

> *"It almost seems like it's not coincidental that I am seeing these people… It notifies me that like, this person in my contact list is on Tiktok... they have me as a contact, but I don't have them so like sometimes, yeah, it's weird…So it would say like, oh this person has you as contact. Do you want to follow them?" (F2).*

Participants found this type of suggestions annoying "*because I don't want to follow them*" (F2). Others felt conflicted on the subject:

> *"I find it a bit creepy, to be honest. I've had, like you know, people I haven't spoken to in years just pop up in my like, For You Page.... and I guess it's like I feel more connected, I guess to people like, because you can see their stuff, but it is a little creepy" (C10).*

As participants reflected on the recommendations from their contacts or past acquaintances, they felt (1) that their privacy was compromised, including their contacts on their phone, (2) that the current state of their interpersonal relationships was revealed and accessed by the app, (3) socially uncomfortable, as they did not know how to proceed once an asymmetrical relationship was revealed.

Similarly, a few participants used the platform as a private search engine, which meant that recommendations of contacts or acquaintances concerned them deeply. For instance, a participant explained how they kept TikTok separate from other social media platforms, as a space where they wanted to keep anonymity:

> *"(On TikTok) I am a little bit more open to the things I enjoy, like I wouldn't want my friends to see my following list... I would like to keep it private from them" (F6).*

They reported being very uncomfortable by the thought of being suggested to befriend or follow people from real life, since this would reveal aspects of the participant's life they wanted to keep completely private.

5.5.3   Revealing profile views

Most participants expressed discomfort from TikTok's notifications which revealed profile views. They were specifically uncomfortable when it revealed the activity of people who were acquaintances or from their extended social circle. One participant clearly detailed this concern:

> *"I just like didn't think it would be necessary to like namedrop them, so it's kind of almost like invading their own privacy and their own, not only is it, like creepy on like their end, but it's also on them, where it is just like their actions on the app are being seen" (C2).*

Participants from both groups resonated with this comment and deemed revealing the identity of contacts or acquaintances as "creepy." Most participants perceived that the privacy of others was compromised through this practice and felt uncomfortable knowing who viewed their profile.

5.5.4 Fear of hate-driven responses

As presented in the Misaligned Personalization theme, some participants expressed their experiences and concerns with hate speech. The types of hate included racism, antisemitism, homophobia, and misogyny.

A few participants specifically highlighted how the fear of hate-driven responses impacted their lives and the way in which they chose to engage on the app. Upon closer inspection, we found that most participants demonstrated taking hate as a main consideration when managing their posts, comments and likes.

The ways in which hate played a role vary; these shaped how participants chose to interact with others on the app or what aspects of themselves to keep private, what to like and when. One participant described how comments on a friend's videos scaled up to death threats, which made them reconsider what to post.

> *"She was just feeling herself, you know, feeling and looking pretty and like, I love seeing that confidence in her. But all the comments were just like telling her that she was ugly and it, like, snowballed to people going on her Instagram to like, tell her she is ugly and just all these, like, nasty things, like, it came to even, like death threats. It's one of those like 'kill yourself' type of thing" (C2).*

This participant was influenced by the experienced in the life of a close friend.

Similarly, F3 explains their first-hand experience with rapid escalation of targeted hate after leaving a comment on a seemly neutral topic:

> *"...I got so many people sending me comments, that like, had nothing to do with churros in the end, like they were like hating on Peru and like saying like, oh you*

probably don't even speak Spanish. You are probably not even a real Latina..."
(F3).

Participants in both groups felt compelled to engage with people who experienced cyber-bullying, by making supportive comments or liking videos.

> *"I'll see comments that are hating on someone because of, like, the way they look like, they like act a certain way or like sometimes even like racist or sexist comments. And I feel like that will make me want to, like, actually engage with the person more sometimes, because I don't believe in those comments and like I would rather just support this person" (F3).*

5.5.5   Fear of cancelation

Many participants in the creator group presented deep concerns with 'cancelation,' which informed how they behaved on the app including how they managed their privacy. For instance, one participant expressed not making celebrity-related content out of fear of being cancelled:

> *"I don't make content based on that because you never know if the person you are talking about will get canceled and then you are going to get canceled for talking about that person" (C2).*

To this point, another participant expressed that after supporting a celebrity that had been "canceled" in the public eye, comments challenging their support made the participant delete their comment. "*I realized people don't like her anymore, so if I talk about her in a good way, what does that say about me?*" (C1). Another participant explained how the cancelation of one of their favorite creators instilled fear in them which then influenced the measures they took to feel safer on the platform.

"I am pretty spooked by being canceled by association…One of my favorite creators almost like, got de-platformed and demonetized because of just like an association to like a person. So, it's more something that I watch" (C2).

This participant referenced David Dobrik, an influencer who according to the participant, got cancelled for being a 'bystander' to a rape victim.

Creators reported their fear of being cancelled as it represented a significant loss to their following, online persona, and reputation. They don't want to associate with celebrities or influencers that are deemed as problematic, or to be cancelled as a result of their allegiance to such creators. This means that some participants, who have developed para-social relationships with a creator, continue supporting them through their engagement (views) despite of bad reputation or actions. They might stop following, liking, or commenting on posts as a way to preserve their own reputation and keep their online persona free from criticism, retaliation, or cancelation; however, they still support their favorite creators regardless; they just do so privately.

