



Digital Nutrition: rethinking digital literacy

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Executive summary

The recent global spotlight on the impact of smartphones, social media and the wellbeing of young people, has highlighted how young people's digital experiences are now woven into the fabric of their day-to-day experiences, yet many lack of support they need to navigate their online worlds. In particular, how adults in their lives are unfamiliar with the platforms, processes and behaviours that young people engage in. To bridge this information gap between parents, teachers and pupils, digital education is now critical to tackle the global challenge of misinformation and harm while safeguarding young people's rights in digital spaces. Without widespread digital literacy, efforts to regulate and mitigate online harms will be ineffective, reinforcing existing power imbalances between users and platform operators.

This report follows on from our 'Safer Scrolling' report (published by ASCL in 2024) addressing our recommendation for the need for a holistic approach to digital literacy. Our research highlights that schools are currently insufficiently supported to deliver digital education, and as such digital education is not meeting the needs of young people, nor preparing them

for the digital worlds that they emerge into as adults. Teachers feel overwhelmed, playing whack-a-mole with continually emerging types of online harms. Young people themselves feel left out of conversations about smartphone restrictions and often find digital education inapplicable to their own experiences.

Throughout our research, young people explained to us the tensions in their digital relationships. At the heart of their experiences was their need for communication which was central not only to their sense of **community** but also extended to their **education** and **safety**, which their digital experiences both afforded and threatened. Young people's complex and nuanced experiences with smartphones are a valued social resource, but also mandated by adults in relation to their education and safety. This means that widely accepted guidance around screen time and risks limits falls short of addressing these complexities.

In this research, we have conducted work with over 120 young people from across the country to explore their digital experiences and to determine the knowledge gaps in digital education. We asked young

people what they feel they need from digital literacy education and co-created the concept of 'digital nutrition' with them. Our approach emphasises the balance between identifying risk and providing guidance in a way that that empowers young people to take control over their relationship to technology. Young people's experiences, as represented in this report, highlight how current policy directions, including bans, do not preclude the need for digital literacy which takes young people's views into account and prepares them for their online futures. Following our research, we recommend the following approaches for transforming digital literacy, which is now critical to tackle the global challenge of misinformation and harm and protect young people's rights in digital spaces.

1

A 'Digital Nutrition' approach can empower critical digital citizenship

This research has highlighted how a Digital Nutrition approach to digital literacy can enable critical thinking about what healthy consumption might look like. These exercises encourage people to move away from being a passive product into being an active participant. This approach also seeks to empower communities – schools, parents, societies - in order to break down the idea that digital harm is a siloed, individual problem, instead moving towards empowered, active and critical digital citizenship.

2

Make space for holistic approaches to digital education within the curriculum

Approaches that focus on, and enforce, abstinence from online environments without digital literacy are likely to be less effective in building long term awareness and healthy behaviours. A key part of digital education should be to develop a deeper understanding of algorithms and the structural forces that shape digital consumption. The framework

provided in these resources can enable an approach to digital literacy that both emphasises the scale of digital harm, whilst also recognising its importance for young people as they grow up in a digitised world. This can empower young people to take charge of their digital relationships whilst educating them about the processes of algorithms and data protection.

3

Greater integration of young people's voices in digital education

Digital literacy is not meeting the needs of young people, because it often fails to match their current online experiences, which are developing at a greater speed than curricula can keep pace with. Young people need to feel empowered to take charge of their digital relationships and existing youth voice structures within schools can support this through steering groups for digital curricula consultation. Our digital education framework also supports critical thinking and active choices, allowing young people to draw on this when they inevitably encounter new digital experiences.

4

Digital literacy needs to include parents, teachers and the wider public

Digital literacy is not just for children, and schools cannot tackle this problem alone. Our data highlights how young people are frustrated at the digital illiteracy of adults. Guidance frequently signposts young people to trusted adults, meaning that poor public and parental digital literacy increases young people's vulnerabilities if things go wrong. Holistic support, which takes a public health approach to digital literacy and empowers educators and caregivers is critically needed



Background

Digital policymaking and education

In Spring 2025, Ofcom will begin to enforce the Online Safety Act in the UK, which places a legal responsibility on tech companies to prevent and remove illegal content. It has been heralded as a watershed moment for the protection of children online (NSPCC, 2023) and it comes within the context of heightened cultural debate about social media, smartphones and the wellbeing of young people (Odgers, 2024). However, increasingly, advocates are sceptical about the effectiveness of these protections (Nash & Felton, 2023; McGlynn, C. et al. 2024; Woods, L. and Antoniou, A. 2024). For educators, parents, policymakers and researchers, the OSA leaves many issues unaddressed regarding the global challenge of misinformation and harm. In particular, how can we support young people's development in a way that preserves their digital rights, fosters their independence and creativity while also protecting them from harm?

There are numerous ways in which online spaces currently fail to meet young people's right to a safe digital experience, and there are significant concerns

that the Online Safety Act will do little to rectify this. Work undertaken by members of this research team have highlighted how harmful, toxic misogyny content is both normalised and gamified on TikTok (Regehr et al., 2024), as well as the proliferation of peer-to-peer Image-Based Sexual Abuse (IBSA) among young people online (Ringrose et al, 2021; Ringrose et al, 2022; Ringrose & Regehr, 2023). Research by Amnesty International highlighted how algorithms increase exposure to self-harm material (Amnesty International, 2023), and the Children's Commission found that those who were frequent users of pornography were more likely to engage in sexual violence (Children's Commission, 2023). In evidence given to MPs in February 2025¹, executives from Meta and X admitted that that the 'systems and processes' that the OSA requires would have made little difference in their responses to significant spread of misinformation online that fuelled rioting across the UK in July 2024. At the same time as the implementation of the OSA, changes to online platforms to remove independent fact-checkers have raised even greater concerns regarding the safety of online platforms.

The journey of the Online Safety Act and other unsuccessful bills² in parliament highlights the complexity of digital policy making and implementation. Calls for smartphone bans in schools and the raising of the age of digital consent consistently make national headlines, and there is strong public pressure for urgent policy responses to address online harms³, as well as its perceived links to the crisis of rising adolescent mental health problems. So far, the decades of outrage and 'calls for action' regarding online harms, such as children's easy access to violence, self-harm material or extreme pornography, have been met by limited change.

In March 2025, the UK Secretary of State for Education announced further scrutiny of the guidance for schools on smartphone bans in order to understand their effectiveness. International examples have highlighted the need for evidence-based interventions to ensure their efficacy. For example, recent legislation in France to ban social media access to young people under 15 resulted in almost half of users avoiding the ban by using VPN. Others admit they will not provide a blanket solution, with Australian Prime Minister Anthony Albanese

acknowledging (in reference to the proposed ban on under 16s on social media) that ‘we don’t argue that implementation will be perfect.’ Additionally, an emphasis on prohibition also absconds the social media companies of their responsibilities to prevent harm, and could as Candace Ogder (2024) notes, ‘backfire given what we know about adolescent behaviour’, driving those most vulnerable into further unregulated, darker corners of the internet whilst discouraging open communication with adult supports.

As a result, critical conversations about the moderation of phone use needs to be supported by digital education.

