

RESEARCH ARTICLE

“I’m Not Super Familiar with Children’s Ecosystems Online”: Expert Assessments on the Effects of Early Childhood Exposure to Extremism Online

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Abstract: This article brings together expert assessments concerning the relationship between children and online extremism, to help inform scholars and policymakers seeking to address the effects of early childhood exposure to extremism content. Our approach comprised of eight semi-structured interviews involving experts, practitioners, and policymakers offering their professional assessments on the relationship between children and online extremist content. Findings include the role of online misogyny and its psychological appeal to children and adolescents in digital media environments, especially when viewed alongside or expressed in politically benign online spaces in the children’s lifestyle or development. Results emphasised the evolving sociotechnical contexts where children are being exposed to extremist content, chiefly the rapid development in online gaming communities and allied innovation in gaming industries. The experts interviewed see interdisciplinary collaboration with health, cognitive-psychological, and neuro-developmental sciences specific to child development and psychology as essential for understanding the effects of online extremist content on children in future studies. Their recommendations centred on prioritising digital media literacy in schools, promoting community engagement and parental discussions about child safety online, incentivising companies responsible for products used by children to implement age verification and advanced moderation policies, and supporting localised culture figures in the children’s lifestyle and development alongside social workers and childhood educators. Findings also suggest that current school systems and curricula lack comprehensive prevention or counter-measures against growing radicalisation in child settings. Participants offered ideas on addressing children’s exposure to online extremist content, yet gaps remain in implementing effective strategies within educational settings and beyond.

Keywords: Extremism, online, children, policy, safety, social media, ideology, gaming

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Introduction

In recent years, children under the age of fourteen are spending ever more time with technologies like social media and online gaming platforms. Time spent using such technologies has significantly increased among international populations of young people (generally under eighteen years of age) since the beginning of the COVID-19 pandemic.¹ Emerging research continues to identify various psychological and academic implications associated with children's involvement in social media and online gaming communities.² Increased interconnectedness between children and the technologies used in extremist communities is anticipated to heighten the likelihood of children encountering extremist materials online – particularly among socially isolated children and teenagers who are more likely to exhibit technological over-reliance and ideologically problematic internet use.³ Subsequently, recent studies have explored how extremist recruiters could leverage the convenience, connectivity, and anonymity of widely adopted digital media platforms to persuade or manipulate younger audiences. Children are currently being represented in violent extremist content, and those materials do appear in populations of children and adolescents through the democratisation of online gaming and social media technologies, surging victimhood or misogynistic sentiment in these spaces.⁴ Empirical studies focused on the relationship between online extremism and children under fourteen years of age are rare, and, as a consequence, contemporary professional assessments and recommendations regarding early childhood exposure to extremism online are limited. Therefore, it is important to explore what professional assessments and policy recommendations are currently discussed among terrorism and extremism researchers and policy-makers, with the intent to offer guidance to future researchers and move policy initiatives forward.

Current Study

This article brings together expert analyses and assessments concerning the relationship between children and online extremism, exploring the manifest ways that scholars, practitioners, and policymakers understand and hope to address the effects of online extremism on early childhood development. For the purpose of this study, we understood children as persons between seven and thirteen years of age, as this is a period of significant social and cognitive advances in childhood and when children begin to establish their sense of identity.⁵ First, we explored the relevant literature circling childhood exposure to extreme ideological digital media (and where possible, “self-radicalisation” and online extremism in this context). Second, we interviewed eight experts on the effects of early childhood exposure to online extremism. Third, we bring together the policy and research recommendations from the data collected from our expert interviewees.

Findings highlight the prevalence and psychological appeal of online misogyny among children exploring digital media environments, with specialists emphasising insecure, frustrated, and marginalised boys as especially susceptible to mimicry.⁶ Extreme online materials were considered increasingly present and linked to children and adolescents' favourite platforms and devices, with interviewees particularly concerned about their promotion of extreme – and at times undemocratic and regressive – offline conduct and ideologies for the purpose of obtaining social validation and appreciation from peers. Moreover, our study uncovered concerns about children's engagement with digital media technologies concerning the normalisation of online hatred and misogyny. This included misconceptions about how children routinely interact with and think about digital media technology when exposed to influential cultural figures, like Andrew Tate.^{7, 8} Social cognitive theory provides additional context here, as it posits that children imitate behaviours they observe in influential media figures, especially if those figures appear rewarded for their actions.⁹ Within these sociotechnical contexts, participants

stressed the necessity to work collaboratively with private technology companies to develop monitoring and preventative measures specific to early childhood exposure. Furthermore, our research underscored the necessity for interdisciplinary collaboration and innovative research methodologies between terrorism and extremism studies and cognitive psychology to better understand the effects of early childhood exposure to online extremist materials. Finally, we bring together a set of policy and practice recommendations from our expert interviews, centring digital media literacy in schools, community and parental discussions about child online safety, incentivising companies responsible for products used by children to implement age verification and advanced moderation policies, and supporting localised figures in children's communities alongside child psychologists, social workers, and childcare workers. Elucidating the existing knowledge gaps, and research and policy-making challenges, this article contributes a series of professionally informed insights and recommendations to protect children from the influence of extremist materials online. However, it is important to emphasise that the policies and practices recommended are outcomes derived from our analysis of interview data and were directly informed by our findings. Such outcomes are intended to advance research concerning the nature of the relationship between younger users and extremism online, in addition to expanding the community of stakeholders through implementing guidelines and recommendations that address the realities of early childhood exposure. Notably, however, findings suggest that current school systems and curricula lack comprehensive prevention or counter-measures against growing exposure to extremist content in child settings.^{10, 11}

Literature Review

The emergence of social networking technologies, the development of online gaming communities, and the associated evolution of digital youth subcultures have created circumstances where children are more likely to encounter extremist materials.¹² Recent studies on the “pathways” of “online radicalisation” highlight the differences between patterns in online social behaviours in correspondence with advances in social networking technologies.¹³ Terms like “organic” and “strategic” are progressively used to distinguish between digital media environments that stimulate young people to pursue or become incrementally receptive to online extremist materials, and whether digital media environments are deliberately or intentionally used as a “tool” for disseminating extremist messaging and engaging in recruitment. For instance, within the context of extremist content in online gaming communities, “organic gaming”¹⁴ occurs when individuals involved in online gaming communities are exposed to or are influenced by extremist materials through gameplay interaction.¹⁵ On the other hand, “strategic gaming” comprises a conscious effort to instrumentalise online gameplay, architectural designs, and digital media applications to disseminate ideologies and recruit audiences online. For example, customising content containing ideological messages and exploiting the games’ communication systems to propagate and introduce custom-made materials in online gamer conversations is an example of strategic gaming.¹⁶ Emerging research that has conceptualised organic and strategic approaches has importantly emphasised the dynamic and fluid interplay between gaming subcultures and problems surrounding identity fusion with radical ideologies, rather than simply problematising the game in and of itself.¹⁷ Similarly, there seems to exist consensus that the Internet acts as a catalyst or facilitator, far less as a driving causal factor, for radicalisation.¹⁸