5.5.6 *Impact on employment prospects and reputation*

Following fear of cancelation, participants reported being aware and mindful of how their engagement on the app through posts or comments might negatively influence their reputation and their future career prospects. C4, for example, reflected on their considerations when posting as they were afraid of its impact on future job prospects:

"It (posts) can like impact your like job recruiters seeing, seeing your like, post and everything. Like, I've sort of been aware of that since, like middle school" (C4).

A few other women participants resonated with this logic:

> *"if I know if it is just going to add to my digital footprint, like in a very unserious note, that's like not what I want other... like a lot of people to see. I just keep it to my friends"* (C2).

This participant also reflected on content that could potentially cause embarrassment in the future or ruin employment prospects. Many of the considerations that were deemed to have future negative impact were centered around their bodies in the public domain. (See 5.5.7 and 5.7.2). In turn, their fears influenced their privacy management tactics.

5.5.7   *Sexualization of the female body and strangers*

Some women participants expressed concern on posting body-specific content. That is, content that was deemed to reveal certain parts of the body or "too much" of the body. For instance, one participant was concerned with being sexualized on the platform:

> *"I don't like this idea of being sexualized on the internet. That is not something I want. And so even if the content isn't inherently sexual, like if there is creepy guys out there who can sexualize a three year old girl, there is creepy guys out there who will definitely sexualize, you know, someone who isn't a minor in a bikini. Any kind of creepy comments or comments on my body are not welcome"* (C3).

These participants were afraid of posting body specific content as they were concerned of its ramifications such as revenge porn, sexualized comments, sexual harassment, unwanted direct messaging, or loss of job prospects.

5.6   Societal Implications

This theme presents the privacy implications for society according to participants' reports. Although many of these were not reported to be first-hand experiences, rather observations

and reflections on their privacy related concerns, it is important to note that these impacted many of their privacy management decisions and strategies.

5.6.1   *Foreign government surveillance*

Participants in the follower group expressed concerns over government surveillance and data collection. One participant highlighted that government surveillance and monitoring is "*a matter of like national security, so they kind of screen all online presences for potentially harmful action*" (F7). However, not all participants agreed and had concerns in this regard "*…maybe government is behind, and like, the fact that like, if TikTok can listen to us and like, what else? who else are we giving access to that we don't know about?*" (F2). They were concerned with government surveillance and the implications of data collection.

Other participants' concerns specifically highlighted Chinese government surveillance. For instance, this participant expressed their main concern with security: "*China isn't known for having a good track of security, especially when it supplies the Western community*" (F10). Similar sentiments were raised by other participants who were concerned with TikTok's provenance and government involvement in data collection, "*they (TikTok) are selling your information and stuff. That is why I think I was like probably hesitant to get it at first*" (F3).

Some of these concerns were informed by the news surrounding the app in major US media outlets. For instance, F10's perception of data collection was influenced by the news around banning TikTok in the US for security reasons. As a result, F10 thought this type of news impacted what information TikTok was collecting from people.

5.6.2 Polarization of ideas and politized content

A few participants expressed their concerns with the polarization of ideas on TikTok. For instance, F9 observed that their FYP showed extreme political propaganda, when watching current events, despite of not being particularity political themselves. For instance, participant F1 noticed how their feed changed around the Roe vs. Wade US Supreme Court ruling. They were targeted pro-life content, which elicited strong negative emotions.

> *"I think it could be, definitely be used in like very manipulative ways if people, like, have the right resources and like can create a video that like, goes viral and reaches a lot of people, and then it could be used to kind of propagate that cycle" (F9).*

Participants reported their concerns for the reach and potential harm this type of content because they deemed TikTok to be an amplifier for extreme political ideas or belief systems that do not conform to current social norms and order. "*It is really easy for people to be convinced and like, swayed to ideas on TikTok*" (F9).

> *"It could be an echo chamber for radical ideas...because everything you see is basically what gets recommended to you, and if you somehow stumble upon, like a bad idea, or something of that extreme idea or viewpoint you are going to follow them. So, I think that is concerning" (F9).*

Participants demonstrated concern for the polarization of ideas in the content they watched. They also had privacy-related concerns for others. Some participants in both groups even expressed concern for minority viewpoints on TikTok. "*I guess people who are like in the sort of minority view would change their privacy settings from getting a lot of hate*" (C4). This participant suspected that being in a minority viewpoint also implied being at risk for online harassment. They described events surrounding Roe vs. Wade rights, where politicians' credit card information became compromised. Although participants expressly

identified with one side of the Roe vs. Wade ruling, their reflection still took into considerations the privacy implications for all perspectives.

5.6.3   *Exploitation of Children*

Many participants in both groups presented concerns for children's safety and well-being. One participant was concerned about children's lack of awareness over privacy management and the implications for their safety:

> *"users mostly consists of children, I would say they might be vulnerable groups and considering many of them share content... their face and everything might not be safe" (F4).*

Other concerns revolved around strangers and the sexualization of minors. For instance, a participant highlighted how images of children are sexualized on the app by strangers:

> *"(sexualization of children) so hearing things like that it is like obviously disturbing but it's not necessarily always the content that is the problem. It is like the creepy people using them" (C3).*

Participants in both groups expressed multiple concerns in response to content centered around children or exposure of children to the app. On one hand, they found the content itself alarming, but they also deemed the ramifications for children's future as concerning.

Content about children: A participant highlighted their concern for children whose parents posted content about their kids without consent "*it is impossible to predict how that might affect their life down the road*" (C3). Participants from both groups had similar concerns for minors' inclusion in the content.

For instance, this participant described the possible negative ramifications and safety concerns when posting about children online.