Yet, moderation of smartphones doesn’t account for usage on other Internet connected devices, such as tablets and laptops. Research by Ofcom (the UK’s Office of Communication, 2020/1) has shown 67% of three-to four-year olds use a tablet to go online. A Pew Research Centre study (2020) found that 89% of parents of a child aged five to eleven say their child watches videos on YouTube – a platform not often considered as social media, and which for example is not included in a proposed ban on social media in Australia for under 16s, but which can share much of the same content as social media platforms, as content creators post across platforms to maximise their reach. Work by Ofcom has also

shown that, despite the existing 13+ restrictions on social media, **25% of 5-7 year-olds are already on TikTok**, suggesting that the current age controls are highly ineffective (Ofcom, 2024), and that there is a gap in parenting education regarding the suitability of these platforms for young children.

Digital usage and wellbeing

The complexities of the issues around digital literacy and policymaking are often obscured by the heightened cultural landscape regarding social media impacts. Public perceptions of the impact of social media are overwhelmingly negative. Polling over the last year has consistently shown that the UK public regards social media as detrimental to young people’s mental health and their focus as well as disrupting peer relationships (More in Common polling, 2025). As Lord Darzi’s (2024) recent report into the NHS notes, it is unlikely that the distinctive rise in mental health concerns among young people is ‘wholly unconnected’ to social media, but there is hesitancy among many researchers to make this direct causal link. Instead, research has highlighted that the influence of phone/social media use on wellbeing is a multifaceted and highly nuanced, and dependent on the way that young people interact with digital media (Odgers, 2024).

This evidence will likely strengthen as research tools to measure social media usage improve⁴. We know that certain behaviours, or vulnerabilities may put young people more at risk (Odgers and Jensen, 2019). Very high and problematic smartphone use have been associated with greater anxiety, depression and poor sleep (Carter et al., 2024; Khan et al., 2022). Przybylski et al. (2020) also found that the associated links between digital technology use and wellbeing also have a ‘u-shaped’ relationship, with poorer wellbeing outcomes for those at either extremes – either very high, or very low digital screen engagement. As Elmer et al. (2025) found, those who already suffer from loneliness are likely to be more negatively affected by smartphone use. Those who may already be suffering from existing mental health concerns are more likely to access negative content (Underwood & Ehrenreich, 2017). In contrast, those with more offline resources and networks, such as supportive families and strong friendships, tend to engage more with online messaging and digital social activity that spans online and offline contexts (Lee, 2009). Research (which is supported by the data which informs this report) also demonstrates the positive uses of social media, such as finding online communities who share similar interests, maintaining social networks, learning about health-promoting behaviors or expressing creativity (Naslund et al., 2020).

Smartphones can be particularly important for asylum-seeking children for staying connected to family, or for children in care⁵ and for those who need to access services like Childline or the NSPCC.

The case for digital literacy

Mitigation of use and questioning one's dependence on technology is important. Most schools now have some form of smartphone policy. However, these discussions do not fully address a) how to educate and support young people to navigate digital spaces and b) how to hold social media companies to account about the ecosystems they have created which allow hate, harm and misinformation to thrive on their platforms. Both parents and teachers have highlighted the need for more supports for young people as they navigate their digital worlds. A review of current supports as part of these resources found extensive curriculum guidance that focused on limiting time on apps and preventing access. Yet, the continually developing policy landscape, and the nuances and challenges in this area therefore point more widely to the need for digital literacy, no matter what the regulation or legislation comes into force (or not.)

Digital media scholars (Fuchs, 2021) have highlighted the need for an understanding of technology use among young people that examines the hybrid ecosystems of digital engagement and the affordances of different digital technologies. Much of the public and policy debate in this area has focused on the identification of casual harms, and tracing direct links, instead of considering the social functions of young people's digital lives. As we see on social media, there are a plethora of factors which are driven by the affordances of the platforms themselves. These relate to the changes in personal relationships: interpersonal and romantic via the use of stereotyped sexual scripts, the commercialisation of self, issues of digital labour, youloops and the lack of spontaneous cultural inputs. As Nesi, Choukas-Bradley, & Prinstein (2018) have noted, social media has transformed not only 'when and how adolescents socially interact with peers, but also the meaning and impact of social interactions online and offline'. Young people now co-create their online environments to address basic developmental needs, including identity formation, peer connection, and autonomy (Granic, Morita and Scholten, 2020), and are

positive about the role of online communities to make them feel understood (RCPCH, 2019). Policy and practice approaches that ignore this reality will fail to prepare young people for the digital worlds in which they live.



¹ In oral evidence to the Science, Innovation and Technology Committee in February 2025.

² E.g. Protection of Children (Digital Safety and Data Protection) Bill proposed by Josh McAllister in 2025.

³ Examples such as Molly Russell.

⁴ Difficulties in understanding the impact of digital technology have been in part, due to the 'conceptual and methodological mayhem' of measuring screentime and social media usage, (Kaye et al., 2020). Although some significant negative associations between digital technology use and well-being have been found (e.g. Twenge 2019, Khan et al., 2022), results often only show small effect sizes (Orben & Przybylski, 2019; Tang et al., 2021).

⁵ E.g. Mind of My Own App enables children to communicate and flag concerns directly with a social worker if they feel unsafe in care placements or settings.



The diagram illustrates a digital marketing funnel with five stages, each with specific goals and associated icons:

- Awareness:** The goal is to make the target audience aware of the brand. Icons include a megaphone, a lightbulb, and a person with a speech bubble.
- Consideration:** The goal is to make the target audience consider the brand. Icons include a magnifying glass, a person with a speech bubble, and a person with a checkmark.
- Conversion:** The goal is to convert the target audience into customers. Icons include a shopping cart, a person with a checkmark, and a person with a speech bubble.
- Retention:** The goal is to retain the customers. Icons include a person with a checkmark, a person with a speech bubble, and a person with a checkmark.
- Advocacy:** The goal is to turn customers into brand advocates. Icons include a person with a checkmark, a person with a speech bubble, and a person with a checkmark.

Surrounding the funnel are various digital marketing icons and a smartphone displaying a social media feed. At the bottom, three red speech bubbles contain text in Hindi:

- Left:** "Brand Awareness" (ब्रांड एवरेज)
- Middle:** "Conversion" (कन्वर्शन)
- Right:** "Retention" (रेटेंशन)

Our research participants were given a set of suggest categories or typologies of usage — Participation, Creativity, Communication, Education and Passive, alongside two boxes of ‘Unhealthy and ‘Toxic’

— and a collection of digital applications and activities (e.g., TikTok, YouTube, online learning platforms, messaging apps, etc.). Students were then asked to break the typologies of usage into an Eat Well plate format suggestion of what percentage of their on-screen activity should be dedicated to each in order to make a healthy digital diet. Simulations group discussions emerged around their own digital habits. In this interactive activity, students explored their digital habits by creating Using their own experiences, students sorted each application or activity into the category they believe it fits best⁶. The goal was to encourage reflection on their digital consumption and spark discussions about balance, wellbeing, and mindful technology use. The data collected as part of these workshops consisted of both visual and audio materials, which were then analysed using thematic analysis (Braun and Clarke, 2022). Two members of the research team independently reviewed and coded the data to ensure reliability and depth in the findings.

