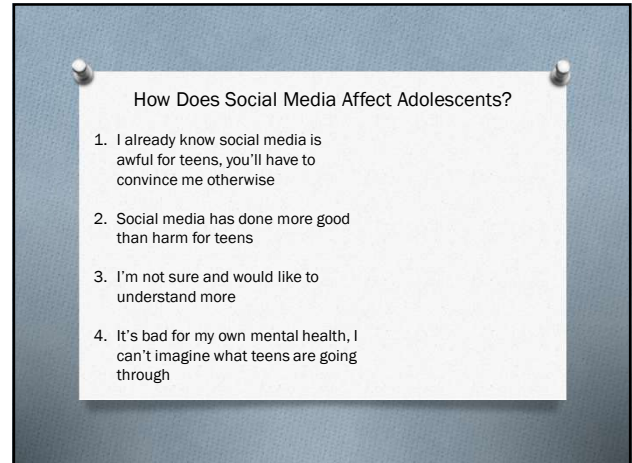
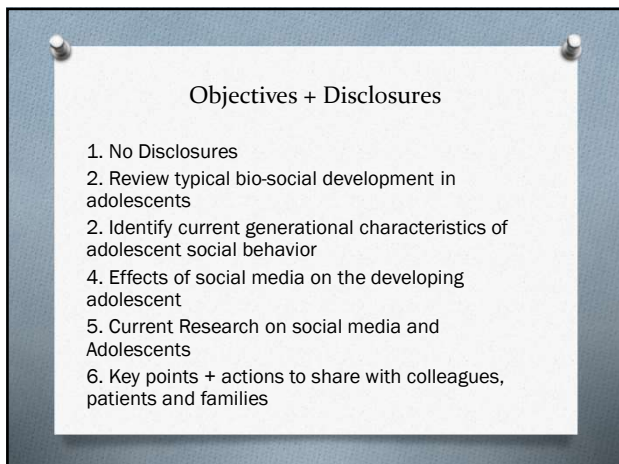