Social media and online gaming companies have also been identified as fostering a significant vulnerability for children exposed to extremist content through their use of “dark patterns.”¹⁹ Dark patterns refer to manipulation techniques employed by software developers to encourage prolonged engagement with their products. Examples of these tactics include countdown timers, hidden costs, “endless treadmill” mechanics, and low privacy settings, among many others.²⁰ These techniques are designed to exploit the limited ability of children to discern manipulative

information, thereby “nudging” them to continue engaging in online activity for extended periods. In 2019, the United Kingdom enacted the “Age Appropriate Design Code”, referred to as the “Children’s Code”, which established standards for online services to follow since its implementation in September 2021.²¹ This code aims to enhance youth safety and protect data privacy by mandating differential data processing for users under the age of eighteen. Specific measures include the removal of auto-play features for children and default privacy settings on accounts that are used by those under the age of eighteen.²² The Age Appropriate Design Code has had a global influence, prompting similar policy developments in Europe, Canada, Australia, and California.²³ However, compliance is not universal. For instance, TikTok faced accusations of permitting children under the age of thirteen to create user accounts without parental consent, extensively collecting their data, and refusing to delete this data upon request from the child or their family.²⁴ Overall, social media platforms offer different affordances and, therefore, facilitate radicalisation and extremism in differing ways.²⁵

It is unclear the extent to which children are being intentionally recruited in online environments when compared to other age demographics, such as adolescents and young adults. Investigative news reporting related to this problem has speculated the role that influencers and technological platforms play in “radicalising” children. For example, a nine-year-old boy was supposedly recruited by his older brother, who introduced him to online “right-wing extremist” gaming communities.²⁶ Another case concerned two children aged nine and ten who had watched TikTok videos of influencer Andrew Tate and – as the report suggested – encouraged these children to demonstrate “toxic masculinity” in classrooms, such as victimising other children in the classroom, especially girls.²⁷ In the same reporting, teachers were interviewed and had expressed their insecurities concerning the increased presence of misogynistic behaviour and the behaviours’ perceived implications for the children’s worldview in early education, in addition to degrading the school’s overall atmosphere and intergroup dynamics between genders.²⁸ In the United Kingdom, another report illustrated similar circumstances where children were officially referred to the Prevent programme, owing to their expressions of misogynistic behaviour in schools.²⁹

Irrespective of news media publications reporting on this phenomenon, there remains a substantial empirical component missing in our examination of early childhood exposure to online extremist violence.³⁰ Certain countries are witnessing a decrease in the average age of those individuals who have observed violent extremist material online.³¹ For example, Waldek and colleagues asked young adult Australians – aged eighteen to twenty-four years – their feelings and encounters with such content while online, highlighting how interviewees were exposed to the Christchurch far-right terrorist attack: either the full livestream or partial clips of the livestream footage in 2019.³² A large-scale survey of 25,142 European children aged nine to sixteen revealed that exposure to pornography (21 percent) and violence (18 percent) were the most frequently reported online risks, with social networking sites and gaming platforms as the most common sources of exposure. Gaming platforms, in particular, were associated with violent content, which accounted for 39 percent of the risks identified within those spaces.³³ Anecdotal findings shared during a Radicalisation Awareness Network round-table conference similarly pointed to Dutch children who watched footage of the Christchurch attack and were exposed to racist online content on TikTok.³⁴ Furthermore, Rousseau and colleagues recently found that sympathy for violent radicalisation had decreased in age amongst high school students in Quebec (Canada).³⁵

In tandem with other social networking technologies, networked online gaming communities – referred to as “online gaming ecosystems” – are increasingly identified as environments where young people can be dangerously exposed to online extremism.³⁶ Communities circling online

gaming are considered particularly accessible, yet relatively opaque and semi-public spaces where children can – often unsupervised and at their convenience – create and manage private conversations and experience emotionally salient social encounters that are difficult to monitor or moderate externally.³⁷ Analogous to cyber grooming for sexual abuse (or “sextortion”), groomers purposefully narrowcast to potential recruits in online gaming communities, targeting vulnerable populations like children.³⁸ Recruiters identify specific groups of people to target their propaganda, and in the case of younger audiences, recruiters can tailor their messages by imitating youth cultural themes and aesthetics, including humour, meme culture, satire, as well as pessimism, normalising the content’s extreme ideological undercurrents.³⁹ Targeting younger audiences is comparable to targeting older audiences as a developmental strategy for growing extremist communities and other criminal activities.⁴⁰

It is worth remembering how the self-styled Islamic State of Iraq and Syria intentionally targeted young children and adolescents during their virtual propaganda campaigns. One central tactic was manufacturing adulterated gameplay footage from the videogame titled “Grand Theft Auto V” to appeal to children and adolescents.⁴¹ Research indicates that certain religiously-motivated violent extremist groups and white supremacist groups have been producing extremist video games since the early-to-mid 2000s.⁴² Combined with online gaming’s interactive design, such technologies efficiently facilitate the socialisation between players and empower online extremist beliefs to germinate during gameplay. These recruiters regenerate game-based iconography and migrate between messaging applications, social media platforms, and online gaming platforms to build new recruit networks to communicate their ideologies amongst an increasingly younger viewership.⁴³ These dynamics can facilitate a technological milieu where connections are made, commitment can be demonstrated, grievances can be directly communicated and contended with, while children potentially develop “alternative identities” and extreme worldviews in response.⁴⁴

For example, during an investigation of two male children aged twelve in Germany, Koehler and colleagues described how these children were groomed by online recruiters through gameplay, having publicly displayed right-wing extremist symbolism in their profiles on the online gaming platform Roblox.⁴⁵ The recruiters ushered the children into adjacent far-right Discord servers, where they were subjected to further ideological indoctrination, such as being exposed to anti-Semitic and neo-Nazi digital propaganda. The influence these handlers had on these children in establishing an emotional dependence was what the children likely experienced as “friendship” or “belonging”.⁴⁶ Moreover, these children were too afraid to endanger their “bond” with their handlers, diligently following their groomers’ instructions, such as performing the Hitler salute during school. The two children’s cognitive openness was combined with the technologies’ ability to facilitate their respective social and emotional integration with their recruiters, giving the children a sense of meaning and purpose. Furthermore, Koehler and colleagues noted that the children believed such social and psychological qualities were missing from their everyday lives, which were otherwise characterised by bullying and family conflicts.⁴⁷ This aligns with existing literature that documents the direct impact of social rejection on children’s preference for antisocial and violent media.⁴⁸ This case highlights the significance of Valentini’s “onlife” concept, where hybrid interactions between online and offline realities can lead to a continuum of behavioural adaptations owing to the child’s indoctrination, like translating the groomer’s online instructions into maladaptive actions (e.g. Hitler salute) in public spaces.⁴⁹

