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UCC
University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

# A Seat at The Table: Teen Experiences and Perceptions of Social Media Recommendation Algorithms

Megan Nyhan
megan.nyhan@ucdconnect.ie
University College Dublin
Dublin, Ireland

Kevin Doherty
kevin.doherty@ucd.ie
University College Dublin
Dublin, Ireland

Daniel Snow
Daniel.snow@ucdconnect.ie
University College Dublin
Dublin, Ireland

Kayley Moylan
kayley.moylan@ucdconnect.ie
University College Dublin
Dublin, Ireland

Rhys Jacka
rhys.jacka@ucdconnect.ie
University College Dublin
Dublin, Ireland

Izzy Fox
Izzy.Fox@mu.ie
Dublin City University
Dublin, Ireland

Barry O'Sullivan
b.osullivan@cs.ucc.ie
University College Cork
Cork, Ireland

Josephine Griffith
josephine.griffith@universityofgalway.ie
University of Galway
Galway, Ireland

Susan Leavy
susan.leavy@ucd.ie
University College Dublin
Dublin, Ireland

## Abstract

Teens are intensive users of social media recommender systems yet remain largely excluded from platform design and governance. The EU Digital Services Act (DSA) has the potential to address this through its call for stakeholder consultation in risk assessment and mitigation. To demonstrate how teens can be meaningfully engaged with as stakeholders, and to understand their experiences of algorithmically curated content, we conducted a participatory engagement study with 87 teens using scenario-based think–pair–share discussions. Findings reveal an ongoing negotiation between benefits, risks, and harms, as teens attempt to influence algorithms while managing the emotional impact of harmful content and excessive use. We contribute: (1) an account of trade-offs between personalisation, harm, and control; (2) teen-informed design recommendations, including safeguards, low-effort feedback, and screen-time tools; and (3) a participatory engagement method. This research reframes teen recommender system use as negotiated agency rather than passive content consumption and offers actionable guidance for DSA related stakeholder engagement with teens.

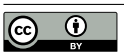
## CCS Concepts

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

## Keywords

Teen Online Safety, Algorithmically Curated Content, Stakeholder Engagement, Social Networking Sites, Recommender Systems

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## 1 Introduction

Social Networking Sites (SNSs) provide teens [1] with spaces for individual and collective expression, supporting creativity, belonging, and social connection [80]. This sense of free expression, however, is contrasted with the extent to which their online experience is algorithmically determined. Recommender systems (RSs) on these platforms govern the dissemination of content, influencing what users see, how long they remain engaged and can shape their perceptions and choices [63]. Furthermore, content disseminated to teens has been found to include hate speech, misinformation, body shaming content, and violent graphic material [9, 79]. This can have significant effects on adolescents, whose cognitive and emotional development may mean that they have an increased vulnerability to distressing content [66]. Amplification of these risks can be driven by design features such as infinite scroll and push notifications, which can encourage compulsive use [43], reduce user agency [95], and negatively impact mental health [17, 38].

To address these issues, researchers argue that teens should be actively involved in the design of SNSs, rather than being treated as passive recipients of platform decisions (e.g., [34, 57, 59, 73, 77, 92]). Work with teens has employed various methodologies to understand online harms and inform safety interventions, such as surveys, interviews, advisory groups, and in-app feedback mechanisms. Yet much of this engagement often remains consultative and has limited impact on governance structures [33]. Similarly, in recent years, the RSs community [2], has begun to call for co-design with multiple stakeholders, positioning users as active collaborators in RSs design, rather than passive participants [40, 54]. The EU Digital Services Act

[1] Following the work conducted by Park et al. (2025) [73], Choi, Choi and Seering (2025) [28], and Ali et al. (2024) [5], we define 'teens' as individuals between 13 and 18 years of age

[2] The RSs community encompasses a broad range of researchers who publish at venues such as CHI, RecSys, DIS, and FAccT, specialising in recommender systems.

(DSA) has the potential to strengthen this trend by calling on large platforms to conduct risk assessments "*in consultation*" with groups affected by systemic risks, including teens [89]. However, the DSA does not specify how such participation should occur, what forms of participation count as meaningful, or how youth input should shape RS design and governance in practice. Without concrete methods, researchers have claimed that stakeholder engagement risks becoming a box-ticking exercise that reproduces tokenistic involvement long criticised in youth participation research [47, 56].

Addressing this limitation requires shifting focus from whether teens should be involved to how their involvement can be meaningfully realised in practice. This work examines how teens aged 15–18 in Ireland can be engaged as stakeholders in SNS and RS governance through a school-embedded, participatory engagement approach. Specifically, we ask:

- **RQ1:** What is the nature of teens' experiences with algorithmically recommended content on SNSs, as recounted from their own perspectives?
- **RQ2:** What recommendations do teens offer to make SNSs safer environments?
- **RQ3:** What recommendations do teens offer to support teen engagement as stakeholders in SNS governance?

We conducted five focus groups with 87 Irish secondary students (ages 15–18) in total. The study was designed to foreground teens' voices and enable open dialogue about their experiences with SNSs and algorithmic content curation. This research makes three primary contributions to the IDC and broader SIGCHI community:

- We offer an empirically grounded account of how Irish teens navigate social media as a site of both opportunity and risk, framing engagement with SNSs and algorithmic curation as an active practice of negotiation rather than passive exposure (C1).
- We surface tensions between teens' personal agency and the need for external safeguarding, identifying design implications for recommender systems and online safety governance that balance autonomy and protection while centring teens as key stakeholders (C2).
- We introduce a focus group methodology inspired by pedagogical and participatory design (PD) techniques to support critical reflection and elicit teens' perspectives on platform governance and algorithmic design (C3).

The remainder of the paper is structured as follows. We review related work on teens' engagement with RSs, PD with young people, and the role of PD in informing institutional decision-making. We then describe our methodological approach and focus group design, followed by the presentation of findings. We conclude with a discussion of the trade-offs teens negotiate in their SNS use, including tensions around agency, safeguarding, engagement, and influence, and outline directions and recommendations for future research.

## 2 Related Work

Our study is informed by interdisciplinary research spanning HCI, computer science, and AI regulation. We review relevant work across the following key areas, corresponding to our research questions: teens' experiences with algorithmically recommended content online and its associated risks, participatory methods for engaging teens in research to inform SNS and RS design, and informing institutional decision-making through participatory design inspired participatory engagement.

### 2.1 Teens' Engagement with Recommender Systems and Associated Risks

SNSs, and their embedded RSs, play a pivotal role in shaping the content teens encounter, the communities they access, and the ways in which they participate online [10, 80]. For example, SNSs provide critical digital affordances, including opportunities for identity exploration [85], creative expression [8], and social connection [29]. SNSs also provide teens with access to information [37] and peer support [75], which has proven to be particularly beneficial for marginalised youth [24]. Algorithmically curated feeds amplify these benefits by delivering highly personalised and engaging content that aligns closely with users' preferences, interests, and behaviours [78].

However, growing concern has emerged that algorithmically recommended content may also produce harmful effects, with increasing negative reports highlighting risks such as impacts on teen well-being [86], and the exposure of violent or inappropriate material on platforms like TikTok [46] and YouTube [1, 72, 88]. Recognising these risks, early interventions proposed by the HCI community initially focused on engaging parental stakeholders through mechanisms such as parental controls and active communication strategies to strengthen teen online safety [44, 58, 82]. Similarly, within the RSs community, multi-perspective frameworks have been proposed to include parents and guardians in the design and evaluation of child-centric RSs [45]. Whilst, these approaches can promote responsible platform usage, they may also create tensions as children mature into teens, who naturally seek greater control over their online experiences [31, 73]. Overly restrictive approaches may therefore limit teens' ability to explore, learn, and connect, potentially undermining the very benefits that SNSs can offer. This points to a fundamental tension in the design and governance of RSs for teens: balancing the need to protect teens from harm while preserving opportunities for meaningful engagement and development.

Importantly, teens are not passive recipients of algorithmically curated content; they actively interact with, adapt to, and occasionally resist RSs [19, 80]. For example, research has shown that teens develop a situational knowledge about how algorithms function and employ various strategies to manage their experience on SNSs [16, 35]. Teens demonstrate agency in negotiating both the benefits and risks associated with RSs, including privacy management and content selection [36]. These findings challenge perspectives that frame teens primarily as vulnerable users, instead positioning them as active participants in shaping their online experiences [52]. At the same time, teens experiences of SNSs are shaped by broader decisions about how platforms are designed and governed. Decisions about content moderation, ranking algorithms, and safety interventions are influenced not only by platform designers but also by evolving regulatory frameworks that emphasise risk mitigation

and accountability [26]. However, despite being directly affected by these decisions, teens are rarely positioned as stakeholders in their development [4, 69]. As a result, governance processes often overlook teens' lived experiences, needs, and perspectives [70]. Given their active role in engaging with and shaping platform dynamics, this exclusion is increasingly difficult to justify. This points to a critical gap in both research and practice: while significant attention has been paid to identifying and mitigating risks associated with RSs, less work has explored how teens' experiences can inform not only the design of these systems, but also the institutional and regulatory processes that shape them. Accordingly, there is a growing call among scholars to recognise teens as legitimate stakeholders with valuable insights for platform decision-making [4]. Recognising teens' active engagement with algorithmically curated content underscores the importance of involving them more directly, within both design and governance contexts [2], as contributors to the decisions that shape their online environments [22].

