

Research

Research by Jason Sun

1. Record and organize information and key ideas using a variety of formats (*e.g., notes, graphic organizers, summaries, audio/digital records*)
2. Document the sources of all information generated through research (APA format) - documentation of sources should be included within your notes

Note: Unless a source is stated below the title of a diagram (diagrams, including tables, are marked with purple, exactly like this), that diagram is an original creation.

1. What is algorithmic exploitation in the context of online media addiction?

Algorithmic Manipulation: How social media platforms exploit student vulnerabilities - Yale Daily News

Shakya, B., & Hernandez, C. (2024, November 8). Algorithmic Manipulation: How social media platforms exploit student vulnerabilities. Yale News. Retrieved January 12, 2026, from <https://yaledailynews.com/blog/2024/11/08/algorithmic-manipulation-how-social-media-platforms-exploit-student-vulnerabilities/>

Effects on Mental Health

- The director of Yale Mental Health and Counselling, Paul Hoffman, states that an overuse of social media is correlated with psychological distress for students.
- Young people who spend more time on social media are more likely to experience anxiety and depression, and to form weaker relationships.
- Social media platforms encourage compulsive behaviours such as endless scrolling, impulsive use, and instant gratification.
- Approximately 210 million people worldwide struggle with addiction to social media or the internet.

New Shifts in Technology

- About 95% of high school-aged teenagers now have access to a smartphone.
- Data from the Pew Research Center indicates that in 2022 and 2023, roughly 46% of high school students reported being online almost constantly (a sharp increase from approximately 24% in 2015).
- The Surgeon General suggested that social media platforms should include warning labels similar to those on tobacco and alcohol.

Harm of Algorithms

- Algorithms are designed to keep users engaged even when the content negatively affects their mental health.
- Social media companies create rapid, dopamine-triggering content that reinforces addictive patterns.
- Filters and AI-generated imagery promote unrealistic appearance standards.
- Online metrics (likes, comments, etc) turn social interaction into constant performance and comparison

Course Connections

- Space: Social media becomes a privatized social space governed by algorithms, and due to the anonymity of the users, there is less moral restraint.
- Capitalism: Algorithms are purely focused on engagement, reflecting capitalist incentives, where profit is prioritized over student well-being.
- Building on the last point, larger corporations have the power and money, whereas vulnerable individuals are exploited. Teenagers lack meaningful power or information.
- Social Media: Platforms have systems that help reinforce self-surveillance and insecurity, ensuring conformity. People are pressured to be familiar with the latest trends, or they will lose some connection with friends.

Algorithms, Addiction, and Abuse: The Need to Protect Children Online

Klam, L. (2024, April 15). Algorithms, Addiction, and Abuse: The Need to Protect Children Online. First Focus on Children. Retrieved January 12, 2026, from <https://firstfocus.org/update/algorithms-addiction-and-abuse-the-need-to-protect-children-online/>

Growth and Benefits

- Social media use has increased from 1.43 billion users in 2012 to 4.7 billion in 2022.
- Technology offers meaningful benefits for children, including interactive educational tools and easier access to learning resources.
- Online platforms allow children to connect with diverse cultures, languages, and communities.
- Assistive technologies have improved learning accessibility for children with disabilities, supporting more equitable education.

Dangers

- Existing safeguards and legislation have not kept pace with technological development, leaving children insufficiently protected.
- Youth are not adequately accounted for in the political field regarding digital platform usage.
- Research shows a strong correlation between technology use and declining youth mental health.
- Children who spend more than three hours per day on social media face double the risk of developing poor mental health outcomes such as anxiety and depression.
- More than one-third of young users report being on social media almost constantly.
- Outside of mental health dangers, children are at risk of exposing their personal information and being vulnerable to human traffickers.

Advances in AI

- Large numbers of child sexual abuse images have been found within AI image-generation systems.
- Reports indicate that AI-generated abusive content is becoming increasingly common among offenders.

What is Currently Wrong

- Responsibility should not fall solely on parents and children.
- Regulations must include accountability and restrictions for large technology companies.

Course Connections

- Anti-Oppression: Children are structurally unprotected in digital environments, making algorithmic harm a system issue rather than individual failure.
- Intersectionality: Youth with disabilities or from marginalized backgrounds may benefit from the internet, but are also more vulnerable.
- Neoliberalism: Companies want to push individuals (or parents) as being solely responsible, but this will only enable companies to keep exploiting teenagers and avoid accountability.

[Algorithmic Exploitation in Social Media Human Trafficking and Strategies for Regulation](#)

Moore, D. M. (2024, July 9). Algorithmic Exploitation in Social Media Human Trafficking and Strategies for Regulation. CanLII. Retrieved January 12, 2026, from <https://www.canlii.org/en/commentary/doc/2024CanLIIDocs1910>

- Setting up targeting algorithms requires relatively little oversight or regulation.
- Algorithms can identify individuals based on vulnerabilities inferred from online behaviour.
- Personalization uses psychological data inferred from digital footprints.
- Psychological coercion is central to exploitative algorithmic practices.