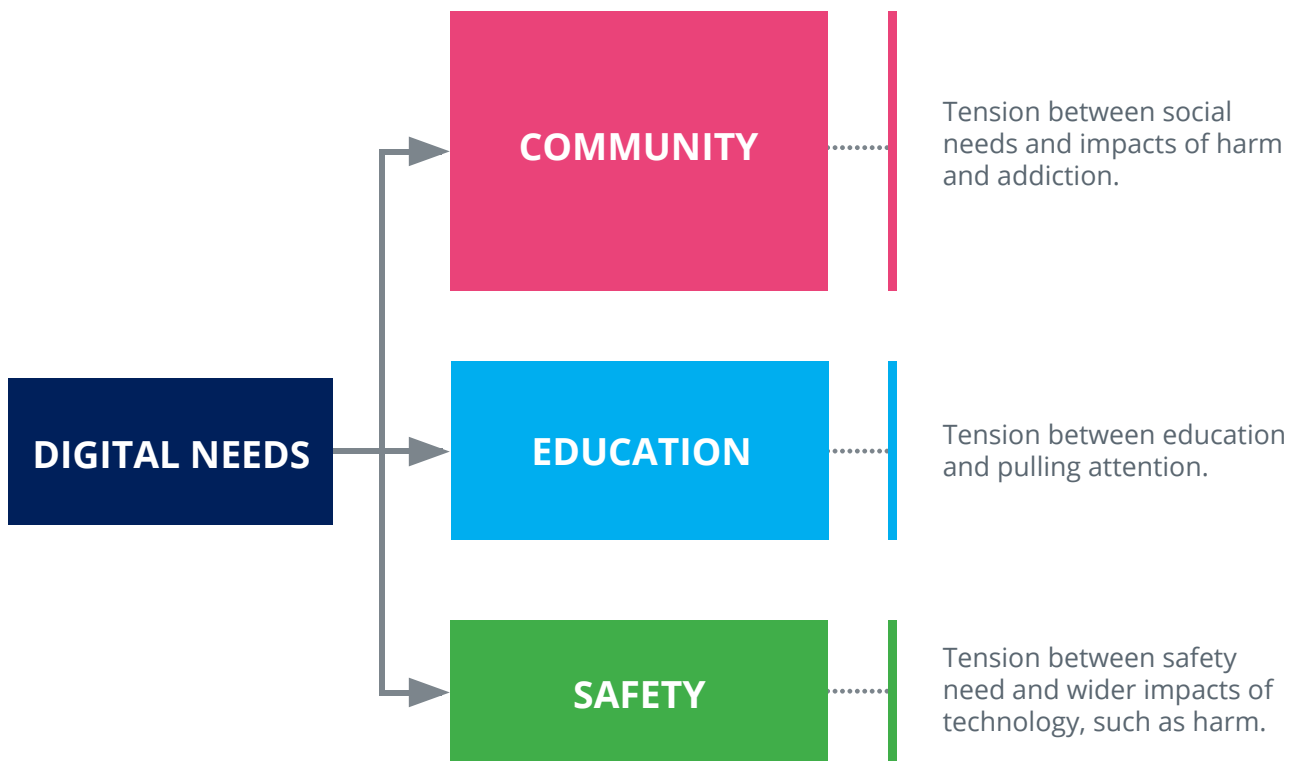
Young people's digital needs and experiences

1 Digital needs: safety, education and community

In their descriptions of their digital experiences, it was evident that young people's digital needs are paradoxical – consistently in tension between positive and negative patterns of use. We heard how access to Community, Education and Safety were central parts of their digital usage, and this triad

often sat at the cornerstone of the argument for having a phone. Through all three themes, tensions surface between the value of positive online interactions; keeping them safe (and trackable), supporting their learning, and nurturing their social communities, and the inevitable

capacity for harm that unregulated digital environments present in all these areas. As the diagram below highlights, these were increasing in prominence as to their relevance (with community and the social needs being the highest priority for young people).



Healthy communities

Throughout our work with young people, the role of digital devices as a way to support their social needs was the strongest theme. They described rich and positive online communities, which were full of continually evolving jokes, memes and memories. They saw it as a critical way to be with their peers, and this took multiple forms, including socialising with friends, sharing media and developing their sense of shared identity. In their descriptions, healthy online communities primarily took the form of low-risk interactions, that were private and active on part of user, such as family and friends or those known to them in the community: "I think it adds to the social environment, because you meet more people than you would otherwise. Like my friends add other people as well. You have their friends as well." Or "Smartphones bring us together, my family live in India, far away. I get my smartphone to talk to them".

Personal social medias had equally become a way to document those communities: "I have like lots of memories on TikTok. I've got videos of when I was just like with my friends. I don't know, I just don't want to lose it." Others described social routines between friends such as collecting memories "She's like, "Does anyone have any photos from this week?" and if it's a really funny photo, I'll send it...and then I'll put a song that matches with that week. That's what I try to do, a song that

we've listened to a lot or that sums up the vibe of the week. And I do it every Sunday." Many also directly tied it to socialising; "Because it's good for communication, with everyone's stories...you get to see what your friends are doing."

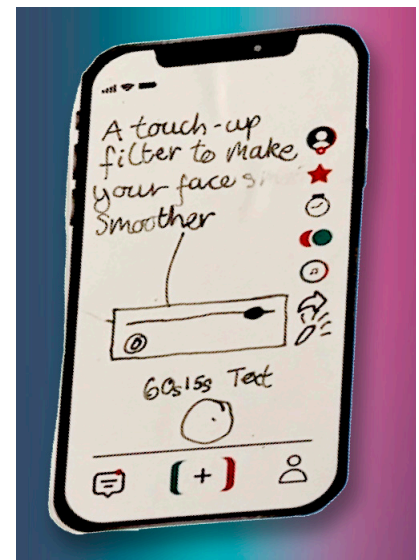
Much of what young people described about their online lives mirrors the extensive research regarding social needs and development during adolescence; that it is a critical time for identity development and exploration (Branje et al., 2021; Perez-Torres, 2024). For some, online environments enabled them to explore different parts of themselves, enabled many to feel included into communities that they were unable to explore in person.

Harmful communities

Underpinning the importance of community was also the tension between the social needs of online communities and the impacts of harm that can emerge as a side-effect of meeting those social needs. Nearly all reported seeing what they described as harmful content online, and these crossed the spectrum of harms from violence and pornography to self-harm and eating disorder content. Many saw this exposure as an inevitability and a part of navigating their digital independence; **"these social apps, they raise the bar of your innocence a little bit, I suppose. Like if you've ever had an older brother that tells you things**

you're not supposed to hear as a child, these apps fill for in for that."

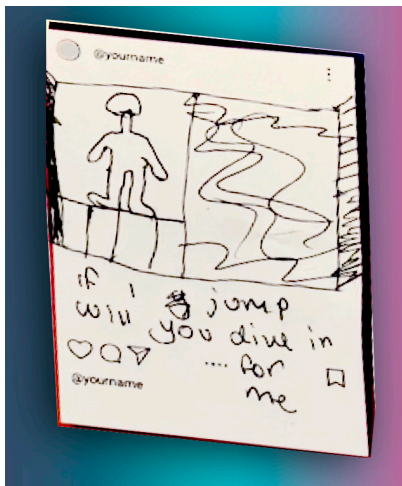
The distinction between positive and harmful communities was especially blurred, as both are shaped by the same apps and digital interaction. As one young person described: "Snap is actually a necessity though ... but you also get the filters and body dysmorphia. Some filters are funny, the dog and the horse ones, those are quite funny to do. But it's also the more low-key invisible ones that are damaging to people's self-image".