## 2.2 Participatory Design with Teens: Opportunities and Challenges

Participatory design (PD) has emerged as a central approach for empowering teens to exercise agency in managing online risks and contributing to the development of teen-centred safety solutions. By directly involving teens in the design and evaluation of SNSs, PD has supported reflection on digital experiences. This work has contributed to interventions addressing cyberbullying [6], managing unsafe interactions [3], and developing safety tools designed for and by teens [25]. PD can take many forms; for example, Fischer et al. (2025) conducted a series of co-design sessions employing a Youth Participatory Action Research (YPAR) framework, yielding insights into how young people can shape SNS platforms such as Meta's new Instagram Teens [41]. Agha et al. (2022) conducted a series of User Experience (UX) bootcamps with adolescents to collaboratively design online safety interventions tailored to the ways teens engage with SNSs. These prior works, while highlighting the great potential of PD with teens, equally highlight significant outstanding challenges such as: sustaining participant motivation, dealing with inconsistent participant attendance, and encountering difficulties in synchronising schedules across teens' varied commitments [3]. These coordination issues reflect a broader limitation of synchronous PD approaches more generally, as detailed by [5, 53, 64, 73].

To address this, school-based initiatives — such as integrating PD activities into existing class schedules, partnering with teachers to embed design sessions within curriculum time, or offering structured after-school programmes — may provide more stable participation and reduce the logistical barriers typically encountered in this form of participatory work. Studies have shown that embedding PD in classroom settings not only stabilises participation but also offers additional learning opportunities [11, 12], allowing students to reflect on and expand their skills related to the topics under investigation [67]. Although these studies do not specifically address online safety or the design and evaluation of SNSs for teens, they offer potential guidance for overcoming the challenges of sustaining consistent teen engagement in PD activities. Conducting PD research within school settings presents its own challenges, as highlighted by prior research. For instance, Horton et al. (2012) emphasise that PD activities need to be designed with additional care to effectively align with the needs, schedules, and requirements of the schools in which they are conducted [51]. Taken together, these insights suggest that while school-based PD offers a promising approach to sustaining teen participation, careful planning and adaptation to each school's context are essential to ensure that such initiatives are both feasible and meaningful. Additionally, while existing approaches have been effective in supporting feature- and tool-level design, they are less often oriented toward broader questions of system governance and decision-making. This suggests an opportunity to extend PD methods to better support teens' engagement with the wider socio-technical and institutional contexts that shape their online experiences.

## 2.3 Informing Institutional Decision-Making through Participatory Design Inspired Engagement

PD research has long emphasised the importance of enabling participants to influence not only the design of technologies, but also the social and institutional structures in which those technologies are embedded [84]. From this perspective, PD offers participants a pathway to exercise agency not only as users or co-designers, but also as stakeholders capable of shaping governance processes. Within youth-focused HCI research, PD has been shown to support civic engagement, critical reflection, and youth-led online safety initiatives [41]. However, existing work also highlights persistent challenges in translating youth participation into institutional influence. Davis (2020), for instance, found that while teens were eager to contribute to the design of online safety guidelines, they often felt underprepared or insufficiently empowered to engage as equal partners in discussions with adult decision-makers [33]. As a result, youth participation frequently remains consultative, with limited impact on the governance structures that shape platform design, moderation practices, and algorithmic decision-making. These challenges are particularly important in the context of emerging regulatory frameworks, such as the EU's DSA, which emphasise stakeholder engagement in platform risk assessment and mitigation. While such frameworks create new opportunities for participatory input, there is limited empirical work within IDC and broader SIGCHI communities that examines how teens can be meaningfully included in these governance processes.

# 3 Research Design and Method

## 3.1 Study Overview

In this work, we position our participants as experts of their own SNS experiences. We draw on techniques from education and PD practice to scaffold focus groups, providing a structured and supportive space for collective reflection and participatory engagement.

## 3.2 Planning and Design

Our research adopts an participatory engagement approach that seeks to facilitate "*minoritarian ways of knowing*" [18]. For the purposes of this study, we devised a method to centre and value teens'

distinct perspectives and experiences, given that teens' communication preferences often differ from adult viewpoints [18, 74]. Rather than engaging participants in intensive co-design with the synthesis of technology as an objective, this approach creates space for teens to articulate their experiences, reflect on platform dynamics, and respond to proposed scenarios. In doing so, the study offers an exploratory lens on how teens might inform ongoing conversations around platform governance and the shaping of social media environments [25, 84]. This work can thus be understood as an initial step toward engaging teens' perspectives in relation to Article 90 of the DSA, rather than a direct operationalisation of institutioning processes. Given the existing gap, we draw on Smith's framework for institutioning [84] to inform our analysis, rather than as a complete methodological approach. Specifically, we attend to: first, how teens perceive and describe existing power dynamics among stakeholders (e.g., platform designers, regulators, and users), and second, how they respond to and reflect on alternative possibilities for safer recommender system (RS) design. To support this exploratory engagement, we employed focus group discussions to support idea exchange, help participants feel more at ease, and reduce the anxiety often associated with individual interviews [32, 48]. To further support equitable participation, we incorporated the *think-pair-share* technique. Although typically used within educational settings to promote critical thinking and collaborative learning, the technique was used to encourage open dialogue, individual reflection, and active participation — benefits observed in previous studies (see [23, 55]).

*3.2.1 Scenario-based Vignette Design.* Each focus group session was structured around six scenario-based vignettes, as recommended by Efken [39] (*all vignettes are included as supplementary material*). Using vignettes helped provide a context for discussions and allowed participants to engage with potentially sensitive or uncomfortable topics without feeling exposed [13, 49, 71]. In prior research, vignettes have proven to be a valuable creative method in childhood education and care research [87]. The content of the vignettes was informed by a review of relevant literature that explores the benefits (for example, [7, 62, 76]) and harms of recommender systems (for example, [68, 81, 83]), as well as the study's research aims, ensuring alignment with key themes of interest. They were designed to reflect situations that are relatable to teens, while also capturing a range of perspectives and experiences. Care was taken to ensure that the scenarios were neutral, non-leading, and open-ended, so as to encourage diverse responses and minimise bias. Additionally, each vignette was used to introduce complex concepts in an accessible and age-appropriate manner. The vignettes consisted of a scenario accompanied by a video (*see Table 1*). Draft scenarios were reviewed by a team member experienced in secondary education to verify their clarity and suitability.

## 3.3 Study Procedure

*3.3.1 Participants.* To recruit participants, we followed a purposeful sampling approach to engage with schools located in both urban and rural areas in the West and East of Ireland. Due to the potentially sensitive nature of our research, we reached out only to schools with which we had an established relationship of trust. We established these relationships through collaboration with CyberSafeKids [3] and by leveraging existing professional networks. These combined affiliations provided access to a network of schools, which facilitated participant recruitment for the study (*Table 2*). All focus groups were conducted with students in their Transition Year (TY) of secondary school. In the Irish education system, TY is an optional one-year program, taken in the fourth year of the six-year secondary school cycle. It is designed to provide students with a broad educational experience, emphasising experiential learning and skill-building, including work experience, community projects and the exploration of new subjects. The participating schools included mixed-gender schools, two single-sex schools, an Irish language-medium school, and a designated DEIS[4] school, indicating an area of economic disadvantage.

Once school representatives expressed interest, we spoke over the phone to clarify organisational details and address any concerns they may have had. Selected classes were chosen based on time availability and age. In consultation with teachers, we also ensured that students who might be more vulnerable to potential challenges from the study, for example, those with significant cognitive or mental health needs, were not required to participate, to avoid causing avoidable distress. Our focus on teens aged 15 to 18 was driven by increasing concerns about SNS use and the specific harms this age group may face. Participants self-identified their gender. Across the focus groups, 42 participants identified as girls and 45 as boys.