2. Where can teenagers go to get help and fight online media addiction?

[How To Overcome Social Media Addiction - CTRI](#)

Jackiw, J. (2022, March 1). How To Overcome Social Media Addiction - CTRI. Crisis & Trauma Resource Institute. Retrieved January 12, 2026, from <https://ctrinstitute.com/blog/how-to-overcome-social-media-addiction/>

Addiction

- Most individuals use social media without serious issues, but some people develop excessive usage patterns.
- Internet addiction is defined by:
 - Persistent preoccupation with social media
 - Feeling compelled to log on or check platforms
 - Spending excessive time online to the point that it interferes with school, work, relationships, or leisure activities
- Social media and internet use can be psychologically and physically addictive due to their effects on brain chemistry.
- Notifications such as likes, updates, or alerts trigger dopamine release, producing short-term pleasure.
- Platforms offer instant rewards with minimal effort, encouraging repeated engagement.
- Problematic use often develops when social media becomes a primary coping mechanism for stress, loneliness, and depression.
- A fear of missing out may also be created, as you need to stay online to stay up to date with current news, trends, and memes.
- While clinical addiction affects a minority of users, most individuals can still benefit from monitoring and reducing usage.

Table 1 - Signs and Symptoms of Social Media / Internet Addiction

Symptom	Description
Losing track of time	Intended short use (minutes) extends into prolonged sessions (30+ minutes)
Excessive use	More than 20 hours per week of personal internet or social media use is identified by research as addictive
Compulsive accessing	Repeatedly checking devices within minutes, often without conscious intent
Irritability/withdrawal	Mood becomes negative when access is restricted or unavailable
Relationship strain	Conflicts with friends or family due to prioritizing online interactions
Academic/work impairment	Missed deadlines, reduced productivity, or neglect of responsibilities

Table 2 - Intervention and Reduction Strategies

Strategy	Description
Digital detoxing	Setting fixed times for social media access (e.g. only during lunch), using apps that enforce daily time limits
Screen-free periods	Establishing technology-free times (meals, before bed)
Contingency plan	Allowing social media use only after completing tasks (schoolwork, errands, physical activity)
Reducing contact/access	Mood becomes negative when access is restricted or unavailable

Course Connections

- Social Pressure: There is a fear of missing out, reflecting how online culture enforces constant participation to maintain social belonging (especially if people will see you as old / out of touch, or will be unable to talk to you).
- Normalization: Excessive use becomes socially normalized, masking addictive patterns (which also goes along with surveillance and conformity).

3. Who is responsible for the algorithmic exploitation of teenagers on online media?

Surveillance Capitalism: the hidden costs of the digital revolution - Cambridge Papers

Ebsworth, J., Johns, S., & Dodson, M. (2021, July 1). Surveillance Capitalism: the hidden costs of the digital revolution. Cambridge Papers. Retrieved January 12, 2026, from <https://www.cambridgepapers.org/surveillance-capitalism-the-hidden-costs-of-the-digital-revolution/>

Data Collection

- The digital revolution provides convenience but introduces new social risks.
- Digital interactions generate hundreds of data points per user per day.
- These data points are copied, aggregated, and processed algorithmically, primarily for advertising and behavioural prediction.
- 2.5 quintillion bytes of data are generated globally every day, and search engines record approximately 6.4 billion searches per day.
- These all feed into behavioural databases.
- Data collection has also expanded beyond search and social media and into smart home devices, wearables, and location-based services.

Surveillance Capitalism

- Treats human experience as free raw material, with hidden data extraction for prediction, behaviour modification, and profit.
- Concentrates economic and political power in a small number of private companies.
- This model relies on continuous data collection, predictive analytics, and behavioural influence (rather than user content or awareness).

Table - Growth and Financial Incentives

Data	Figure
Digital advertising share of total ad spend (2001)	3.1%
Digital advertising share of total ad spend (2020)	≥ 44%
Share of global digital ad revenue (Google, Facebook, Amazon)	Almost two-thirds
Google advertising revenue (2001)	\$70 million
Google advertising revenue (2020)	\$147 billion
Facebook revenue from advertising (2020)	98% of \$86 billion
Amazon advertising revenue (2019)	\$14.1 billion (2019), doubling every two years

Shift from Prediction to Behaviour Modification

- Platforms used to focus on predicting user behaviour to improve ad targeting.
- However, profit increases when platforms start actively shaping user behaviour.
- Improving prediction accuracy requires: more data, longer engagement time, and more frequent interactions.
- Therefore, platforms want to deliberately design systems to maximize user engagement (as they want to get the most amount of accurate advertisements to show the user, thus increasing their profit).

The Hook Model:

1. Trigger – notification or prompt
2. Action – user response

3. Variable reward – unpredictable feedback (likes, comments)
4. Investment – user contributes content or data, leading to further triggers
 - Teenagers and young adults are identified as especially vulnerable, though the design affects all users

Course Connections

- Capitalism: Human experience becomes an item of purchase and a commodity, turning teens' attention, emotions, and behaviour into profit-generating resources.
- Power: Economic and political power is centralized in a few tech corporations with limited accountability (largely impart because they have such power, also because we are divided due to distractions that online media offer, connecting to segregationism). There is also beliefs that society will be digitally addicted whether we like it or not, along with the blurriness of who is responsible, which takes away the “power for” of an individual.
- Classism: Those with fewer resources have less ability to opt out of data exploitation and advertisements.

