



# Teens on Tech: Using an Asynchronous Remote Community to Explore Adolescents' Online Safety Perspectives

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## ABSTRACT

As part of a Youth Advisory Board of teens (YAB), a longitudinal and interactive program to engage with teens for adolescent online safety research, we used an Asynchronous Remote Community (ARC) method with seven teens to explore their social media usage and perspectives on privacy on social media. There was a spectrum of privacy levels in our teen participants' preferred social media platforms and preferences varied depending on their user goals such as content viewing and socializing. They recognized privacy risks they could encounter on social media, hence, actively used privacy features afforded by platforms to stay safe while meeting their goals. In addition, our teen participants designed solutions that can aid users to exercise more granular control over determining what information on their accounts is to be shared with which groups of users. Our findings highlight the need to ensure researchers and social media developers work with teens to provide teen-centric solutions for safer experiences on social media.

## CCS CONCEPTS

• **Human-centered computing** → **Empirical studies in HCI**.

## KEYWORDS

Asynchronous Research Community, Adolescent Online Safety, Social Media, Privacy

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## 1 INTRODUCTION

Increased internet connectivity and social media usage among teenagers has made them vulnerable to various online risks ranging from unwanted sexual solicitations and cyberbullying to privacy breaches and exposure to risky content [2, 3, 13, 16, 17, 19, 20]. To understand their risk experiences and devise solutions according to their unique perspectives, Human-Computer Interaction (HCI) researchers have involved teens in synchronous online safety research (in-person or remote) using various methods, including co-design approaches that emphasize active participation and equal partnership to empower teens by giving them agency in the design process [1, 5, 8]. The studies yielded valuable insights into developing effective teen-centric design solutions for mitigating online risks, including cyberbullying [4] and sexual solicitation [19]. Yet, there are limitations with this approach such as power imbalances between teens and researchers due to perceived knowledge gaps [18] and authority dynamics [9], leading to discomfort for teens in freely voicing their ideas or opinions. It was also observed that teens tend to repeat themselves when speaking out loud [10] during the synchronous sessions and need additional time to think of their responses [1]. To tackle the above limitations, researchers have started to apply the Asynchronous Remote Community (ARC) [15], which allows flexibility for teens to access and complete research activities at a time of their discretion and facilitates increased engagement [7, 21].

In the ARC environment, participants are grouped into private online communities where they engage in various activities such as responding to prompts, providing feedback on user personas, and creating movie scripts about their lives [14]. The ARC method has been used with teens participants to design solutions for stress management [6], depression [7] and to understand the perceptions of teens and their parents regarding voice technology and its future [12]. The studies show that the ARC environment is accessible, low-burden, flexible, and provides a space for social interaction. Yet, the potential of implementing it to unearth various aspects of teens' online safety is under-explored.

As part of an ongoing Youth Advisory Board (YAB) with teens program (11/2022-current), we conducted online activities with seven teens in the ARC environment (i.e., Discord) for eight weeks. During the first few weeks, we asked our participants about their interest in teen online safety research. Our teen participants shared that they are mainly interested in discussing topics related to the

potential benefits and risks associated with social media use. Particularly, they were interested in designing privacy features to keep them safer on social media. Therefore, our activities for the rest of the weeks focused on discussing teen participants' unique perspectives on their social media use and privacy on social media. By doing so, we answer the following research questions:

- **RQ1:** *What are the teens' preferred social media platforms and how do they perceive privacy on their preferred platforms?*
- **RQ2:** *What are teens' design recommendations for safer experiences on social media?*

Our results showed that there is a spectrum of privacy levels in our teen participants' preferred social media platforms and preferences varied depending on their user goals such as content viewing and socializing. Our teen participants were aware of the risks associated with social media platforms and actively use privacy features afforded by the platforms to navigate such risks. Based on our findings, we suggest design implications for social media that can provide a safer experience for teens. Our study makes the following contributions to the CSCW community:

- We highlight teens' perspectives on their social media use, privacy on social media, and strategies to promote online safety on social media.
- We provide teen-centric design strategies for making social media platforms safer places for teens

## 2 METHODS

This study took place as part of a year-long Youth Advisory Board (YAB) program, which involves teens as co-researchers and co-designers in promoting their online safety needs. YAB participants were recruited through an outreach campaign targeted toward youth-serving organizations and high schools. We also recruited through various social media postings. Potential participants completed a pre-screening survey, which asked if they were between the ages of 13–17, fluent in English, had a computer or smartphone with internet access, and were able to commit enough time towards the YAB. Selected applicants were interviewed by the researchers, after which final selections were made for YAB participation.