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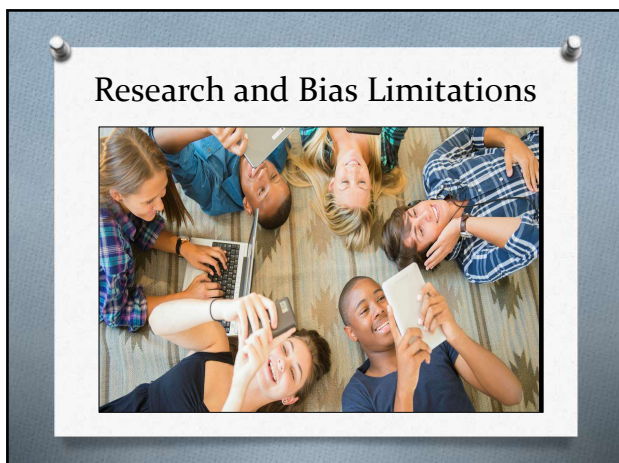
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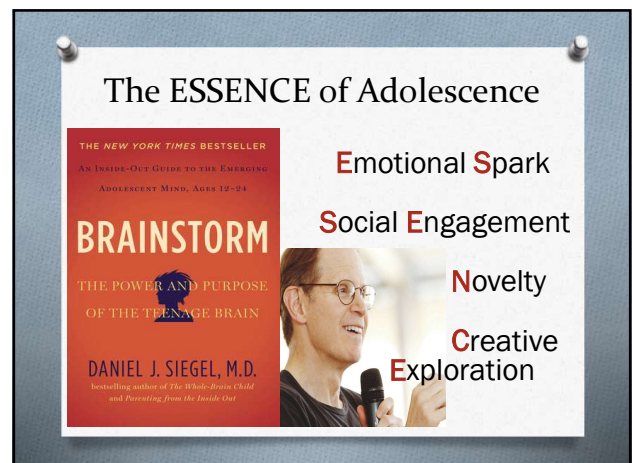
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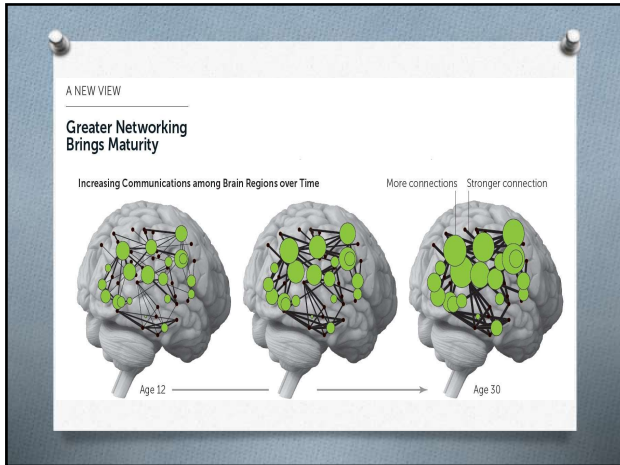
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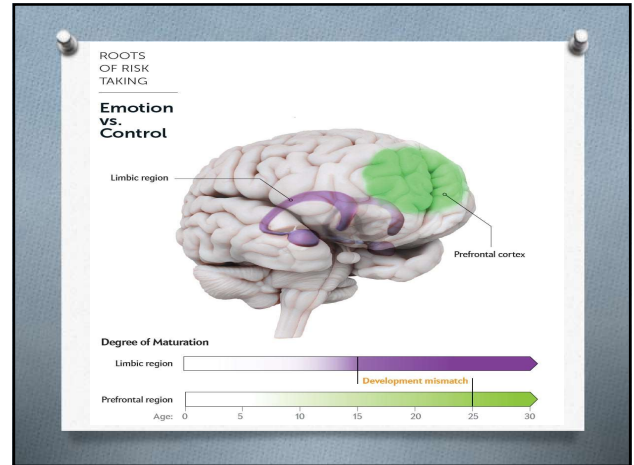
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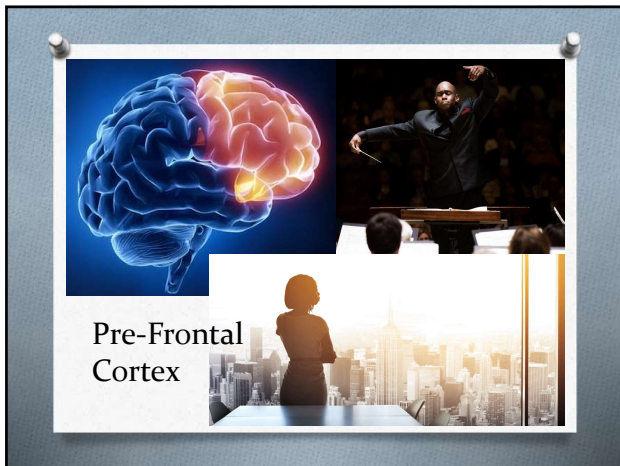
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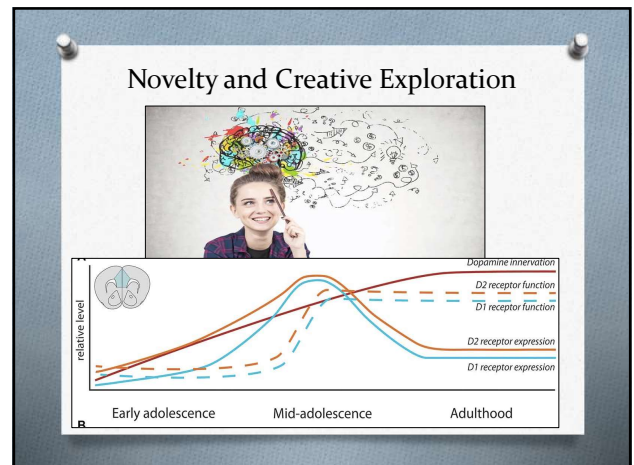
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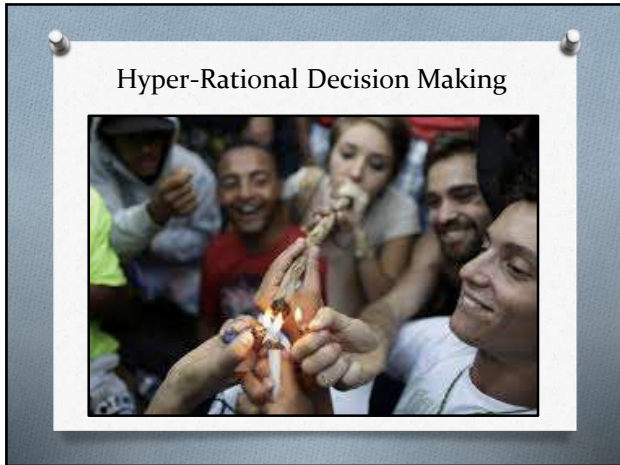
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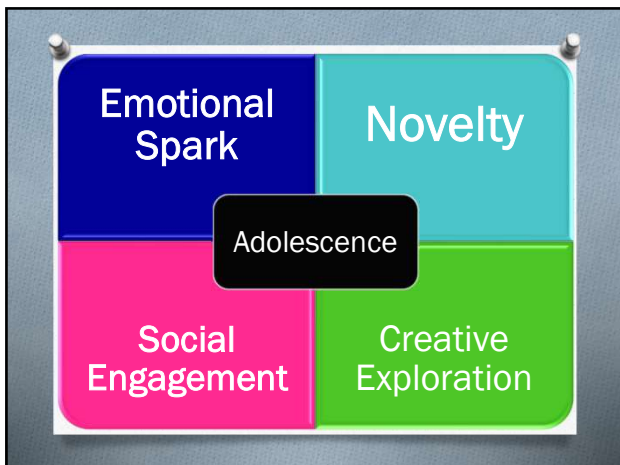
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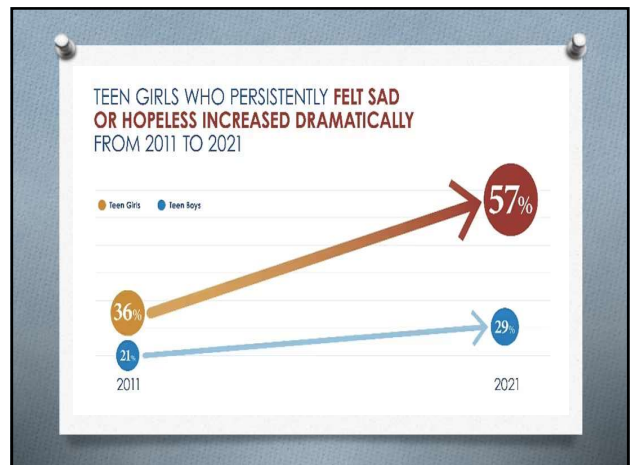
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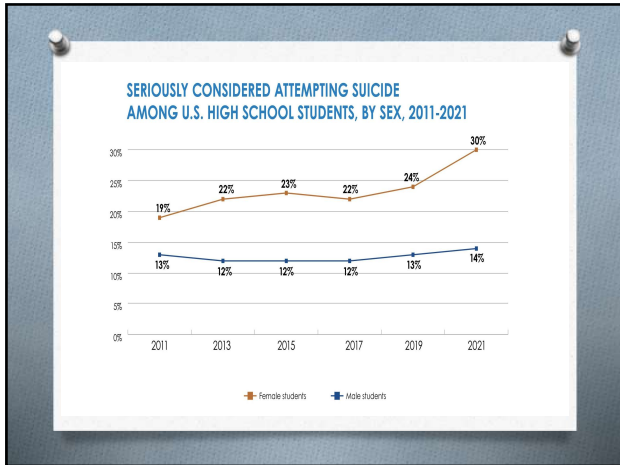
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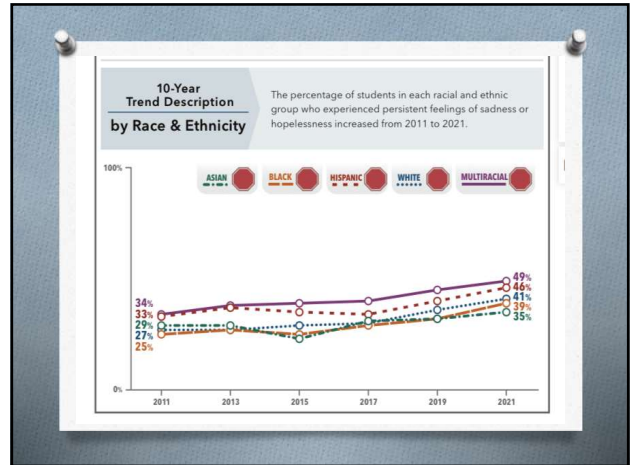
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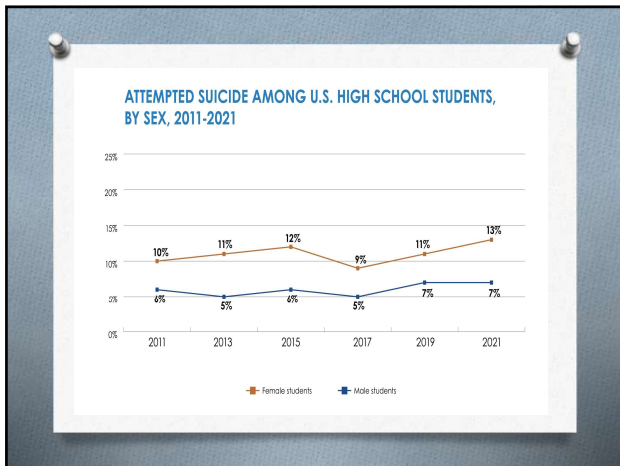