Emerging research has further examined the dynamics of online radicalisation among children in school and household settings. Caton and Landman conducted a school-based study involving children (eleven to sixteen years old) with learning disabilities, parents or caregivers, and their teachers.⁵⁰ Although the children had a general understanding of the grooming process that

facilitates online extremist recruitment efforts, their parents and teachers expressed concerns about the children's vulnerability to interacting with strangers in cyberspace, challenging their children's maturity and capacity to think critically when connecting with unknown persons in unsupervised settings. Additionally, parents and educators highlighted their own challenges to guarantee their children's safety. In a similar vein, Brisson-Boivin highlighted that youth intellectualise components or processes of online radicalisation when asked about these topics by adults or teachers, but youth are generally uncertain about how to respond to online extremist material or advances from recruitment when on their own.⁵¹

This is worrisome, considering surveys of children and young people have frequently demonstrated that youths are exposed to racism, hatred, and extremist ideology while in cyberspace. The German JIM study found 43 percent of all respondents aged twelve to nineteen experienced exposure to extreme political views, 43 percent were exposed to conspiracies, and 35 percent to hate messages while online.⁵² In a pan-European study of nine-to-sixteen-year-olds ($n=10,000$), participants reported a range of risks that concern them on the internet.⁵³ The researchers found that pornography (22 percent), cyberbullying (19 percent), and violent content (18 percent) were at the top of young people's concerns.⁵⁴ Another survey of Canadian youths aged twelve to sixteen years old ($n=1,000$) found that while reporting encounters of extremism or hatred online was considered important, there remained a considerable proportion of participants that were hesitant to record reflections about their encounters with extremist materials online. Their reasons for not reporting encounters varied, such as fears of making the situation worse, having a scarce understanding of whether the content they were exposed to had warranted a report, and believing that reporting their online encounters will not effectively translate into actionable outcomes.⁵⁵ Nonetheless, the youth preferred two approaches to responding to online hate and extremism: (1) either stop communicating or prevent the producer from communicating (i.e. blocking) further online hate; and (2) engage their parents or caregivers about their experience.

Lastly, law enforcement agencies from Australia, Canada, New Zealand, the United Kingdom, and the United States have recently published a call for collective action, highlighting the vulnerability of minors towards radicalisation and recruitment by violent extremist and terrorist groups especially within online environments, discussing several country-specific case studies, and offering recommendations for a whole-of-society approach.⁵⁶ Collectively, these agencies stress the need for stronger multi-sectoral collaboration between law enforcement, security, government agencies, the education sector, mental health and social support services, communities, and technology companies to thwart youth radicalisation to violence while also highlighting support systems in the respective countries.

Methods

To better understand the effects and possible preventative measures related to early childhood exposure to online extremist materials, this study conducted semi-structured interviews with experts, practitioners, and policy-makers ($n=8$). Interviews took place from July until September 2023, using a mix of deductive and open-ended questions, as well as probing and technical questions. Semi-structured interviews provided interviewees the freedom to express their experiences conducting research, producing policies, or practising in community settings, without restricting perspectives to a predetermined set of questions. All interview questions were shared with the interviewees prior to the meeting.

We used purposive sampling to invite eight experts from various sectors, including academia, frontline industries, practitioners in P/CVE organisations, and government agencies. Together, interviewees from Australia, Canada, Germany, the Netherlands, and the United Kingdom were included in this study. Informed consent was obtained prior to meeting each interviewee. All interviews were conducted and video- and audio-recorded via Zoom Video Communications. Interviews occurred for approximately 45 to 90 minutes. Interview transcripts were anonymised and transcribed verbatim using NVivo transcription software. Pseudonyms were used to de-identify the data and maintain confidentiality. Data analysis followed Braun and Clarke's six steps to reflexive thematic analysis, with codes developed in relation to the research questions, resulting in the identification of overarching themes, iteratively informing subsequent interviews, and establishing differences, commonalities, and nuances between interview data.⁵⁷

While we understood that children undergo the changeover from childhood into adolescence at varying ages and in various ways, we designed our methodological approach by defining children as persons between the approximate ages of seven to thirteen. However, because children and adolescents are influenced by digital media environments in complicated and emerging ways, and because exposure to online extremism is of increasing interest, particularly when it involves the experiences of youths, certain questions were left unanswered within the interview timeframe and remain unaddressed. For example, in responding to the question: "to what extent are children and adolescents exposed to extreme ideological materials online?" certain interviewees concentrated their responses on components of the question (e.g. reflecting on the likelihood of exposure in specific communities) or alternative populations (e.g. reflecting on likelihood of exposure among children when compared to recent research on adult exposure) because of their former experience or current interests.⁵⁸ It is important to acknowledge that the implications of this research are preliminary, and the general trends in scholarship on child exposure to extremist content online will continue to evolve. For instance, while all policy and practice recommendations reiterated here underscore the vital role of future research and organisational policies addressing the intersection of online extremism and children's exposure, such suggestions may not have undergone critical review or undertaken developmental assessments through multi-stakeholder dialogues and multi-sectoral collaborations. Suggestions are derived from data analysis and are direct outcomes of conversations with interviewees. This limits the generalisability of this study's recommendations, as suggested by our interviewees, and invites future researchers to contextualise the findings.

Results and Discussion

The following section presents the six overarching findings from our thematic analysis of the semi-structured interviews: (1) Vulnerability; (2) Significant Others; (3) How and Where; (4) Effects and Consequences; (5) Disciplinary Boundaries and Collaboration; and (6) Policy and Practice.

Vulnerability

Participants highlighted the need to understand children's vulnerability to ideological imagery, symbolism, and sentiment while interacting with strangers online. Participants described the threat of misogynistic and manospheric content as a "soft entry point" into ideologically extreme communities for children. For example, the prescriptive nature of misogynistic materials among popular social media and online gaming platforms was considered attractive or striking to children – mainly male children – with anti-social propensities, interests, frustrations, insecurities, ignorance, and other social grievances characteristic of disenfranchised young

men in the manosphere. Experts forecasted that misogynistic content common to manospheric movements online would become more available and more familiar through influencers on social media. For instance, interviewees had speculated that an incremental introduction to themes and personalities within the manosphere would evoke “positive associations” between “six-year-old” children and influencers such as “Andrew Tate”. As one interviewee described:

And she [teacher] kind of had to make sure (...) that they kind of have an understanding of who this person is [Andrew Tate] because you can imagine other people, you know, Googling what is this name? Wanting to learn about it, or even if just the encounter later, they already have the familiarity. And so, familiarity can breed the trust. (...) it's kind of like sowing the seeds of harm among like a six-year-old kid, which I found pretty shocking.” (...) “even just like hearing the name Andrew Tate early on as part of a (...) meme that you found enjoyable, you know, there's a positive association there.

Experts suggested that children are also especially susceptible to adopting the ideological qualities of online materials they are exposed to, including characteristics and demeanour of the personalities. Whether this be misogynistic materials or a significant cultural figure like Andrew Tate, experts described the danger of extreme ideologies when partnered with additional markers of authority, such as the number of “followers” or its presence on popular social media or online gaming platforms readily available to children.