As the drawing highlights, interactions through Snap were essential for their own communities, but further affordances of smoothing filters preyed on existing vulnerabilities and insecurities. This inevitable slide: from positive interaction to passive harm, echoes previous research in this area that have highlighted the role

of algorithms in amplifying negative content (Amnesty International, 2023). Young people reported that the impact of the harmful scroll was particularly acute for certain themes, such as low-mood:

"I think consuming sad content affects you. It feeds to your emotional receptors. You can relate to it, or it tricks you into thinking you can relate to it, so it then feeds you more and more of these, for example, depressing videos, and then you start to kind of enjoy it. But actually, I don't know. I don't know how I feel about it. But you get used to watching these people cry and upload it and post it, and then you think, "Oh actually I can really relate to that...."



As this account illustrates, even within negative spaces, young people sought and found value in certain aspects of these communities, connecting with others who shared experiences of isolation or low mood. This mirrored the experiences of more positive communities

described earlier—young people go online in search of one type of community but often find themselves immersed in another. The community paradox was complex, where for some harmful communities were intertwined with social communities. This was driven in part by algorithms themselves, but also by social norms that directed them towards certain topics:

YP1:
This sounds so stupid but there was a phase where it was really high aesthetic to be depressed.

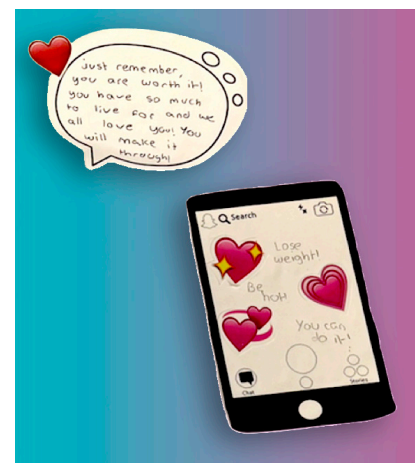
YP2:....And self-harm.

YP1: Yeah, Tik Tok would glamorise it all and make it like it was quite cool.

What is concerning within these types of communities is the indication that engaging in this type of content creates a desirable identity related to self-harm. As other research (Shanahan et al., 2019) has highlighted, the posting of self-harm using social media sites is often related to a sense of belonging, where teens use "self-harm to try out various 'selves'". What young people drew direct links between in this current work was the perceived impact of these communities for their own wellbeing. None described being driven directly towards self-harm behaviours, but did describe an impact on their mood; "If I get a sad story on my feed page, it will actually put me in a sad mood."

Many also described how online communities that they once sought out had turned negative, and the subsequent impacts on their peer relationships in person:

"I think just all the discourses are all just becoming more extreme on social media. Because we've all said self-harm, suicide, eating disorders and then feminism...but I think social media perpetrates the issue of those (...) then you step outside of the social media bubble and you kind of see it seeping into real life partly because people internalise that"



It was notable both in the accounts from young people, and seen in their drawings, that both positive and negative content was framed through the lens of community and a sense of belonging. Often the same languages and creative memes of positivity, connection and affiliation were used to describe harmful content as were used within private and more positive conversations, obscuring the boundaries between them.

Typically, belonging has consistently been cited as a central motivating factor for young people to access social media (Smith, Leonis & Anandavalli, 2021). Most famously, Mark Zuckerberg at the advent of Facebook said his aim was to 'connect the world'. But the current state of our online lives means that the original purposes of community and belonging are being met alongside risks of harm and isolation. What we heard from young people that they had to navigate more harmful content alongside meeting their own social needs. As one young person described: "for every bad message there is around 10 good messages. But if you look at the bad messages then

all you're going to think about is those ones, which makes it unhealthy". A further question, it is not about asking whether technology simply creates belonging or fuels isolation and harm, but "under what circumstances and for whom do these outcomes occur?". For young people, they were well aware of the positive communities, and clear about the necessity of those online communities for their peer relationships. As Granic, Morita and Scholten (2020) write, and is reflected in this data, young people are now "living their everyday lives in an offline world that is woven dynamically and interactively with online contexts in a single holistic ecosystem...a hybrid reality".

What frustrated them, and they felt needed to be addressed, was how these intertwined realities and communities existed alongside each other, with little accountability for the harm (particularly for those most vulnerable young people) that it could create. As one noted: "it's as if, say there's a library full of books that are really racist or sexist, and the librarian is saying, "Well, we only provide the books. It's not our job to control what's in them," – it's a weak defence, in my opinion".



1.2 Safety

Safety was a strong motivating factor that young people identified for initially getting a smartphone and for its continued usage. This included expectations from parents around communication and travel, with many reporting that their parents tracked their locations. Having a phone, specifically one with maps and geolocation capabilities, was seen as essential, and synonymous with, their safety. As one young person described; "You need your phone for safety...we don't know it's a safe enough place for that to happen." Notably, these were expectations that had been

set by adults in their lives, and the gifting of their first smartphone became a passport for newfound independence; a developmental milestone with which they felt more empowered to navigate the world as young adults. Having a phone was almost a proxy for adult supervision as they travelled alone: "I feel like the only reason I have my phone is purely for communication and location sharing between family members." This was particularly a concern for young women, who expressed nervousness around sexual violence when travelling and were comforted by the ability to be able to reach

out to parents when feeling unsafe: "We live in London and it's so unsafe... but my mum can see where I am instantly. And I just feel like if I didn't have that, who knows what could happen...Or if you feel like in an uncomfortable situation with people like potentially calling someone". As others reported, the knowledge that parents were able to track their locations provided a sense of security, with the act of location-sharing seen as a sign of care "I get so upset when my mum doesn't track me because it's like she doesn't care. [Laughter]".

For others, having a phone enabled them to have increased independence whilst also meeting their parents expectations regarding knowledge of their whereabouts. As one reflected "I'd have to be home when I said I was going to be home because otherwise my parents will be like, "What has happened to my child?" But if I'm meant to be home at 11.30 and I'm like, "Sorry, I'm going to be an hour late," they're not going to be mad at me if they know that I've got my phone and I've made the effort to tell them."

This way in which smartphones are first presented to young people, as a tool of independence and safety creates a paradox. Young people are encouraged towards technology as a key piece of equipment to stay safe, and this is encouraged or mandated by parents. Transport and technology infrastructures, particularly within cities, are now designed to further facilitate this. Young people themselves are aware of this paradox, how the initial purpose of technology inevitably expands into greater usage:

"Well, it's like I got a proper phone in year seven because my mum wanted to make sure I could call her easily because it's just accessibility...It's like just to make sure you're safe but then it gets to the point where I want to do more with that"

As others noted, basic features that originally served to make people feel safer, such as location tracking, could quickly become more negative as their use expanded into their wider social circles and became normalised:

"One thing that arises from the hyperawareness of where everyone is at all times, especially when you're young and you're like worried about your relationships. You can overthink it to the point where you start doing things that are a bit weird that you shouldn't have the opportunity to do, like checking everyone's locations."