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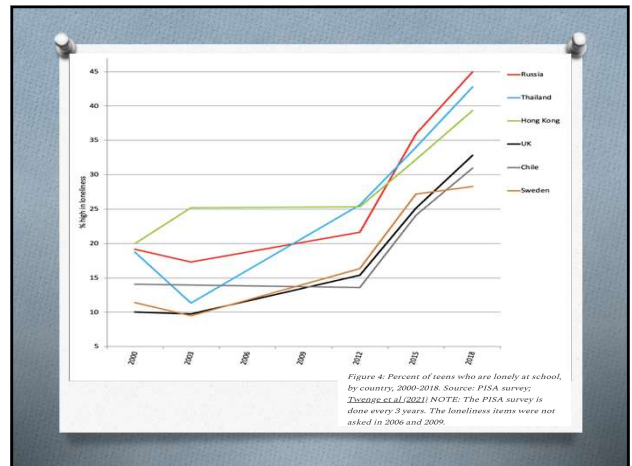
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	2011-2012	2013-2014	2015-2016	2017-2018	2019-2020	Average annual percent change (95% CI)	P value	P value for interaction <sup>b</sup>
<b>Any psychiatric diagnosis</b>								
5-9 y	4.8	5.4	12.5	12.2	11.8	12.2 (4.0 to 20.7)	.002	
10-14 y	11.9	15.8	29.5	27.3	36.5	12.9 (7.9 to 18.2)	<.001	.04
15-19 y	42.6	49.3	58.9	55.1	63.3	4.9 (1.8 to 8.1)	.002	
20-24 y	54.0	58.5	85.7	77.5	72.7	4.9 (2.2 to 7.6)	<.001	
<b>Mood-related<sup>c</sup></b>								
5-9 y	3.0	1.7	3.5	3.9	2.4	3.3 (-8.9 to 17.3)	.61	
10-14 y	7.5	8.9	14.5	10.9	17.5	9.3 (2.5 to 16.5)	.006	.55
15-19 y	22.7	21.0	33.5	31.0	32.3	4.9 (0.7 to 9.3)	.02	
20-24 y	26.0	24.1	37.4	32.6	32.4	4.5 (0.5 to 8.7)	.03	
<b>Behavioral (non-suicidal)<sup>d</sup></b>								
5-9 y	1.5	3.0	4.8	3.6	2.4	5.6 (-6.7 to 19.6)	.39	
10-14 y	4.2	5.6	9.0	9.3	12.7	13.5 (4.9 to 22.7)	.002	.70
15-19 y	4.8	6.1	7.5	10.8	10.2	9.7 (1.4 to 18.7)	.02	
20-24 y	4.4	4.2	6.3	4.1	5.9	3.1 (-6.3 to 13.6)	.53	