*3.3.2 Study Approach.* Most focus groups were held in participants' classrooms at their school (with one exception, in which a school travelled to our host institution to take part in the study) and lasted approximately 120 minutes. Participants were divided into 3 or 4 groups (depending on class size), and each group was moderated by 2 researchers (one facilitator and one note-taker). In total, group sizes averaged around five to seven participants per table, consistent with previous recommendations from the HCI community for focus groups with this age group [30, 39]. Fig. 1 shows a typical layout from our focus groups. The class teacher was absent for most focus groups, though present for at least one, as part of our reflexive conversational approach to creating a safe and open environment. This approach aimed to support participants in sharing their views openly, while also enabling us to reflect on how the teacher's presence might shape the discussion. When the teacher was absent, participants were informed that teachers were available outside the classroom should they wish to withdraw or require support in case of distress.

All sessions followed a consistent structure:

(1) Participants first self-divided into groups — a decision made to maximise their comfort by allowing them to work with peers they felt at ease with. This approach was also informed by the teachers present, who noted that in their experience, teens were more engaged and expressive during discussions

[3] CyberSafeKids is an Irish charity dedicated to promoting safe and responsible internet use among teens.

[4] In Ireland, a DEIS school participates in the Delivering Equality of Opportunity in Schools program, which aims to support schools serving socio-economically disadvantaged communities.

| Vignette Number | Scenario Description | Description of Accompanying Video |
|---|---|---|
| **Vignette 1** | "Imagine you open an app like TikTok, Instagram, or YouTube just to check one thing or watch a single video. Before you know it, 30 minutes or even an hour has passed because the app keeps showing you things that catch your attention." | A person continuously scrolling on their phone. |
| **Vignette 2** | "You're using an app, and it recommends something really useful—like a study tip, a new hobby, or a local event you didn't know about." | A girl kicking a football and smiling. |
| **Vignette 3** | "Imagine you're using Instagram or another app, and you start noticing the types of posts it keeps showing you. Maybe it thinks you're into certain trends, hobbies, or interests, but it doesn't really match who you are. Or maybe you've noticed that it shows different things to your friends who are boys or girls." | A group of girls standing in front of a mirror doing skincare. |
| **Vignette 4** | "Imagine you're scrolling through an app like YouTube, TikTok, or Instagram, and you come across a video that's really shocking or upsetting—it's hard to look away even though it makes you feel uneasy. Then, the app starts showing you more videos like it." | A man looking shocked at his phone before putting it down. |
| **Vignette 5** | "Imagine you're on a platform like TikTok or Instagram, and the app starts showing you videos or posts about something you really don't like or agree with." | A boy standing in the middle of the screen shows strong disagreement. |
| **Vignette 6** | "Imagine you could design a new feature for an app to make recommendations more useful, fun, or safe for people your age." | A person scrolling and typing on their phone. |

**Table 1: An overview of the scenario-based vignettes that were used during the focus group sessions**

| School Typology | Number of Participants | Number of Groups |
|---|---|---|
| Mixed-gender secondary school | 13 | 3 groups |
| Mixed-gender, DEIS (Delivering Equality of Opportunity in Schools) community school | 20 | 5 groups |
| Mixed-gender, Irish Language | 13 | 3 groups |
| All-girls' school | 22 | 3 groups |
| All boys' school | 19 | 4 groups |

**Table 2: School Typology, Gender Make-up and Number of Participants Breakdown**

when grouped with classmates they naturally gravitated toward.

(2) Participants were then introduced to the research team and provided with an overview of RSs through a PowerPoint presentation. The session structure was also outlined (*see Table 3*), and participants were invited to ask clarifying questions.

(3) Each vignette (*included as Supplementary Materials*) was then presented by the lead researcher via PowerPoint, after which the participants discussed the scenarios both among themselves and with the facilitator. The vignettes were presented sequentially in chronological order, with participants given 15 minutes to discuss each scenario. In all focus groups, participants received the same six scenario-based vignettes.

(4) After group discussions, facilitators shared group responses with the entire class to validate contributions and invite additional commentary, promoting engagement, collaborative learning, and perspective sharing.

(5) Sessions concluded with a debrief to address remaining questions and provide participants the opportunity to share any final comments. As stated, one school travelled to our host university to participate in the workshop. As a token of appreciation, participants were offered a campus tour and

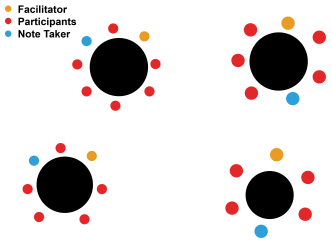



**Figure 1: Diagram depicting the standard layout adopted across all five focus groups, including the arrangement of tables, chairs, and facilitator positions**

lunch vouchers for the university's restaurant. Apart from this, no additional reimbursement was provided, and this was clearly communicated during our discussions with the collaborating schools.

Data was collected at two key stages of the study:

(1) **Introduction to the research team:** Participants were asked by the note-takers to provide basic demographic information, including their age and gender. Each participant was asked to select a Post-it note pad of a specific colour and record their information on it. The chosen colours allowed responses to be tracked consistently throughout the sessions.
(2) **During discussions:** Participants wrote their responses on their post-it notes and placed them on A3 sheets for collective visualisation (*see Fig. 2*). This approach was chosen to ensure that participants retained full autonomy over their responses. At the same time, designated note-takers recorded observations and discussion points in a separate booklet (*included as supplementary material*). In cases where participants were deeply engaged in discussion and unable to write their own responses, facilitators were encouraged to use post-it notes of a different colour to record the main points of the discussion. This approach was used sparingly to minimise the risk of misinterpretation.

*3.3.3 Ethical Considerations.* Given this study's focus on teens, rigorous ethical standards were maintained throughout all stages of its design and execution. We obtained ethical approval from our Institutional Review Board, and input was provided by a researcher with prior professional experience as a secondary school teacher. This input included valuable practical insights for engaging with participants. Before conducting the focus groups, parental consent and participant assent were obtained from both the participants and their parents or guardians. To accommodate schools with no-paper policies, both digital and physical copies of the forms were prepared. Physical copies were stored in a secure locker in the lead researcher's office, while digital copies were kept in a secure, password-protected spreadsheet accessible only to the lead researcher. After the study concluded, all physical consent and assent forms were destroyed.

Focus groups, by nature, limit our control over discussions and disclosures. Participants were informed that confidentiality could not be guaranteed, and facilitators encouraged respectful, non-personal statements. Facilitators intervened if sensitive topics caused visible discomfort. If participants experienced distress, a structured distress protocol was in place. To mitigate coercion, researchers remained attentive to peer group dynamics and power imbalances, and collaborated with teachers on group selection, ensuring facilitator neutrality. Transparent communication about the study's aims - reinforced through consent/assent forms and plain language statements - helped prevent false assumptions about outcomes. Finally, participants were reminded they could withdraw at any point during the session; however, because focus group data are anonymous, withdrawal after the session concluded was not possible. Additional protections for participants included Garda Vetting, an Irish police background check for those working with children, which was completed by each member of the research team.

The recognition that teens are experts in their own experiences informed the creation of a judgment-free space where participants could openly share their perspectives. Guidelines for engagement were outlined at the start of each session, and moderators reinforced inclusivity through non-verbal cues, such as eye contact and nodding, while highlighting the importance of diverse opinions. Facilitators occasionally intervened when conversations naturally lapsed or when discussions entered potentially harmful territory. Topics deemed potentially harmful included graphic descriptions of self-harm, bullying, or other distressing content. In such cases, facilitators gently redirected the conversation, provided appropriate support, and reminded participants that they could step away at any time if they felt uncomfortable. This approach allowed participants to share their experiences safely while maintaining a respectful and supportive environment for all.

Within the research group, two researchers had prior experience working with teens, either in educational settings or in research roles. In addition, three team members had extensive expertise in HCI and mental health. Although the remaining researchers had not previously conducted studies directly involving teens, all had prior experience facilitating qualitative interviews and focus groups. Before conducting the focus groups, we held two training sessions - one with a teacher and another with a professor specialising in youth mental health - to discuss best practices for running sessions with young participants. The lead researcher also completed the Tusla Children First E-Learning Programme, developed by the Irish Child and Family Agency in collaboration with the Department of Children, Equality, Disability, Integration and Youth, and the Health Service Executive (Ireland's public health and social care service). This programme guided recognising and appropriately reporting potential child welfare concerns. Finally, before the focus groups, we conducted two pilot studies with university students, which helped refine the research design, familiarise facilitators and note takers with the procedure, and identify areas for improvement. Each pilot study concluded with a debriefing among the research team, which led to the final version of the procedure used in this study.