Other respondents focused on the psychological appeal – the desirability, suitability, and attractiveness – of extremist materials. Simplistic thought processes represented in such materials were considered potentially persuasive to children at their stage of psychological development, including the way materials construct a persistent enemy or embolden hyper-reductionist obsessions with something or someone. For example, extremist ideologies or communities that appeal to children’s lifestyles using popular subcultural symbols printed on clothing or referenced in music to facilitate the child’s identification with ideological assumptions therein. Interviewees highlighted the persuasiveness of these strategies because of children’s sensitivity and underdeveloped capacity to negotiate their social status, reaching out to external – material or virtual – representations of social value to “fit in with their peers”. As several interviewees noted, implicit in this is the tendency for ideological materials to incrementally enter digital media environments. Rather than being rapidly inundated with this material, this titrated exposure works to gradually increase the normalisation of hatred and decrease children’s “moral resilience” over time. As one interviewee described:

the nature of exposure is largely like second-hand smoke. You know, you're exposed in so many ways to everyday racism and every day, you know, structural sexism, structural racism, the structural discriminations of so many kinds that their exposure to actual violent extremist ideological content might be lower. But this sort of everyday exposure to these types of discriminations at a less extreme level...I would suggest it probably lowers their resilience to what could then lead down the road towards a violent extremist ideological content.

Mainstreaming extremism in this way, children and adolescents were referred to as “intermediaries” between common political content and more extreme ideological communities.

Combining familiar features from children's much-loved social media platforms or online gaming communities with controversial conversations or inflammatory content was hypothesised to increase children's vulnerability to online extremism and recruitment. Interviewees noted that this combination of platform design, taboo extremist ideas, and the capacity to interact with these features anonymously and without supervision was described as an overstimulating environment that significantly heightened the risk of ideological indoctrination. One respondent referred to this environment as "identity fusion" among children who develop a visceral impression of belonging to the online gaming community, behaving in unprecedented ways socially and culturally to obtain and maintain social status, and to address emergent psychological and physiological challenges during the child's transition into adolescence. Research supports this, indicating that identity fusion, particularly in gaming spaces such as *Call of Duty*, is strongly associated with antisocial outcomes like aggression, sexism, and racism, especially among lonely or insecurely attached individuals.⁵⁹ Another participant identified the design of online gaming architecture as fundamental to building trust between children and online strangers, such as when playing together on a "mission... to kill the dragon". Subsequently, respondents clearly differentiated that, while online extremism is not synonymous with radicalisation to violence, the results highlight the importance of the sociotechnical context to understand whether these digital media environments are facilitating cognitive openings or facilitating maladaptive behaviours.

Other participants described intrinsic cognitive-psychological traits that influence children's interaction with online extremist content, including curiosity. For example, one participant provided a rather constructive and counterintuitive observation about the potentially positive (albeit accidental) consequence of being exposed at an earlier age. During this participants' own professional research of young adults and online extremism, the young adults described that their curiosity somewhat insulated them from its harm and, instead, fashioned motivation to better comprehend its character through higher education. Subsequently, this finding signifies the probability that some experience in childhood development can reassure a child that their exposure to such content is not entirely or irredeemably harmful, but another object or reason to be inquisitive without becoming radicalised.

Some interviewees indicated that children who face certain adversities and traumatic experiences may be particularly sensitive to invitations – whether well-intentioned or malevolent – to be a part of a community offering social belonging. One expert suggested that children who experience offline challenges and lack digital literacy are more likely to pursue online connectivity. Another respondent suggested that teachers and parents who are ignorant of the possible harms of online extremism, as well as an absence of protective measures in the child's social media or online gaming platforms, can also increase their vulnerability. Among other participants, a significant risk factor revolved around the lack of digital media and gaming media literacy among teachers, parents, and the child's local community. As one participant suggested, "I think the biggest risk factor is the lack of gaming media literacy in parents and teachers." Another respondent noted that children are more predisposed to be introduced and exposed to online extremism if their parents are participating in such communities. This highlights the importance of digital media safety and literacy within and across familial, community, and educational settings.

Promoting community engagement and parental discussions about child safety online is subsequently critical. For instance, recent scholarship has suggested a "two-step decision tool" for monitoring children's technology use.⁶⁰ In the first step, parents monitor their children's reactions to games, websites, and apps, watching for signs that their attention is being "co-opted", "out of control", and "not self-directed", as it otherwise would when engaging in activities such as building blocks, painting, or storytelling. The second step recommends that online

activities be community-supported. This involves a parent or community member discussing the child's online activity with them, allowing the child to demonstrate their ability to share and explain their reasoning while online. Ideally, this caregiver could then deliver some follow-up experiences to further reinforce learning and positive online engagement.

Significant Others

Findings underscored the ways in which cultural figures and community members represent influential role models in children's lives. Respondents unanimously underlined the importance of "influencers" and how their parasocial relationship⁶¹ can dramatically affect children's behaviour and worldviews.⁶² Participants often referenced the recently notorious influencer Andrew Tate's captivating presence in children's digital media digests, as well as his potential to be a disruptive and hostile subject for teachers involved in classroom discussions about the influencer's "conviction" in manipulating children. Despite the combustible nature of Tate airing in classroom discussion, participants worried whether – if such topics of conversations are neglected by teachers and parents – the children's "curiosity" and "concern" may otherwise be unaddressed, leading them to further seek an audience with virtual communities who are willing to broach Tate, or other controversial online personalities. Respondents described how an influencer's contrarian dynamic may intensify the preconditions for building trust with children who – in seeking seclusion from local communities – may find opportunities to connect with them. For example, children may suppose the influencer has authentically appealed to their curiosity and expressed their concerns more than people in the children's community or daily lives. This parasocial relationship allows influencers like Tate to display themselves as "trusted sources of expertise" and offer "explanations" for grievances unbeknown to the child prior to being exposed to their content. When influencers present authority, authenticity, and charisma, the respondents suggested that children may no longer feel entirely comfortable freely expressing their influencers' opinions publicly, if their parents and community figures do not understand or agree, developing their parasocial relationships in isolation.

When providing a formulated lifestyle and social philosophy to children sympathetic to authority and certainty, almost all interviewees recognised the naivety of children who are exploited in influencer relationships. Children may not understand that influencers may have profit-seeking intentions and something to gain from grabbing their attention and turning unbridled childhood "emotion" into more user engagement. Experts expressed their worry that this influencer phenomenon is beginning much earlier than expected in childhood. One interviewee recounted an incident where Tate's misogynistic rhetoric was expressed in the classroom among six-year-old children who directly referenced Tate's online content. Notwithstanding the fact that the children "had no idea who [Andrew Tate] was or why he was currently culturally significant", the participant described "online misogyny" as a mimetic resource for gaining social approval with disorder and playful antagonism. It is important to highlight that not all influencers intend to cause hostility in children's classrooms, but more likely, most influencers are incentivised to learn how to construct online communities with a general psychosocial appeal to attract larger audiences and, subsequently, unwittingly encircling children in their lure. What was common among interviewees was the challenge of meaningfully addressing struggles among men and boys in contemporary culture and politics, with one participant suggesting that children, too, are taking aid from digital media technologies to explore complicated subjects like: What is a man? What is masculinity? How do men and boys think and feel? How should men and boys express their thoughts and feelings? Several experts suggested there is a general scarcity of awareness and understanding among community leaders and key stakeholders in this space, raising many problems without sufficient evidence or tools to inform change.

