



From Inquiry to Impact

Reflections on an ARC PhD Path

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Algorithms of Emotional Turbulence

A Grounded Theory Approach to Exploring Younger
Adolescents' Perceptions of Algorithmically Curated
Social Media Platforms

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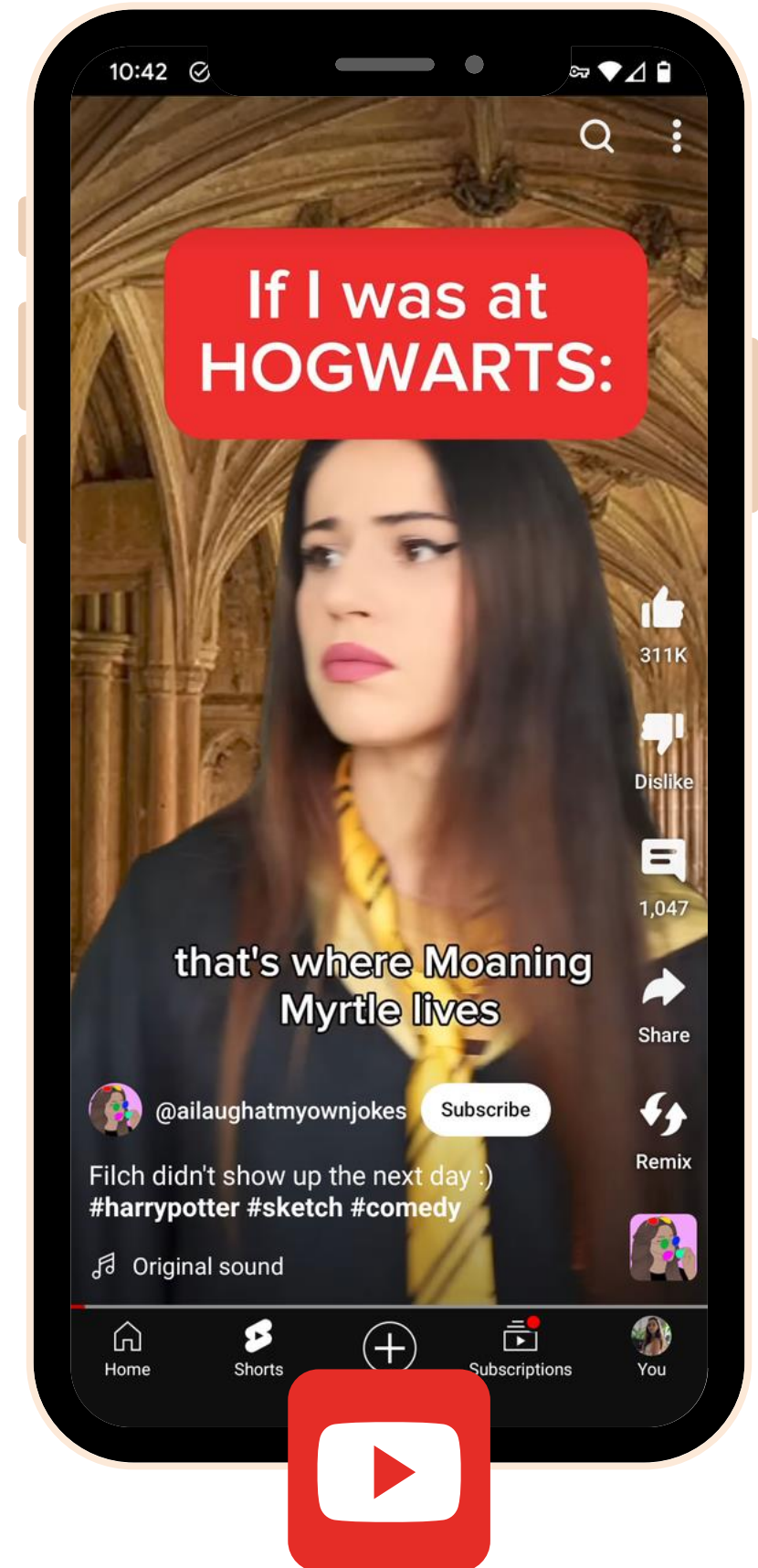
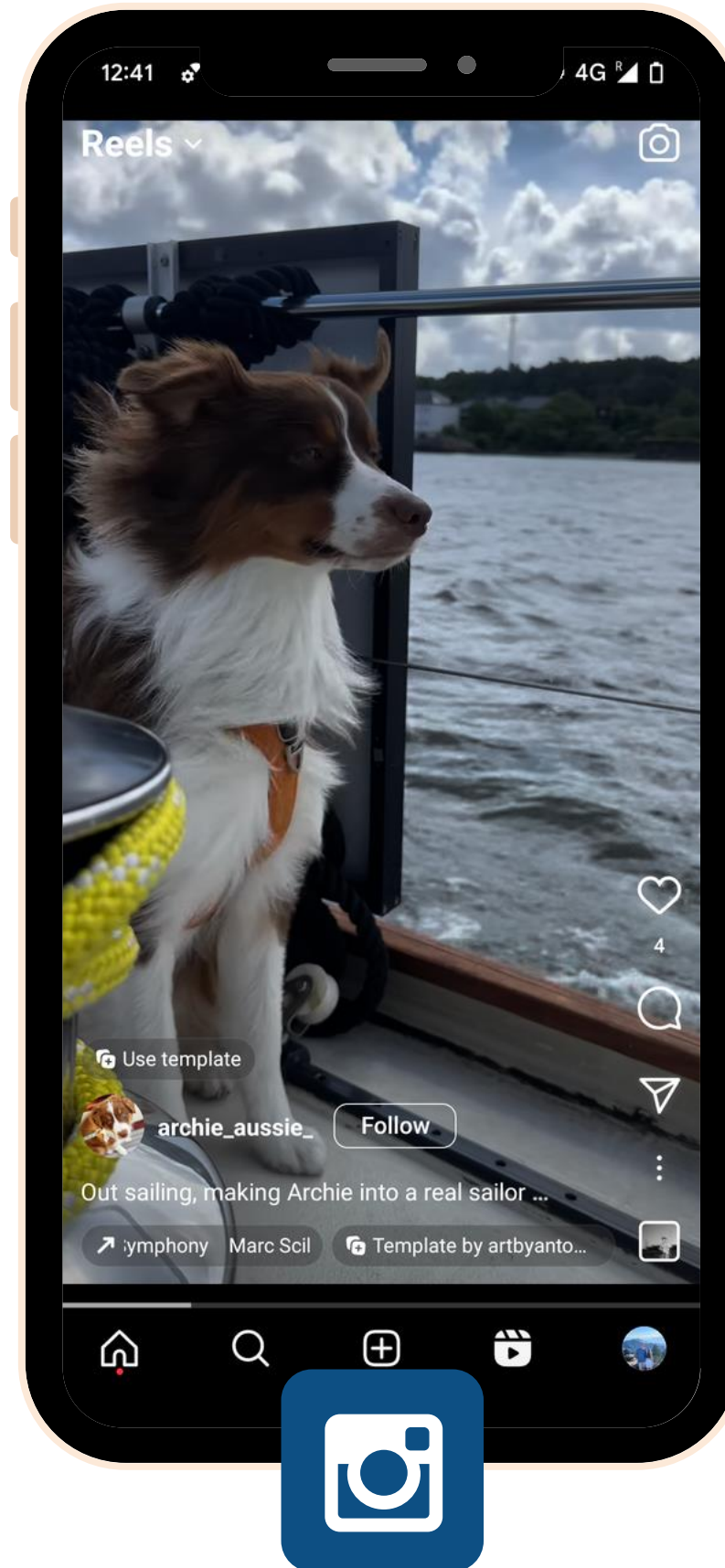
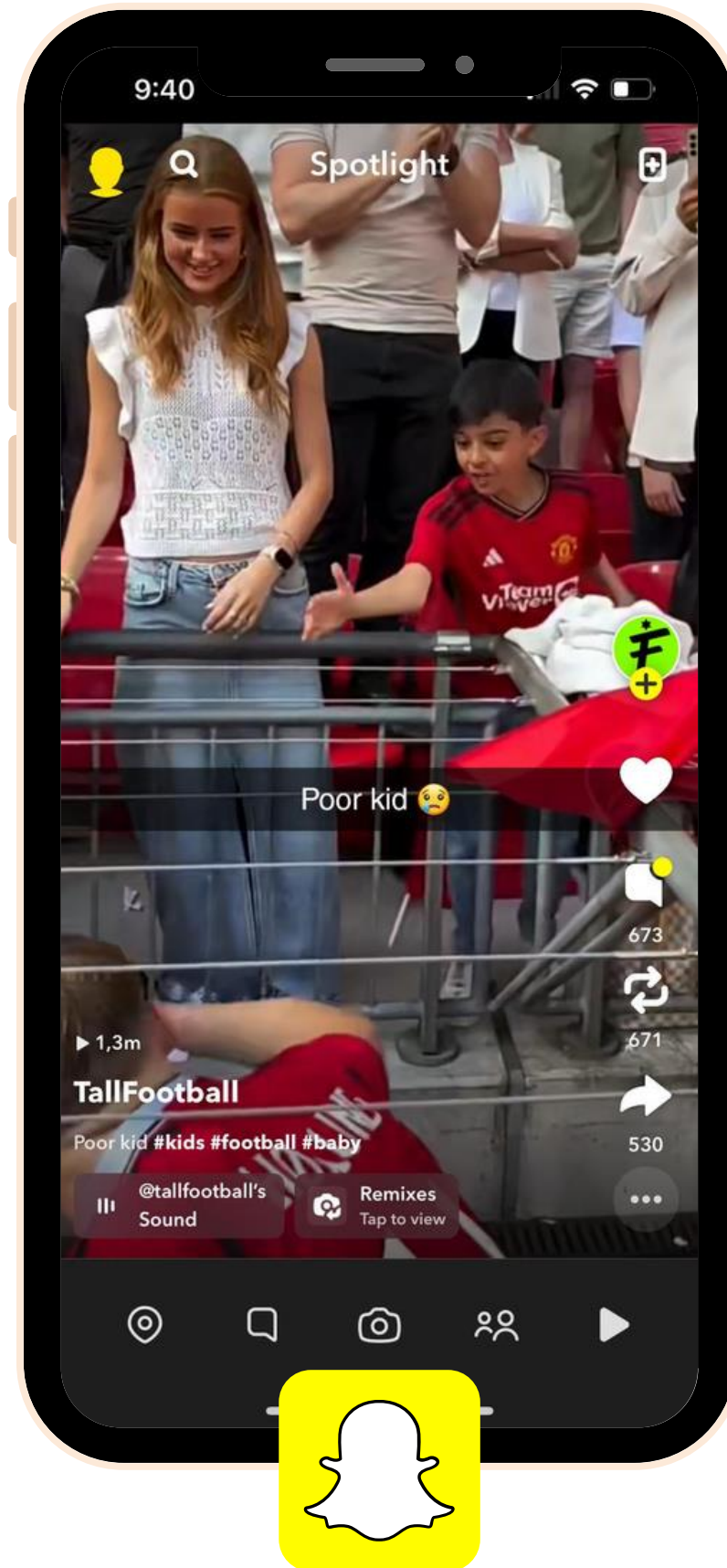
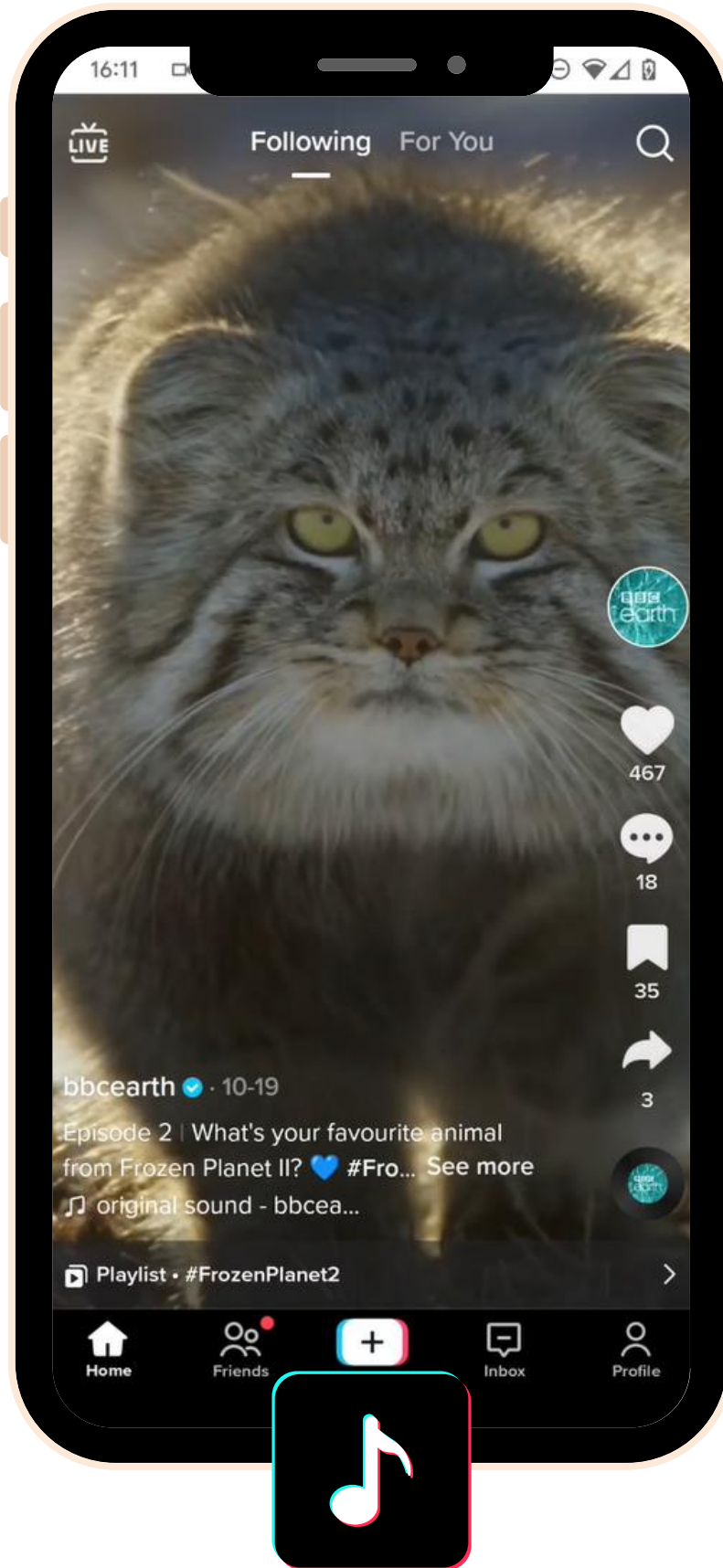
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You can have the funniest and happiest video and then you scroll a couple times and it's the saddest, meanest video you've ever seen. And it's just. It's a **sudden mood change**. And yeah, it's quite sad in some areas.