*3.3.4 Data Analysis.* After data collection, the first author transcribed the focus group post-it notes and note-taker notes. During this process, all identifying information (such as participants' names) was removed and replaced with pseudonyms (eg. P1, P2) to ensure participant anonymity. Following transcription, we conducted a codebook thematic analysis informed by the reflexive

| Activity | Activity Description | Timing |
|---|---|---|
| **Introduction to Team and PowerPoint Presentation** | The lead researcher introduced the facilitators and note-takers to familiarise participants with the people they would be speaking with | 10 minutes |
| **Think-Pair (Group Discussion)** | After a vignette is presented, participants first reflect individually, then discuss their insights with their table group. The facilitator mediates the discussion, while the note-taker records key points. Participants are also encouraged to capture their reflections on the provided post-it notes | 90 Minutes |
| **Share to Group (Facilitators)** | After all six vignettes have been presented and discussed, facilitators present their group's responses to the wider class for each scenario. Participants are invited to ask questions, seek clarification, or offer additional comments | 15 Minutes |
| **Debrief (with Participants)** | At the end of the session, each facilitator conducts a debrief with their table group. Participants are encouraged to review the debrief document and ask any clarifying questions | 5 Minutes |

**Table 3: Table Outlining the Agenda/ Schedule of Each of Our Focus Groups**

approach of Braun and Clarke [21]. This approach was selected as it supports a structured yet flexible analysis, combining deductive coding with iterative theme development. Codebook thematic analysis is widely used in HCI to interpret qualitative data and identify patterns of meaning across participants' responses (see [20, 90, 93]).

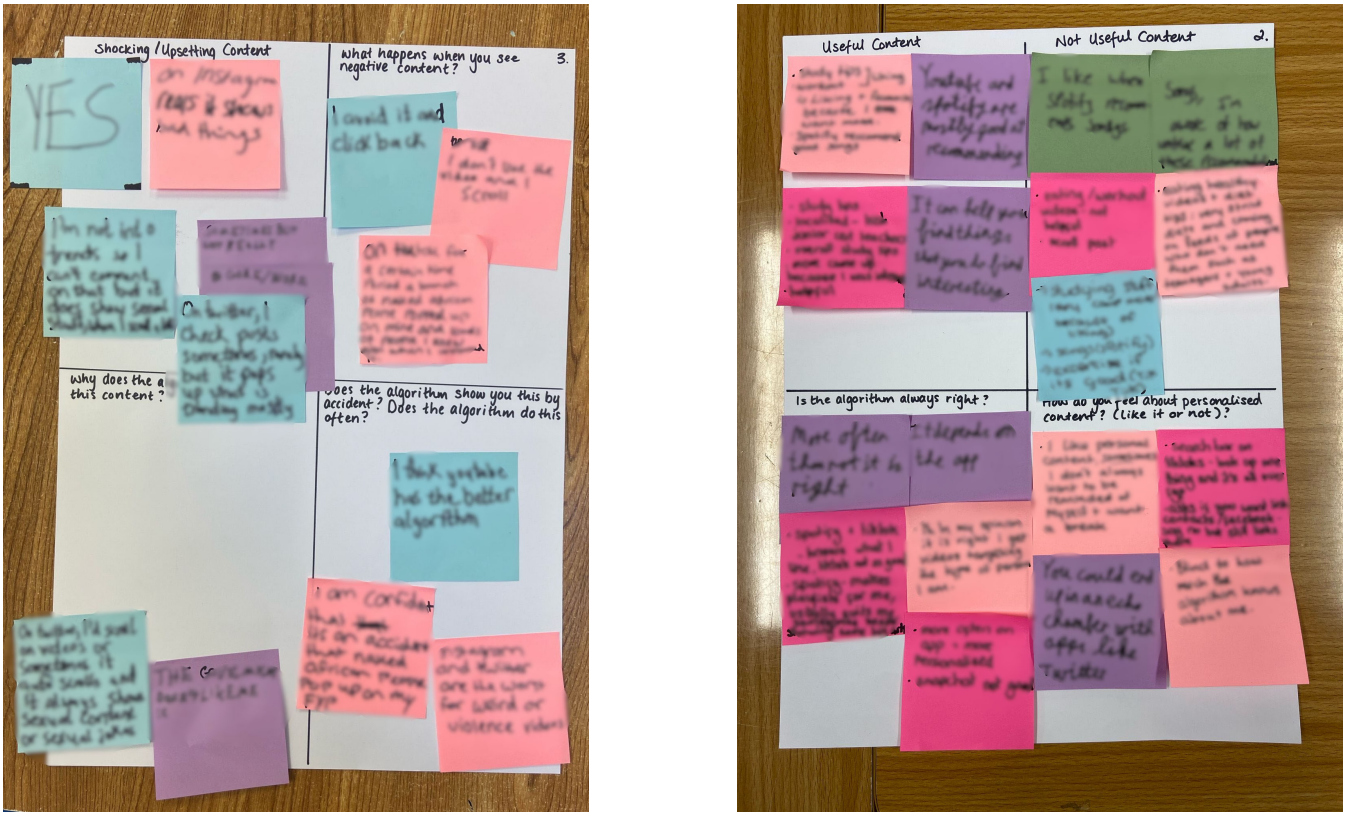
The first author led the initial phase of the analysis, beginning with familiarisation by transcribing and repeatedly reading the focus group data to develop a deep understanding of the content collected. Based on this familiarisation, the first author conducted primarily deductive coding, where they were guided by the research questions and themes derived from prior literature. At the same time, the coding process remained open to inductive insights, allowing new and unanticipated themes to be created and incorporated into the coding framework. To enhance rigour, a second author reviewed the coded transcripts and engaged in a total of three collaborative discussions with the first author. These discussions helped clarify the meaning of the codes, resolve ambiguities, and align interpretations between data sets. Through this iterative process, the authors identified overlaps and relationships among codes, which contributed to the creation of preliminary themes. The authors then collaboratively developed a shared codebook in NVivo (see thematic analysis map included as supplementary material). This process supported the transition from descriptive codes to clearer thematic categories. The evolving themes were reviewed and refined through several rounds of discussion to ensure that they accurately captured the diversity and depth of the experiences of the participants. The final themes were defined and named in relation to the data and the larger research goals and questions, forming the findings presented in the next section.

## 4 Findings

This section presents our findings, organised into five themes with sub-themes and illustrative quotes (*See Table 4*), derived through a hybrid (utilising both inductive and deductive) codebook thematic analysis (*See a full codebook thematic analysis map included in the supplementary materials*). The first theme allows examination of how participants use SNSs and recommender systems. The second refers to how participants balance achieving their own goals in using the systems, along with addictive design features. The third theme focuses on harms that participants reported encountering when interacting with recommender systems. The fourth addresses recommendations from participants on platform design, including features that would enhance user control, transparency, and well-being. Finally, the fifth theme refers to participants' perspectives on stakeholder engagement and their perceived ability to influence platform governance. These themes illustrate how adolescents actively navigate and interpret social platforms, encountering both challenges and opportunities, and offer insights into their perspectives on design, well-being, and participation in platform governance.

### 4.1 Theme 1: Participants Learn to Navigate Algorithms Through Intuitive, Critical Understanding

*4.1.1 Participants critically Interpret How Their Engagement Shapes Algorithmic Recommendations.* Throughout all focus groups, participants demonstrated a clear understanding of how digital platforms and recommender algorithms function. Many reported that they gained understanding from how their content consumption or interaction patterns actively shape the algorithm's recommendations. For instance, one participant stated that *"The algorithm recommends based on watch history and your personal subscriptions"* [P5. Girl, 16]. They also recognised that the algorithms update recommendations based on their interactions, including the duration of video watching, likes, shares, and profile visits. For instance, one participant explicitly noted that they were actively "*training the algorithm*" to




**(a) Data Collection Example 1**

**(b) Data Collection Example 2**

**Figure 2: Examples of How Data was Collected: Illustration of the method used during the focus groups, where participants captured their thoughts on post-it notes for group discussion**

recommend content aligned with their preferences: "*I like videos to watch them later when I am in the mood. Manipulate algorithm to show more of them later*" [P47. Girl, 16].

Several participants also expressed an understanding of unconscious engagement or incidental effects of content recommendations, with one noting that liking something without realising it could still shape their future recommendations. Beyond individual engagement, participants demonstrated a strong, critical understanding of the broader economic logic driving digital platforms. Across multiple focus groups, participants consistently identified time spent on platforms as directly linked to advertising revenue. Sample indicative comments that support this theme included "*more time on TikTok = more ads = more revenue*", and "*The more you watch – the more data they have on you = more money for them*" [P77. Boy, 17]. Such comments highlight participants' ability to connect personal experiences with a wider critique of platform economics. These reflections indicate a clear grasp of how platforms are deliberately designed to maximise profit by extending user engagement. Algorithmic recommendations and personalised content were framed as central mechanisms for sustaining engagement, with participants often describing the system as intentionally engineered to *"keep you scrolling"* by "*trying to find what you're interested in to keep you on the apps*" [P16. Girl, 16].