Collaboration with teachers was considered essential to mitigating the effects of online extremism among children and adolescents. While investing in teacher training and community education was offered as an obvious stepping stone to progress, participants highlighted the lack of curricula and pedagogical initiatives that focus on children's vulnerabilities and strengths when negotiating complex political and controversial social topics. The absence of pedagogical architecture on this issue was suggested to be the consequence of a dearth of engagement with and research on teachers themselves, understanding the extent of teachers' knowledge in areas of online extremist subcultures, making educational and curriculum initiatives difficult to design. Seeing as there are few support mechanisms or much previous literature to build upon, one interviewee commented on the challenges of erecting this educational program: "You start from scratch." Instead, pedagogies, such as inquiry-based learning, open the space for students to share their reflections across the curriculum and present educators with a unique opportunity to help guide student conversations. This would then serve as a baseline from which P/CVE programs in primary or secondary schools allow spaces for the candid and controversial conversations needed to effectively address extremism.⁶³

Despite these challenges, interviewees noted that the need for greater education on this topic is growing, with teachers reporting increased rates of children being targeted with extremist materials and rhetoric online. Furthermore, most experts reported their concern for the deficiency of knowledge and awareness within schools generally, highlighting instances where parent-teacher conversations sometimes degenerate into accusations of the other's inability to supervise children's online activity or comprehend the risks associated with extreme ideological content. As one interviewee stated:

I think especially educating teachers that the problem is not the content of the games, but the communities that form around them. Like they're still think some of them have that kind of older school model where they think about like the harms of video games in terms of like the content instead of No, it's actually like the communities that build up around them and the toxicity there. And yeah, so just getting them to understand like where, you know, where the problem is actually located could be really useful.

A striking observation was that although none of the interviewees directly engaged parents, they acknowledged this is a significant gap in the communities' defence against extremism online. Despite parents' lack of involvement or awareness of initiatives concerning their children's protection against online extremism, most participants recognised that parents play an immense role and – in addition to teachers – also need advanced digital media skills. Interviewees hence highlighted the necessity for future research to include parent populations to understand their knowledge boundaries on online subcultures. One participant highlighted the potential of parents to unwittingly introduce racist, hateful, and extremist ideologies to their children through imitation in family contexts, which in turn emphasises the position of teachers and the school system to lead these conversations about extremism online.

How and Where

Findings highlight the nature of sociotechnical contexts where children are exposed to extremist materials and how these contexts are changing their means of exposure. The proliferation and accessibility of digital media technologies in contemporary society have resulted in children exploring potentially threatening online communities from a younger age. Participants emphasised the diversity of digital media environments and the range of extreme ideological

materials that children are believed to engage in on a routine basis, with one interviewee insisting: “Well, when it comes to children being exposed to extremist content online, I think there are a lot of different options.”

For example, participants named particular social media platforms, including Facebook (or Meta), Metaverse, TikTok, and Twitter (or X), as well as specific video streaming platforms, such as YouTube and Twitch as mass news distributors, who – at times – broadcast terrorist propaganda, such as from the so-called Islamic State and the Christchurch terrorist attack in New Zealand. Additionally, online gaming platforms and adjacent communities – *Roblox*, *Discord*, *Call of Duty*, *Steam*, and *Minecraft* were mentioned frequently. Participants often focused on the prevalence, accessibility, and potential harms caused by mainstream gaming platforms, such as Roblox, and alternative gaming programs designed to spread hateful rhetoric and extremist sentiments. As one interviewee described:

It's not on the immediate surface, but pretty much as soon as you start scratching below that surface, you're going to find...it. So, while ... gaming adjacent spaces are pitched as being for children and they were designed to be for younger age groups, they still harbour this type of 'people content'...So, Roblox is a good example because it's not that Roblox is putting Nazi prison guard content out there. It's that a user of Roblox is able to go into the Roblox game and build that environment themselves.

While the design features and operative functions of online gaming platforms was concerning to participants, interviewees often concentrated on the “toxicity” of online communities that revolve around gameplay or social networks. For interviewees that are first responders, this highlighted the importance of the nature of the interconnection between children and online communities, rather than the specific subjects embedded in online materials.

This raises a question in terrorism and extremism studies more broadly: how can we distinguish between the influence of “unhealthy” or “distasteful” communities and the dynamics of intermittent messaging between peers or influencers that are considered “extremist”? Participants agreed that communities that perpetuate “low self-esteem” and “bullying dynamics” to encourage children and adolescents to engage in online extremist conversations can be dangerous and should be subject to online harm prevention measures. However, such communities or individuals therein may not necessarily be “extremist” themselves or necessitate counter-violent extremism interventions. For instance, the manospheric online space – a loosely affiliated network of digital media platforms and communities which encompass controversial political, social, and cultural issues about masculinity, men, and boys – may introduce children to various authoritative and (ostensibly) knowledgeable figures who supposedly provide “explanations” on how to overcome personal challenges thought to primarily affect men and boys. And while characteristic of certain manospheric movements are online extremist materials and communities who do perpetuate violent extremism, not every person or space in the manosphere is “extremist”. For instance, interviewees suggested Jordan Peterson had established an ideological gateway toward extreme misogyny and male supremacy, but acknowledged Peterson offered – albeit “questionable” and “concerning” – advice and guidance to a much wider population of misguided young men and boys.^{64, 65} This finding highlights the importance of understanding exactly how and where the level of concern transverses such communities.