> *"…(A) woman who was posting cute videos for her daughter, and it was getting sexualized by creepy guys on the internet, yeah, and she was like three, like this was like a young child…it makes me feel a little icky and concerned" (C3).*

This type of content was deemed as potentially harmful and unsafe for children.

Exposure of children to content: Similarly, participants found the interaction of children with explicit content concerning, such as the exposure of children to 'vulgar' content (i.e., trends with vulgar words that minors imitate). Participants were concerned about content shaping children's behavior as they are deemed to be at a susceptible age.

> *"I would say this generation of kids is more messed up... It's like their mind is just so vulnerable to these things. So, then they see these things they get influenced, heavily influenced. I would see that in as a more negative impact" (F2).*

Participants in both groups shared this outlook.

5.7   Privacy Management

This theme presents how participants managed their privacy on TikTok and the tactics they employed. Participants were heavily influenced by the content in their FYP, the interactions with peers on the app in the form of comments and discussions, trends, etc., and their reflections of TikTok, at a macro-level, for society at large. Their personalized experience with TikTok along with prior awareness of social media platforms and privacy informed many of their behaviors and privacy management on the app. Here we cluster such tactics by common threads.

5.7.1   Follower Segmentation

Participants in both groups segmented their viewership of content from personal to public, depending on the type of content. They assessed what type of content was appropriate, acceptable, or relatable to specific audiences. Although both groups employed the same strategies, creators extended the range from private, kept in "drafts" or only available to themselves, to public or everyone on the platform. We found reoccurring tactics employed in both groups. C3, for example, detailed how they allowed friends to see their posts about disability advocacy and mental health advocacy: "*it's more meant to be shared with friends than randos on the internet*." Another creator, C6, described how they managed what content "goes out" to friends, followers, and to the general public: "*I tend to regulate the privacy settings so by selecting those which are all I want them to have access to*". This participant took into consideration what location and demographics could resonate with that content. They noted that their Canada-specific content is reserved for friends in Canada.

Most followers preferred not to post anything. However, those who posted segmented their content according to what they deemed suitable to share with friends, such as funny videos, or trends, or "silly" content, and content that preferred to keep private. For example, F6 explains how they posted when something big happened in their life. "*I played a nice board game with my friends; I post a picture of the layouts... never something more than that.*" F2 kept their content in drafts but deleted it often as they preferred to keep their videos as memories: "*I don't feel the need to share what I am doing and all that every second, you know?*" Most followers only posted for friends, while others kept their content in drafts.

5.7.2 Self-Censoring

One of the main considerations for participants before posting content included exposure of specific body parts to the public eye. While this concern influenced mostly women, a few men also reported the same considerations before posting. For instance, C7 reported he kept content private when/ if exposing body parts *"…maybe I don't know, I am not with my shirt, I just have to make that content private so only me can see.*" This participant kept his shirtless videos to himself.   Likewise, many women creators reported restraining themselves from posting most of their body as they deemed it could be sexualized, read as too "provocative" or not essential to their content:

> *"I wouldn't post like in a bikini, for example, or like in like skimpy clothing or like a dance were it is like very like sexualized" (C10).*

> *"I would never post in like a bikini or something like that would make me feel very uncomfortable" (C3).*

> *"I don't do my full body either" (C1).*

Other creators censored other 'things' that might make them 'look bad' in the eyes of prospective employers or to other users. C4 highlighted that they will not post "*racist, sexist, homophobic jokes or nudes.*" C10 also reported never posting intoxicated, or under the influence as it could hurt their reputation: *"…like drug use, alcohol use, anything like that I just don't think I would ever want to post*" (C10). Likewise, C3 reports:

> *"I see a lot people who are very quick to like cry on social media or like get really angry on social media, and I think I just try not to show those kind of like extreme emotions" (C3).*

Whether they want to keep their bodies private, keep their recreational choices and emotions to themselves, participants employed self-censorship to protect themselves from public scrutiny inside and outside the app.

5.7.3   Using privacy settings

Participants reported managing their settings in different ways. While a few creators chose to make their accounts private, most didn't change the settings: "*other than briefly making my account private, sometimes I don't really do anything other than that*" (C10). They deemed it ineffective or accepted it as part of the experience of using the app. For instance, one participant explains their reasoning:

> *"I don't really do anything, it is just like, it is kind of like it's part of the app, it's part of the experience, so I just like there is really nothing I can do. Like I, like even if there is a setting, even if there is a setting it's not promoted enough" (C2).*

Followers managed their settings by keeping their accounts private; however, they had their reservations and a sense of powerlessness when changing their settings.

> *"I believe that the settings, whether or not you change your settings, they are still going to be listening because they like, control the settings or whether or not you put it off…They are still listening at the back and there is no point in doing that" (F8).*

This reflection gives insight into a sense of resignation and helplessness when encountering TikTok tools for privacy management. There is a lack of trust in TikTok as a corporation and lack of service transparency in providing users with the adequate tools to manage their privacy.

5.7.4   *Selective commenting*

All participants managed their comments as a way of protecting themselves from other users on the app. They restrained themselves from making comments or engaging with problematic or "canceled" influencers. While they might still secretly support these influencers through views, they take precautions in engaging through comments or likes, as they fear judgment or 'cancelation' of their own.