Girl, 13

Algorithmically Curated Content



Background and Rationale

- Interactions between social media use and adolescent mental health are **complex** (Odgers, 2024)
- Substantial biological changes in the brain make early adolescence a **sensitive period** (Blakemore & Mills, 2014)
 - Development dependent on various complex factors, experiences and surroundings (Bronfenbrenner, 1979)
- Increased public discourse around social media's impact on young people's mental health
 - Existing research is showing **mixed associations** (Hancock et al., 2022, Orben, 2020, Valkenburg et al., 2022)
- Crucial to investigate the **various facets** of social media influence on adolescent development from a public mental health perspective



Overarching Research Questions

- 1.** How do younger adolescents (aged 11-13) use algorithmically curated social media platforms?
- 2.** What feelings do they associate with algorithmically driven platforms and how do they perceive them?
- 3.** Do younger adolescents identify harmful triggers and opt for self-regulation strategies?

How TikTok Serves Up Sex and Drug Videos to Minors

YouTube Leads Young Gamers to Videos of Guns, School Shootings



YouTube says it delivers 'responsible' video recommendations. But its algorithms steered accounts for young gamers toward content on guns, school shootings, and a serial killer.

Barry et al., 2021

Bloomberg

• Live TV Markets Economics Industries Tech Politics Businessweek Opinion More

Social Media Safety: Sextortion Scams | Can Lawsuits Help? | A Parent's Guide

Screenshots from videos in Chase Nasca's feed in early 2022. Source: Social Media Victims Law Center

Businessweek | The Big Take

TikTok's Algorithm Keeps Pushing Suicide to Vulnerable Kids

Carville, 2023

Tech Transparency Project, 2023

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Algorithms

- Recommender algorithms are built to **keep users engaged** with the platform by continuously suggesting personalised content (Melville and Sindhvani, 2011)
- Can lead to an exposure of **potentially harmful** content

“

In computer science, the algorithms driving social media are called recommender systems.

*These algorithms are the engine that makes Facebook and YouTube what they are, **with TikTok more recently showing the power of an almost purely algorithm-driven platform.***

Narayanan, 2023

“

I think it's really clever how it works, but it's also quite bad how it does work sometimes because I think if you watch a video from start to finish fully, it would assume that you like that content and then it would start to show you more of it, which in quite a lot of cases isn't the case. So, I think that's got quite a big role in what you see because **it's not always what you like.**

Girl, 13

“

He [Andrew Tate] keeps on popping up everywhere. I do not want to watch this guy. [...] and I'm like, why is this on the Internet? Why?

Why is this coming from stuff that is like, recommended for me? Because I'm eleven years old. Why is this stuff – like I've also logged in on YouTube with like a child's account.