For example, the concept of ‘Fringe Fluidity’ may be an important avenue for future researchers. Global currents of extremism materials now stream across social platforms cohabitated by communities who – once distinct – occupy overlapping areas of the virtual landscape. Users and materials at the fringe of these communities are now systematically introduced to users and materials in a corresponding fringe. Online representations of ideologies in these communities are well-documented in the field. Gartenstein-Ross and Blackman – who coined the term – identified that terrorism studies needed to better understand enabling environments and support structures that assisted “the various journeys through which people embrace violent extremism.”⁶⁶ Though Gartenstein-Ross and Blackman and later Ganor suggested common denominators may provide avenues for convergence, such as revenge, glory, call to action, or emergency, many unanswered questions remain concerning how and where the convergence occurs online and especially regarding children.⁶⁷ Technological affordances offer channels of communication where children may be transported away from social networking or online gaming communities unaffected by extremist materials and toward concerning online chatrooms where extremist content is prevalent. Interviewees believed the dissemination of extremist materials through sociotechnical systems – such as “personalisation” algorithms and “share” functions – represented a “ripple” or “network effect” where exposure spreads rapidly and may unintentionally be passively presented to children in an adjoining online community. Interviewees identified “network features” that likely contribute to this phenomenon, such as “voice chat” and “text-based chat communication” during a “team-based” interaction with strangers in “open online games.” Some respondents suggested consulting specific individual communities to moderate their own cultural space. This was suggested to be customary for administrators on Reddit to moderate conduct and encourage their communities to self-regulate. Alternatively, other experts emphasised the necessity for researchers to initiate conversations with people responsible for designing and implementing such protective measures at social media companies and online gaming companies, so as to share knowledge and technical expertise to mitigate the likelihood that young viewers are affected by online extremism existing underneath the terms of service thresholds currently in place or overwhelming content moderation efforts.

Effects and Consequences

Findings indicated the dearth of evidence regarding psychological or physiological consequences of early childhood exposure to extremist materials. Two participants provided anecdotal evidence of two incidents having involved children who expressed thoughts or feelings related to extremist ideologies following their presumed exposure. One incident involved a child making an anti-government comment during a classroom discussion (i.e. “calling for the death of the Prime Minister”). In the other example, a male child was alleged to have been “punched in the face” by a female child, but the student’s motivation was unknown. Nevertheless, almost all interviewees suggested there were significant potential social and psychological effects from exposure and claimed incidents of hate-motivated rhetoric and behaviours were becoming more frequent (though no other incidents were presented or discussed). When asked, participants struggled to identify psychological conditions thought to manifest after exposure, suggesting that based on cyberbullying literature, children have the potential to develop “anxiety or depressive disorders” from observing ideologically extreme and hate-related extremist content online. Regarding sociological effects, some respondents suggested that the specific outcomes would likely correspond with the type of ideological materials being viewed online. For example, interviewees speculated “siege culture”⁶⁸ may embolden children’s interest in extremist ideologies, or “manospheric culture” may encourage children to normalise homophobic narratives.⁶⁹ Seeing as almost all respondents indicated they were unaware or unable to specify the psychological or physiological effects of exposure, addressing

this knowledge gap requires a nuanced understanding of the underlying propensities and motivations of children's cognitive-psychological dynamics, in addition to the character of the ideological content observed. Drawing on existing research on the psychological effects of violent media exposure in adolescents and adults offers an empirical foundation for understanding the impact of exposure to extremist materials in the future.⁷⁰ Building on these insights, future research should focus on how exposure to extreme forms of media specifically affects younger children, accounting for their unique developmental needs and capacities.

Furthermore, several study participants described how risk is manifest in the way children move from engaging in an online game or with social media materials to interacting with the wider social community or group around it, stressing that susceptibility towards online harms lies in certain interactions that can be manifested within social online communities and semi-public spaces. Although empirical research on this acute dynamic is by and large absent, critical observations are beginning to evolve in the form of case studies, systematic reviews, and discussions.⁷¹ For example, although not focused on children, Hassan and colleagues repeatedly found that exposure to radical violent online material can encourage or advance violent extremist acts, opinions, and motivations among younger demographics.⁷²

Disciplinary Boundaries and Collaboration

Findings strongly highlighted the methodological and institutional barriers to research. Interviewees identified several pragmatic problems pertaining to timing research with schooling systems and teacher timetables, such as collecting data in school semesters, in addition to difficulties in finding channels of communication when recruiting study participants, particularly parents where such contact was considered "unreliable". Ethical sensitivities when studying vulnerable populations, such as children, political sensitivities when conducting research on "violent extremism" in schools with public reputations, and the consequences of the pandemic lockdowns, among other legal requirements, significantly constrained access to children or blocked scientific research entirely. Engaging with parents was generally considered difficult, particularly among seemingly apathetic parents who "don't care" about online safety or online harm. One participant stated their unwillingness to engage: "the parent-child relationship is something that we don't really get into too much because it is too contentious." This is problematic as participants and the literature suggest the importance of offline experiences in contributing to children's vulnerability to online extremist content. However, due to limited access to lifestyles, the participants were generally unsure of what was "missing" from children's lives to feel compelled to engage in extremist conversations. Regardless of the possible effects, findings highlight the difficulties that prevent researchers and policy-makers from probing children's exposure to online extremism, resulting in – as one participant stated – "the nature of exposure is therefore unknown."

Aside from accessibility to school communities, interviewees noted the difficulty in documenting "intentionality" in online extremist communities that are allegedly narrowcasting to children for indoctrination and recruitment purposes. Respondents suggested the ambiguity of "groomer offline identities" is - due to both age and identity verification on social networking and online gaming platforms - being largely absent. This represents a major obstacle to understanding "whether extremist groups are actually strategically talking to children or whether it is more opportunistic." This suggests that scholars primarily use indirect measurements of "intentionality" on a case-by-case basis. As a result, the interviewees in this research wondered whether and to what degree components of these digital media environments facilitate childhood exposure, such as what degree is target vs organic recruitment facilitated by gaming infrastructures and unintentional exposure due to social media algorithmic selection applications. In addition, and

depending on the measurements taken, expert assessments concerning the seriousness and danger of exposure can be significantly different, as some noted that the problem of online recruitment of children is considerable and should be of more concern to others, while their colleagues suggested recruitment among children “is relatively low” and not the “main concern with gaming networks.”

Evident in almost every interview was the boundary between disciplinary domains like terrorism studies, media and communication studies, education, child developmental psychology, and cognitive-psychological sciences. Almost all interviewees overwhelmingly highlighted the scant interdisciplinary collaboration with cognitive-psychology sciences in general and child developmental psychologists in particular. While almost every participant voiced their intuitions about the cognitive-psychological consequences or assumed developmental trajectory of children and adolescents, experts often punctuated their speculation with a comment acknowledging the limit of their disciplinary knowledge was reached, including: “But, I’m not a child psychology expert, so I’m not qualified really to answer that question.”

The dearth of cognitive-psychological science and child psychological expertise has consequences for how participants conceptualised the importance and influence of developmental stages in correspondence with children’s vulnerability or the effects of exposure to online extremism. Regardless, qualities or processes pertaining to child neurological and psychological development were considered to be foundational to understanding their vulnerability to online extremism, such as “distorted cognition” and “deficits in abstraction”, “rational thinking”, “maturity”, “empathy”, “prudence”, or capacity to regulate status seeking or risky behaviour during socially and psychologically exploratory phases of their life. One participant noted, for example, that children’s identity and validation are of primary importance, meaning that their neurological plasticity and degree of impressionability are at their assumed maximum (referred to as “sponge”-like), which leaves them considerably more vulnerable to the absorption of online extremist content. Furthermore, children’s development and assumed sensitivities were employed liberally in hypothetical accounts of the “online radicalisation process” or “pathways” available to children. This includes the “obvious” significance of cognition in creating justifications for indoctrination or violence among children, such as children’s incapacity to “think critically” or “abstractly” defines their “decision-making process” when exposed to ideologically extreme materials, or “neurodivergent” children especially vulnerable to online recruitment. For example, interviewees suggested that an “autistic child” may experience online gaming communities as an emotionally unintrusive environment, and such positive social parameters increase their susceptibility to grooming strategies. These findings suggest future research and policy initiatives ought to involve more interdisciplinary contributions in a spirit of consilience, spanning natural and social sciences.