In the follower group, participants rarely commented, unless they explicitly wanted to support a creator through positive reinforcement, or they deemed the comments to be "funny" and harmless. F7, for example, only commented to boost people whose content demonstrated effort:

> *"...like genuinely put a lot of effort into it or they have a talent that is really like amazing, I'll make point of commenting to like, make the creator kind of like... to boost the engagement with the post so that it hopefully gets like put on more people For You Pages" (F7).*

They all had a "no hate comments" policy, as they deemed the app to be "*a place where it is very common see people dragging each other in the comment section*" (F8). For instance, F2 refrained from making comments which might result in hateful commentary: "*I'll just keep to myself because I am like, okay well, why start a war in the comments?*" Apart from having a "no hate comments" policy, a few others also considered it appropriate to comment when/if they had something of "substance" to say or had factual evidence in their favor. F9 for example, reported commenting when presented with "flat earthers" content. The same logic applied when they considered themselves not knowledgeable enough on a

subject: "*so if I don't know enough about something, that is why I usually don't comment*" (F10).

Creators didn't report managing comments as much; however, they also held a strict "positive comments only" policy: "*if it's not positive, like do you really need to?*" (C3).

5.7.5   *Lack of management tools*

Although participants took privacy enhancing measures to protect themselves from other users on the app these measures weren't adequate nor addressed all of their privacy related concerns. In turn, participants expressed their grievances with the limitations of TikTok in addressing the Misaligned Personalization of their feed. Participants in both groups were frustrated and concerned by the lack of monitoring of hate speech, violence, and content they deemed perverse or dangerous to children. For instance, these participants explain:

> *"Like the war in Iran for example, which is like ongoing and everything, they ban videos like that, but other videos that like, children doing things, like sexual stuff they shouldn't be doing (they don't)"* (F8).

> *"I feel like the app doesn't, like, properly regulate, like when people are leaving like, hate comments and stuff like that"* (F3).

Participants reported to not have comprehensive tools to manage and resolve management their concerns from misaligned personalization.

5.8 Relationship between Themes
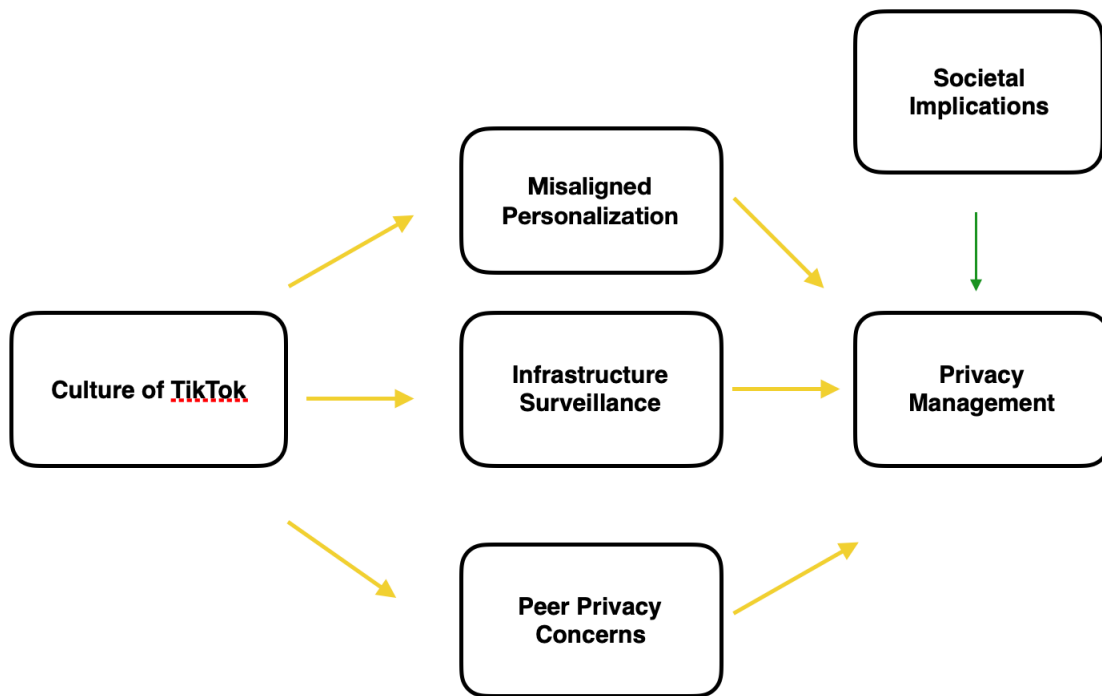
Figure 20: Relationship between the five thematic analysis themes.

Figure 20 presents an overview of how we organized our themes in relation to one another. The culture of TikTok influences privacy concerns which are clustered into three themes: Misaligned Personalization, Infrastructure Surveillance and Peer Privacy Concerns. These result in the theme of Privacy Management, which includes behaviors and tactics participants employed to address their concerns. Additionally, we also looked at how Societal Implications factored into participant's privacy management strategies. In

response to their own reflections, they self-censored their own interactions or themselves on the platform.

