

Hooked, Harmed, and Manipulated: The Harmful Psychological Costs of Social Media for Adolescents

By Chloe Wang

AUTHOR BIO

Chloe Wang is a rising senior at The Bishop Strachan School in Toronto, Ontario. She has pursued coursework on how media shapes culture and society, which informs her current academic focus on the psychological and cultural effects of digital platforms. Her research interests include adolescent mental health, social media influence, psychology, and sociology. She has written on topics such as algorithm-driven engagement, social comparison, and the role of cyberbullying in shaping youth experiences online.

Chloe approaches her research with an interest in connecting theory with practice. She studies how specific design choices in social platforms affect daily behaviors, self-perception, and long term well being. She also analyzes regulatory and educational strategies that address these harms. Her work highlights the importance of digital literacy programs, responsible design, and policy oversight. Through her academic studies and independent projects, Chloe continues to investigate how culture and technology intersect, with a focus on creating safer digital environments for young people.

ABSTRACT

Social media shapes how adolescents form identity, build relationships, and manage mental health. It offers connections and self expression, but its design also creates harm tied to profit-driven features. This paper studies how algorithms push emotional contagion by rewarding extreme reactions, how curated content fuels upward comparison that lowers self-esteem, and how weak safeguards allow cyberbullying to spread without control.

The research method is a review of peer-reviewed studies in psychology and sociology. Studies show higher rates of depression, anxiety, and loneliness in adolescents exposed to these risks. Data also connect heavy platform use to reduced sleep, poor focus, and lower academic performance. These outcomes show how design features influence daily health and behavior.

The findings give clear action steps. Schools need digital literacy programs to help students see how algorithms shape what they view. Platforms need to redesign features that trap users in harmful loops. Governments need to set standards that hold media companies accountable.

This study answers a clear question. How do design choices on social media harm adolescent mental health, and what responses reduce those harms? The evidence shows the risks, and the recommendations provide viable solutions.

Keywords: *Adolescent mental health, Social media algorithms, Cyberbullying, Social comparison theory, Fear of Missing Out (FOMO), Misinformation and trust, Emotional contagion, Algorithmic manipulation*

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INTRODUCTION

Social media shapes how adolescents think, feel and connect. It is a daily presence in schools, homes and peer relationships. Studies link heavy use to depression, anxiety, and loneliness. Many risks come from design choices tied to profit, rather than from neutral use.

How do the design features of social media platforms affect adolescent mental health? The research question in this paper focuses on three areas specifically. Algorithms fueling emotional contagion, curated posts that drive upward social comparison, and cyberbullying that spreads with weak protection systems.

The scope of this paper is limited to peer-reviewed studies in psychology and sociology. The evidence is drawn from large-scale surveys, longitudinal studies, and controlled experiments. These studies measure symptoms, behaviors, and outcomes tied to platform design.

The structure of the paper follows four parts. The first section reviews prior research and theory. The second section analyzes evidence on algorithms, comparison cycles, and bullying. The third section discusses the finding and their meaning for policy and education. The final section outlines solutions, including digital literacy, platform design changes, and government regulation.

METHODOLOGY

This study uses qualitative synthesis, drawing from peer-reviewed psychological and sociological literature on adolescent mental health. Sources were selected for their empirical rigor, relevance to youth populations, and focus on social media platforms such as Instagram,

TikTok, Facebook, and Twitter. Cross-comparison across studies enabled the identification of consistent mental health patterns, including depression, anxiety, appearance concerns, and information stress. Studies were verified for academic credibility and checked against real-time sources.

DISCUSSION

The evidence shows that harms do not arise from a single feature but from the interaction of algorithms, comparison dynamics, and bullying chances. Platform algorithms are designed to maximize engagement, and they prioritize emotional, sensational, or enviable content, which supports emotional contagion that affects mood and behavior. The comparison literature further links upward social comparison to depressive symptoms in adolescents through envy, indicating a mechanism that aligns with these engagement incentives. Finally, cyberbillioning is both prevalent and consequential for teen mental health, reinforcing that weak protective environments on platforms can magnify risk.

At the same time, the record points to nuance within this topic. While adolescent studies connect upward social comparison to envy and depression, research with parents shows that exposure to upward targets can motivate healthier practices, suggesting that effects vary by age, role, and context. These differences show that the same design features produce divergent outcomes across populations.

Linking back to the research question, the evidence indicates that harm stems less from social media's mere presence and more from how platforms are structured to optimize engagement, through algorithmic ranking and curation. This synthesis supports solutions that target design and governance rather than only

usage volume, including digital literacy in schools, redesign of engagement features, and regular standards for accountability.

ALGORITHMNIC AMPLIFICATION AND EMOTIONAL CONTAGION

Specially designed algorithms are present in many types of social media, whether in apps like TikTok and Instagram or websites like YouTube and LinkedIn. These algorithms not only maximize user engagement but also harm mental health by fueling emotional contagion. A social media algorithm is defined as “a mathematical set of rules specifying how a group of data behaves;” it also “assist[s] in ranking search results and advertisements” (O’Brien, 2023, What Are Social Media Algorithms, para. 1). Hannah Metzler (2023), with a Ph.D in neuroscience, and David Garcia (2023), a seasoned professor of social and behavioural data science, claim that algorithms may contribute to harmful mental health issues, including “depression, anxiety, loneliness, body dissatisfaction, and even suicides” (Introduction, para. 1). Social media platforms have these algorithms embedded into their “For You” pages, where countless people are exposed to “extremist and populist content” (Metzler & Garcia, Introduction, para. 1). Yue Qiu (2024) further develops this claim by asserting that “Algorithms prioritise content that generates a lot of interaction...content that is emotional, sensational or enviable” (p.3). Furthermore, the curated content displayed on one's page influences mood shifts through emotional contagion. The phenomenon of emotional contagion is the influence of others' emotions on one's self, transferring positive and negative feelings without awareness. Adam D. I. Kramer, a social psychologist; Jamie E. Guillory, a health research scientist; and Jeffrey T. Hancock, a professor at Stanford University, conducted a study where 689,003 participants were examined on whether “emotional states can be transferred