4. How did algorithms evolve to target teen engagement?

[The Psychological Impacts of Algorithmic and AI-Driven Social Media on Teenagers: A Call to Action](#)

Arora, S., Arora, S., & Hastings, J. D. (2024, August 19). The Psychological Impacts of Algorithmic and AI-Driven Social Media on Teenagers: A Call to Action. arXiv. Retrieved January 12, 2026, from <https://arxiv.org/html/2408.10351v1>

Algorithm Usage

- Platforms rely on algorithms, AI models, and interface design to maximize attention and engagement.
- Features such as personalized feeds, notifications, and infinite scrolling encourage repeated and prolonged use.
- Social media use among teens has increased dramatically over the past decade.
- Teenagers are especially vulnerable due to social pressure, identity development, and emotional sensitivity.
- Algorithms prioritize sensational and emotionally charged content because it increases interaction. This also encourages users to create idealized online personas, increasing anxiety and self-comparison.

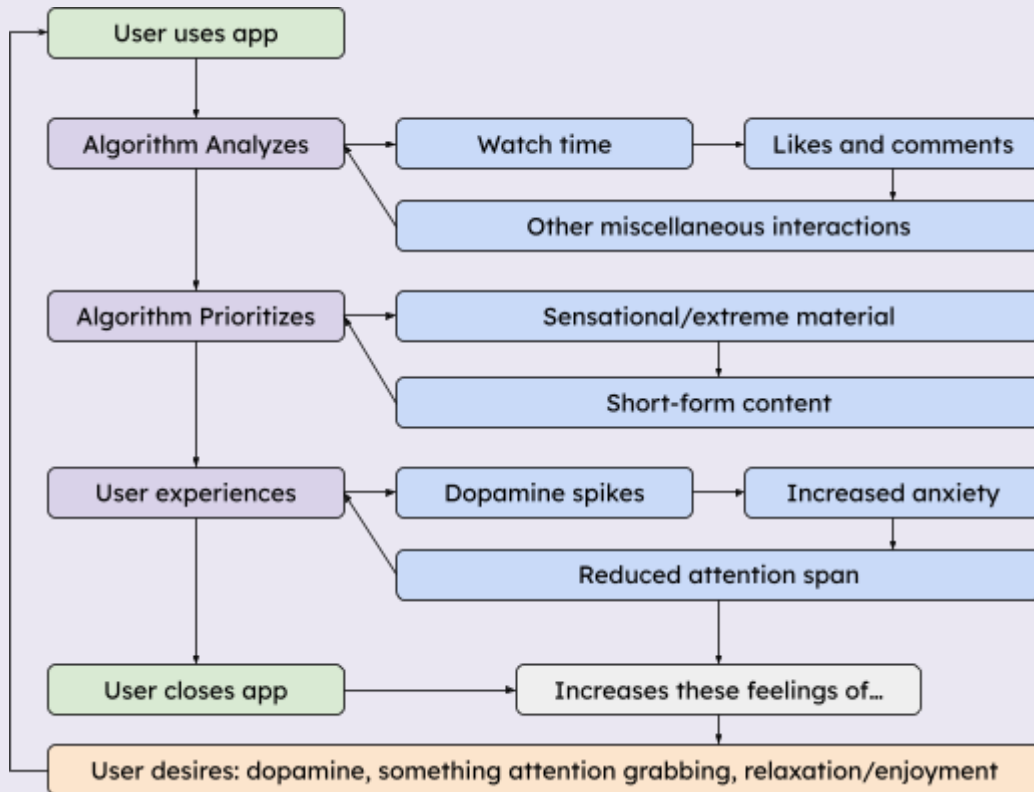
Boston Children's Hospital Digital Wellness Lab (2022)

- They surveyed 1,480 children aged 13-17.
- Participants reported spending an average of 8.2 hours per day on social media platforms.
- 57% of respondents stated that they felt they used social media “too much”.
- People are aware of excessive usage, but their usage, on average, has not been reduced.
- High daily usage also seems to be normalized among teenagers

Effects of Excessive Social Media Use:

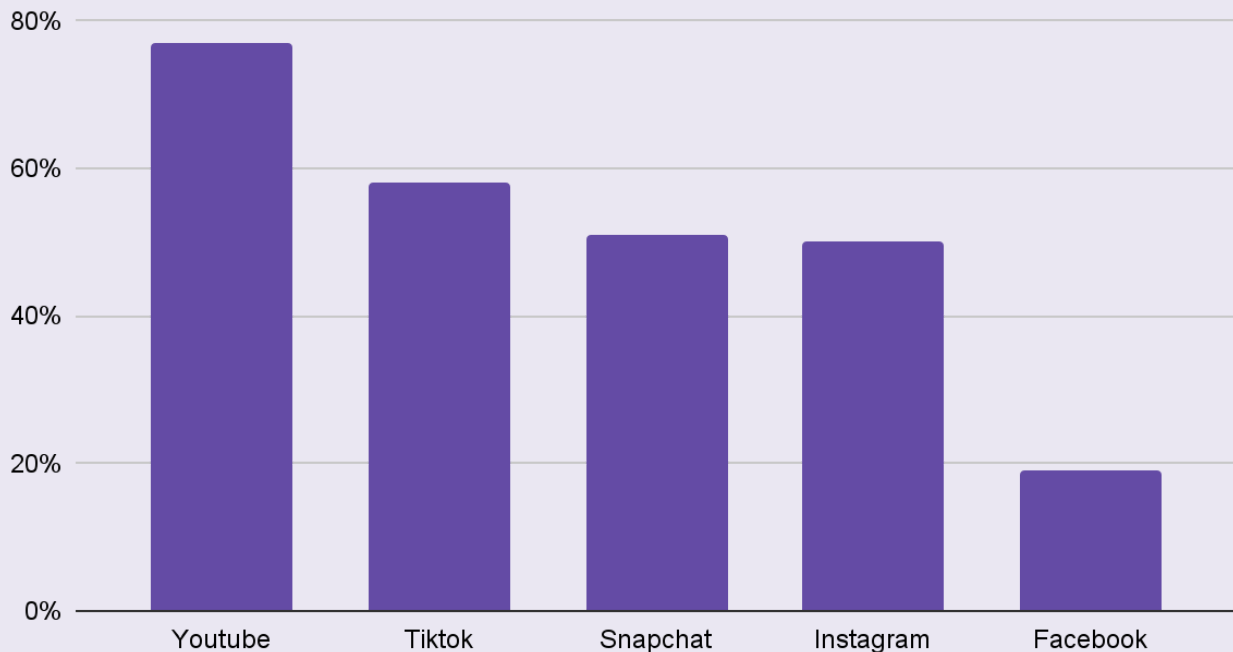
- Linked to prolonged screen time, sleep disruption, and reduced attention span.
- Some more severe outcomes include suicidal ideation, self-harm behaviours, and trauma from online victimization

Flowchart - Visualization of the Process of Algorithmic Addiction



Graph - Daily Teen Usage Rates (Pew Research Center Findings)

Comparing Daily Teen Platform Usage Rates



5. How will unrestricted algorithm development affect future generations of teens?

[An unfair fight – how algorithms are shaping our adolescents | eSafety Commissioner](https://www.esafety.gov.au/newsroom/blogs/an-unfair-fight-how-algorithms-are-shaping-our-adolescents)

eSafety Commissioner. (2025, April 17). An unfair fight – how algorithms are shaping our adolescents. eSafety Commissioner. Retrieved January 12, 2026, from <https://www.esafety.gov.au/newsroom/blogs/an-unfair-fight-how-algorithms-are-shaping-our-adolescents>

- While algorithms themselves are not inherently harmful, their primary design goal is engagement, not well-being, which can result in prioritizing emotionally charged or extreme material.
- Algorithmic influence often begins with a neutral or healthy interest (e.g., fitness, gaming), but recommender systems may gradually push more extreme or emotionally provocative content to maintain attention.
- Engagement-focused algorithms may amplify sensationalist, divisive, or harmful content, including unrealistic beauty standards, violent material, or hate-based narratives.
- For boys, this escalation can include exposure to violent pornography, misogynistic ideologies, or hyper-masculine narratives such as “looksmaxxing.”
- For girls, similar algorithmic pathways can lead from fitness or diet searches into content promoting disordered eating, harmful beauty ideals, or suicidal ideation.
- Algorithms may also promote misleading or false information, shaping adolescents’ understanding of social issues, relationships, and identity without critical context.
- Of course, these factors can start to impact generations of teenagers, with worse mental health, and spread beliefs that may be false, harmful, or exaggerated.

Course Connections

- Feminist Analysis: For women, beauty standards and objectification are reinforced algorithmically. Same for men in different ways, as the algorithm reinforces the manbox.
- Cultural Narratives: Pop culture trends are amplified without context, shaping beliefs around masculinity, femininity, self-worth, etc.
- Intergenerational Impact: Long-term normalization of harmful ideologies affects future social values and society as a whole.