We have described how the culture of TikTok is structured, the factors that contribute to its popularity, the perceptions, thoughts, emotions and behaviors in relation to the app. We found that participants highly value participating in the culture of TikTok as they cultivate a sense of belonging, and through their participation, they strengthen social bonds with others. This aspect overwhelmingly outweighed their infrastructural privacy concerns. The advantages to using the app in relation to infrastructural surveillance outweighed their concerns. Furthermore, they assume that using social media entails data collection and cross-site tracking. Participants are resigned to the idea of sharing their information as they deemed the usage data to be unimportant and not detrimental to participants' well-being when collected by the app. However, they presented deep concerns with misaligned personalization of their feed. Upon closer examination, content that was reported to be objectionable presented deep privacy implications for participants, other users and non-users of the platform. While they objected to content that didn't reflect their belief systems and values, participants revealed these had major privacy implications at three levels. **First,** participants were uncomfortable, triggered, and upset when TikTok tailored content that misaligned with their preferences. They might ignore or be desensitized to the specificity of the information it gathers about their persona, inclinations, desires, values, behaviors, etc., but their discomfort arises from discovering that TikTok is challenging their ideological values and seems to be expecting a response to such provocation. This level implies that their inner most private thoughts are now part of the dominion of TikTok. **Second,** the objectionable content presents privacy implications for other users as they

reveal parts of their lives that would traditionally be addressed privately (eating disorders, minors in content, sharing of traumatic events, etc.). **Lastly**, objectionable content presents privacy concerns for those outside the app, as creators invade others' private spaces and experiences for the sake of views (prank videos, exploitation of the poor). This last one, in addition to presenting serious privacy concerns for non-users, also involves the introduction of a power structure and power dynamics in which creators decide how much power of consent non-users have over their experiences and privacy.

Participants deemed privacy concerns in relation to peers or other users on the platform deeply important and viewed them as an immediate threat to their personhood and online persona. Participants perceived hate, sexual harassment, cyberbullying, or 'cancelation' more impactful to their wellbeing and reputation over infrastructural privacy concerns. In this aspect, creators and followers had slightly different perceptions and fears. Creators, in particular, were terrified by the thought of 'cancelation' as this presented a threat to their follower base or could ruin their reputation, both of which directly related to monetary loss or detriment to their careers. Followers on the other hand, were mostly concerned with the revelation of asymmetrical relationships and hate-driven responses. At this level, the main differentiator related to gender, where women in both groups reported being afraid of sexual harassment and sexualization of their bodies on the app.

Participants employed privacy enhancing strategies to feel safer on the platform. However, the tactics they utilized such as segmentation of followers, selective commenting, or self-censoring only minimized the possibilities for targeted attacks from other users. Moreover, participants in general have given up in addressing infrastructural privacy concerns such as surveillance or data collection. The majority have either

'accepted' it as the price of using social media in general or considered that there are no evident tools to protect them. Followers, in particular, didn't deem that the privacy settings themselves were efficient or a trustworthy method of ensuring they were protected, which reflected their impressions of TikTok as an untrustworthy company.

In addition to their own personal experiences with TikTok, participants demonstrated that they were reflective on the implications the app had on society. These were prompted by the content they watched or the misaligned personalization of their content, thus their observations at a macro level also played a role in how they managed their privacy. The sides of TikTok they deemed to be 'dark' or having negative impact on society included the exploitation of children, the polarization of ideas, and foreign surveillance. While all participants had severe concerns for the implications for children's safety and future, only followers expressed concerns related to foreign surveillance.

Overall, we observed that participants reflected on their own experiences with TikTok, those of their peers, and those that pertain to society at large. Participants gathered all information from these three and carefully selected what behaviors to enact, what tactics to use, and what tools, if any, to employ to manage their privacy.

Chapter 6: Discussion and Conclusion

This study aimed to understand how young adults perceived and managed their privacy on the social media platform TikTok. Through interviews and questionnaires, we gathered information on the common themes and factors that influenced and contributed to privacy management.

The abrupt shift to solely digital spaces for communication during the pandemic effectively influenced the rapid growth of TikTok. We found that most of the participants downloaded and adopted TikTok into their routine activities during 2020. Many of our results resonate with prior work in this area [T. Nabity-Grover, et al., 2020]. Alongside long periods of isolation, young adults resorted to new forms of communication to entertain themselves, keep in touch, and participate in mainstream culture. We observed that TikTok has permeated the lives of young adults and is able to shape and influence culture inside and outside the app. Through trends, popular sounds, music, news events, etc., people participate, inform, and are influenced by the vast digital library of TikTok. We observed that people consume, create, and share videos to form and nourish social bonds with family and peers while contributing to the culture of TikTok and feeding off; thus, disseminating it through this practice.

6.1 Creators vs. Followers

We observed how participants grouped as followers and creators differ on their perceptions and understanding of privacy and management. Creators overall reported minor privacy concerns related to the app or corporation itself; however, most of their concerns related to

other users on the app as they feared being victims of targeted attacks by individuals (i.e., hackers and trolls). Creators tried to please algorithm by following guidelines and what is relevant to culture at the time of posting, which resulted in better views and more engagement with their content. Followers, on the other hand, had more privacy concerns in all themes; including distrust of the platform. However, they deemed their data was not 'interesting' or 'revealing' enough to pose a major infrastructural privacy concerns. In turn, they managed their settings the least and allocated their efforts into managing their peer privacy concerns. In the big scheme, both groups are not greatly invested in who is collecting their data, where and how their data is being used, or even if they are being shaped by their feed.

We observed that creators were more interested in growing their followers' base, which was directly related to financial incentives or popularity on the app. There appeared to be a relationship between those who profited in some way through their content and the amount of time they spent on the app creating their next post. In contrast, followers were most interested in building and keeping a sense of belonging and friendship through their engagement on TikTok.

6.2 Limitations

Representative sample: Our work included a small sample size of 25 participants. This is not necessarily representative of all demographics as we focused specifically on a younger age group and most of the recruited participants were university educated Canadian residents.