to other[s] via emotional contagion” through participants' News Feeds on Facebook (Kramer et al., 2014, Abstract, para. 1). The study concluded that reduced positive content in News Feeds led to negative status updates, and the opposite occurred when the amount of negative content was decreased in news feeds. (Kramer et al., 2014). The results of this study reveal the harm that algorithms carry, by prioritizing extreme content and allowing negative emotions to spread across a large scale via emotional contagion. This suggests how algorithms may weaponize negativity— users are not just seeing sad content; they are being manipulated into mirroring it. Thus, algorithms can make platforms dangerous and damage the mental health of social media users, however, they remain significant since many are unaware of this manipulation.

UPWARD SOCIAL COMPARISON AND ADOLESCENT SELF-ESTEEM

Social media spreads comparison culture to millions of users based on an addictive reward system that boosts dopamine levels, resulting in a high similar to using drugs (Kayala et al., 2023). More often than not, social media influencers are idolized for their perfect and successful lives, using likes and comments as a source of collective validation. Yue Qiu (2024) expands on this and states that “[influencers] inadvertently become benchmarks against which ordinary users measure their own lives” (p. 4). Some may engage in upward social comparison (USC), leading to excessive spending or extreme dieting to mirror the opulence of influencer lifestyles. Moreover, these efforts “further entrench the negative cycle of comparison,”(Qiu, 2024, p.4) leading to low self-esteem and poor mental health. Furthermore, Alicia Nortje develops this claim by stating “When engaging in upward social comparison, we compare ourselves to someone we perceive to be better than we are” (Nortje,

2020, The Direction of Social Comparison). Yongzhan Li (2019) conducted a study on 934 students and concluded that “envy partially mediates the relationship between upward social comparison on social networking sites and depressive symptoms” (Li, 2019, Findings). Wang et al. agree with this hypothesis, stating that there is a positive correlation between USC and depression, which is completely mediated by envy (Wang et al., 2020). Thus, the toxic USC for validation such as comments or likes creates negative cycles of low self-esteem, depression, and insecurity, significantly harming the mental health of users.

On the other hand, doctors of media and psychology Minjin Rheu et al. (2023), argue that USC in social media pushes parents’ motivation to incorporate healthy parenting practices. The study revealed that “parents who saw upward comparison targets, that is, other children with better eating and exercising practices” (Abstract) were more compelled to adopt these habits for their children rather than parents who saw the opposite. This benefited the parents’ intention to apply healthy practices in the future, showing the positive impact of USC (Rheu et al, 2023). While Rheu highlights benefits for parents, Li’s data on teen envy suggests the opposite—demonstrating how upward social comparison impacts vary by age.

CYBERBULLYING AND ADOLESCENT MENTAL HEALTH

The opportunity to cyberbully increases as people become more familiar with the freedoms on social media (Greenwood, 2023). According to a news article, “Cyberbullying is bullying with the use of electronic devices... causing mental health issues” (Greenwood, 2023, para. 1). Social media creates the ideal environment for cyberbullies to bully a large number of victims and remain anonymous. Victims feel like they can not escape. That is

why 59% of teens in America have experienced some kind of cyberbullying online (Anderson, 2018). Cyberbullying carries detrimental effects. Researchers Suhans Bansal et al. (2024) assert that cyberbullying results in depression, psychological distress, post-traumatic stress symptoms, lack of concentration, and insomnia. Charisse L. Nixon (2014) supports this claim by providing a devastating story. She writes “Rebecca Sedwick, a 12-year-old girl... jumped to her death after... acts of cyberbullying” (Nixon, 2014, para. 4). The concrete evidence strongly supports the correlation between cyberbullying and damaged mental health. Thus, cyberbullying from social media not only has an adverse effect on mental well-being but also highlights the need to protect the younger generation, who are becoming more influenced by media as time goes on.

LIMITATIONS

Though this paper mainly addresses the negative impacts of the relationship between social media and mental well-being, the research limitations still need to be acknowledged. Firstly, the sample diversity from Li’s (2019) study is limited to 981 Chinese high school students, and Kramer et al. (2014) limited sample diversity by studying 466 Lebanese young adults. The lack of diversity in the samples used to reach conclusions creates gaps in research and findings. Furthermore, Wang et al. (2020) did not consider “moderating roles of personality factors and... interpersonal factors” (Limitations) when considering upward social comparison and depression. The potential underlying pre-existing conditions likely fluctuate the data and create unreliable conclusions, another research limitation. Ultimately, these limitations allow a better understanding of the complex nature of studying the relationship between social media and mental health.

CONCLUSION

The research emphasizes social media's paradoxical role: while algorithmic manipulation, USC, and cyberbullying demonstrably harm mental health (Li, 2018; Qiu, 2024), Rheu et al. (2023) reveal that USC can also motivate positive behavioral change in parents. This contradiction highlights a critical nuance; social media's impact depends on context, including user demographics and platform design. The challenge lies in mitigating its harms without dismissing its potential benefits.

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