

Adolescent Health and Generative AI: Risks and Benefits



Adolescent Brain Cognitive Development

Jason Nagata, MD, MSc

Division of Adolescent and Young Adult Medicine

Department of Pediatrics

University of California, San Francisco

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- Dr. Jason Nagata has no conflicts of interest to disclose

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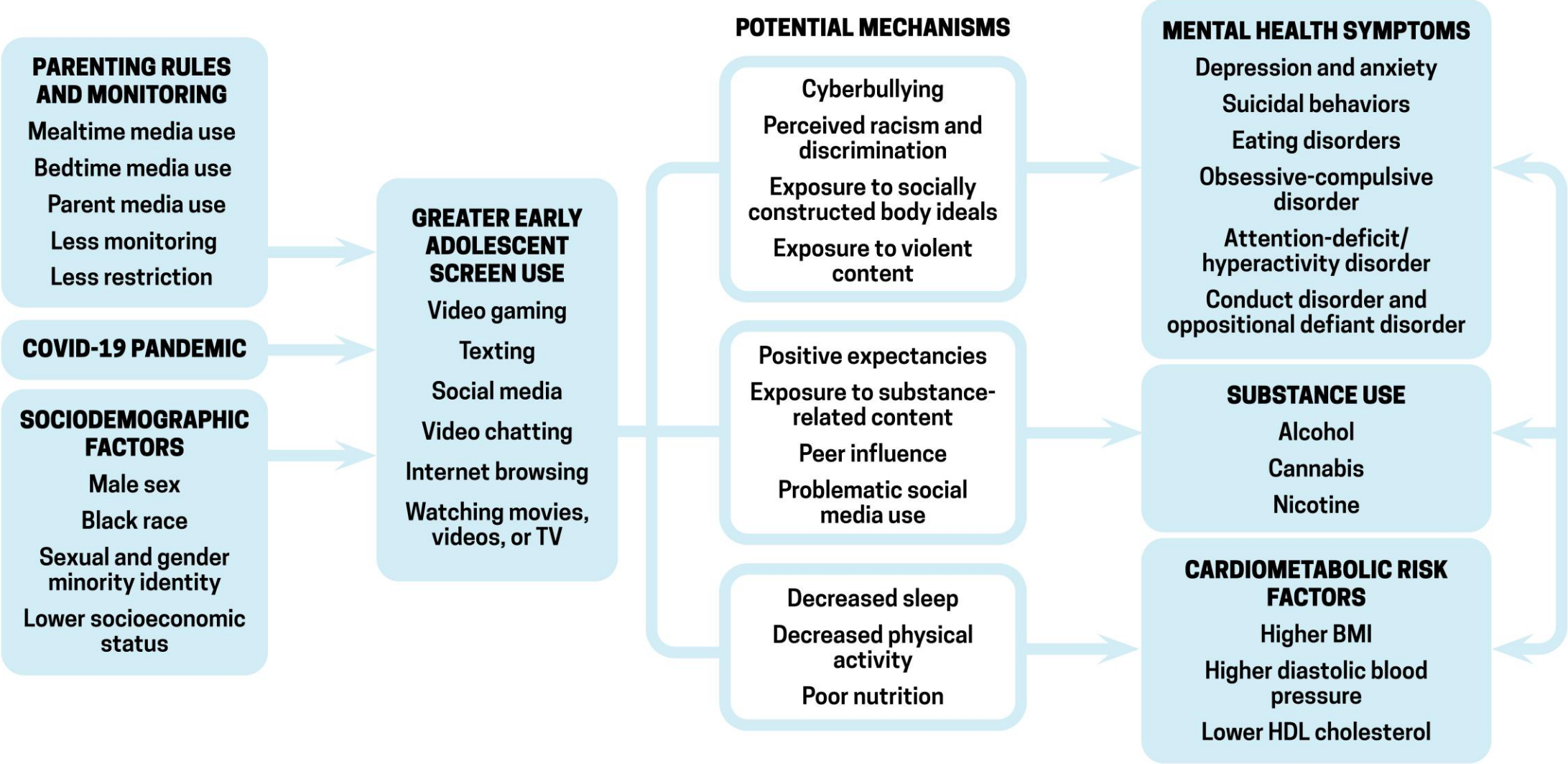
From Social Media to Generative AI