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WELLBEING OCTOBER 13, 2023

# Teens Spend Average of 4.8 Hours on Social Media Per Day

BY JONATHAN ROTHWELL

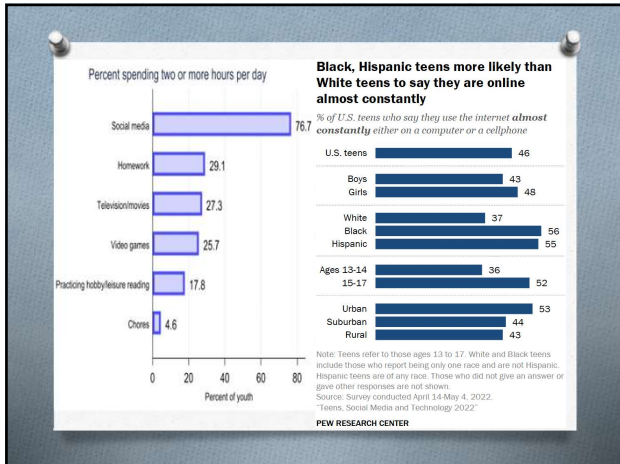


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We've created a world in which online connection has become primary. Especially for younger generations. And yet, in that world, anytime two people connect, the only way it's financed is through a sneaky third person who's paying to manipulate those two people. So we've created an entire global generation of people who were raised within a context with the very meaning of communication, the very meaning of culture, is manipulation."

— Jaron Lainer, computer scientist and virtual reality pioneer

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## INTERMITTENT REINFORCEMENT

Intermittent reinforcement is a schedule of rewards for behaviors or responses that lack predictable pattern. The reward comes periodically, not every time it's performed.