6. What should the government and other companies do to prevent online media addiction?

[The Psychological Impacts of Algorithmic and AI-Driven Social Media on Teenagers: A Call to Action](#)

Arora, S., Arora, S., & Hastings, J. D. (2024, August 19). The Psychological Impacts of Algorithmic and AI-Driven Social Media on Teenagers: A Call to Action. arXiv. Retrieved January 12, 2026, from <https://arxiv.org/html/2408.10351v1>

Table 1 - Recently Introduced or Passed U.S. Social Media Legislation

U.S. Legislation	Purpose	Status
STOP CSAM Act of 2023	Protects children from sexual exploitation, increases accountability and transparency for tech companies	Introduced
Kids Off Social Media Act	Requires age verification, prohibits access under age 13, bans algorithmic recommendations for minors	Introduced
Utah Minor Protection in Social Media Act (S.B. 194)	Requires age verification, parental consent, and maximum privacy settings for minors	Passed (Effective Oct 1, 2024)
Utah Social Media Amendments (H.B. 464)	Allows parents to sue platforms, limits algorithmic content exposure and nighttime access	Passed (Effective Oct 1, 2024)
New York SAFE for Kids Act (S7694A)	Prevents addictive feeds; restricts nighttime notifications	Passed (June 2024)
EARN IT Act	Establishes a national commission to prevent online child sexual exploitation, limits platform immunity	Introduced
Eyes on the Board Act	Requires schools to monitor and restrict social media on school devices and networks	Introduced

AI Moderation

- Strengths are fast data processing, pattern recognition, and large-scale triaging.
- Limitations include difficulties in understanding context, sarcasm, cultural nuance, and intent.
- Humans, on the other hand, can understand context and provide empathy.
- The best model seems to be to use AI to flag content, and humans make the final decisions.

Table 2 - Mastodon vs. Centralized Social Media

Mastodon is a decentralized social media network where users create/run their own communities (instances), and there are no algorithms. See <https://joinmastodon.org/>. Is this a valid solution?

Feature	Centralized Social Media	Mastodon
Platform Ownership	Single corporate owner	Independently owned instances
Content Moderation	Centralized moderation	Instance-specific moderation teams
Network Structure	Single server or hub	Federated (ActivityPub)
Governance	Corporate-controlled	Community-driven
Data Collection	Extensive user tracking	Minimal, instance-dependent
Recommendations	Algorithmically curated feeds	No engagement-optimized algorithms

Issues with Mastodon

- It can create echo chambers as users select communities that align with their own ideologies.
- Less automated moderation: relies heavily on community reporting.
- Not a full replacement for mainstream platforms, mostly a proof of concept for now.

Educational Interventions

- Material taught in schools should include algorithm awareness, online safety, and data privacy.
- Students can learn through case studies and role-play scenarios. Material can also be integrated with other courses.
- This way, students can make informed choices, and passive consumption can be reduced.

[Backgrounder – Government of Canada introduces legislation to combat harmful content online, including the sexual exploitation of children.](#)

Canadian Heritage. (2024, February 26). Backgrounder – Government of Canada introduces legislation to combat harmful content online, including the sexual exploitation of children. Canada.ca. Retrieved January 12, 2026, from <https://www.canada.ca/en/canadian-heritage/news/2024/02/backgrounder--government-of-canada-introduces-legislation-to-combat-harmful-content-online-including-the-sexual-exploitation-of-children.html>

Online Harms Act

- Introduced in February 2024 by the Government of Canada, aiming to make online platforms legally responsible for addressing harmful content and protecting users, particularly children.
- The legislation responds to concerns that online platforms have historically shifted responsibility for safety onto parents, despite platforms designing and amplifying the systems that expose children to harm.

- The Act is intended to strengthen protections for children while also addressing online hate and other forms of serious digital harm.
- Online platforms covered by the legislation include social media services, livestreaming platforms, and user-uploaded adult content services.
- The Online Harms Act introduces a new regulatory framework enforced by a Digital Safety Commission, alongside the creation of a Digital Safety Ombudsperson to support users and victims.
 - The framework focuses on seven categories of harmful content that are considered especially damaging in online environments, affecting children and vulnerable users.
 - These seven categories include content that sexually victimizes a child, non-consensual intimate content, hate-promoting content, violent extremism, content that incites violence, content used to bully a child, and content that encourages self-harm in children.
- The proposed Digital Safety Commission of Canada would be responsible for enforcing platform compliance, auditing safety practices, and issuing penalties where obligations are not met (as well as handling user complaints and moderating the most harmful content categories).
 - The most harmful content categories are any content that only takes a single view to cause extreme long-term harm, so they must be removed to protect people.
 - The content categories are (1) material that sexually exploits a child or retraumatizes a victim and (2) intimate images shared without consent, including sexualized deepfakes.
 - The legislation also strengthens mandatory reporting requirements for internet services in cases involving child sexual exploitation material.

Platform Responsibilities (Online Harms Act)

- Platform obligations under the Act are organized into three duties:
 1. The duty to act responsibly
 2. The duty to protect children
 3. The duty to make certain content inaccessible.
- Under the duty to act responsibly, platforms would be required to assess the risk of harmful content exposure and implement measures to reduce that risk.
- Services would be required to provide accessible tools that allow users to flag harmful content and block other users.
- The Act includes transparency requirements, such as the publication of Digital Safety Plans, detailing how platforms address harmful content and which datasets are used in moderation and risk assessment.
- Platforms would be required to label harmful content that is artificially amplified (to acknowledge the role of algorithmic amplification).

Addressing Hate Speech (Online Harms Act)

- Amendments to the Canadian Human Rights Act would allow individuals and groups to file complaints against users who communicate hate speech online.
- The act clarifies hate speech as extreme expressions of hate based on prohibited grounds of discrimination (e.g. race, religion, age, sex).