The safety paradox, in its most extreme iteration, was explained to us by a teenage girl who had come to the UK as a refugee after her city in the Ukraine was hit by a missile attack. Her smartphone was essential to her safety whilst in the Ukraine: enabling access to information about the conflict and when to take cover from attacks. Yet, during this time, this young person, anxious and scared in a war zone, was presented with depressive and eating disorder content via TikTok.

Overall, as we heard from young people, the messaging they receive from adults, teachers and wider media were conflicting: we give smartphones to young people so we know they are safe, yet at the same time warn them that

the item in their hand is also inherently unsafe – exposing them to the lack of moderation, ensnaring their attention and making them addicted. This tension supports wider claims by researchers (Ford et al., 2022) and campaigners (Topping, 2022) have highlighted, there are inherent contradictions in the way that technology is framed as a tool for safety (particularly for women and girls), whilst at the same time fuelling behaviours and ideologies that enable abuse and harm in the first place.



1.3 Education

As with safety, education was a factor that young people described as being intertwined with their technological relationships. Educational-digital infrastructures, such as communicating with teachers, accessing homework, checking deadlines or receiving merits, are now primarily mediated through technology – if not on a smartphone app, then through online websites such as Google classroom. Additionally, homework involves accessing online educational resources, being directed to educational content on YouTube or using technology to present work. Online access is often essential in order function at school: ‘Firefly is what our school is based on. Without social media, there would be no Firefly....You can always see what subjects you have, what teachers, our tasks, our homework, everything.’ Young people reported needing to interact with a school app daily, ‘When we’re revising or something, like my phone has got all my apps.

I use all gizmo on it. It’s got everything.’ As such, schools are placing certain requirements on young people, demanding their digital attention and usage. As one young person described, accessing homework also meant facing risks of distraction:

“think it means being able to put your phone down when you know you need to, instead of just like, if you’re like, “Oh, I have homework for tomorrow,” actually going and doing it instead of wasting another hour just sitting down and scrolling”

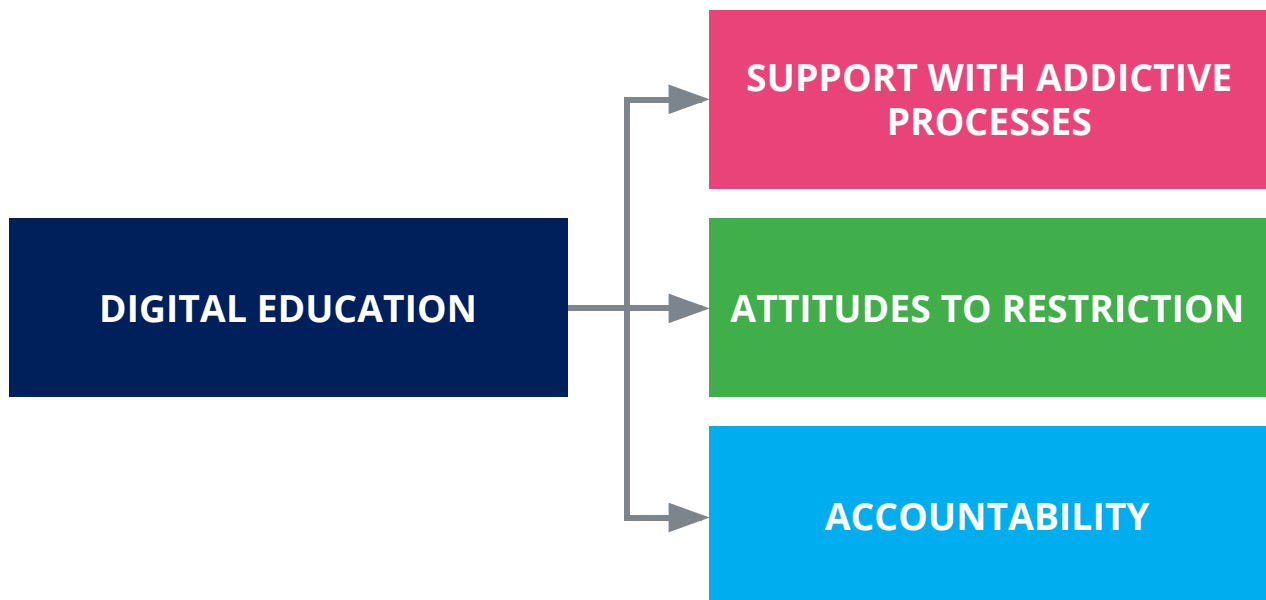
These requirements underscore many of the benefits of digital engagement. Young people can now conduct research for schoolwork without relying on libraries or expensive books, accessing information in engaging and accessible ways while developing their intellectual interests and expertise. However, their emphasis on education and safety as primary reasons for

device use highlights how adults and societal structures have imposed certain expectations that integrate technology into their lives and which they now see as essential needs. While these requirements promote learning and security, they also entangle young people with digital devices in ways that may not always be entirely beneficial – slipping from one form of usage and into another. Indeed, concerns arise about the potential harms associated with this dependence which is recognised by young people as well as teachers and parents. What is missing however, are the tools to navigate these entanglements.



2 Digital education and responsibility

Young people highlighted several key themes in describing their experiences and needs for digital education. This included **support managing the addictive nature of devices**, developing **productive approaches to restriction**, and **holding social media companies accountable**. Many expressed a profound sense of personal responsibility for their own digital habits but felt frustrated by restrictive measures of policy makers and schools that seemed paternalistic and disconnected from their daily realities.



2.1 Support with addictive processes

As we have discussed above, young people saw phones as essential part of their social lives, but ultimately this need for connection also led to disconnection and isolation through affordances of particular apps. However, there was a high level of awareness among young people of the

negative impacts of social media, and the ways in which platforms were designed to capture their attention: “short-form it’s worse...it’s always just instant gratification.”. Some described the direct actions they had taken to remove themselves from toxic online communities:

“There was too much harmful content on it for me to cope with so I had to delete it to be able to cope better in my own life....like stuff surrounding like eating disorders and self-harm. All of that was just going through my feed and I was like, *I don’t want that*”

Notably, young people **knew** the ways that these platforms could effect them. The prevalence of terms such as 'brain rot', 'doomscroll', 'poison' and 'addiction' in their accounts highlights the fact that these are not unseen, or unknown dangers, but reflected that they didn't always have the skills to support more healthy behaviours:

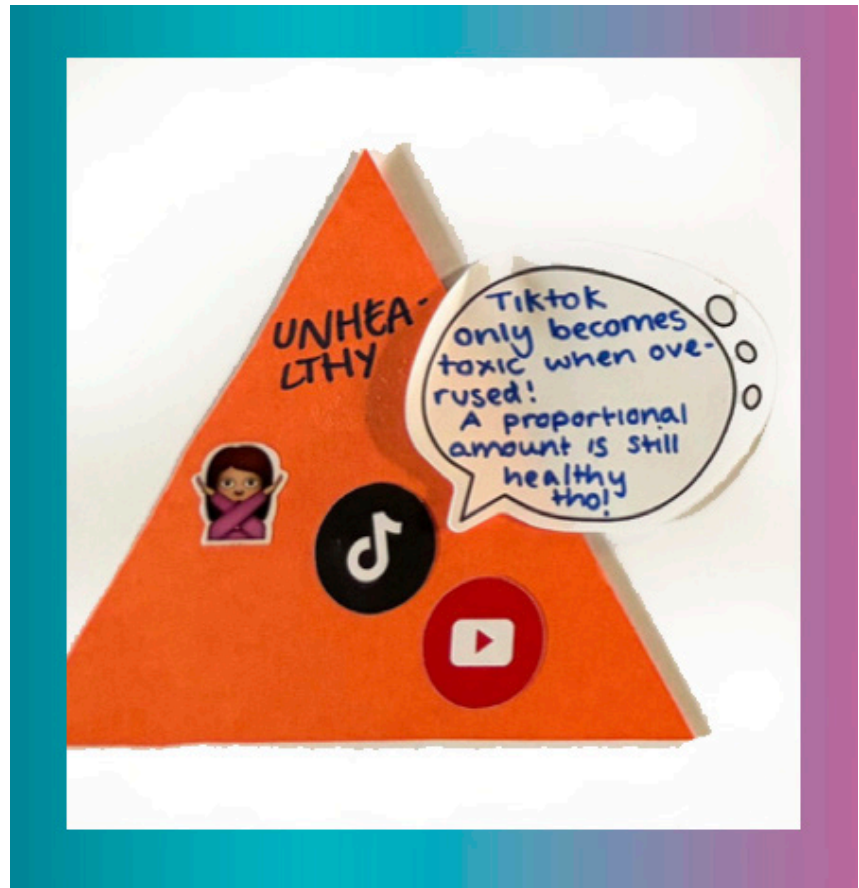
"Yeah, like definitely obviously you're going to get more out of reading the news than scrolling or social media, so I feel like I'm aware of that, but I may not always do it. I don't know."

"But **just going on TikTok I actually feel my brain rotting.** [Laughs] **It's so bad but it's so addictive because it's so fun...** but...you just stop thinking".

For some, they felt that patterns of addictive behaviour, or 'brain-rot', were ones that individuals needed to take personal responsibility for:

"It can be so unhealthy if you're not mature over what you're deciding to watch, and then you just keep letting it feed you really unhealthy videos. If you choose to press "not interested" on the stuff that generally isn't benefiting you, then it can be really healthy. And if you know when to put it down".

Curating one's online experience was not solely the responsibility of young people. Others argued that broader education was needed to highlight the affordances of these platforms and their methods of capturing and



exploiting user attention, which have far-reaching effects beyond individual topics:

"We have to try and teach people on how to use it instead of just saying, "This is bad, this is bad, delete this, don't do that, you can't be having that."

In the drawing above this student is referring to a broader conversation about challenging the current structure where tech companies are rewarded for keeping us "hooked", that is, holding our attention for as long as possible.

In our previous work with ASCL, this research team examined how through the algorithmic economy, algorithmic models can allow harmful content to flourish. In this project, we found that students had some understanding of such constructs but were keen to know more. They also expressed that they wanted to tools to take greater control over these processes.



2.2 Attitudes to restriction

Within our discussions, there was clear frustration that current debates regarding phone-bans and personal device usage did not include the voices of young people. Many were articulate about the negative implications of digital usage, and most felt that they were able to make choices and decisions online in relation to what they were consuming – with some support. What they saw reflected in political and media debates was a stereotype of young people as uncritical consumers who are all addicted to smartphones and misinformation:

“I think adults have this idea that we’re not aware at all of the danger of the internet. We know when some guy is a weirdo. We’re not oblivious. We’re very aware. Because we’re surrounded by all the traps that we know like all the ads and stuff... it’s really annoying to be told about internet safety, it feels like some of this is being shoved down your throat so many times and it’s all anyone ever talks about”.

These criticisms link to a wider sense of fatigue with digital safety education. In particular, an approach that exclusively emphasises internet dangers can lead to disengagement, as they feel the message is being forced upon them and focused on simplistic warnings about individual harms and risks. Instead, there is a need to acknowledge the more nuanced

and embedded risks young people already recognise, and for programmes that integrate discussion-based, participatory approaches rather than top-down warnings that feel more relevant and practical to young people’s current online experiences. This matches with what is known in other areas of evidence-based intervention, such as PSHE and violence reduction, prevention strategies that exclusively focus on risks are unlikely to be that effective (Finkelhor et al., 2020).

Amid the discussions of policy and education, one of the key frustrations was the focus on risk-based education that was delivered by (some) older people who hadn’t grown up with screens, and who had a lack of technical understanding ‘There’s this issue that they don’t actually really know exactly what we’re watching and things and they get confused and then they try and be protective over it, because they don’t actually know what’s going on’. It was also notable that young people viewed their own digital supports as so poor that it would fail those younger than them: “The next generation, not ours ...The next generation. It’s like a poison...They’re so brain rotten...That generation currently is kind of failing,”. These frustrations extended also beyond education: “my parents are clueless when it comes to technology”. This finding is supported by Meta whistleblower, Frances Haugen.

When she released Facebook’s (now Meta) internal research, in September 2021, she revealed that they found that because parents did not grow up with experiences of social media or digital technology, they don’t feel equipped or educated enough to support their children. This is a concern given the research that has highlighted the interwoven aspects of digital usage, particularly the contextual factors such as home and school, that influence online behaviours and risk (Livingstone et al., 2015a; 2015b). We know that despite frequently expressing concerns about their children’s digital habits, parents often model unsafe or inappropriate behaviours at home, largely due to their own lack of digital literacy (Terras & Ramsay, 2016). We also know that for those that have experienced online harm, processes of sensemaking and emotional support are critical (Xiao et al., 2022) but can fail if parents and educators themselves do not sufficiently understand the contexts or support needs. As young people told us, they were aware of online harms but often struggled with the processes that deliver those harms through algorithmic loops and addictive processes. At the same time, they found that media tropes around risk and bans would both be ineffective and not address the very real concerns they were facing as they navigated their digital lives.

Therefore, what is needed is a holistic approach to digital literacy that brings parents in partnership with schools. In our review of existing digital toolkits and supports as part of this research, one of the common themes was for children to disclose or seek support from

a trusted adult. It is therefore critical to ensure that caregivers as well as educators are prepared and informed to be able to support these needs. In addition, interventions aimed at moderating or restricting digital device use must incorporate supportive pathways that

encourage young people to seek help, rather than pushing them toward more hidden or potentially harmful online spaces through fear or shame.