Non-binary adolescent, 11



Study Design

- Qualitative research, framed by **constructivist grounded theory** (Charmaz, 2016)
- Semi-structured interviews with adolescents aged 11-13, making use of **photo elicitation** (Leonard and McKnight, 2014):
 - Qualitative research method that involves the use of visuals to stimulate discussion and reflection
- Participants are asked to bring **visuals** (screenshots or recordings) of things that evoke strong feelings or reactions in them during their time online
 - Visuals prompt conversations and help in exploring participants' social media use and experience
- Reflexive thematic analysis (Braun and Clarke, 2021) to identify **patterns** and determine **themes**

Participants

- **19** participants
- **38** one-on-one interviews
- All participants were active on **at least one** algorithmically-driven social media platform and owned their own smartphones

Gender

Male	9
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Female	9
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Non-binary	1
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Age

11	5
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12	4
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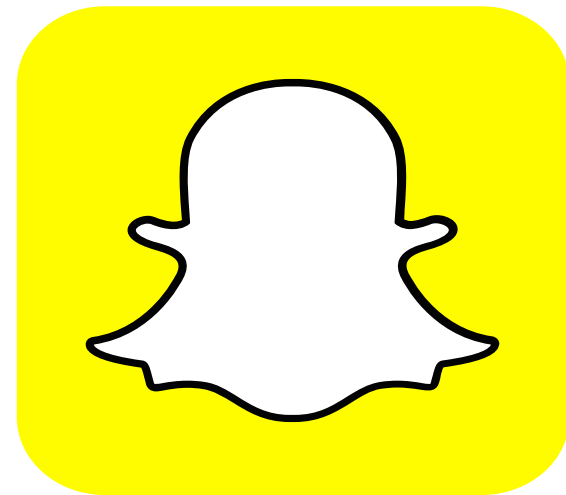
13	10
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Most Used by Participants