Self-reported data: All data was self-reported, which means that participants may not have disclosed all information for self-preservation or forgetfulness. This could lead itself to biases as participants might have intentionally or unintentionally hidden partial information from the researcher. In self-reported data there might also be room for participants' deliberate attempts to give answers or change their answers to please the researcher.

Transcription issues: We also lost some data due to technical issues with the transcription online service *Trint*, as it had severe limitations when transcribing non-native English speakers or other-language accented English speakers. The lead researcher manually transcribed these interviews to include as much of the data as possible. However, even after these measures, some data was lost from the few participants who spoke below A-1 level of English or when the voice was inaudible. This means that a much as we tried to avoid linguistic domination in the data, there is still room for it, since most of the collected qualitative data represents native English speakers' perspectives and opinions.

6.3 Future work

Effect of hate speech and cyberbullying: After results on the influence of hate speech and cyberbullying on engagement and privacy management on the app, research in this area in relation to other social media apps would be worthy of investigation.

Quantitative follow-up study: Further work should also focus on quantitative research to confirm the results of the study. In particular, a survey could be conducted to test whether our findings on misaligned personalization and peer privacy concerns are generalized over

a larger population. Additionally, we could hypothesise whether our results about the differences between followers and creators hold in general.

Privacy-enhancing designs: Furthermore, design attempts to help people manage their privacy on TikTok could be a very feasible next step to this study.

6.4 Conclusion

We looked at how young adults perceive, understand and manage their privacy on TikTok. Our findings highlight that young TikTok users value the benefits of using the app over their privacy concerns, if any. The appeal of continuing to participate in the wider culture within TikTok through passively consuming content or actively posting, sharing and commenting, keeps users engaged and dependent on the app. They deem the social value as well as the personalized entertainment value more important than their privacy discomforts and concerns. This study also emphasizes that TikTok is efficient in keeping users in a perpetual cycle of consumption, to which the For You Page is essential, as it lures people with the individual's interests, values and belief systems, which users find difficult to resist, even if they identify pattens of addiction to the app. These factors play important roles in how users manage their privacy on the app. They have become desensitized to surveillance and data collection, as they experience high levels of digital resignation to this aspect in all social medial networks. Users are mostly concerned with other users of the app, they perceive these threats as more immediate and harmful to their personhood and online persona. In turn, participants privacy management mainly focuses on tactics to protect themselves from other users, or possible negative ramifications their activity on the app could present to in real life the future.

References

C. Abidin, "Mapping Internet Celebrity on TikTok: Exploring Attention Economies and Visibility Labours," *Cultural Science*, vol. 12, no. 1, pp. 77–103, Jan. 2021, doi: 10.5334/csci.140.

B. Anderson. *Imagined Communities: Reflections on the Origin and Spread of Nationalism. London*: Verso, 2006. 240 pp. 12.00. ISBN 1-84467-086-4," *Forum for Modern Language Studies*, vol. 45, no. 2, p. 216, Jul. 2008, doi: 10.1093/fmls/cqp012

K. E. Anderson, "Getting acquainted with social networks and apps: it is time to talk about TikTok," *Library Hi Tech News*, vol. 37, no. 4, pp. 7–12, Feb. 2020, doi: 10.1108/lhtn-01-2020-0001.

C.B Bossen and R. Kottasz, "Uses and gratifications sought by pre-adolescent and adolescent TikTok consumers." Young Consumers. (2020).

T. H. Choi and Y. Sung, "Instagram versus Snapchat: Self-expression and privacy concern on social media," *Telematics and Informatics*, vol. 35, no. 8, pp. 2289–2298, Dec. 2018, doi: 10.1016/j.tele.2018.09.009.

T. De Leyn, R. De Wolf, M. Vanden Abeele, and L. De Marez, "In-between child's play and teenage pop culture: tweens, TikTok & privacy," *Journal of Youth Studies*, vol. 25, no. 8, pp. 1108–1125, Jun. 2021, doi: 10.1080/13676261.2021.1939286.

N. A. Draper and J. Turow, "The corporate cultivation of digital resignation," *New Media & Society*, vol. 21, no. 8, pp. 1824–1839, Mar. 2019, doi: 10.1177/1461444819833331.

E. E. Hollenbaugh, "Privacy Management Among Social Media Natives: An Exploratory Study of Facebook and Snapchat," *Social Media and Society*, vol. 5, no. 3, p. 205630511985514, Jul. 2019, doi: 10.1177/2056305119855144.

I. Kayes and A. Iamnitchi, "Privacy and security in online social networks: A survey," *Online Social Networks and Media*, vol. 3–4, pp. 1–21, Oct. 2017, doi: 10.1016/j.osnem.2017.09.001.

D. Klug and M. De Los Santos, "The TikTok Tradeoff: Compelling Algorithmic Content at the Expense of Personal Privacy," MUM 2021: 20th International Conference on Mobile and Ubiquitous Multimedia. ACM Dec. 2021, doi: 10.1145/3490632.3497864.

D. Klug, Y. Qin, M. C. Evans, and G. Kaufman, "Trick and Please. A Mixed-Method Study On User Assumptions About the TikTok Algorithm," ACM *Web Science Conference* Jun. 2021, doi: 10.1145/3447535.3462512.

N. C. Krämer and J. Schäwel, "Mastering the challenge of balancing self-disclosure and privacy in social media," *Current Opinion in Psychology*, vol. 31, pp. 67–71, Feb. 2020, doi: 10.1016/j.copsyc.2019.08.003.

D. B. Mink and D. M. Szymanski, "TikTok use and body dissatisfaction: Examining direct, indirect, and moderated relations," *Body Image*, vol. 43, pp. 205–216, Dec. 2022, doi: 10.1016/j.bodyim.2022.09.006.