While some participants acknowledged that the content itself can be engaging and beneficial for users, most felt that platforms and content creators are the primary beneficiaries of the revenue generated from users' attention. One participant noted, "*Social media is beneficial for creators and the platforms … we don't get that money. It's more beneficial for them than for use* [us] *the consumer*" [P46. Boy, 16]. Participants also demonstrated awareness of the personal "*Information the algorithm knows* [such as]: *nationality, age, sport, gender, Dublin and knows who friends are*" [P47. Girl, 16]. While some found the depth of data collection "*a bit weird*", others appeared to accept it as a routine part of the online experience: "*Some apps give you an option to share your location so that probably contributes towards showing videos created or about your local area*" [P33. Boy, 16]. This tension between awareness and acceptance indicates that participants engage with personalised recommendations with both critical reflection and pragmatic acceptance.

| Theme | Sub-Theme | Example Quotes |
|---|---|---|
| **Participants Learn to Navigate Algorithms Through Intuitive, Critical Understanding** | 1) Youth Critically Interpret How Their Engagement Shapes Algorithmic Recommendations | *"I like videos to watch them later when I am in the mood. Manipulate algorithm to show more of them later"* |
| **Participants Balance Personal and Social Goals While Negotiating Compulsive Design Features** | 1) Participants Engage with Platforms to Fulfil Personal Needs Amid Addictive Design Features | *"It's better when content is personalised as it is interesting. You might learn something relevant to you [from] personalised content"* |
| **Participants Experience Harmful Content and Interactions Online** | 1) Participant's Exposure to Harmful Content<br>2) Encountering Harmful Platform Interactions<br>3) Exposure to Harm Affects Participant's Well-Being and Emotional States | "*TikTok - Dress inspiration -> scroll -> Porn*"<br>*"Old men comment on videos, send messages with a WhatsApp number for money"*<br>"*Stays in the back of my mind all day*" |
| **Participants Seek Tools to Protect, Control, and Enhance Digital Well-Being** | 1) Participants Advocate for Age-Appropriate Safeguards on Platforms<br>2) Participants Call for Effective Tools to Manage Harmful and Unwanted Content<br>3) Participants Seek Tools to Promote Mindful and Healthy Platform Use | *"You can report something as much as you want but it won't be taken down (Twitter)"*<br>*A 'non-negotiable' timer for closing the app."* |
| **Participants Seek a Voice Despite Doubts About Effecting Change** | 1) Participants Seek a Voice in SNS Governance and Decision-Making<br>2) Participants Lack Belief in Their Capacity to Effect Change | *"Young people need more of a say in tech and social media"*<br>*"What if they misuse [their] input?"* |

**Table 4: Overview of Themes and Sub-Themes: Identifying Participants' Motivations, Challenges, and Perspectives on Platform Engagement and Governance. Includes themes generated and illustrative quotes from the focus groups.**

## 4.2 Theme 2: Participants Balance Personal and Social Goals While Negotiating Compulsive Design Features

*4.2.1 Participants Engage with Platforms to Fulfil Personal Needs Amid Addictive Design Features.* Participants generally held a positive attitude toward SNS RSs, especially TikTok's, describing them as highly accurate and effective, with one participant going so far as to call the algorithm "*Perfect as it is*" [P2. Boy, 16]. Across platforms, personalised content was praised for making experiences more engaging, interesting, and relevant; "*It's better when content is personalised as it is interesting. You might learn something relevant to you [from] personalised content*" [P24. Girl, 15]. Participants valued SNSs for entertainment, learning, inspiration, staying informed, and emotional relief, while also following creators and viral trends. For many participants, staying up-to-date with emerging trends was not only personally rewarding but also socially advantageous, enabling participation in shared conversations and enhancing perceived social capital: "*I want to be on top of friends and celebrities*" [P47. Girl, 16]. These dynamics highlight how participants' motivations for using SNSs stem from both personal interests and broader social pressures.

In addition, participants mentioned several barriers to disconnecting from digital platforms, many of which were linked to both platform design features, such as infinite scrolling and doom scrolling, and their own behavioural patterns. A recurring discussion was the difficulty of leaving platforms, with users often mindlessly opening apps out of "*routine*" and "*muscle memory*" rather than intention: "*I think it's because after using the same media platform for a long period of time, your* [you are]*building muscle memory to the hand gestures and your brain switches off*" [P28. Girl, 16]. In addition, participants acknowledged feelings of being "trapped in a loop", frequently reporting doom scrolling - the act of compulsively and endlessly scrolling through content on SNS - as a result of personalised recommendations and platform design features. For instance, one participant felt that as *"The videos are targeted towards my personal interests so nearly every video is engaging/attention grabbing, I get distracted."* [P64. Girl, 16]. Additionally, another participant stated that whilst "*I like seeing personalised content because it's enjoyable . . . sometimes it's too good and I end up scrolling for ages."* [P54. Girl, 16]. Participants described doom scrolling as often leading to a sense of time loss and self-reported feelings of regret or guilt: *"Yes, it happens to me all the time and I personally think it's a bad thing cause it makes you lazy"* [P85. Girl, 16].

## 4.3 Theme 3: Participants Experience Harmful Content and Interactions Online

During all focus groups, while acknowledging that SNS content can be engaging and, at times, beneficial, discussions largely focused on the adverse consequences of RSs, particularly when recommendations were perceived as irrelevant, repetitive, or harmful. Based on the participant responses, our analysis categorised harmful recommendations into the following sub-themes: Exposure to Harmful Content, Encountering Harmful Platform Interactions and Emotional and Psychological Impact of Harmful Experiences.

*4.3.1 Participants' Exposure to Harmful Content.* Central to some participants' concerns was the commonly encountered scenario of escalation from benign content (such as fashion, lifestyle, or entertainment posts) to harmful material. In the first focus group, one table comprising female participants noted that TikTok, in particular, often transitioned from harmless fashion inspiration to pornographic content: "*TikTok - Dress inspiration -> scroll -> Porn*" [P6. Girl, 16]. Other content transitions were also reported, in which initially benign content escalated to graphic or violent content (e.g., car crashes, assaults, gore, murder, war), sexually explicit material, emotionally manipulative posts (e.g., donation appeals tied to tragedy, rage bait, extreme debates), hateful or discriminatory content (e.g., conspiracy theories, anti-LGBTQIA+ sentiment, racism, sexism, toxic masculinity), and exploitative true crime. They also noted exposure to misleading clickbait, inauthentic or curated portrayals of life (e.g., filtered, dieting, AI-generated, or OnlyFans content), biased news, self-harm material, and other deeply uncomfortable or "*weird*" content. Many described the negative emotional impact of constant exposure to graphic global news, which compounded feelings of helplessness and emotional burnout. As one participant reflected, they felt " *Disturbed that this is happening in the world*" [P46. Girl, 15].

Participants described how platform design often trapped them in loops of increasingly harmful material, for example, "*You could end up in an echo chamber like Twitter*"[P36. Girl, 16]. They also reported that once they viewed harmful content, the algorithm interpreted this as engagement and recommended even more similar content. For example, one participant described a video circulating on TikTok which appeared on their feed because multiple popular accounts they followed were sharing it: "*Once there was a video going around on TikTok about a group of girls beating up a little boy and it* [was] *getting a lot of traction as influencers with high following were posting about it. And it came up on my FYP* [For You Page] *because of the amount of people I followed that were talking about the situation*" [P33. Boy, 16]. Importantly, participants emphasised that they rarely sought out this content; they encountered it passively through algorithmically curated feeds, a pattern that, in our interpretation, reinforces a broader sense of diminished agency in managing their digital environments.

Late-night scrolling was associated by many with increased vulnerability to harmful content, stating that "*After 10 o'clock the content becomes freaky*" [P27. Girl, 16]. During these hours, users felt that more harmful content was being recommended in greater volume and that they were less able to filter or disengage from distressing content or interactions. 'X' and Instagram, specifically Instagram Reels, were highlighted as two platforms where such experiences were particularly common. Participants also noted that TikTok Live was a feature where they were more likely to encounter harmful content, saying that "*TikTok live, need age range*" [P58. Girl, 16], as the nature of TikTok Live left little room for users to control or moderate what they were exposed to.