79%

15 out of 19



68%

13 out of 19



53%

10 out of 19



42%

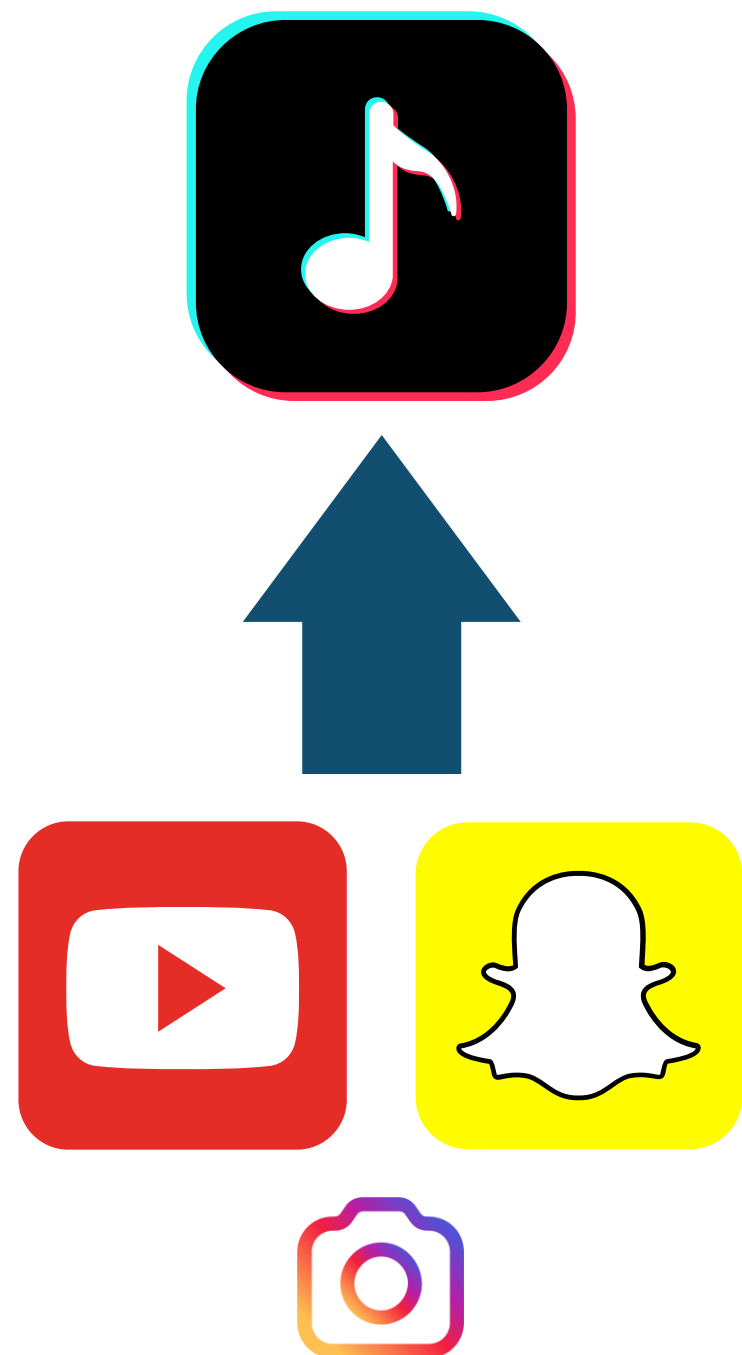
8 out of 19



32%

6 out of 19

Emerging Findings – Short Form Video Hierarchy



“

I don't really use spotlight. I mean **when I didn't have TikTok**, I used YouTube Shorts because it was very similar.

Girl, 11

Yeah, on spotlight. I don't really go on there because there's no need to because **that's kind of TikTok's job.**