- Generative AI is rapidly becoming part of teens' daily lives
 - Widespread use of tools like ChatGPT, DALL·E, and Character.AI
 - Integrated into everyday platforms (e.g., search, messaging, schoolwork)
- Adolescence = a sensitive developmental window
- Prior research on screens and social media links heavy use to:
 - Mental health symptoms
 - Sleep disruption
 - Cognitive and attention effects

From Social Media to Generative AI

- Generative AI may represent a new phase of the digital environment
- More interactive, personalized, and engaging than social media
- What can we learn from social media/screen research and how might those lessons apply to generative AI use in teens?
- Potential impacts: cognition, mental health, social connection, sleep
- Both risks and benefits

Screens and Health Risks



Health Benefits of Social Media Use in Adolescents and Young Adults

Nagata et al. (2025)

Current Pediatrics Reports

OBJECTIVE

To explore **positive health aspects of social media** and deliver guidance on **how to balance attention to the risks and benefits** of social media use

RESULTS

Recent findings show social media plays an important role in...



Social connection



Identity formation, support, and acceptance



Mental health destigmatization and support



Accessing health information

Examples of how these components can be incorporated into family media plans

Choosing good content

Prioritizing creative, educational, prosocial, and positive content

Social media balance

Setting time limits on social media and ensuring use doesn't interfere with other activities

Communicating about social media

Talking about the ways social media can affect mental health

Clinicians and parents should have open-ended conversations with adolescents and young adults to understand their social media use patterns

Viewpoint | Artificial Intelligence and Pediatric Care

Adolescent Health and Generative AI—Risks and Benefits

Jason M. Nagata, MD, MSc¹; Zain Memon¹; Oliver Huang¹;

Megan A. Moreno, MD, MEd, MPH^{2,3}

[Author Affiliations](#) | [Article Information](#)

¹Department of Pediatrics, University of California, San Francisco

²Division of General Pediatrics & Adolescent Medicine, University of Wisconsin-Madison, Madison

³Associate Editor, *JAMA Pediatrics*

Potential Benefits and Harms of Generative Artificial Intelligence on Adolescent Health Outcomes

Outcome	Potential Benefits	Potential Harms
Health Information	<ul style="list-style-type: none">• Source of reliable, easily accessible health information	<ul style="list-style-type: none">• Risk of inaccurate health information dissemination• Potential manipulation of health information by bad actors (e.g., fake disease)• Training data can include online misinformation, creating models that deliver inaccurate health information

Potential Benefits and Harms of Generative Artificial Intelligence on Adolescent Health Outcomes

Outcome	Potential Benefits	Potential Harms
Cognition	<ul style="list-style-type: none">• Potential to improve education quality• Potential to facilitate collaborative learning and skill development• Potential to free adolescents to focus on more important learning (e.g., creative cognitive tasks, social learning)• Perform tedious calculations and time-consuming tasks	<ul style="list-style-type: none">• Further cognitive biases that adolescents have (e.g., providing a teen with an eating disorder info on a restrictive diet plan)• Cognitive offloading to AI tools• Certain cognitive struggles (e.g., overcoming personal struggles) cannot be performed by AI

Potential Benefits and Harms of Generative Artificial Intelligence on Adolescent Health Outcomes

Outcome	Potential Benefits	Potential Harms
Mental Health	<ul style="list-style-type: none">• Broaden access to mental health support• Assist with mental health diagnosis or refer resources to users• Displacement of time spent on negative uses of other technologies (e.g., doomscrolling social media, hateful content, or passive use)	<ul style="list-style-type: none">• Displacement of traditional therapy and counseling built on human interaction and connection• Lack of empathy and authentic connection from AI tools• Dissemination of inaccurate mental health information• May encourage self-harm, suicide, eating disorders

Potential Benefits and Harms of Generative Artificial Intelligence on Adolescent Health Outcomes