2.3 Accountability

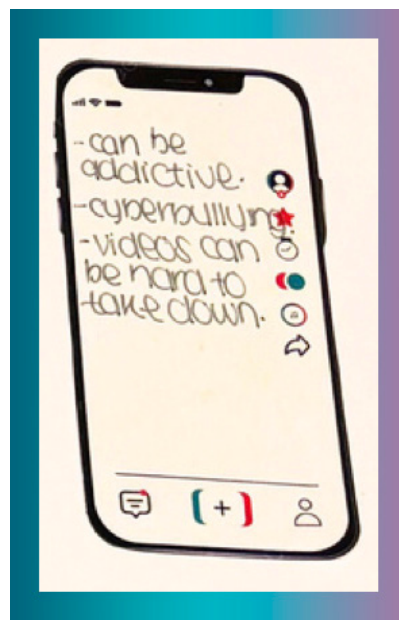
Alongside the gaps in their own digital education, there was also frustration at the lack of accountability of social media companies' response to harmful type of content, which mean that in their own digital experiences, young people had to navigate online harm:

"I've seen a lot of things that, those accounts that popped up all over TikTok like presenting straight up anorexia and you're there like, *Why is none of this being taken down because it's triggering other people but they don't see anything wrong with it.*"

Many saw that issues around moderation were linked to broader concerns about the role of algorithm-driven moderation and the real-world consequences these discourses:

"I've seen a lot of prejudice language as well. Like I think a lot of anti-Islam or anti-Semitic things people just post and it's not being taken down because they don't take it seriously enough. Which is crazy because that's actually verbally abusive".

In particular, that the lack of a bystander effect on some online platforms were normalising language and behaviours which could have wider ramifications:



'Well, I think the problem is moderation on comment sections on things like Instagram, right? It's just, you know, kids below the age of 18 can say something racist and not get called out at all.' Many reflected that social

media companies were failing in their responsibilities to protect young people, yet they had low expectations for controls and protections for young people online. Instead, they were deeply sceptical about platforms motivations, "At the end of the day, social media is a business. These companies want to make money. They don't want to improve your life".

As another reflected, failures extended not only to content moderation, but also structural design choices that exploit user attention in ways that were inappropriate:

"I think one of the big problems is obviously they get more money the more people use their app and the longer they use it for. So a lot of these companies design apps in a way that's very unhealthy and it's trying to get you hooked and make you keep using it. Which is just a big fundamental problem with how it's designed".

As these quotations reflect, there was a high level of awareness regarding the structural forces that shaped their online experiences. In particular, young people often had a nuanced understanding of digital spaces and how tech corporations shape them for profit and held those companies accountable for the types of discourses and content that they allowed to

perpetuate. We observed that those that were most effective in moderating their own experiences, or who understood how to navigate online spaces, were those who had a wider awareness that issues such as algorithmic addiction and unethical design are systemic rather than merely personal habits to be controlled. This suggests that a key part of digital education should be

to develop a deeper public understanding of algorithms and the structural mechanisms that shape digital consumption. Without widespread digital literacy, efforts to regulate and mitigate these harms remain ineffective, reinforcing existing power imbalances between users and platform operators.

Discussion

The paradox of digital relationships

Young people face multiple pressures when regulating their own digital behaviours and environments and their digital engagement exists within a paradox. They are drawn - and are often encouraged - towards devices to feel safe as they move about the world and develop their own sense of independence, they take up this independence by developing their own digital communities and social identities. They use technology in creative ways to develop slideshows of memories, stay in contact with family members across continents and warzones, and pursue their own interests and hobbies. Yet we also

heard how young people must constantly navigate harmful and low-quality content just to accomplish those intended activities. Simultaneously, these technologies that we give them to keep them safe and social can also make them feel less safe and less socially engaged though the toxicity of online environments, which can instil addictive behaviours or isolate those most vulnerable. The pulling or fragmenting of attention that young people characterise as brain rot or doom scrolling, which can pull them away from their educational undertakings, compromises the ability of a device to support their

learning or meet the mandated educational need. This paradox, which pulls young people in opposing directions in relation to their digital consumption can be confusing to navigate for those seeking to support young people to become digitally responsible adults.

Thresholds of harm and the attention economy

Prominent in the accounts from young people was the awareness of the harms that types of digital engagement afforded, and the ease in which they were able to come across unsuitable content. Our discussions highlight the strength of young people's voices on these issues, but their own concerns regarding a lack of resources for dealing with those harms beyond simply reporting content. This was partly due to lack of adult understanding about online environments, and partly due to their cynicism about social media business models and the structural forces that shape their digital experiences.

As the technology companies themselves demonstrated in their evidence to MPs⁷, they are aware that the wider environment of digital content can be harmful but that their definitions of harm are increasingly narrow. "We do not allow misinformation that could result in significant harm to an individual or to society more widely. It is worth highlighting that significant harm is the threshold (...) we assess it on the basis of **significant harm**." [emphasis authors own]. Aside from explicit examples of abuse or violence, much of what young people described in

terms of their digital lives and experiences would not meet this threshold for 'significant harm' but instead represents a high frequency, low level consumption – or what we have termed in previous work (Regehr et al, 2024) as microdosing of content – that erodes and normalises toxicity. As a young person described 'It's things like eating disorders or something, things like that I feel like sometimes because people make videos in such a softer way'. This suggests that an approach is needed that addresses how to support young people in a digital ecosystem of content gamifies material, which may not at first glance appear to be explicitly harmful. Therefore, an approach that targets specific harms, or individual posts, will not be effective. Similar analogies may be drawn with fast-food. One burger may not kill you, but persistent exposure to low-quality food can cause significant health complications. Similarly, you may not be able to draw direct causal lines between particular posts or time spent on a platform, but immersion in poor quality media environment is like consistently eating fast-food – we all need to know when to eat an apple, or a salad, once in a while.

What emerged from our conversations with young people was the need to re-frame digital education – through an understanding not just of overall consumption or restriction, but through the nuances around the different types of consumption that the technology affords – those forms of engagement that can be positive, and others that might be more toxic. This approach requires an understanding of the digital ecosystems – an understanding of the attention economy – to empower young people to understand why they are being targeted, and the tools to game algorithms.

⁷ UK Parliament: Science, Innovation and technology Committee (2025) "Social Media, Misinformation and Harmful Algorithms – Oral evidence" report available at: <https://committees.parliament.uk/event/23461/formal-meeting-oral-evidence-session/>

A coordinated approach to digital literacy

Discussions from this study revealed a certain amount of responsibility-shifting when it comes to digital education, which is not serving young people's, schools' or parents' needs. As one teacher described: 'We just feel like we're one tiny little cog in a wheel at the moment and desperately trying to teach kids how to be and what's right and what's wrong... because they're not getting it from anywhere else'. This challenge cannot be met by schools alone but needs to be in partnership with parents. Data from Ofcom concerning the number of young children on age-inappropriate platforms, such as TikTok and Snapchat mean there should be public health guidance, as for food, on the most appropriate digital relationships at the youngest ages. The lack of coordinated digital literacy is leading to accountability gaps in curricula (and legislation) that are shaping young people's digital interactions and development.