Boy, 13

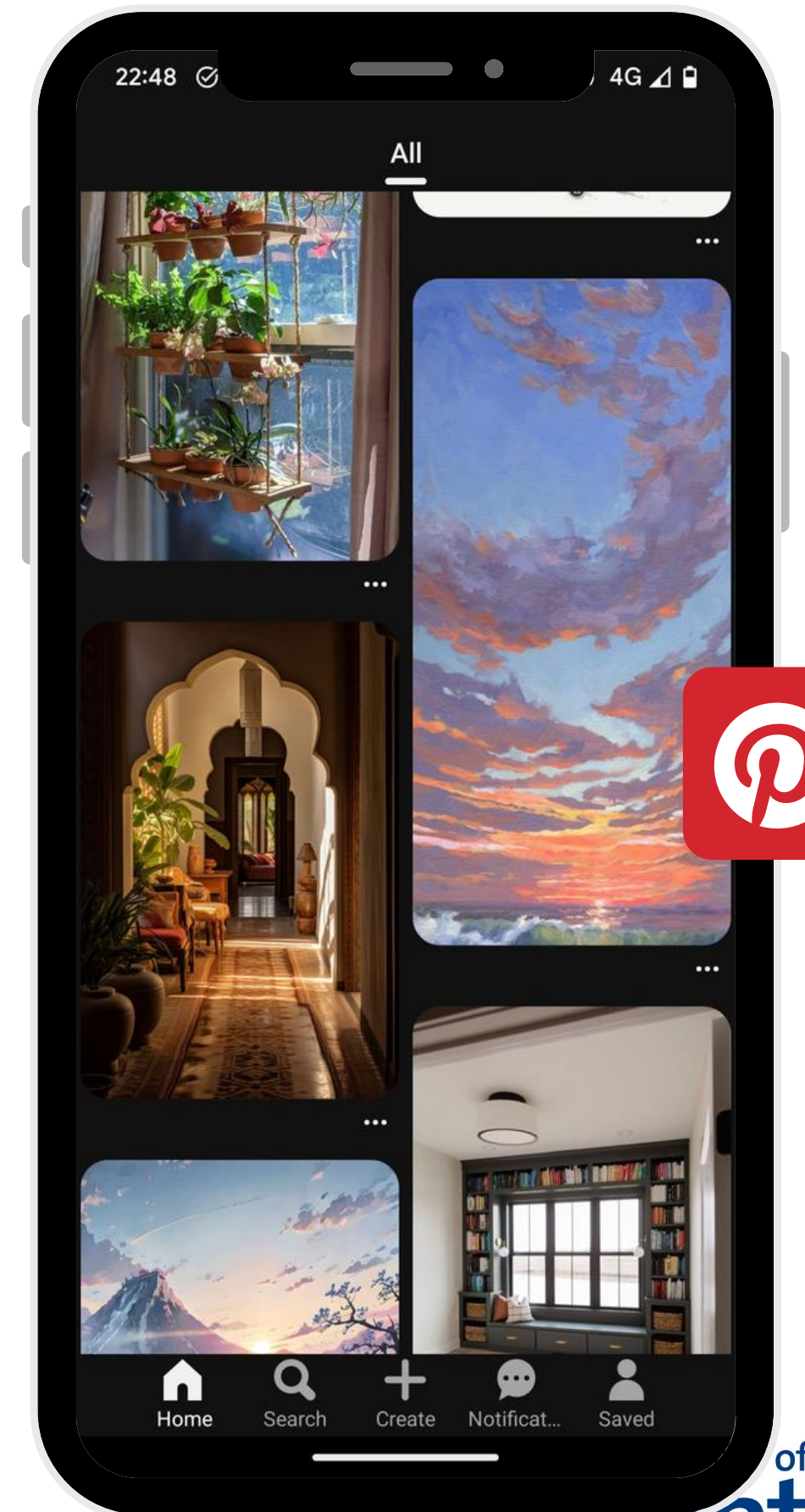
Algorithmically Curated Content



[...] and TikTok gets posted onto Instagram, YouTube Shorts, Snapchat Spotlight, things like that.

Emerging Findings – Pinterest

- Seems to lead young people to do things **outside of social media**
- Perceived **differently** than other algorithmically curated platforms
 - While other algorithmically curated platforms were associated with mixed feelings, Pinterest was overwhelmingly associated with feelings of **comfort and ease** as well as **creativity**
- Used by many younger adolescents, especially girls, yet **not widely recognised** in social media related research



Pinterest

Associations

enjoyable relaxing
uplifting **inspiration** happy
artsy
nicer **nice** annoying
funny **good** **creative**
abstract
positive **inspirational** pleasant
exciting interesting undramatic
entertaining

TikTok

Associations



A word cloud of associations for TikTok. The words are arranged in a roughly circular shape. The most prominent words are 'confused', 'scary', 'annoying', 'boring', 'interesting', 'happy', 'addictive', 'entertainment', 'good', and 'funny'. Other words include 'inappropriate', 'horrible', 'dangerous', 'messy', 'educational', 'awkward', 'upset', 'addicted', 'relaxing', 'irritating', 'disturbing', 'sad', 'awful', 'awesome', 'upsetting', 'isolating', 'difficult', 'hate', 'annoyed', 'relatable', 'excited', 'wholesome', 'distraction', and 'uncomfortable'. The words 'good' and 'funny' are highlighted in orange, while the others are in black or grey.

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Emerging Findings – Self Regulation

- Some participants **identify harmful triggers**
- Consciously or subconsciously put **strategies** for self regulation in place
- Others **seek out parents** for support
- There is a spectrum of reflective and self regulatory behaviours in this context



And you're like, where's time gone?

That really happens to me though, because I'm like, I don't know why - **I'm quite aware that I'm doing that and I don't want to be doing that**, but sometimes it just happens and you get sucked in.

Boy, 13



On TikTok [...] you can watch videos of people that you follow and videos of anyone on the platform, and sometimes I would scroll on the one where you can see anything and you'd see things that you don't want to see.

So now that whenever I do go on TikTok, I go on to the *Following* one, **so I can only see things that I want to see.**

Girl, 13



I was really upset because you obviously don't want to see an injured dog or cat or anything but then.

I kind of questioned why would someone post that if they know it's gonna make people upset and they just want it for the likes.

And I was actually talking to my parents about it, **because that's just in my head then, and I don't want to think about it.**

Girl, 13

Implications for Policy and Practice

- Educational Policies
 - Comprehensive curriculum integration
 - Parental support
- Mental Health Practices
 - Societal rather than individual issues
 - Early interventions
- Social Media Regulations
 - Age-appropriate content
 - Design with young users in mind
- Implementation Strategies
 - Youth involvement is key
 - Optimising digital ecosystems rather than prohibiting
 - Further research and evaluation



Tech firms must tame toxic algorithms to protect children online

Published: 8 May 2024

- Ofcom sets out more than 40 practical steps that services must take to keep children safer
- Sites and apps must introduce robust age-checks to prevent children seeing harmful content such as suicide, self-harm and pornography
- Harmful material must be filtered out or downranked in recommended content

Tech firms must act to stop their algorithms recommending harmful content to children and put in place robust age-checks to keep them safer, under detailed Ofcom plans today.

Ofcom, 2024

'I don't really wanna consume his content': what do young Australian men think of Andrew Tate?