Our Youth Advisory Board was created with the intention to engage in long-term research activities with teen participants, centered around understanding their perspectives on online safety, and participatory design activities to conceptualize and prototype new teen-focused online safety approaches. Regular YAB operations consisted of monthly meetings where teen members gave feedback on upcoming online safety research studies, or participated in discussion and design activities. Outside of regular meetings, further weekly online safety discussions between the research team and teen members took place in our ARC environment, a private Discord server. The online safety topics covered in these meetings and online discussions consisted of:

- How YAB members and their peers maintain their own online safety on a day-to-day basis, and past online incidents that made them feel unsafe/uncomfortable.
- Contemporary social media platforms, their approaches to online safety, and what YAB members think of these approaches. News pieces concerning these platform approaches were also discussed.

- Developing novel teen-centered approaches to online safety based on YAB members' online activities, and iterative feedback sessions on these approaches.

We first conducted a brainstorming session with teen members where we introduced the ARC methodology, discussed their considerations to be implemented in our ARC, and developed a list of online safety topics and activities they are interested in exploring. Based on teens' input, we identified that teens were mostly interested in discussing topics pertaining to the intricate balance between privacy and online safety when navigating social media platforms. In accordance with our research questions, we finalized a number of activities to conduct in our ARC via asynchronous weekly discussions on Discord and synchronous design sessions on Zoom. For RQ1, we conducted asynchronous activities through text responses and screenshots to define the problem space where teens share their opinions and perspectives on social media platforms that they prefer to use and their safety/privacy features. For RQ2, we carried out a design activity on Figma where teens created their own design solutions for new online safety features. In synchronous meetings, we expanded on these designs, working in longer sessions with the YAB members to introduce the foundations and basics of UX design that YAB members used as we co-designed and conceptualized their online safety ideas. Asynchronous follow-up discussions were done in Discord, where all members could give feedback and suggestions on their continuing design work.

Data was collected through audio/video recordings of the ARC design sessions and saved the text of discussions in our Discord server based on our activity prompts, along with researchers' observational notes. We used thematic qualitative analysis for the data, creating dimensions for each research question and identifying major themes and sub-themes. After multiple rounds of coding, discussion, and refinement by researchers, we compiled the final major themes and takeaways from all activities.

## 3 FINDINGS

We had a total of seven participants between the ages of 15–17, out of which four identified as male and three as female. Our participants self-reported as Caucasian ( $n = 3$ ), East Asian ( $n = 1$ ), Hispanic ( $n = 1$ ), African American ( $n = 1$ ), and South Asian ( $n = 2$ ). The majority of the participants reported using technology “almost constantly” ( $n = 4$ ), followed by “several times a day” ( $n = 3$ ), with most of them using a laptop computer and their phones to go online. Below, we present our teen participants' perspectives on how privacy affects their social media usage and design recommendations for promoting safer experiences on social media.

### 3.1 Teen Perspectives on Social Media and Privacy (RQ1)

There was *a spectrum of privacy levels* among social media platforms that our teen participants currently use. The four privacy levels of social media platforms included: 1) **private** platforms where socializing, information sharing, and content posting occur in private rooms (e.g., Snapchat), 2) **public** platforms where socializing, information sharing, and content posting occur publicly with limited choice on the privacy level (e.g., TikTok and Twitter), 3) **semi-public** platforms made for a wider audience, and content is

publicly searchable, but the user has the ability to control privacy levels in terms of identifiability (e.g., real name versus anonymous username) and/or visibility (e.g., Instagram and Reddit), and 4) **semi-private** platforms where most socializing, information sharing, and content posting occur in private communities, with some communities open to the public (e.g., Discord).

**Social Media Use Depends On Teens' Goals and Needs.** One of the major themes that we identified in this study was that teens make conscious decisions on which social media platform according to their goals and needs including 1) **content sharing**, 2) **content viewing**, and 3) **socializing (1-to-1 or 1-to-many interaction)**. For content viewing, teens preferred to use more public platforms as there is a variety of content that they can consume on those platforms. To share content, they also used public platforms because they can reach a wider range of audiences than they can on private platforms. There was a divide in platform usage for socializers who prefer 1-to-1 interaction and 1-to-many interaction. Teens who enjoy 1-to-many interaction tended to choose more public platforms with larger user pools, whereas teens who like to have 1-to-1 interaction prefer using private platforms that afford features for private conversations. Meanwhile, a couple of teens whose goals are to view content and socialize switched platforms for two different goals. They preferred more private platforms for 1-to-1 interaction but switched over to more public platforms when viewing content mainly due to *"a greater variety of things to see"* (T4, 17, male) on public platforms.