*4.3.2 Encountering Harmful Platform Interactions.* In addition to exposure to harmful content, participants highlighted a range of adverse interactions with platforms that contributed to negative experiences of SNSs. These interactions were often tied to specific platform features. The comments section emerged as a particularly problematic space, frequently described as hostile and unmoderated: "Comments are what is worrying" [P65. Girl, 16]. Participants reflected on encountering sexually suggestive and/or hateful comments, including cyberbullying and misogyny, even in contexts where the original post was neutral in tone and unrelated to the content of the comments. As one participant observed, posts often featured *"Pinned sexual comments on videos that have nothing to do with the video"* [P69. Girl, 16]. While some chose to avoid comments altogether, others admitted they were drawn to reading them out of habit, only to regret it afterwards. Additionally, some participants reported checking the comments section to see if others shared their disagreement with a video's content. However, this engagement often led the algorithm to recommend more similar content that they also disagreed with, reinforcing an echo chamber effect: "*See if people agree with me in the comment section – algorithm changes*" [P47. Girl, 16].

Some female participants reported receiving predatory attention in response to the content they posted on Instagram and TikTok. Specifically, they recounted situations where older men, having viewed their content, subsequently contacted them directly to request personal phone numbers and propose payment in exchange for explicit material: "*Old men comment on videos, send messages with a WhatsApp number for money*" [P37. Girl, 16]. One participant reflected on the emotional impact of such encounters, stating, *"The first time an old creep commented on my TikTok I felt weirdly vulnerable and exposed"* [P37. Girl, 16].

*4.3.3 Exposure to Harm Affects Participants' Psychological and Emotional States.* Regardless of the harm that participants experienced, many described a sense of addiction to these platforms, feeling caught in a compulsive cycle of scrolling that repeatedly exposed them to distressing or unwanted interactions. Several participants characterised algorithms as "*scary powerful*", highlighting concerns about their potential to influence and manipulate users:

> **Facilitator:** *Does the algorithm want to manipulate you?* "*Yes*"[P47. Girl, 16]. "*Yes*" [P45. Boy, 16]. "*Kinda*" [P46. Boy, 16]. "*Yes*" [P44. Boy, 16].

Once exposed to harm on these platforms, participants reported a range of emotional and behavioural responses. Many reported ruminating on the content afterwards and feeling physically uncomfortable, with one participant reporting that distressing images or messages "*stays in the back of my mind all day*" [P67. Girl, 16]. Feelings of sadness, shock, and general discomfort were commonly reported reactions. To cope, some participants reported using different strategies: some saved distressing content to their camera roll, while others engaged in a form of shared sense-making, such

as "*Send to friends or might be confused*" [P82. Boy, 16]. Additionally, several participants found that they had to take intentional breaks from SNSs to help alleviate the emotional burden, providing space to recover from negative experiences. To avoid harmful or triggering content in their feeds, participants reported actively trying to manipulate the algorithm by quickly scrolling past such content, hoping to signal to the algorithm that they no longer want to see similar material. One participant recounted an instance when they "*saw a video on Instagram, that was upsetting to watch but it was influenced by what I follow. I scrolled passed the other videos quickly and it just went away"* [P57. Boy, 16]. This indirect manipulation was reported more often than reporting the content via the platform's reporting feature. When asked if they would report content, many said that it rarely works, takes too much effort or isn't as obvious an option to them due to the platform's design: "*You can report something as much as you want but it won't be taken down (Twitter)*" [P35. Boy, 17].

## 4.4 Theme 4: Participants Seek Tools to Protect, Control, and Enhance Digital Well-Being

During the focus groups, participants drew on their experiences with SNSs and their algorithms to propose improvements to design and governance, emphasising safer, age-appropriate environments and greater personal agency supported by platform and parental safeguards. Although design considerations surfaced across discussions of age controls, content moderation, and screen-time management, a consistent theme was the call for platform features that prioritise user control and transparency. Together, these recommendations highlight participants' nuanced understanding of SNS dynamics and their clear demand for safer platforms.

*4.4.1 Participants Advocate for Age-Appropriate Safeguards on Platforms.* A prominent concern among participants was the inadequacy of safeguarding mechanisms, particularly for age-appropriate content and platform access, with enhancements seen as essential to prevent exposure to explicit, violent, or otherwise distressing material. Participants noted that age verification processes were easily bypassed, enabling underage users to encounter potentially harmful material. As one participant observed, "*People lie about their age. If there was a better way to ensure age restriction* [that would be good]" [P57. Girl, 17]. Participants favoured stricter yet privacy-conscious verification systems over self-reporting. They suggested age-segmented versions of platforms or algorithmic filtering that adapts content visibility to verified age ranges, "*Only show*[ing]*vids that suits age*" [P7. Girl, 15]. However, participants simultaneously rejected invasive measures such as ID submission, with one noting they *"shouldn't have to send my passport to a company"* [P41. Boy, 16]. Beyond technical solutions, participants highlighted the role of parental oversight, stressing the need for parental involvement that is supportive yet respectful of autonomy, with one participant stating that platforms should "extend safety measures to [include]parents" [P62. Girl, 17]. Participants noted, however, the importance of digital literacy for parents, who may lack the knowledge to guide safe SNS use. One participant advocated for "*more AI Literacy – especially to parents* [P18. Boy, 16]".

*4.4.2 Participants Call for Effective Tools to Manage Harmful and Unwanted Content.* Improved reporting mechanisms emerged as a key recommendation across all focus groups. Participants recognised the importance of reporting systems but frequently expressed frustration with their current implementation, describing them as inconsistent, slow, or unresponsive: *"Feedback Mechanism didn't work so I had to reset my TikTok"* [P44. Boy, 16]. Several participants also reported that their own content was incorrectly flagged, while genuinely harmful material remained accessible: *"TikTok flags comments much easier. 'Cutie' can be taken down for inappropriateness"* [P48. Girl, 16]. These experiences contributed to a broader sense of distrust and confusion regarding how reporting systems operate. Furthermore, participants called for clearer and more transparent reporting mechanisms, including real-time feedback on report outcomes, more prominent reporting buttons with fewer steps, and text boxes to justify reports. As one participant noted, *"The report button has a fairly long survey and is time consuming"* [P54. Girl, 16], while another added, *"Make it quicker and easier to report a video"* [P26. Boy, 16]. They also emphasised the need for more responsive "not interested" or "dislike" functions that meaningfully influence algorithmic recommendations. A recurring concern was the lack of transparency in how algorithms operate.

Participants advocated for greater control through tools such as interactive preference menus, real-time interest selection, or even an *"edit algorithm"* feature to adjust content themes: *"A feedback feature would be nice, as in teaching the algorithm what you like and don't like"* [P19. Boy, 16]. Some participants expressed a desire to opt out of AI-based content recommendations entirely. Participants also expressed a strong desire for greater control over the content they encounter. Across all groups, they called for more customisable filtering tools that would allow users to block, blur, or avoid certain content types, such as nudity, violence, or discriminatory material. For example, one participant recommended: "*They could introduce a button (or setting) to sensor videos that you don't want to watch or pay attention to reports from people, and not let similar videos be uploaded*" [P50. Boy, 16].

*4.4.3 Participants Seek Tools to Promote Mindful and Healthy Platform Use.* Participants identified screen-time limiters as valuable tools for managing digital well-being and avoiding excessive use. Many reported using built-in phone features to limit daily app engagement, which helped them develop more intentional and mindful usage habits. One participant suggested the inclusion of "*A 'non-negotiable' timer for closing the app*" [P45. Boy, 17]. Participants recognised that there are already time-limiters built into apps; however, they also noted the ease with which these tools could be bypassed: "*TikTok, time warning* [is] *'performative', made easy to resign in*". There was a clear preference for tools that enforce breaks rather than merely suggesting them, with participants suggesting platforms need to "*have a screen time limit that you can't go back onto it*[the platform]". Participants felt that such enforced breaks could help reduce compulsive scrolling, particularly during times of emotional stress or digital fatigue. They viewed the integration of screen-time limits as a key feature for promoting healthier engagement and advocated that platforms prioritise these tools as part of a broader strategy for digital well-being.

## 4.5 Theme 5: Participants Seek a Voice Despite Doubts About Affecting Change

*4.5.1 Participants Seek a Voice in SNS Governance and Decision-Making.* There was broad consensus among participants that stakeholder engagement to influence the design of SNSs would be beneficial for teens. Participants emphasised the value of structured feedback sessions, which could facilitate more meaningful dialogue between users and SNSs. Across all focus groups, participants emphasised the importance of being more substantively involved in platform governance, noting that "*young people need more of a say in tech and social media*" [P25. Boy, 16], given their role as frequent users. Participants also felt that being recognised as stakeholders would increase their trust in the platforms, with one noting, "*people would feel safer on the platform if they listen to young people*" [P15. Girl , 17] and that "*social media platforms need to hear from youth because it will give them real insight on how social media affects them (mental health, self-esteem, etc.). They need to take this more into account when they design algorithms*" [P39. Girl, 16]. Participants emphasised that their feedback should be acknowledged transparently, with careful attention to privacy and clear communication about how their input will be used. Given the scale and complexity of large technology companies, participants expressed a preference for collective rather than individual participation in order to avoid feelings of personal responsibility or pressure. As one explained "*pressure for responsibility or possible change if it was an individual- as a group would feel less pressure*" [P32. Boy, 17].