C. Montag, H. Yang, and J. D. Elhai, "On the Psychology of TikTok Use: A First Glimpse From Empirical Findings," *Frontiers in Public Health*, vol. 9, Mar. 2021, doi: 10.3389/fpubh.2021.641673.

T. Nabity-Grover, C. M. K. Cheung, and J. B. Thatcher, "Inside out and outside in: How the COVID-19 pandemic affects self-disclosure on social media," *International Journal of Information Management*, vol. 55, p. 102188, Jun. 2020, doi: 10.1016/j.ijinfomgt.2020.102188.

J. N. Rocheleau and S. Chiasson, "Privacy and Safety on Social Networking Sites: Autistic and Non-Autistic Teenagers' Attitudes and Behaviors," *ACM Transactions on Computer-Human Interaction*, vol. 29, no. 1, pp. 1–39, Feb. 2022, doi: 10.1145/3469859.

J. M. Vaterlaus and M. Winter, "TikTok: an exploratory study of young adults' uses and gratifications," *Social Science Journal*, pp. 1–20, Sep. 2021, doi: 10.1080/03623319.2021.1969882.

Y. Yang and L. Ha, "Why People Use TikTok (Douyin) and How Their Purchase Intentions Are Affected by Social Media Influencers in China: A Uses and Gratifications and Parasocial Relationship Perspective," *Journal of Interactive Advertising*, vol. 21, no. 3, pp. 297–305, Dec. 2021, doi: 10.1080/15252019.2021.1995544.

D. Zhao, M. Inaba, and A. Monroy-Hernández, "Understanding Teenage Perceptions and Configurations of Privacy on Instagram," *Proceedings of the ACM on Human-computer Interaction*, vol. 6, no. CSCW2, pp. 1–28, Nov. 2022, doi: 10.1145/3555608.

Appendix A : Recruitment materials

TikTok, privacy and young adults
Recruitment Letter

Date of ethics clearance: Oct 18th 2022
Ethics Clearance for the Collection of Data Expires:
Project clearance number: CUREB-B clearance #118338

We are conducting a virtual user study exploring perceptions, understandings, and behaviour around the social media platform *Tik Tok.* We are seeking participants who create and post content on TikTok.

The virtual sessions will take approximately 60 minutes on Zoom. You will be asked to answer interview questions and complete a short online questionnaire about TikTok. You will be compensated 20 dollars CAD to participate in this study in the form of an Amazon gift-card
This session will be audio recorded, video recording is optional

To participate in this study, you must:
- Be 18-25 years old
- Be able to complete an interview and a questionnaire in English
- Create and post content on TikTok
- Be able to participate in a verbal interview

This study has been cleared by the Carleton University Research Ethics Board B Clearance #118338

Please contact the researchers for more details on this study:

Sami Ortiz Huayhua
Human Computer Interaction Program, Carleton University, Canada
Email: samiortizhuayhua@cmail.carleton.ca

The research is supervised by
Dr. Robert Biddle, School of Computer Science, Carleton University, Canada.

Dr. Sonia Chiasson, School of Computer Science, Carleton University, Canada

TIKTOK, PRIVACY AND YOUNG ADULTS (Project #118338)

Looking for TikTok content creators for research study

We are conducting a virtual user study exploring perceptions, understandings, and behaviour around the social media platform TikTok
The virtual sessions will take approximately 60 minutes on Zoom. **You will be asked to answer interview questions and complete a short online questionnaire about TikTok. You will be compensated $20.**

To participate in this study, you must:
• Be 18-25 years old
• Be able to complete an interview and a questionnaire in English
• Be a TikTok **content creator**
• Be able to participate in a verbal interview

If interested, please contact the researcher:
Sami Ortiz Huayhua

Human Computer Interaction, Carleton University

samiortizhuayhua@cmail.carleton.ca

The research has been cleared by Carleton University Research Ethics Board-B (CUREB-B Clearance #118338) If you have any ethical concerns with the study, please contact the Carleton University. Research Ethics Board-B (via email at ethics@carleton.ca)

TikTok, privacy and young adults: Questionnaire

The aim is to understand participants' level of experience with the social media platform TikTok and background to gain insight into the context in which it is used.

Q1. What is your year of birth? [drop-down list]
Q2. Gender [Fill in the blank]
Q3. What is your language selection on the TikTok app? [drop-down list]
Q4. What is the language of the content you watch most frequently on TikTok? [drop-down list]
Q5. Level of education [drop-down list] (no secondary school, high school, college, university, post graduate school)
Q6. How long have you been using Tik Tok? [check boxes]