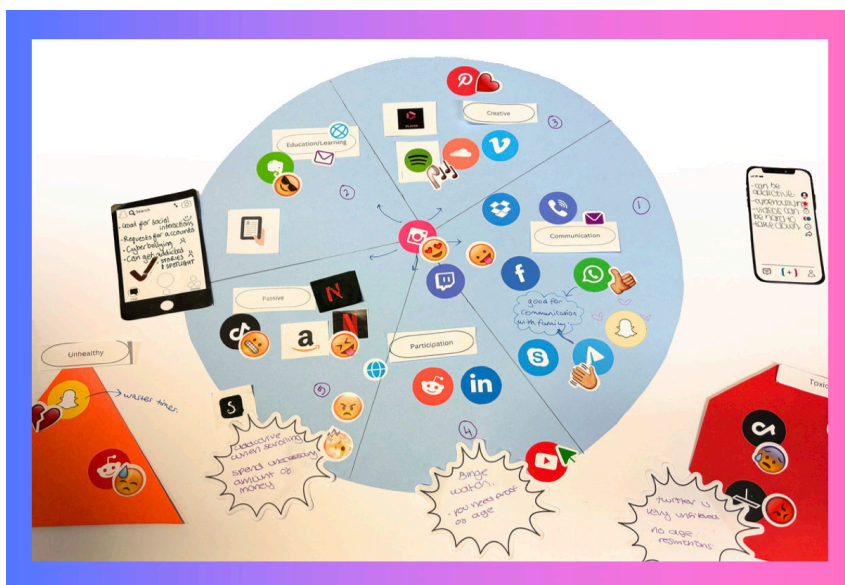
Across our consultations, young people repeatedly reported that they felt that the prominent policy conversations about phone or social media bans, or their experiences of digital education more widely, did not include their voices, nor relate to their experiences. Young people are often motivated

to create healthier online environments for themselves and their younger peers. They often want healthier digital – and non-digital lives – and they can be advocates about what is unsafe, harmful or unhealthy online and support others. Drawing from other areas of research, such as PSHE and violence reduction, prevention strategies that exclusively focus on risks are unlikely to be that effective (Finkelhor et al., 2020). Instead, digital education may benefit from approaches that consider healthy, holistic strategies to encourage good relationships with social media.⁸ Integrating an approach to digital literacy that champions youth voice may also provide a way of keeping content and issues up to date, amplifying young people's experiences

on issues that directly matter to them and that are relevant within their own school and online communities.

The 'Digital Nutrition' resources accompanying this report provide an approach that enables basic understanding of the mechanisms and process of digital environments. These resources are also informed by the wealth of existing guidance from across government, education and third sector organizations in the UK, including the NSPCC, the Children's Commission, UK Government Statutory Guidance – Keeping Children Safe in Education and UK Council for Internet Safety.

⁸ It is important to note that this type of wellbeing focused approach should go alongside more targeted supports. Many of the barriers and facilitators to having healthy digital relationships also require joined up regulation of tech companies, and the supports around the child from family, school and peers. For those most at risk or in need of the greatest support for some of these areas e.g. suicide prevention, or risky sexual behaviour, this still requires multi-element, intensive in person intervention and professional supports which includes bringing in family and emphasis on parent communication and support, as would be appropriate for in-person concerns. Digital citizenship should not seek to surpass these supports but provide a framework to make young people aware of wider issues at a younger age.



These resources take a broad approach which helps young people understand the ecosystem in which social media and technology has developed. This framework for digital literacy education encourages students to think about systems and processes that enable online environments, and particularly allow harm to flourish, rather than just focusing on individual topics. In this framework, educators can approach digital education with flexibility – using case examples of online harm within each topic, adapting to specific topics of focus within particular schools or areas.

Digital Nutrition uses this approach to support young people to understand how to navigate the digital world responsibly requires awareness,

boundaries, and the ability to make positive changes. Awareness means recognising that seeing isn't always believing—understanding how algorithms work can help young people critically assess the content they see, question its impact, and protect their well-being. Setting personal boundaries is equally important for maintaining healthy digital habits. This can include updating privacy settings, setting screen time limits, and being mindful of online interactions. Additionally, young people should recognise that their digital experiences are shaped by their own habits. If certain content makes them feel anxious or upset, they have the power to influence what they see by adjusting their engagement and reshaping their algorithm.

Teachers play a key role in fostering these discussions. In the classroom, introducing the concept of a digital diet can encourage students to reflect on their own digital consumption and consider the potential risks—the “dark” side—of different categories of online content. This can facilitate discussions regarding online risks and behaviours within the framework of the Keeping Children Safe in Education (KCSIE) 4C's of online safety: Content, Contact, Conduct, and Commerce.⁹ By fostering critical thinking and self-regulation on these factors, young people can take greater control over their digital experiences and develop healthier online habits.

⁹ Department of Education (2015) “Keeping Children Safe in Education: Statutory guidance for schools and colleges on safeguarding children and safer recruitment” report available at:

<https://www.gov.uk/government/publications/keeping-children-safe-in-education--2>



PASSIVE

Non-Interactive viewing with low level of Intellectual and social engagement are often used as a way to switch off. Such forms of relaxation are reasonable in moderation but the type of content being consumed should be considered and monitored.



Avoid long sessions of consuming content with low levels of positive stimulation.

PARTICIPATION

Participation activities such as gaming can be a good way to have fun with friends, home problem solving skills and as a way to relax.



Be mindful of addictive qualities of some games and online gaming crossing into unsafe spaces.

COMMUNICATION

Healthy communities can support wellbeing, such as chatting with friends and family on invite only networks.



Trolling, large unregulated group chats featuring bullying, sharing toxic content.

CREATIVITY

Art and music making practices and creativity can be supported by digital tools, such as graphics pads for drawing and music or film-making software.



Filling photos into unrealistic body ideals or creating disinformation.

EDUCATION & LEARNING

Digital tools are now crucial to education. Encourage use for research and homework and by using trusted news organisations.



Misinformation or seeking out information about damaging practices.

Conclusion

As this research has highlighted, a new approach to digital literacy is needed to support young people as they grow up in a digitised world, tackling the global challenge of misinformation and harm and protect young people's rights in digital spaces.

1 A 'Digital Nutrition' approach can empower critical digital citizenship

Our research has highlighted how a Digital Nutrition approach to digital literacy can enable critical thinking about what healthy consumption might look like. These exercises encourage people to move away from being a passive product into being an active participant. This approach also seeks to empower communities – schools, parents, societies - in order to break down the idea that digital harm is a siloed, individual problem, instead moving towards empowered, active and critical digital citizenship.

2 Make space for holistic approaches to digital education within the curriculum

Approaches that focus on, and enforce, abstinence from online environments without digital literacy are likely to be less effective in building long

term awareness and healthy behaviours. A key part of digital education should be to develop a deeper understanding of algorithms and the structural forces that shape digital consumption. The framework provided in these resources can enable an approach to digital literacy that both emphasises the scale of digital harm, whilst also recognising its importance for young people as they grow up in a digitised world. This can empower young people to take charge of their digital relationships whilst educating them about the processes of algorithms and data protection.

3 Greater integration of young people's voices in digital education

Digital literacy is not meeting the needs of young people, because it often fails to match their current online experiences, which are developing at a greater speed than curricula can keep pace with. Young people need to feel empowered to take charge of their digital relationships

and existing youth voice structures within schools can support this through steering groups for digital curricula consultation. Our digital education framework also supports critical thinking and active choices, allowing young people to draw on this when they inevitably encounter new digital experiences.

4 Digital literacy needs to include parents, teachers and the wider public

Digital literacy is not just for children, and schools cannot tackle this problem alone. Our data highlights how young people are frustrated at the digital illiteracy of adults. Guidance frequently signposts young people to trusted adults, meaning that poor public and parental digital literacy increases young people's vulnerabilities if things go wrong. Holistic support, which takes a public health approach to digital literacy and empowers educators and caregivers is critically needed.

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