### DEFINITION

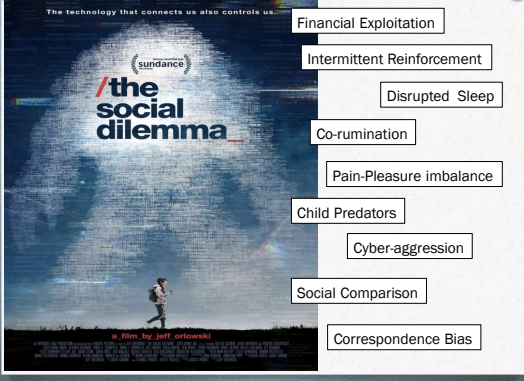
Rather than bestowing a reward each time an individual exhibits certain behavior, intermittent reinforcement awards the same action at random intervals, which can sustain suspense and prevent the extinction of a behavior. This kind of reinforcement is powerful because it creates an element of unpredictability that can lead to behavioral persistence.

### EXAMPLES

- **Slot machines:** Players may not always come out on top but will occasionally receive payouts to keep them motivated and coming back for more.
- **Social media notifications:** You may not always get likes or comments, but when you do, it's incredibly rewarding, encouraging further use of social media.

HELPFULPROFESSOR.COM

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The technology that connects us also controls us.

**the social dilemma**

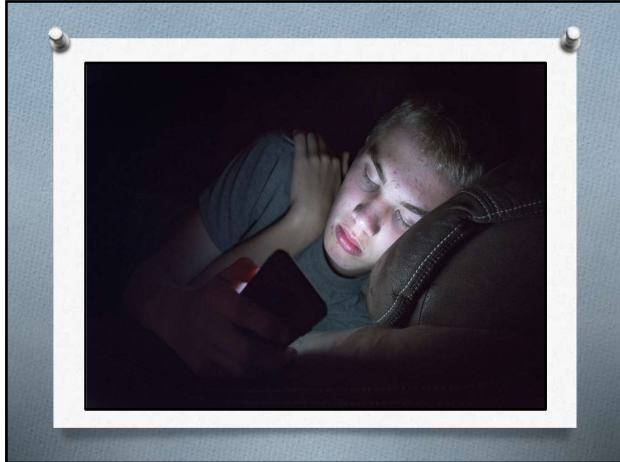
- Financial Exploitation
- Intermittent Reinforcement
- Disrupted Sleep
- Co-rumination
- Pain-Pleasure imbalance
- Child Predators
- Cyber-aggression
- Social Comparison
- Correspondence Bias

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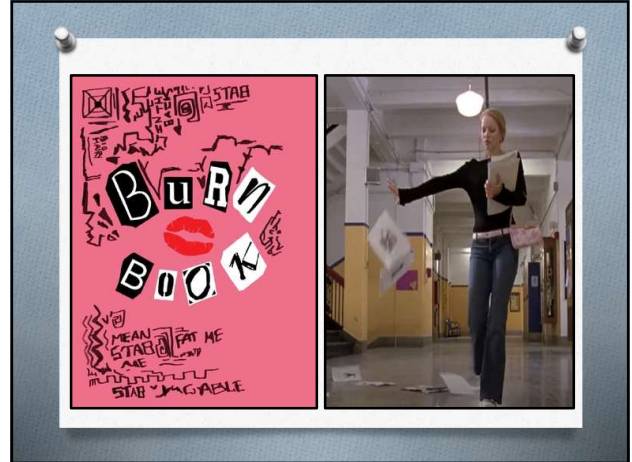
Adolescents are not addicted to social media....

