


OPTUMHealth™
Education



Social Media & Mental Health
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Special Interests Eating Disorders, ODD, ADHD

Presentation Objectives

- WHAT is social media?
- Reviewing social media prevalence in younger age groups. Topics of Child and adolescent interest such as cyber bullying.
- Video Gaming, stats, & overview.
- Scope of applicability of social media to various health topics ranging from mental health to physical health.
- Current use of Social Media already being done.
- A window on machine learning, deep informal learning and what type of information is already accessible.
- Social Media applications to College Mental Health
- Disaster MH assessment and Intervention.

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Pre-Test

- % age of US teenagers playing video games:
A 25%?, B 50%?, C Over 75%?, D 91%?
- % age of adolescents are on social media?
A 50%?, B 75%?, C Over 75%?, D Close to 100 %
- Higher pressured, prestigious colleges students are using less mental health services. TRUE? FALSE?
- Facebook "News-feed" can make your mood better or worse?
TRUE? FALSE?
- Deep learning [neural network, computerized models and analysis] can accurately identify themes of mental illness.
A 40%?, B 50%?, C 60%?, D Over 70%?

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Social media and Adolescents

- 97% adolescents use social media regularly.
- 90% using social media day and night, 37% losing sleep because of that.
- A focus group found kids thought it caused mood and anxiety disorders for “some adolescents”, it was also viewed as a platform for bullying. It was also viewed as an addiction. (Clinical Child Psychology and Psychiatry <https://doi.org/10.1177/1359104518775154>)
- The practice of trolling was admitted by 10% of the surveyed youth.

CYBER BULLYING

- Meta-analysis of 131 studies indicate prevalence between 11 and 48%.
- Additional risks such as cyberstalking, creation of fake profiles.
- Potential for quick escalation, endorsement of bullying by others, repeated recurrences.
- Also increases the risk substance use disorders independently.
- Suicides and bullying (https://en.wikipedia.org/wiki/List_of_suicides_that_have_been_attributed_to_bullying)

ICD-11 Gaming Disorder

- Diagnosis: the behavior pattern must be of sufficient severity to result in significant impairment in personal, family, social, educational, occupational or other important areas of functioning and would normally have been evident for at least 12 months.
- Platforms: TWITCH, DISCORD, Google STADIA, Microsoft Project x Cloud etc. – essentially varying combo’s of hardware, software, walled gardens with varying types of social interactions.
- Monitoring of content, Monitoring of communications are challenges.
- Social Impact: 91% of ages 2 – 17 play video games. Socialization benefits vs Exposure to violence, Graphic Language and behavioral outcomes are concerns. Negative effects seem to taper off for most.
- US Military has also used VDO Games for simulation in training, WAS also made some content available for public in general “America’s Army”.
- Current data does not support video games causal effect to school violence/ shootings. [multiple references such as PEW 2015]

Depression Greater in Girls

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- Jan 2019, UK Millennium Cohort Study of 10, 904 14 yr. olds showed increase to 26% symptoms with 3 – 5 hours or more [21% at 2 – 3 hours per day]. Gender Differences 50 % for girls and 35% for boys.
- Greater hours social media use related to body weight dissatisfaction (≥5 h 31% more likely to be dissatisfied), which in turn linked to depressive symptom scores directly (body dissatisfaction 15% higher depressive symptom scores), and lower self esteem.
- **There are four hypothesized mechanisms** – experiences of online harassment, sleep quantity and quality, self-esteem and body image – which have been proposed as pathways between social media use and mental health, these appear to interact and have increased impact with increase duration of use. Study also shows duration of social media use related to worsening of impact.

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Reference UK Millennium Cohort Study

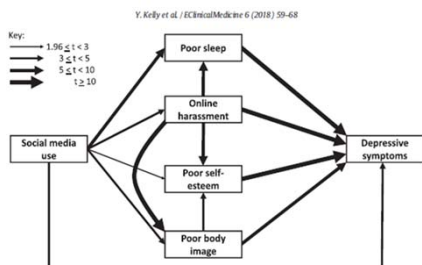


Fig. 2. Social media use and depressive symptoms – summary of path analysis.