**Teens are Aware of Privacy Loopholes on Social Media.** Our teen participants were aware of the privacy risks they can encounter on social media platforms as they found some of the loopholes in the privacy features on those platforms. The privacy loopholes were mainly addressed by teens whose goal was to socialize. For instance, even if they block unwanted users from their accounts, the blocked users can create a new account to continue reaching out to them: *"The problem with normal blocking is if you block someone and they find out they might continue to do whatever they were doing to you by making another account or finding another way to contact you"* (T3, 15, male). Or even if users set their content to be shared only with their close friends, when their friends re-post the content, it can become visible to unwanted audiences: *"If someone posts on their private account and a friend were to repost it, then a different audience than the desired one would see the post"* (T6, 15, female).

### 3.2 Teens' Design Recommendations for Safer Experiences on Social Media (RQ2)

**Teens Actively Used Privacy Features Afforded by Social Media.** To meet their user goals safely, our teen participants were utilizing various privacy features afforded by social media platforms. The most common features that our participants used were those that allow them to control the level of **visibility** of their account information and/or content. For instance, a teen who likes to share content used the "Close Friends" feature on Instagram to decide who can view his more personal stories and restrict others from viewing them. Through the use of such features, he was able to *"share some private information with my close friends instead of all my followers. It is useful to protect my privacy, especially for people who have public accounts on Instagram"* (T1, 16, male). Teens who

like to socialize preferred to use privacy features that allow them to manage who can interact with their accounts (e.g., Instagram's "Connections" feature) to set different privacy levels for different groups of users: *"I like the features such as 'Block and Restrict' and the 'Mentions' where I can make sure only people I follow can mention me in their posts"* (T3, 15, male). Additionally, one teen appreciated one of the visibility features that allow users to hide their activity status. For example, T2 (16, male) who often switches platforms for multiple goals, mentioned having options to manage who can see his activity status is helpful because *"this is especially useful in situations in which any teen is in an at-risk situation that requires a more complicated approach than simply blocking."*

**Teens' Design Recommendations for Safer Experiences on Social Media.** To protect their privacy on social media, most of our teen participants designed solutions that are related to **visibility** on the platforms. For instance, one teen who uses semi-public platforms to socialize designed a feature on Instagram to allow users to have different privacy levels for different groups of users. Through this feature, the users can designate certain people to certain groups, and be in control of what kind of content on the user's profile each group can see. He suggested this design idea because allowing users to have more than just one private group of people would decrease the need for people to create private Instagram accounts called "Finstas," where users create a different account for their close friends to follow and post on: *"My design was to alleviate the issues of having a private Instagram by being able to create more 'private' follower groups with full customizability, even being able to edit the ring color around your story indicator"* (T2, 16, male). Another teen that uses semi-public platforms suggested a similar idea but with a different feature that allows users to choose specific information to be seen publicly. For instance, the feature can allow users to set their posts public, at the same time set their personal information such as user name, age, or location to be kept private (Figure 1).

Lastly, one teen designed a brand new app that can work alongside social media apps to alert users about who is viewing their accounts. With this app, users can keep track of who is viewing their account information on each of the social media platforms that they use.

## 4 DISCUSSION

**Teens are Diverse and Seek More Agency on Social Media.** A key takeaway from our study is that our teen participants consciously decide which social media platforms to use depending on their user goals. When on social media, they are well aware of privacy risks that they can encounter. Therefore, to strike a balance between meeting their goals and mitigating privacy risks, teens employ varied strategies depending on their primary user goals and needs. In the past literature, teens have been often studied as one population as a whole [11]. Our findings indicate that one-size-fits-all solutions would not be effective to promote online safety for teens with differing desires and purposes. Instead, understanding teens' individual motivations and needs for social media use and their privacy perceptions is pivotal to providing them with customized support systems for safer online experiences.