Course Connections

- Power: The Act challenges the idea that safety is solely a parental responsibility,

redistributing accountability to platforms. Also, government intervention counters corporate dominance in digital spaces.

- Anti-Oppression: Protects vulnerable populations from harm (targeting the structures) that cause disproportionate long-term damage.
- Free Speech: Regulating hate speech raises questions about balancing protection and expression. This also raises the paradox of intolerance (the solution should be to draw a line between extreme violence, translated into a digital equivalent, which could destroy the core of free speech and therefore not be tolerated).

7. How should companies redesign online media recommendation algorithms to ensure the well-being of teenagers?

Algorithmic Exploitation in Social Media Human Trafficking and Strategies for Regulation

Moore, D. M. (2024, July 9). Algorithmic Exploitation in Social Media Human Trafficking and Strategies for Regulation. CanLII. Retrieved January 12, 2026, from <https://www.canlii.org/en/commentary/doc/2024CanLIIDocs1910>

- Data analytics and machine learning could be used to detect exploitation earlier.
- Proactive algorithm monitoring could reduce harm to vulnerable populations.
- Stronger collaboration between governments and technology companies is necessary.
- Regulation must focus on how algorithms identify, target, and influence users.

The Pros and Cons of Social Media Algorithms

Draper, D., & Neschke, S. (2023, October 1). The Pros and Cons of Social Media Algorithms. Bipartisan Policy Center. Retrieved January 12, 2026, from https://bipartisanpolicy.org/wp-content/uploads/2023/10/BPC_Tech-Algorithm-Tradeoffs_R01.pdf

Table - Pros and Cons of Social Media Algorithms

Area	Benefits	Limitations and Risks
Children's Online Safety	<ul style="list-style-type: none">● Helps youth find supportive communities and resources (especially marginalized groups)● Moderation algorithms remove self-harm, substance abuse, and sexually harmful content, fostering safer environments	<ul style="list-style-type: none">● Designed to maximize engagement, contributing to addictive use● Linked to poor sleep, anxiety, and depression● Increased exposure to cyberbullying and unrealistic beauty standards● Personal data collection enables targeted ads to children with limited control
Online Speech (Moderation)	<ul style="list-style-type: none">● Reduces harmful, violent, and illegal content at scale● Helps combat misinformation, hate speech, and violent threats	<ul style="list-style-type: none">● Over-blocking and false positives can suppress legitimate speech● Downranking and shadow banning can silence creators and marginalized voices

Political Literacy	<ul style="list-style-type: none"> • Connects users with like-minded political communities • Encourages civic engagement and activism • Aids in political education (e.g. voting information) 	<ul style="list-style-type: none"> • Algorithm favours sensational and polarizing content • Creates filter bubbles and echo chambers • Reinforces confirmation bias and ideological polarization • AI-generated disinformation
Algorithmic Transparency	<ul style="list-style-type: none"> • Transparency reports, audits, and disclosures can increase accountability and public trust • Enables research and oversight of platform behaviour 	<ul style="list-style-type: none"> • Algorithms function as “black boxes” that are difficult to understand • Full transparency may expose trade secrets (or aid hackers)
Mitigating AI System Bias	<ul style="list-style-type: none"> • Algorithms can be trained to reduce discrimination and harmful stereotypes • Can promote equal visibility across demographics 	<ul style="list-style-type: none"> • Algorithms inherit human and data biases • Training data may be skewed, harming and suppressing marginalized groups
Social Media User Data Collection	<ul style="list-style-type: none"> • Tailored content improves user experience • Helps detect fraud, cyberattacks, and security breaches 	<ul style="list-style-type: none"> • Extensive data collection raises privacy concerns • Data may be shared with third parties without clear consent • Monetization through targeted advertising limits users’ ability to opt out (the alternative is often a payment plan instead of ads)
Language Complexities in Content Moderation	<ul style="list-style-type: none"> • NLP (AI) enables real-time detection of hate speech and harassment • Adapts to evolving slang and language trends 	<ul style="list-style-type: none"> • Most systems are English-centric • There is inconsistent moderation across non-English languages
Algorithms and Section 230 Immunity	<ul style="list-style-type: none"> • Shields platforms from liability for user-generated content • Enables large-scale moderation • Protects startups and smaller platforms from lawsuits 	<ul style="list-style-type: none"> • Unclear whether algorithmic decisions should be protected • Generative AI challenges existing legal interpretations • Courts and lawmakers lack clear standards
Algorithms v.s. Human Moderators	<ul style="list-style-type: none"> • Algorithms handle content at a massive scale • Speed up detection and removal of harmful content • Reduce psychological harm to human moderators 	<ul style="list-style-type: none"> • Algorithms struggle with context and intent (humans are necessary)