Outcome	Potential Benefits	Potential Harms
Body Image	<ul style="list-style-type: none">AI enhancement of images or videos of an adolescent could lead to greater body satisfaction (e.g., an adolescent uses generative AI to enhance their own selfies)	<ul style="list-style-type: none">Comparisons to hyper-realistic images of bodies that are unattainable in real lifeAI images may not represent a diversity of body types and sizes, which may reinforce rigid appearance norms and worsen body image concerns

Potential Benefits and Harms of Generative Artificial Intelligence on Adolescent Health Outcomes

Outcome	Potential Benefits	Potential Harms
Social Connection	<ul style="list-style-type: none">• Interactions with generative AI may reduce perceptions of loneliness	<ul style="list-style-type: none">• AI cannot replicate human connection and may displace authentic human connection• AI often agrees with users, potentially reinforcing bad behaviors• Relationships with AI often do not involve negotiations or sacrifice, key aspects of relationships

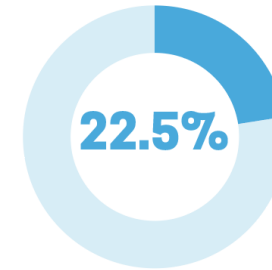
Potential Benefits and Harms of Generative Artificial Intelligence on Adolescent Health Outcomes

Outcome	Potential Benefits	Potential Harms
Sleep and Physical Activity	<ul style="list-style-type: none">• Health information to promote physical activity and sleep (e.g., exercise routines, sleep hygiene)	<ul style="list-style-type: none">• Displacement of sleep• Displacement of physical activity

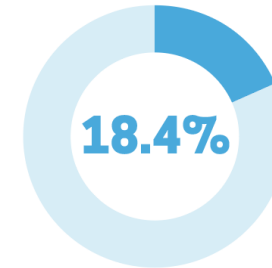
Problematic Social Media Use

SOCIAL MEDIA ADDICTION QUESTIONNAIRE

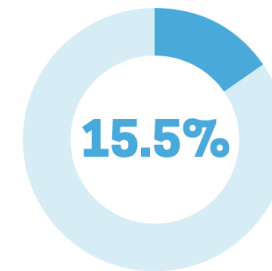
- 1 I spend a lot of time thinking about social media apps or planning to use my social media apps
- 2 I feel the need to use social media apps more and more
- 3 I use social media apps so I can forget about my problems
- 4 I've tried to use my social media apps less but I can't
- 5 I've become stressed or upset if I am not allowed to use my social media apps
- 6 I use social media apps so much that it has a bad effect on my schoolwork or job



of adolescents say
“I spend a lot of time thinking about social media or planning my use of social media apps”



of adolescents say
“I use social media apps so I can forget about my problems”



of adolescents say
“I've tried to use my social media apps less but I can't”

Problematic AI Use

- Impairment in daily functioning (schoolwork)
- Detrimentally affects social relationships
- Leads to conflict
- Inability to stop
- Neglect of other important life areas
- Symptoms of withdrawal, tolerance, relapse
- Changes in typical behaviors

Tips for Parents to Help Teens Navigate AI

- **Be aware of risks:** Teens may use AI for companionship; conversations can reinforce harmful topics (violence, sex) and impact mental health or social development.
- **Stay engaged with kids' online lives:** Keep open, nonjudgmental conversations about AI use; ask what they're using and why, and stay aware of new platforms.
- **Develop digital literacy:** Teach that AI can be helpful but inaccurate or biased; encourage skepticism, fact-checking, and understanding its limits.
- **Set time limits:** Prevent overuse, especially at night, to protect sleep, wellbeing, and healthy offline activities.
- **Seek help for more vulnerable teens:** Watch for isolation, dependence, or mood changes; involve professionals if AI use replaces real-world support or worsens mental health.

Tips for Generative AI Use in Adolescents

- **Set an intention:** Decide ahead of time a specific purpose for use (homework help, health information), not just endless chatting.
- **Fact check:** Treat AI-generated health advice as one input among many; verify with other sources and know when to seek guidance from a medical professional.
- **Prioritize human connection:** AI cannot fully replace friendship, conflict resolution, or negotiating relationships; these skills still need to be developed with humans.
- **Monitor time:** Ensure AI use does not displace sleep or physical activity.
- **Body image:** Avoid comparing yourself to AI-generated visuals or idealized bodies.

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