They're addicted to each other

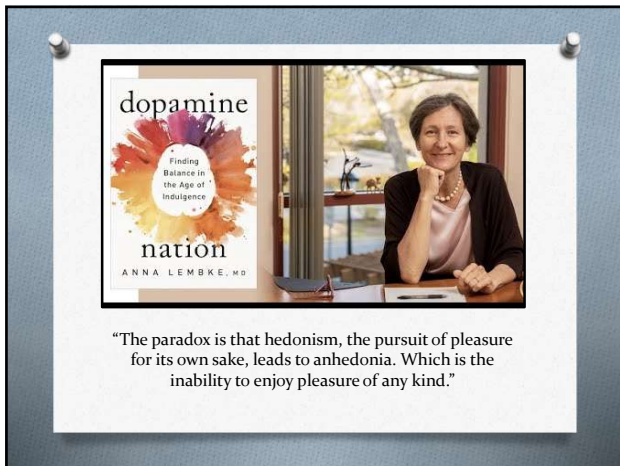
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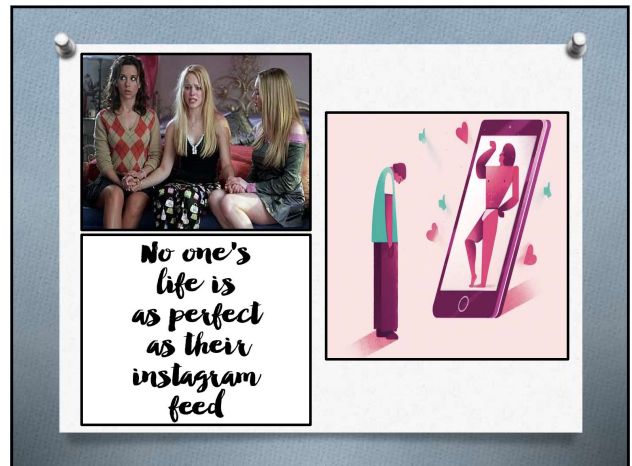
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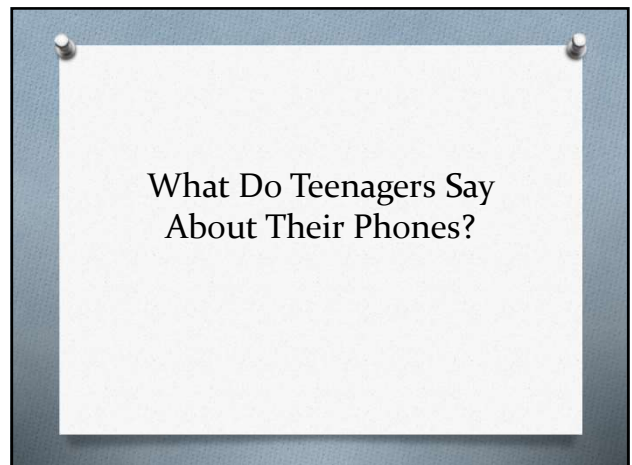
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- ♥ Knowledgeable about their friends
- ♥ Understand their feelings, situations
- ♥ Social support from friends more readily
- ♥ Those who engage in pro-social face to face interactions are more likely to engage in prosocial social media behaviors by encouragement, offering help and uplifting
- ♥ Greater sensitivity to social justice
- ♥ De-stigmatizing of mental health
- ♥ Refuge for teens in marginalized groups

37

*“On balance, the data fail to support the contention that exposure to screen media generally, or social media and smartphones specifically, is associated with negative mental health symptoms.”*

Ferguson, C. J., et.al (2022) Like this meta-analysis: Screen media and mental health. *Professional Psychology*

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## What Does Research Say About Adolescents and their Phones?

38

*“Our findings contribute to a growing scholarly consensus that time spent on smartphones tells us little about young people’s well-being.”*

A. H. M., & Howard, A. L. (2023). Stress and Mood Associations With Smartphone Use in University Students: A 12-Week Longitudinal Study. *Clinical Psychological Science, 11*(5), 921-941.

41

### Should parents fear potatoes as much as screens?

A new study says neither have serious positive or negative impacts on childhood well-being



Peter Gray Ph.D.  
Freedom to Learn

### Has Social Media Harmed Teens' Mental Health?

Research refutes claims about the dangers of iPhones and social media.

Posted November 2, 2023

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*“Messages about the negative impact of screen time on the well-being of young people feature frequently in the media, the community, and political discourse. The current review suggests that this discourse may not accurately reflect the available scientific literature and that the magnitude of the effects when they can be measured range from small to very small. **It is likely that the degree to which increases in screen time account for the recent rise in mental health problems among young people is negligible.**”*

Steinsbekk, Silje & Nesi, Jacqueline & Wichstrøm, Lars. (2023). Social media behaviors and symptoms of anxiety and depression. A four-wave cohort study from age 10–16 years. *Computers in Human Behavior, 147*

42

**Here are 13 other explanations for the adolescent mental health crisis. None of them work.**

Only smartphones and social media can explain why teen depression and loneliness increased internationally after 2010.

**Social Media is a Major Cause of the Mental Illness Epidemic in Teen Girls. Here's the Evidence.**

Journalists should stop saying that the evidence is just correlational

JEAN M. TWENGE  
OCT 18, 2023

JON HAIDT  
FEB 22, 2023

Adolescents are in the midst of a mental health crisis. Teen depression doubled between 2011 and 2021, and 1 out of 3 teen girls in the U.S. has seriously considered suicide. U.S. Surgeon General Vivek Murthy has described adolescent mental health as "the crisis of our time."