Detecting Extremist Networks	<ul style="list-style-type: none"> Identifies extremist behaviour early Can prevent offline violence Industry cooperation improves detection tools 	<ul style="list-style-type: none"> Algorithms may also facilitate radicalization Extremists migrate to smaller, less-moderated platforms
Detecting Child Sexual Abuse Material	<ul style="list-style-type: none"> Mainstream social media platforms can frequently flag images containing child abuse with algorithms The Tech Coalition, a collaboration of many companies, innovates and works to combat child sexual abuse material 	<ul style="list-style-type: none"> Algorithms help connect harmful networks that propagate child sexual content Perpetrators can adapt to evade detection

Course Connections

- Intent v.s. Impact: AI moderation may be able to understand the impact, but not the intent. However, intent should be the most important part. Yet intent may also not be easily understood by AI, as there may be sarcasm or nuance. Perhaps the more normalized use of tone indicators would not only help with moderation but also bridge the gap between intent and impact online.
- Power: Algorithms can both amplify and suppress marginalized creators through bias or over-moderation.
- Free Speech / Space: Moderating harmful content may protect users, but risks silencing legitimate discourse.
- Space: Personalized feeds reinforce ideological bubbles, limiting exposure to diverse perspectives. Confirmation bias is prevalent in online spaces.

[Screens Are Not the Enemy: Recommendations for Developing Healthy Digital Habits in Youth - PMC](https://pubmed.ncbi.nlm.nih.gov/articles/PMC12331319/)

Bolch, M. B., Moore, R. M., Robertson, G. C., Scafe, M. J., & Milkovich, L. M. (2025, August 1). Screens Are Not the Enemy: Recommendations for Developing Healthy Digital Habits in Youth. National Library of Medicine. Retrieved January 12, 2026, from <https://pubmed.ncbi.nlm.nih.gov/articles/PMC12331319/>

Alarming Statistics

- Nearly 90% of youth aged 11 or younger interact with digital media, including social media, video games, and streaming platforms.
- Children aged 8-12 spend approximately 5.5 hours per day on digital media, while adolescents aged 13-18 spend about 8.5 hours daily
- Around 60% of parents report concerns about how digital media affects child development.
- Around 60% of parents of children under 12 seek advice on digital media use from doctors or other parents.

Benefits

- Digital media provides accessible access to information, early learning tools, and social connections.

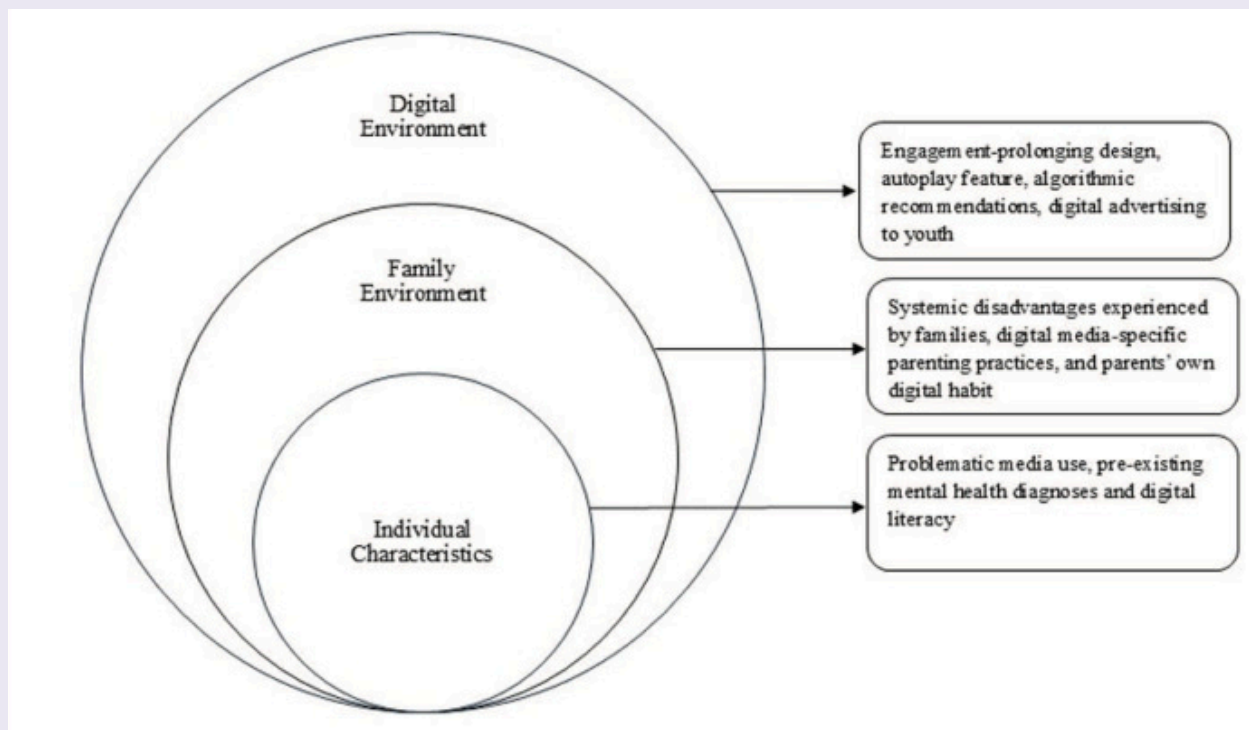
- According to the article, “A review of 131 articles indicated that other benefits of digital media use include positive cognitive and social-emotional development. Further, digital interventions such as care via telehealth platforms have been leveraged to promote favorable reductions in symptoms of depression and anxiety for adolescents.”