Engagement channels participants found most effective included school-based initiatives, focus groups, and integrated in-app feedback features that align with users' current routines, thereby reducing participants' cognitive workload. Reflecting on the method we employed, one participant noted that: *"Sessions like this could be useful"* [P14. Boy, 16]. Overall, positioning feedback initiatives within a school setting was seen as desirable, with one participant stating, "*I wouldn't engage on my own but through school not companies*" [P43. Girl, 16]. Participants recognised surveys and in-app feedback as potentially useful for gathering opinions, but stressed they should be quick and simple: *"A quick survey on what you think of your FYP*[For You Page]*/ algorithm. i.e. do you want to change it."* [P46. Boy, 16]. However, conflicting opinions did surface regarding the optimal approach, others suggesting that "*focus Groups keep people more engaged in comparison to surveys*" [P47. Girl, 16].

*4.5.2 Participants Lack Belief in Their Capacity to Effect Change.* However, despite participants being open to consultation on platform designs, some participants expressed scepticism about the actual impact of their input. Several felt that meaningful change was unlikely, particularly for issues affecting their specific age group. As one participant put it, "*there isn't a way to change it for a certain age group*" [P68. Girl, 15]. This scepticism was often rooted in a perception of power imbalance between users and platforms, with some participants suggesting that companies would continue to prioritise engagement and profit over user well-being. One participant, for instance, questioned, "*what if they misuse* [our] *input?*" [P38. Boy, 16]. Additionally, participants stated that if their input was to be given, it "*needs to be for the greater good*" [P17. Boy, 17]. Concerns were also raised about how suggested design changes might ultimately serve corporate rather than user interests. For example, one participant remarked that certain design changes they suggested, such as the option to filter their personal feeds, would potentially serve to make platforms *"more addictive"*, ultimately benefiting developers rather than addressing users' concerns: "*I think that will make the platform more addictive so will be perfect of* [for]t*he app developers*" [P25. Boy, 16]. Finally, some participants expressed doubt in their ability to influence systems they perceived as *"far too big"* [P83. Boy, 16] or unresponsive to individual or collective feedback, stating, "*You're just a number in their system*" [P84. Boy, 16].

## 5 Discussion and Implications

Across five themes, participants described navigating SNSs shaped by recommendation systems: they understand algorithmic logics and balance personal and social goals in the context of addictive design patterns, yet still encounter harmful content that affects well-being. This reveals the limitations of individual agency within engagement-driven platforms. In response, teens advocated for tools and features that promote safety, control, and mindful use, reflecting both a desire for autonomy and recognition of the need for external safeguards. Finally, participants expressed a clear interest in contributing to platform governance while remaining sceptical of their ability to effect meaningful change. Collectively, these themes illuminate the complex tensions teens face between benefit and harm, agency and protection, and participation and influence, providing a foundation for our interpretation of the design and governance implications in the discussion that follows.

### 5.1 Understanding Teen Trade-Offs in SNS Engagement

Consistent with prior literature highlighting the multifaceted role of SNSs in teen life [27, 65], our participants described SNS use as essential for social connection, identity exploration, humour, creativity, and access to information. At the same time, they frequently reported encountering content that was distressing and emotionally overwhelming. Rather than reflecting apathy or a lack of awareness, participants' accounts suggest a negotiated trade-off in which the social and personal benefits of SNSs outweigh the costs or harms. This pattern of engagement is comparable to cost-benefit reasoning in economics: participants appeared to weigh the potential harms of algorithmically recommended content against the benefits they derive, ultimately perceiving the rewards of social and personal value to outweigh the psychological cost [91]. This reasoning also shapes how participants make sense of their own engagement with RSs. Our findings highlighted that participants preferred personalisation, but they also recognised that as the algorithm became more closely aligned with their interests, it became harder for them to disengage from the SNS. Both trade-offs highlight a gap in current HCI research: while harms are well-documented and mitigation strategies are increasingly explored [1, 41, 42, 57], fewer studies examine how teens reason through the trade-offs that keep them engaged.

By reframing our understanding of teen digital experiences in terms of cost–benefit reasoning, our findings suggest the need to move beyond simplistic "positive versus negative" classifications.

Or overly deterministic accounts that frame teen engagement primarily in terms of addiction or diminished self-control [60]. Our findings point to several recommendations to support more conscious and agentic engagement without requiring disengagement from socially meaningful platforms. First, enabling users to organise content into topic-based categories can encourage more intentional navigation, reduce exposure to harmful material, and support emotional regulation. This may also limit addictive engagement by giving users greater control and reducing reliance on algorithmically optimised feeds, whilst showing users content of interest. Second, given participants' recognition of the powerful pull of personalised recommendation systems, platforms could surface alternative forms of value beyond highly engaging or emotionally charged content. Integrating mechanisms that foreground prosocial, community-oriented, or supportive content may help rebalance engagement toward experiences that better align with teens' well-being and relational goals. Finally, prompts that help users track their usage patterns, particularly in relation to mood, could support moments of self-awareness that resonate with teens' own concerns about overuse. Rather than framing these interventions as tools to "reduce addiction", prompts such as "*you have been watching content mostly related to [insert here], time for a change?*" may help adolescents reflect on whether their engagement aligns with their emotional needs and social intentions, potentially interrupting patterns of automatic or resigned scrolling. Together, these recommendations recognise that harms cannot be entirely eliminated from SNS environments. However, by engaging directly with how teens understand and negotiate these trade-offs, platforms can better support intentional, informed, and emotionally sustainable forms of participation.

## 5.2 The Tension Between Agency and External Safeguarding

A second core tension emerged around participants' desire for agency over their SNS experiences, alongside a recognition that individual control is often insufficient for managing online risks within RS architectures. Participants described actively manipulating the algorithm to shape their recommendations through curating multiple accounts, selectively engaging with content, and using features such as "not interested", "dislike", or blocking. Aligning with prior work, our findings show that teens develop intuitive understandings of how RSs function and attempt to strategically interact with them (e.g., [14, 73]). However, participants consistently described these efforts as ineffective, noting that individual actions rarely led to sustained changes in their feeds, with unwanted or distressing content frequently resurfacing. This shows that engagement-focused RSs are inherently unbalanced, prioritising implicit signals such as watch time over explicit user feedback, highlighting how responsibility for managing risk is delegated to users, while the system offers little transparency or responsiveness in return.

While participants showed a clear understanding of how algorithmically curated feeds work, they also acknowledged limits to self-regulation and wanted responsibility shared with external actors, especially parents and caregivers. Contrary to prior assumptions that teens begin to resist adult involvement as they mature [94], participants described parental guidance, age verification, and enforceable screen-time limits as valuable safeguards, especially in relation to compulsive use patterns. However, whilst prior HCI work has examined self-regulation strategies such as time-limit features [15, 50, 61, 96], participants frequently characterised these tools (e.g., *TikTok's screen-time limiter*) as easy to bypass or insufficiently integrated into everyday use. These accounts suggest that responsibility framed solely as individual self-control fails to account for the persuasive and adaptive nature of RS-driven platforms. Regarding parental involvement and external safeguarding, our findings indicate that current platform measures, such as *TikTok's Family Pairing*, though well-intentioned, are inadequate as they function alongside, rather than being integrated into RS infrastructures. Current parental controls embedded in SNSs primarily support parents in regulating time and app access, leaving the core mechanisms that shape content exposure unaccountable and unresponsive to teen feedback. Such restrictive tools have also been found to create a trust gap between teens and parents, with parental controls often perceived by adolescents as surveillance rather than protection [94]. Our findings suggest a strong tension between teens' limited ability to self-regulate and their desire for parental oversight that is collaborative rather than restrictive, favouring co-regulation.