Such collaborations are thought to close the distance between researchers and children’s understanding of what “extremist” actually means. One participant highlighted the broad disparity between what researchers think extremism, in fact, ought to be and what children believe extremist materials are. For example, when discussing extremist online materials with young adult participants in a previous study, one interviewee found their participants considered imagery depicting animal brutality in nature as well as sexual violence to be “extremist material”. These findings highlight the importance of placing aside terrorism frameworks to become more acutely aware of what children and youth perceive online extremism to be in the first place. As one interviewee highlighted:

“as a terrorism academic, you can sometimes get caught up in your own area and think it is more important than it actually is”, and because of this, “we often don’t see the stuff that [young people] are finding extremist and even violent extremist.”

Policy and Practice

Findings highlight the importance of complex and multifaceted interventions across various systems. Some interviewees described skill-based education that involves instructing school-aged students in digital media verification practices to ascertain whether the information they perceive online is likely to be true or false, then discussing the effects of their judgments with teachers, for example. However, such interventions have been considered insufficient or even misleading, when used narrowly to decrease children’s vulnerability to online extremism. For instance, one respondent believed that recent proliferation of misinformation and disinformation campaigns had convoluted the meaning or purpose of the in-classroom verification practices in the context of countering extremism on children. Furthermore, teaching verification practices become more advanced when coupled with contextualisation practices designed to teach children how to think about their place in the digital media landscape when assessing individual bits of online content. As one participant proposed, children should be equipped with a level of “healthy scepticism” about online materials.

Other participants suggested that children begin by improving their understanding of themselves and their involvement in digital media environments, recommending that children regularly self-reflect on and monitor their digital media consumption habits. These “mindfulness” practices – as some interviewees believed – developed a more mature sense of self-awareness and self-regulation in consuming or confronting online extremist content. This includes pedagogies to assist children in understanding how online games and surrounding communities can be “highly emotional places” – “competitive”, “combative”, “arousing”, “hyper-stimulating” – where their psychological safety, identity, and opinions can be significantly affected. Participants understood self-regulatory practices to support children’s resistance against all manner of pathologies related to online extremist content, with one participant suggesting cognitive behavioural techniques holding a greater presence in interventions preventing online harm.

At the community level, one participant suggested a larger initiative to build trust between children and their local community as a primary prevention measure, while another suggested introducing community-oriented civic education or civic intentionality into classroom discussions and curricula. Various participants suggested multi-level or cross-sectoral approaches in order to bring together an audience of diverse stakeholders to engage in constructive dialogues, raise awareness of technical solutions and social initiatives, and specifically decrease the likelihood of harm caused by online extremism. One participant recommended bringing together academia and law enforcement (e.g. “digital police officers”) to collaboratively engage this phenomenon. Several highlighted the value of design interventions during the production of gaming software, where software developers can implement designs that are resistant to extremist exploitation into their online gaming platforms. Design-oriented approaches to large-scale technological innovations were considered an important industry, ideal to encourage multi-stakeholder meetings; with online gaming, augmented reality, and virtual reality gaming platforms in continuous development, safety-by-design approaches are likely to become an effective strategy for avoiding future online harms.

Additionally, several participants remarked that online gaming companies ought to be increasingly aware of the implications of their platforms when cultural narratives are manipulated for online extremist ends (e.g. ancient Nordic cultures and religions in the games

“God of War: Ragnarök” and “Assassin’s Creed: Valhalla”). Participants also suggested mandatory regulation and indexation to mitigate online harms around products used by children, such as age verification filters on Roblox and Minecraft, for instance. However, none of the interviewees advised on the exact measures or technical mechanisms required to ensure security across the various demographics playing in – for example – online gaming communities. In answer to this, respondents often encouraged greater collaboration with software developers, social media companies, and online gaming companies. As one participant stated: “Why aren’t we there? We are political scientists, criminologists, and social workers. We’re not game developers; that’s an area we should look at, too.”

However, the historical stigmatisation of online gaming cultures makes the potential for collaboration difficult, especially when “interventions” are raised for young gamers. Respondents cautioned about the nature of anti-gaming stigma in building relationships between those who study online extremism and those who are potentially exposed to online extremism in online gaming communities. One respondent was particularly vocal about exacerbating children’s perceptions and opinions of their community as untrustworthy, irrelevant, and contradictory to the community’s interests or country’s values. Pathologising children’s good-natured “past-times” (i.e. video games) as a “pathway to online radicalisation” and a threat to national security may create barriers to social and cultural progress, particularly because these interests are not necessarily harmful in and of themselves. Additionally, by prioritising community-orientated and institutional approaches, we effectively reposition the responsibility from individuals (e.g. parents, teachers, and children) to “prevent” or “solve” online extremism, and redistribute this burden to broader structural institutions of the Internet and wider societal institutions. Regarding the latter, for some interviewees, this meant collaborating with community-based organisations and secondary socialisation agents, such as kindergartens, early childhood education, schools, social workers, and libraries. These considerations are reflective of systematic reviews of P/CVE measures and interventions that were recently evaluated internationally.⁷³

Accordingly, this study’s policy recommendations – that emerged from the results of our data analysis – highlight the importance of future policies and practices when developed during multi-stakeholder discussions and multi-sectoral approaches, including:

- Develop and make available pre-service preparation and in-service training programs in digital media pedagogies and provide access to relevant information technology resources within schools for educators and administrators targeting early childhood, primary, and secondary school settings to raise awareness on online subcultures and enhance digital media literacy.
- Expand the integration of comprehensive digital media literacy into early childhood and school policies, curricula, and continuing education initiatives.
- Establish school-based awareness and support programs to foster open and authentic dialogues among parents and caregivers regarding online contexts and the safety of children’s online activities.
- Enhance the capacity of local community-based organisations to develop educational campaigns and materials, focusing on empowering parents to guide their children in navigating social media and engaging in digital communities, including gaming culture and online misogyny within these spheres.

- Improve and assess the efficacy of platform design elements such as age verification measures, algorithm transparency, robust data protection policies, age-appropriate features, and content moderation practices by social media and online gaming companies. This should include greater effort to tailor terms of service agreements and community guidelines to meet the needs of young children.
- Engage front-line practitioners, such as social workers and mental health professionals, in initiatives supporting educators and parents in managing children's online and offline wellbeing and mental health.
- Create platforms for parents and children to share their experiences with online gaming and social media with community researchers, fostering future research initiatives and advocacy with policymakers for social change.