- Less than six months

- 6-11 months

- 1-2 years

- 2-5 years

- More than 5 years

Q7. What do you use TikTok for? [check boxes, questions tailored to each category]
1) Content creator

a. On average, how often do you post on TikTok? [radio buttons: less than once a week, 1-3 times a week, 4-6 times a week, once a day, 2-4 times a day, 5-10 times a day, more than 10 times a day]

b. What type of TikTok content do you post and how often? live feeds, gaming, dance and music, trends, animal content, crafts and DIY, sports, celebrity culture, food, travel, comedy, tv, movies, pop culture, fashion, makeup, art, beauty, science, education, vehicles, news4-6 tie] [Likert scale: never, less than once a week, 1-3 times a week, 4-6 times a
week, once a day, 2-4 times a day, 5-10 times a day, more than 10 times a day]

c. On average, how often do you check your TikTok feed? [radio buttons: never, less than once a week, 1-3 times a week, 4-6 times a week, once a day, 2-4 times a day,
5-10 times a day, more than 10 times a day]

d. How many TikTok followers do you have? [radio buttons:
<10, 10-99, 100-999, 1000-4999, 5000-9999, 10000-49999, 50000-99999, 100000-
499999, 500000-999999, 1000000, >1000000]

e. Do you monetize your TikTok content [radio buttons]
- Yes
- No

f. How important are these methods of monetization to you when creating content for TikTok? [Likert scale: not at all, somewhat important, indifferent, important, very important]
- brand sponsorships
- marketing products
- selling merchandise
- in-feed ads
- virtual gifts
- creator subscription platforms (e.g., Patreon)

g. Approximately how many TikTok views do you have in total? [radio buttons:

<10, 10-99, 100-999, 1000-4999, 5000-9999, 10000-49999, 50000-99999, 100000-
499999, 500000-999999, 1000000, >1000000]

h. Approximately how many views does your most popular TikTok video have? [radio buttons:

<10, 10-99, 100-999, 1000-4999, 5000-9999, 10000-49999, 50000-99999, 100000-
499999, 500000-999999, 1000000, >1000000]

2) Followers:
a. How often do you check your TikTok feed? [radio buttons: never, once a day, 2-4 times a day, 5-10 times a day, more than 10 times a day, 1-3 times a week, 4-6 times a week, less than once a week]

b. Do you watch all videos in your TikTok FYP (For You Page)? [radio buttons: never, rarely, sometimes, often, always]

c. How many people do you approximately follow on TikTok in each category? [radio buttons:

0, 1-10, 11-30,31-50,51-100, 101-300, >300]
- family
- friends
- acquaintances
- people I met online

- work colleagues
- school colleagues
- companies
- groups
- influencers
- content creators
- celebrities
- other (specify)

d. What types of TikTok content do you follow? [live feeds, gaming, dance and music, trends, animal content, crafts and DIY, sports, celebrity culture, food, cooking, travel, comedy, tv, movies, pop culture, fashion, makeup, art, beauty, science, education] [Likert scale: no content, a bit, some, a lot, plenty of content]

Q8. How much time do you spend on TikTok daily? [radio buttons]
   a. Less than 30 minutes
   b. 30-59 minutes
   c. 1-3 hours
   d. Other (specify)

Q9. Did you read the privacy clause before signing up for the service? [yes or no, check boxes]
   a. Yes, why?   [Likert scale: strongly agree, agree, undecided, disagree, strongly disagree]
      - I like to be informed before signing up
      - I always read privacy clauses
      - I felt I needed to read this one
      - It was easy to read and understand
      - It was easy to find
   b. No, why? [Likert scale: strongly agree, agree, undecided, disagree, strongly disagree]
      - it was too long,
      - too hard to find,
      - the language was cumbersome,
      - I don't have time to read it,
      - I trust the app,
      - in general, I don't read the privacy clauses before signing up

Q10. In a scale 1-5 rate your comfort level using TikTok [Likert scale]
Q11. In a scale 1-5 rate your satisfaction with the content in the TikTok For You Page [Likert scale]

Q12. In a scale 1-5 how comfortable are you trusting TikTok with the content you create? [Likert scale]

Q13.In a scale 1-5 How comfortable are you trusting TikTok with your personal data [Likert scale]

Q14. In a scale 1-5 how important is your privacy to you? [Likert scale]

Q15.Have you ever changed your TikTok privacy settings from the default set-up?

Q16. Is there anything else we should know about how you use TikTok [optional open ended question]

Appendix C : Interview guide

TikTok, privacy and young adults: Interview Guide

This is a semi-structured interview. We intend to cover these general topics, but the questions may vary depending on the conversation with participants. We will keep track of time and ensure that we remain within the allotted session time by eliminating questions if needed.

Participant Experience
1. Why do you use TikTok?
2. What do you like about TikTok? What aspects do you find engaging?

3. What has your experience been like using TikTok?
4. What has your experience been like with the FYP (For You Page)?
    a. Prompt: Do you see any trends in the content you are presented that are specific to your feed?

5. How do you manage what you post? Why?
6. Have you seen content by other people that made you reflect on your own content and behavior? How did it impact you?
7. Have comments ever made you change what you post? What happened?
8. What are some of the limitations/frustrations/obstacles you experience using TikTok?

Concerns
9. Has any content you encountered ever made you concerned or uncomfortable?
    a. Prompt: would you give me an example of when a post you saw made you uncomfortable? How so?
10. Has any content you have seen ever made you question what you posted?
    a. Prompt: have you ever had a "I shouldn't have posted that" moment? Why? What kind of concerns did you have about it?
11. Do you see things in your feed that make you feel that your privacy is being compromised?
    a. Prompt: based on your feed, did TikTok appear to know something about you that was secret or personal? How did it make you feel? How did you handle it? Did it encourage you to change or evaluate your settings?
12. Has there been a time when something in your feed or the For You Page (FYP) made you reconsider using the app? How so?

13. Before you share, do you consider things that you might not want others to see?
    a. Prompt: how do you decide what content is public, if at all

14. What does privacy mean to you?

15. How do you manage your privacy in tiktok?

Participant Overall Evaluation

16. What aspects or features of TikTok do you deem as important or engaging?

17. Do you have any other concerns about TikTok?

18. Is there anything else I should know about your experience with this platform that we have not discussed?