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**2. Does social media use at time one predict anything about mental health at time 2 ?**

46

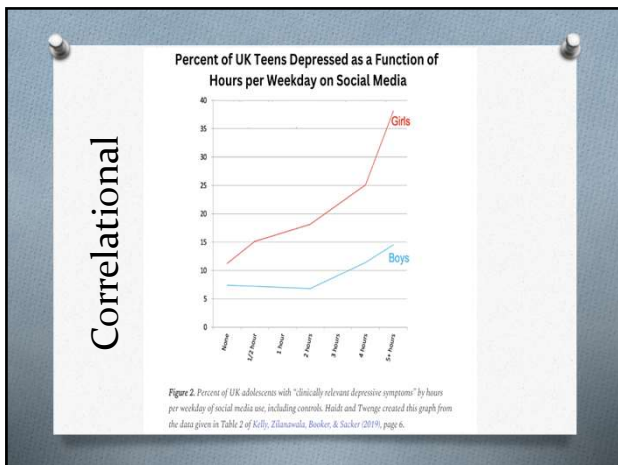
**1. Is there an association between social media use and bad mental health outcomes ?**

44

**Longitudinal**

- ✓ Of the 40 longitudinal studies those that measure effects after one week of quitting social media (7) , only 1 found an effect
- ✓ Of the remaining 33 that measure effects after 3+ weeks, 24 found an effect
- ✓ "Going cold turkey doesn't make you happy, it makes you anxious and dysphoric for a few weeks, so we should not expect to find benefits to mental health in the short interval"

47



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**3. Do experiments using random assignment show a causal effect of social media use on adolescent mental health?**

48



## RTC Studies

- ✓ Out of 18 experimental studies, 12 found a causal effect.
- ✓ In the 6 studies that did not show an effect participants had only reduced or eliminated social media for one week or less.
- ✓ Those who limited their use after **4 weeks** demonstrated reductions in loneliness and depression compared to control group

49

We find a positive and significant impact on girls but not on boys. Exploring the mechanism behind these effects, we show that HSI increases addictive Internet use and significantly decreases time spent sleeping, doing homework, and socializing with family and friends. Girls again power all these effects.

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## 4. Did whole communities change when social media became much more available?

50

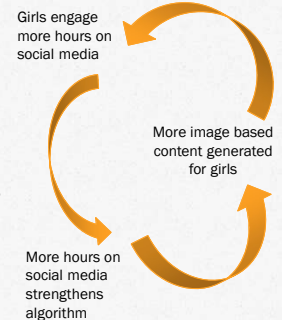
Estimates suggest high-speed wireless internet significantly increased teen girls' mental health diagnoses — by 90% — relative to teen boys over the period when visual social media became dominant among teenagers. I find similar effects across all subgroups, indicating they are not driven by differences in confounding characteristics.

53

We find that the roll-out of Facebook at a college increased symptoms of poor mental health, especially depression, and led to increased utilization of mental healthcare services. We also find that, according to the students' reports, the decline in mental health translated into worse academic performance. Additional evidence on mechanisms suggests the results are due to Facebook fostering unfavorable social comparisons.

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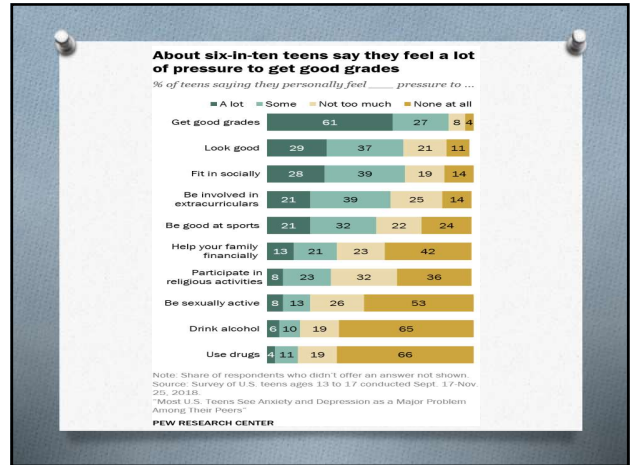
- ✓ Adolescent girls are the most affected group
- ✓ Co-hort effect
- ✓ Lose-Lose Situation