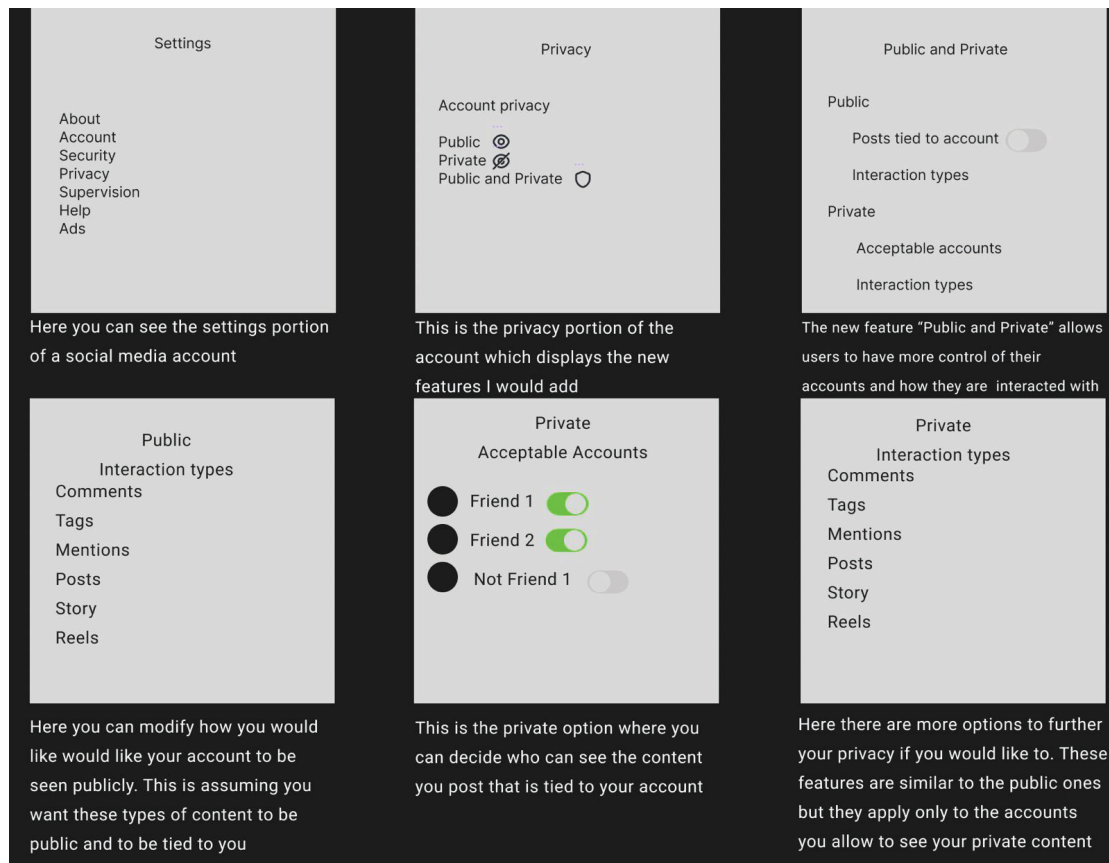


Figure 1: Design Solution for Visibility Through Different Privacy Levels for Content and Personal Information

In addition, many of our participants shared their goals to be connected with others on social media while maintaining different levels of privacy for different groups of audiences. Accordingly, our participants' design ideas for privacy features centered on aiding users to exercise more granular control over determining what information on their accounts to be shared with whom. Therefore, social media companies can consider adding such privacy features to give teen users more *agency* to decide their own preferred privacy level within their accounts. Additionally, we recommend social media companies to work with teens, using an ARC environment for flexible participation and increased in-depth contribution, to further explore and co-design teen-centric solutions catering to their specific online safety needs.

**Limitations and Future Research.** We acknowledge the limitations of our study. First, the findings from our study may not be the same for other teen populations. In order to participate in our study, teens needed to be the ages of 13-17, fluent in English, able to access a computer or smartphone connected to the internet and equipped with Zoom, and able to commit at least 2 hours a week towards their research activities and attend the 1-hour monthly and 5-hour bi-monthly synchronous meetings. Given the commitment attached to our study, we acknowledge that the teen participants in our study were more motivated, patient, and flexible at scheduling than the average teenager. Additionally, we have a smaller sample

size ( $N = 7$ ), thus limiting the generalizability of our findings. Future research can work with more variety of teens to understand their online safety in the ARC environment.

## 5 CONCLUSION

We explored ARC as a promising environment to conduct online safety research with teens. Our work highlights that teens are diverse and make conscious decisions on what social media platforms to use depending on their primary user goals. Also, they are well aware of the privacy risks associated with the platforms and the privacy features afforded by the platforms to stay safe. We suggested providing more agency for teens to manage the level of privacy on social media. We recommend the ARC methodology to explore and co-design teen-centric solutions to promote online safety.

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