Our findings point to three additional recommendations to support teen agency on SNSs and to re-centre parental controls within RS architectures. First, rather than relying on static explanations (e.g., "You're seeing this because…"), we advocate for adaptive transparency that provides real-time, contextual feedback about how recent interactions influence recommendations. This goes beyond existing platform explanations by enabling teens to recognise and correct misalignments as they occur, supporting participants' sense of agency. Second, although platforms provide explicit feedback mechanisms such as likes and content reporting, participants felt these signals have little visible impact. Participants also stressed that reporting tools should require low cognitive effort. Our findings, therefore, emphasise the need for feedback mechanisms that meaningfully and legibly shape recommendations at low cognitive cost, making the effects of user input visible to reduce repeated corrective labour and help rebuild trust in platform governance. Finally, as stated, our findings point to the need for shared, co-managed infrastructures for shaping recommendations, rather than focusing solely on restricting the use of apps. This includes direct feedback mechanisms to the RS with transparent outcomes, as well as platform-level protections that are difficult to bypass while remaining attentive to teens' autonomy. By distributing responsibility among teens, parents, and platforms, these guidelines move beyond individualised risk management, address tensions between surveillance and protection, and position teens as active participants in shaping safer online environments.

## 5.3 The Tension Between Wanting Engagement and Doubting Influence

The integration of pedagogical research design within a conventional focus group methodology was intended to create a supportive environment in which participants could share their experiences and perspectives on SNSs. While participation was generally high and discussions yielded rich reflections, a limitation of this study

is that we did not formally assess the method's success. Future research could improve the method by formally measuring its effectiveness, for instance, through post-study surveys assessing participant engagement and perceived value. Despite this, our findings indicate that the approach was effective in school and small-group settings, as evidenced by participants' active engagement during group discussions. However, some participants were less vocal, and the length of the sessions occasionally led to fatigue and reduced attentiveness. In particular, the "share" phase of the *think-pair-share* activity was often incomplete due to time constraints, thereby limiting participants' opportunities to engage and reflect in broader collective discussion. We believe that adjusting session length, reducing the number of discussion scenarios, or incorporating breaks could enhance participants' focus and allow for fuller completion of collaborative activities. These adjustments would help refine the method and support its broader application in similar educational contexts. During the sessions, most participants valued the structured feedback sessions for meaningful dialogue and noted that the method used for these discussions was appropriate and well-received. Participants suggested that other effective engagement channels could include school-based initiatives, focus groups, and in-app features, such as short surveys, that would integrate seamlessly into users' routines while minimising cognitive load. Unlike previous PD efforts that struggled with teen attendance [5, 53, 64, 73], our approach achieved consistently high participation, in part by aligning sessions with students' existing schedules.

Participants consistently framed themselves as legitimate stakeholders in the governance of SNS, grounding this claim in their intensive and routine engagement with platforms. This aligns with the DSA's recognition of users — particularly teens — as relevant actors in platform accountability. Additionally, participants expressed that contributing to platform governance would enhance their trust in platforms. However, our findings suggest that current DSA-oriented governance mechanisms insufficiently address how teens can participate meaningfully in these processes. At the same time, this desire was tempered by substantial scepticism regarding the efficacy of participation, doubting their contributions would meaningfully influence platform decision-making, citing profit-driven incentives and previous experiences with ineffective reporting and feedback channels. This tension reflects a *participation paradox*: teens want to be involved in governance processes, yet expect their involvement to be largely symbolic. While the DSA strengthens procedural safeguards, such as transparency reporting and risk assessments, these mechanisms primarily position users as sources of signals or complaints rather than as co-constitutive actors in governance and design. Participants' scepticism suggests that without a clearer demonstration of how user input is explicitly used, these mechanisms risk reproducing forms of tokenism long critiqued in participatory design research [47]. Echoing Davis (2020), participants reported feeling underprepared and structurally disadvantaged in governance processes [33]. Our findings extend this insight to platform governance under the DSA, indicating that participatory deficits are not only a matter of individual capacity but also of institutional design. Our findings suggest potential value in institutionalised group-based youth advisory structures — such as Youth Advisory Boards or mediated participation models — that align with DSA objectives while mitigating risks to individual minors.

## 5.4 Limitations and Future Work

This study has several limitations that should be considered when interpreting its findings. First, the number of schools involved limits the generalisability of the results. Additionally, our recruitment strategy may have introduced selection bias, as teachers were responsible for identifying potential participants. This in turn may have led to the inclusion of students who were particularly motivated or predisposed to participate positively and those who would not have been negatively affected by discussions of harmful content. Furthermore, students with significant cognitive or mental health needs were not required to participate. We acknowledge this as a limitation, as students with more pronounced cognitive or mental health challenges would also benefit from inclusion in the study. Their exclusion means that the findings may not fully capture the experiences or outcomes of this subgroup, potentially limiting the generalisability of the results to more diverse student populations.

Although self-selected groups may have reinforced existing social dynamics and increased the risk of social desirability bias - a limitation of our study - this approach prioritised participant comfort and psychological safety, which were essential given the sensitive and personal nature of the topics discussed. Over the course of our study, we observed that participants were more willing to share openly when surrounded by trusted peers. In contrast, in pre-assigned groups, participants displayed visible concerns about being judged by unfamiliar classmates or peers of different genders. Thus, while self-selection may have narrowed the range of perspectives within groups it enhanced openness and depth of discussion, supporting richer and more authentic data. As noted in the Methods section, a teacher was present during one of the focus group sessions as part of our reflexive, conversational approach to creating a safe and supportive environment. This arrangement was in line with school policy, given that we were external researchers engaging directly with students on a sensitive topic. Although we did not observe any noticeable change in the willingness of students to engage or share their perspectives, the presence of a teacher may have influenced the way students approached the discussion and, as a result, this potential limitation cannot be ruled out.

More broadly, the methodological context of conducting sessions within school environments, facilitated by adult researchers, may have further shaped or constrained youth expression. These conditions may have affected participants' comfort in sharing critical, sensitive, or unconventional views, ultimately influencing the depth and range of perspectives captured. Finally, institutional ethical requirements imposed additional limits on potentially triggering topics, potentially overly constraining the discussion and reducing the diversity of experiences represented. Despite these limitations, this study provides an initial view of how teens experience both the benefits and harms of algorithmically recommended content on SNSs, including how they actively balance risks against engaging and enjoyable material.

## 6 Conclusion

This paper demonstrates that teens are not passive recipients of algorithmically curated social media, but active and critically aware users who continuously negotiate the benefits and risks of recommender systems. Through a participatory engagement study, we foregrounded teens' lived experiences of social networking sites, revealing how they balance social connection, entertainment, and learning against exposure to harmful content, compulsive design features, and limited mechanisms for meaningful control. While participants demonstrated considerable agency in attempting to manage their feeds, they consistently encountered structural limits imposed by engagement-driven platform architectures. These findings have particular relevance in the context of the EU Digital Services Act, which introduces new obligations for platforms around transparency, risk assessment, and stakeholder engagement, including consultation with groups affected by systemic risks. Our study offers an empirically grounded example of how teens can be meaningfully engaged as stakeholders in ways that align with the intent of the regulation. By integrating participatory and pedagogical methods into school settings, this work contributes practical insights into how DSA-aligned engagement might be operationalised in age-appropriate, ethical, and scalable ways. We argue that centring teens' perspectives is not only beneficial for safer recommender systems, but crucial for ensuring that regulatory frameworks like the DSA lead to real-world improvements — guaranteeing that those most impacted by these systems have a genuine seat at the table.

## 7 Selection and Participation of Children

All study procedures were approved by the Institutional Review Board (IRB) at the first author's institution, all members of the research team were Garda vetted, and the first author additionally completed Tusla's[5] Children First training. Participants were recruited through collaboration with CyberSafeKids[6] and professional and prior working relationships with secondary schools located in the west and south-east of Ireland. Teachers who expressed interest selected their classes for participation, confirming that students were in Transition Year and aged between 15 and 18 years. In consultation with teachers, students who might be more vulnerable to potential challenges from the study, for example, those with significant cognitive or mental health needs, were not required to participate, so as to avoid causing avoidable distress. Information about the study, along with participant assent were distributed and collected either digitally or in person using an information sheet and assent form prior to the study. Parental or guardian consent was also obtained before the study commenced. Selected classes were invited to take part in a focus group lasting approximately two hours. The study was designed in collaboration with a secondary school teacher, a youth mental health expert, and two researchers with extensive experience in human–computer interaction and health research. All procedures were explained to potential participants prior to their participation, including the voluntary nature of participation, the study length and the ability to end participation at any point during the study. Additionally, the procedures in place to ensure the confidentiality of their participation were also explained. Participants did not receive financial compensation; however, one school travelled to the host university to take part in the workshop, and as a token of appreciation, participants were offered a campus tour and lunch vouchers for the university restaurant. Participant information was kept confidential and was accessible only to researchers listed on the IRB protocol. To protect participants' privacy, all identifiable data were removed and anonymised prior to analysis. Following the write-up of this study, a copy of the study's outcomes and findings was given to the teachers of participating schools.

[5]The Irish Child and Family Agency

[6]CyberSafeKids is an Irish charity dedicated to promoting safe and responsible internet use among teens.

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