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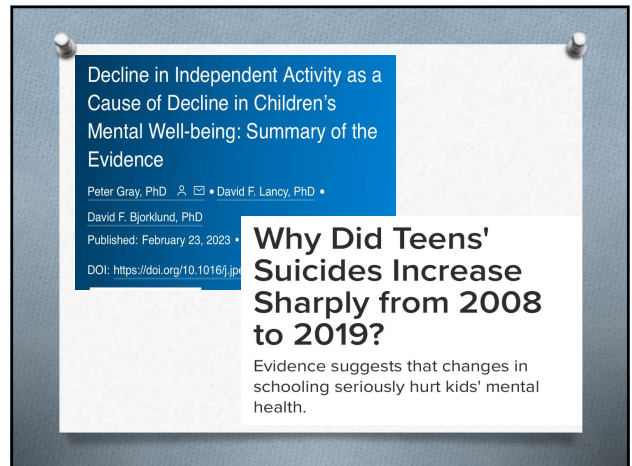
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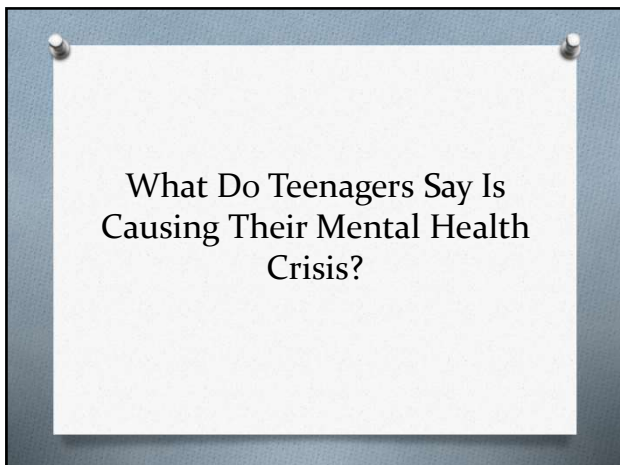
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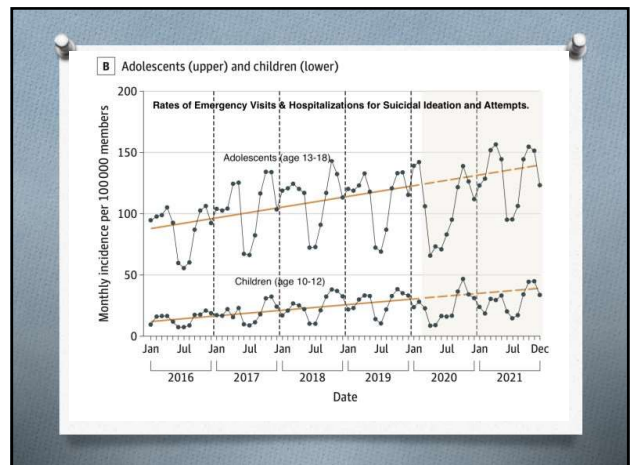
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## Goldilocks Hypothesis

The most well-being was found among moderate television watchers, video game players, computer users, and smartphone users, with lower or higher use rates associated with lower measures of well-being.

"...even if depression is associated with heavy social media use, **the problem is spending excessive time on any one activity [at the expense of other healthy activities]** rather than anything [inherently] dangerous about social media."

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## Key Talking Points with Families

Healthy online behavior mirrors health real life behaviors: **Parents can promote digital citizenship**

- ✓ Joining platforms as a way to learn adapt to the language and passively observe what is posted
- ✓ Model time boundaries around electronics
- ✓ Provide education about the power of intermittent reinforcement and the financial gain of the creators of social media. **Turn off notifications.**
- ✓ Model open dialogue about their online social lives so that teens will come to them when victimized or upset

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## Actions for Professionals

Ask patients about their social media use in a non-judgmental fashion.

- ✓ "What do you like about social media?"
- ✓ "Are there any downsides or dislikes?"
- ✓ "Do you set limits on how much time you spend on it?"

Write letters to representatives advocating for protections

65

## Key Talking Points with Families

Educate: **Adolescents are designed to explore** and seek new opportunities and relationships. Healthy risk-taking is an **antidote to anxiety**

**Set Limits:** social media is **particularly detrimental to adolescent girls**. No smartphones under the age of twelve. Delay social media as long as possible.

**Reduce Suicide Risk:** Keep **your home safe** of lethal means (lock medications and get rid of guns)

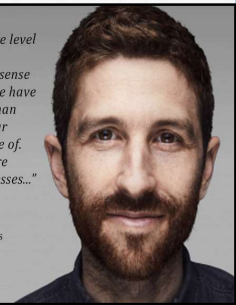
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Are we the masters of the tools we've created, or are the tools a master of us?

"Technology has infused itself at a very intimate level with how we form our identity, how we form relationships, how we make choices, and make sense of the world. ...social media and the smartphone have allowed the influence and manipulation of human biases and weaknesses. They can overwhelm our psychology in ways that we simply aren't aware of. The prevalent business models in technology are entirely based on manipulating human weaknesses..."

- Tristan Harris  
Co-Founder & President, Center for Humane Technologies  
former Design Ethicist at Google

Interviewed by Vikas Shah MBE, @MrVikas  
<https://thoughteconomics.com>



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