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Anxiety and social media

- Increased use of messaging/texting/emailing over personal encounters anxiety in vulnerable individuals and becomes cyclically reinforced for social avoidance behaviors.
- FOMO: Fear of missing out. People want to be connected 24 X 7.
- Propagation of inappropriate skills such as self injurious behaviors and exposure to high risk situations.
- Acceptance of such skills by like-minded peers in silo communities.

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Eating Disorders

- The focus group agreed viewing photo-shopped images was unhealthy and unrealistic.
- Otherwise healthy women viewed themselves as overweight after reviewing Pro ANA sites.
- Sites also exist promoting healthy eating, and support for eating disorders.
- Other notable platforms are Reddit, Facebook and multiple fragmented groups such as Kik and WhatsApp
- Advancing technology makes it possible to change things in real time, such as videos, speech, shapes, photos etc.

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Platform influences: Facebook, BuzzFeed etc

- A study of 689,003 people by altering their newsfeeds showed the statuses they posted became more positive or negative based on the content of their newsfeeds.
- The multiplier effect: cross-platform sharing multiplies the influence of media. Noted as 461 days on Buzzfeed, 458 days on YouTube
- Topics Sought: Treatment 31.82%, anxiety disorders and suicide 15.91%, depression 11.37% and ADHD 9.1%

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Mental well-being Index in college students

- Over 100 universities Reddit communities were sampled and analyzed.
- Public universities with large student bodies were most challenged.
- Colleges with higher academic prestige had higher mental wellness.
- Larger female student body had lower mental wellness.
- These effects could also indicate degree of cohort engagement in social media from different colleges.

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Social media campaigns and mental health service utilization

- Scope of applicability is boundless: smoking cessation, childhood obesity, alcoholism, HIV prevention.
- Time-limited increases in mental health utilization were seen after social media campaign such as Canada's "Bell let's talk campaign"
- Adolescent women/girls had higher utilization after campaigns, both in primary and psychiatric services.
- Increased utilization also noted after school mental health weeks in USA.

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Research: Machine learning, Informed deep learning from Twitter and Reddit

- Capturing "first-hand experiences" versus med records documented by providers.
- "In the moment narrative": mental illness related posts recognized with 91.08% accuracy and themes classified with 71.37% accuracy.
- Identify themes per frequency: Depression 197,436, Suicide watch 90,518, opiates 65,143, anxiety 57,523, bipolar disorder 41,636....
- Devising an urgency schema could provide route for interventions such as moderator attention.

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Some Current Applications

- Political research – "finding persuadable people"
- Dissemination of information – Twitter, Facebook, Snapchat.
- Marketing by "Influencers" – [Netflix documentary Fyre: The Greatest Party that Never Happened]
- Diagnoses [Diagnosis is based off Dr. Lisa Sanders's long-standing New York Times column].
- Customer Service via Social Media. Ex. Twitter

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Disaster Mental Health application

- Identification of higher risk populations in areas struck by disaster via analysis of media posts in areas of natural/man-made disasters.
- Identification of needed resources such as food, water, medical.
- Filling gaps left by mental health surveys are population surveys.
- Dissemination of information on preparation, availability of resources, and area risks such as fires, active shooters etc.

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Peer Supported Networks

- Identification with peer group positive for supports: Minorities, LGBTQ
- Can Challenge Stigma, and have open discussions.
- Increase consumer activation to engage in health care.
- Increased awareness of Evidence bases, and Realistic Expectations.

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Risk Benefit & Future Directions

- Pre-existing conditions / Psychosocial Risk factors impact user experience.
- Negative effects trend lower with more experience in use.
- Purpose of use impacts outcome as well.
- Open discussion – appropriate monitoring, checking in with susceptible users.
- Education on Social Media use. [We're not just giving our car keys to our teens – but we give them smart devices without much talk on that]

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Optum/UHG - Partnership with healthcare consumers = NPS ☺

- Consumer engagement, identifying geographic, social economic needs and trends.
- Cross-platform dissemination of evidence-based resources.
- Making use of the multiplier effect. Early engagement, consumer advocacy.
- Participation in Peer to peer support groups.
- Referrals to quality providers.
- Increased efficiency of customer service.
- Improve return on consumer's healthcare spending.

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Sources of this information & More

- Information was reviewed from free full text studies off pubmed.gov [your tax dollars at work]
- Specific source references available as an accompanying document with more detail.
- References to articles will be included in that document as well.
- Additional sources also referenced in slides.

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