Published: July 1, 2024 9.12pm BST

Keddie, Rose and Flood, 2024

STUDENT WELL-BEING Q&A

When Social Media and Cellphones Are Lifelines to Kids Who Feel Different



By Arianna Prothero — July 12, 2024 4 min read

'It stains your brain': How social media algorithms show violence to boys



Cai says violent and disturbing material appeared on his feeds "out of nowhere"

Marianna Spring

BBC Panorama

2 September 2024

BBC, 2024

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EdWeek Research Centre, 2024

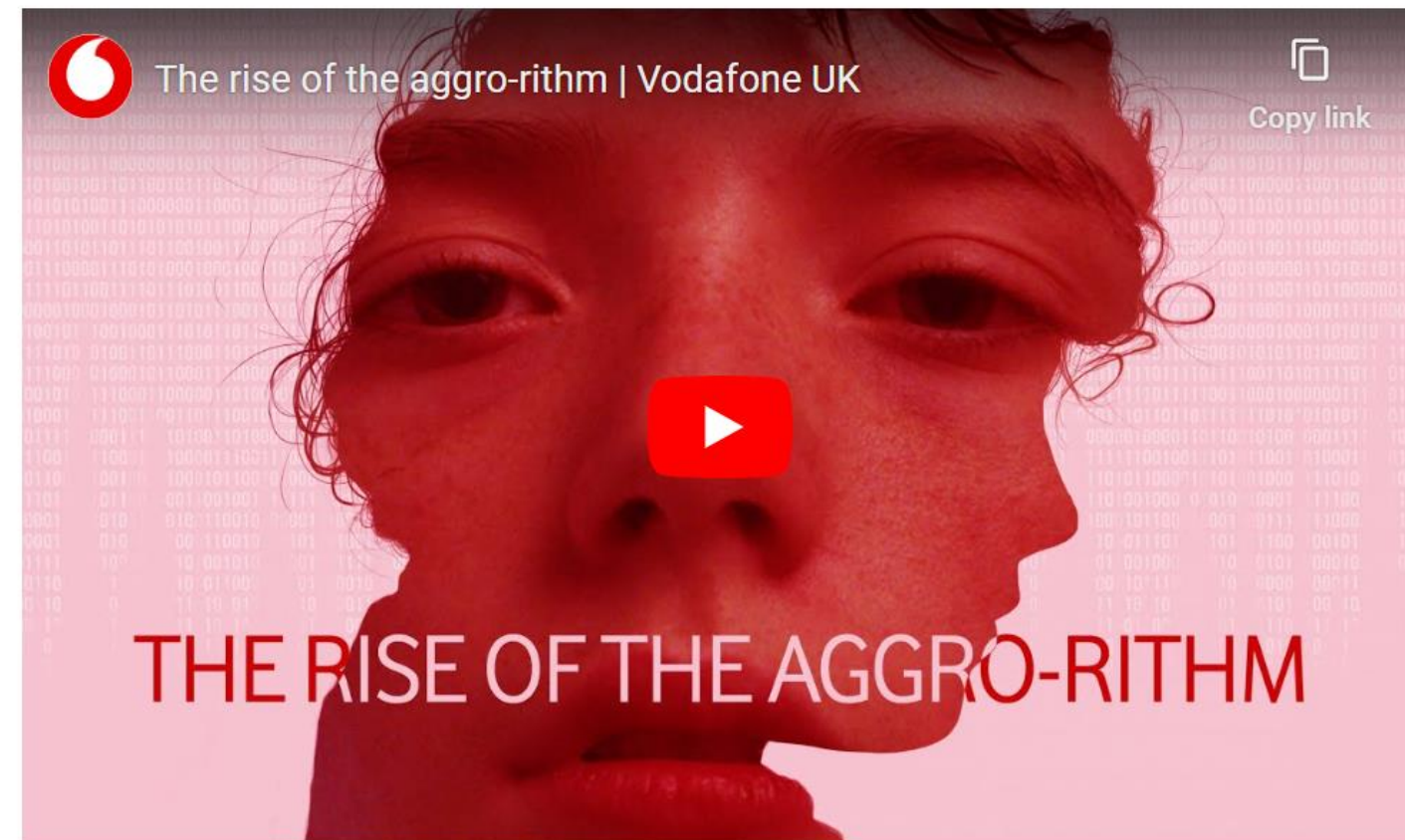
Research Impact



PRESS RELEASE | 06 FEB 2024

AI 'Aggro-rithms': young boys are served harmful content within 60 seconds of being online

BY PRESS OFFICE



"69% of boys have been served content that is negative about women and girls without looking for it"

Global Action Plan and Vodafone, 2024





And I still think it's sad that TikTok is on every other platform that you go on.

But you can't really stop that. So that's definitely why I've cut down on my screen time.

I've generally genuinely felt better for it because you feel like you're actually doing stuff that is proactive and productive and **your mind just feels clearer.**

Girl, 13

Thank you



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