New Framework for Healthy Digital Habits

- Multisystemic Model of Digital Habits
- Applies a social-ecological approach, examining the digital environment, the family, and individual influences (ordered by scale).
- This is because youth outcomes are shaped by interactions between platform design, family systems, and personal vulnerabilities.

Diagram - Multisystemic Model of Digital Habits

Credit: Figure 1, from the source



Digital Addiction for Teenagers

- Digital platforms are designed for profit and often don't consider the needs of youth
- Features such as autoplay, algorithmic recommendations, and embedded advertisements are explicitly designed to increase engagement and revenue.
 - Autoplay reduces the user's sense of self-agency by automatically continuing content.
 - Algorithmic recommendation systems personalize content to prolong engagement and promote emotionally arousing or extreme material.
 - These systems rely on continuous user data collection based on behaviour patterns and content interaction.
- Youth are particularly vulnerable to digital advertising and data exploitation due to

developmental factors.

What Experts Suggest

- New policies that shift digital platforms toward designs that are focused on children.
- In June 2024, the U.S. Surgeon General called for warning labels on social media platforms.
- In 2023, the American Psychological Association issued a Health Advisory urging changes to protect adolescents from platform-related harms, including limiting autoplay, targeted advertising, data collection, and promotion of harmful content

What Individuals Can Do

- Most phones offer built-in screen-time restrictions that limit access and introduce friction into habitual use.
- Third-party monitoring tools provide additional features.

Systemic Factors

- Youth from lower-income households are more likely to have devices in their bedrooms and higher total exposure.
- Higher household stress and disorganization are associated with increased device use among youth.
- Higher parental media use correlates with increased youth media use: Parents with problematic media use are nearly 10 times more likely to have children with problematic media use.
- Digital media use can interrupt relationships (also known as technofence), which can create and reinforce a feedback loop (the solution would be screen-free times/spaces, e.g. at meals).
- Parents' digital habits should be addressed during pediatric guidance starting in early childhood.
- Providers should acknowledge that parents often use media to cope with stress and suggest alternative coping strategies.

Course Connections

- Capitalism: Agency is reduced to reduce the power that individuals have, all for the purpose of profit (more engagement).
- Classism: Lower-income households experience higher exposure due to environmental stressors.
- Social Justice: Solutions can not be solved only through individual action, but require systemic change. We need to work together to ensure that larger tech companies are being transparent and safe, and that no one is being exploited.

Putting it all together...

After all research is complete, make note of the key findings and formulate conclusions.

Conclusions on the next page ↴

Closings

Key Findings

- Teenagers are vulnerable to online, algorithm-driven addiction due to ongoing brain development, social pressure, and identity formation.
- Nearly half of teenagers report being online almost constantly, and many acknowledge that they use social media more than they want to, with most feeling unable to do anything about it.
- This isn't good because excessive social media use is correlated with anxiety, depression, sleep disruption, and reduced attention span.
- Social media algorithms are intentionally designed to maximize engagement, not well-being, using dopamine-driven feedback loops.
- While digital media offers real educational, social, and accessibility benefits, existing safeguards and legislation have not kept pace with technological development.
- There are emerging solutions like Canada's Online Harms Act, and systems like Mastodon that offer innovation in combating addictive digital algorithms.

Conclusion

The current state of teenage online addiction is driven by algorithms that chase engagement, all for the goal of profit for huge corporations. I've always thought online media addiction is not a personal failure, but a systemic issue, given the number of teenagers with high online usage rates. The research to find the root cause provides confirmation, as the designs of popular platforms are predatory, education and policies need updating, and more awareness needs to be brought to the issue. Algorithms have their benefits, but we need to ensure that algorithmic systems are not actively manipulating engagement and emotion.

As a teenager who grew up accustomed to technology, my perspective is shaped by firsthand exposure to constant connectivity, algorithmic feeds, and normalized high screen use. Recently, through high school, I've noticed short-form content being the most addictive, and something that had a negative impact on my life, which is why I've slowly reduced my use throughout the years. I fear that social normalization will make it harder for people to recognize harm or seek help, reinforcing the need for systemic change rather than blaming individuals.

I benefit a lot from online platforms, as I learn a lot of material online related to my interests (programming, mathematics, philosophy) while simultaneously being affected by their exploitative design. This gives me a responsibility to practice algorithm awareness, critically evaluate the content I consume, and use any available tools to manage my digital habits. I want to ensure people have the education they need by pushing for an updated school curriculum, as well as ensuring there is adequate support for policies that can mitigate companies from exploiting the vulnerable online. We need to take back our power from huge corporations that seek to exploit us for monetary gain, or the harms of algorithmic exploitation will continue to deepen and normalize across generations.

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