Limitations

There are a few limitations associated with this study. Readers should be cautious in generalising the findings or recommendations presented in this study to their respective contexts and areas of practice. Although interviewees note the variety of risks and the protective factors concerning child exposure to extremist online content and underscore the multifaceted interventions needed to tackle the issue, the findings and recommendations proposed ought to be further contextualised and applied in future intersectoral research. Additionally, the relevance of the recommendations in policy and (or) practice will be disproportionate to the context in which they are applied and we cannot anticipate how contextual factors will alter the applicability of one or another recommendation. The recommendations presented have considerable empirical overlaps between theoretical literature and the professional experiences as referenced by these interviewees. This investigation only interviewed adult experts who provided insights and professional experiences regarding youth and children's exposure to extremism online. This study did not interview children or adolescents.

Conclusion and Outlook

This article offers a preliminary expert assessment of the effects of early childhood exposure to online extremist materials. In reviewing key literature and conducting expert interviews, our research reveals critical dimensions of the issue and normative aspects of online extremism, stressing the psychological appeal and potential of extremist content to dually appeal to children and adolescents organically including through algorithmic technology, as well as exacerbate the frustrations in disenfranchised children and adolescents.

In bringing together the recommendations from the international experts who participated in this study, there are a number of main themes to help guide research, programs, and policymakers to better understand and address this still nascent area of concern. Overall, these recommendations suggest a multifaceted approach, prioritising awareness and nuanced digital media literacy training in schools and the wider community. Parental and teacher involvement is a fundamental theme in what experts discussed, which could include monitoring of children's online activities, empowering children with critical competencies for informed risk-taking, digital media use, and participation in networks of digital media environments. Greater practitioner involvement – in particular social workers and child developmental psychologists – was also a strong, common call among experts for supporting teachers and parents in this endeavour. They also encourage local communities to collaborate in education programs and safety workshops. Importantly, they also suggest that technology companies further invest in

safety-by-design approaches, including considering age and identity verification measures to enhance content moderation and security measures, in addition to producing terms of service conditions and community standards for populations of children users. Study participants also emphasised that managing children's online activities and mental health concerning online extremism should encompass more scholars and practitioners alike outside of terrorism and countering violent extremism studies. They urge more interdisciplinary research for a comprehensive understanding of the effects of early childhood exposure and the creation of effective prevention strategies.

While all interviewees pointed toward the role of school-based education, scholarship continues to identify several structural barriers that lie within the school system that make integrating P/CVE measures an enduring challenge to researchers and practitioners. With regard to classroom discourse in general, earlier research has found that teachers have difficulty structuring it and oftentimes do not offer dialogic bids to their students, resulting in limited capacity to have authentic dialogue around controversial issues.⁷⁴ Structural barriers also include the overlooked issue that schools are 'by-in-large' undemocratic spaces and the impact on marginalised communities as contributing factors to children's vulnerability to extremist content. Firstly, in various countries, undemocratic schools often fail to cultivate environments that support critical thinking and active student participation in democratic processes. These schools might not prioritise teaching methodologies that encourage questioning, independent thought as well as life and career skills, making students more susceptible to accepting extremist narratives without critique.⁷⁵ Secondly, the impact on marginalised communities and emerging economies remains a significant concern. In developing countries, equal access to education remains a challenge, and a lack of safe spaces in these schools means that students are unable to effectively practice the critical thinking skills needed to build resilience against the allure of radicalisation.⁷⁶ This also has profound impacts on teachers; research suggested to take into account the contextual description of violence teachers have experienced and to develop trauma-informed pedagogies for teacher education.⁷⁷ Related challenges include teacher burnout and shortages, as well as access to social support systems for front-line professionals.⁷⁸ In countries such as the United States, both rural white students and racial and ethnic minorities are often relegated to underfunded and under-resourced schools.⁷⁹ These disparities in educational resources and quality may exacerbate the vulnerability of children in these communities to online extremist content. Schools in marginalised communities often lack the necessary support to address the unique challenges faced by their students, which can contribute to individual susceptibility and undermine social cohesion. Promoting equitable access to quality education, along with robust support systems and the fostering of critical thinking and citizenship education, is crucial for empowering students to challenge extremist ideologies and engage actively in democratic processes.⁸⁰ Digital tools, such as child-friendly websites and large language model-based artificial intelligence, offer an opportunity to revolutionise primary and secondary education, making education and learning more student-centred and engaging. These tools support personalised, inquiry-based, and collaborative learning approaches, allowing students to generate their own questions and seek answers through self-directed research and problem-solving.⁸¹ This approach also enhances critical thinking, a skill that needs to be integrated throughout the curriculum and community initiatives to counteract extremist narratives effectively.

Ultimately, this study emphasises the importance of greater collaboration with multi-stakeholder communities, moving beyond teacher-centric or technology-centric solutions. Additionally, contemporary barriers to child-centred research and policy development need to be reconsidered to advance knowledge in primary and secondary education, focusing on community support networks, democratic education, teacher and student support, and

sustainable technology practices. This perspective – as shared by most of the interviewees – supports the preventative design approach and collaborative policies based on future empirical insights on parent-child behaviour and understanding of best practices for decision-making in this digital age. These expert assessments were intended to lay a foundation for future research and policy initiatives, emphasising the need for safety-, collaboration-, and well-being-focused conversations among stakeholders to share knowledge in developing solutions.

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Endnotes

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6 In this article, mimicry refers to the act of imitating or replicating behaviours, attitudes, or expressions observed in a social or digital environment. In the case of online misogyny among children, mimicry involves replicating the harmful behaviours and attitudes towards women that are prevalent in digital media environments. This type of reactive engagement may manifest in sharing, liking, or creating content that objectifies, demeans, or devalues women, thereby perpetuating harmful stereotypes and behaviours. The act of mimicry in this context is not just a passive observation but an active participation in the perpetuation of harmful norms and attitudes, often without fully understanding the implications or consequences of such actions.

7 Andrew Tate is an American-British media personality, businessman, and former professional kickboxer. He gained wider attention in 2016 when he appeared on the British TV show *Big Brother* but was removed after a video appeared to show him attacking a woman. Tate gained more widespread recognition through his presence on social media platforms like Twitter (X) and YouTube, where he often shares his views on various topics, including relationships, masculinity, and ‘self-improvement’. However, his opinions and statements are highly controversial and have attracted criticism for being misogynistic, offensive, violent, and insensitive. Tate has been involved in various controversies, including making inflammatory remarks on social media and being banned from platforms like Twitter (X). For instance, Tate has been charged in Romania with rape, human trafficking, and forming an organised crime group to sexually exploit women, as well as making inflammatory remarks on social media and subsequently becoming deplatformed on multiple platforms for violating their terms and policies. Tate has been described as a “self-help guru” and accused of running a “cult of control”, offering his (mostly male) virtual communities highly controversial guidance and advice, such as “recipes for making money”, “pulling girls”, and “escaping the matrix.”

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