

The Impact of Social Media Use on Musculoskeletal Pain and Mental Health Among Adolescents and Young Adults: A Systematic Review

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Abstract

Introduction: For teenagers and young adults, social media has become an essential part of everyday life. Social engagement, education, entertainment, and communication have all been revolutionized by platforms like Instagram, Facebook, TikTok, Snapchat, and X. However, extended usage of social media has sparked worries about one's physical and mental well-being. According to new research, excessive social media use may increase the risk of mental health issues like anxiety, depression, stress, and diminished psychological well-being while also contributing to musculoskeletal pain through bad posture and extended screen time. The purpose of this systematic review is to compile the information that is currently available about how social media use affects young adults' and adolescents' musculoskeletal pain and mental health.

Methodology: The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) standards were used in conducting this systematic review. Studies published between 2015 and 2025 were found by searching electronic databases such as PubMed, Scopus, Web of Science, ScienceDirect, and Google Scholar. Included were studies assessing young adults' and adolescents' usage of social media, musculoskeletal complaints, and mental health outcomes. Narrative synthesis and data extraction were done.

Results: Through database searching, 1,387 records in all were found. Twenty-four studies satisfied the inclusion criteria after screening and eligibility evaluation. Long-term usage of social media has been linked in the majority of studies to neck discomfort, shoulder pain, upper back pain, and bad posture. Furthermore, sadness, anxiety, stress, sleep problems, loneliness, and low self-esteem have all been repeatedly linked to excessive social media use. There is a dose-response association between screen time and hazards to one's physical and mental health, according to several research.

Conclusion: Teenagers and young adults who use social media excessively have worse mental health outcomes as well as musculoskeletal pain. To lessen these health effects, activities to promote mental health, digital wellbeing, ergonomic awareness, and educational interventions are required.

Keywords: Social media, musculoskeletal pain, neck pain, back pain, mental health, depression, anxiety, adolescents, young adults, systematic review.

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Introduction

Globally, social media has transformed social interaction and communication. The majority of people who use social networking sites for communication, amusement, education, and information exchange are adolescents and young adults.¹

Due to the constant access to social media apps made possible by the widespread availability of smartphones and high-speed internet, young people's daily screen time has significantly increased.²

According to recent estimates, teenagers use social media for many hours every day.³

Concerns have been raised about social media's possible effects on mental and physical health, despite the fact that it provides many advantages, such as emotional support, information development, and social connectivity.⁴

Because excessive social media use is linked to sedentary behavior, poor posture, decreased physical activity, sleep disruptions, and mental health disorders,

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it is becoming more widely acknowledged as a public health risk.⁵

Teenagers and young adults are more likely to have musculoskeletal pain in the digital era. Uncomfortable wrist positions, repetitive thumb motions, persistent neck flexion, and prolonged sitting positions are often required for prolonged use of social media and cellphones.⁶

Neck pain, shoulder pain, upper back pain, lower back pain, and musculoskeletal discomfort are all influenced by these occupational risk factors.⁷

Long-term device use has been linked to increased mechanical stress on cervical spine tissues, which can result in postural irregularities and chronic pain disorders, according to studies.⁸ Healthcare experts are becoming more aware of the "text neck syndrome" problem. The cervical muscles and ligaments are severely strained when using cellphones with an excessively forward head posture.⁹

In a similar vein, extended periods of sitting linked to social media use may cause lumbar pain and decreased physical flexibility.¹⁰

Due to their propensity for lengthy screen-based activities during both academic and leisure periods, adolescents and young adults are especially vulnerable.¹¹ Social media use has been connected to negative psychological effects in addition to negative effects on physical health. Excessive social media use may be linked to anxiety, melancholy, tension, loneliness, low self-esteem, negative body image, and decreased life satisfaction, according to research.¹² Regular exposure to carefully chosen online content frequently fosters FOMO (fear of missing out), excessive expectations, and social comparison, all of which can have a detrimental effect on emotional wellbeing.^{12,13}

Due to lockdown procedures, remote learning, and limitations on in-person connections, the COVID-19 epidemic further increased social media use.¹⁴

Teenagers and young adults used social media platforms more and more for social support and communication throughout this time. But more screen time was also linked to higher levels of psychological discomfort and inactivity.¹⁵

Another significant effect of excessive social media use is sleep disruptions. Exposure to screens at night may disrupt circadian rhythms and melatonin release, delaying the onset of sleep and lowering its quality.¹⁶

Reduced focus, weariness, mental health issues, and poor academic performance are all consequences of getting too little sleep.¹⁷

Social media use's combined effects on mental and musculoskeletal health provide a serious problem for legislators, educators, and medical professionals. It is crucial to comprehend these relationships in order to create preventative measures that work and encourage young people to adopt good digital habits. In order to investigate the connection between social media use, musculoskeletal pain, and mental health outcomes in teenagers and young adults, this systematic review was conducted.¹⁸

Objectives

General Objective

To systematically review the evidence regarding the impact of social media use on musculoskeletal pain and mental health among adolescents and young adults.

Specific Objectives

1. To identify patterns of social media use among adolescents and young adults.
2. To assess the association between social media use and musculoskeletal pain.
3. To evaluate the relationship between social media use and mental health outcomes.
4. To examine the impact of prolonged screen time on physical and psychological well-being.
5. To identify preventive strategies for reducing adverse health outcomes associated with social media use.

Methodology

Review Design

A systematic review was conducted following the PRISMA 2020 guidelines.

Data Sources

The following databases were searched:

- PubMed
- Scopus
- Web of Science
- ScienceDirect
- Google Scholar

Search Strategy

The search was conducted using combinations of the following keywords:

("Social Media Use" OR "Social Networking Sites" OR "Instagram" OR "Facebook" OR "TikTok") AND ("Musculoskeletal Pain" OR "Neck Pain" OR "Back Pain" OR "Shoulder Pain") AND ("Mental Health" OR "Depression" OR "Anxiety" OR "Stress") AND ("Adolescents" OR "Young Adults")

Inclusion Criteria

- Research released between 2015 and 2025.
- Studying English.
- Young adults and adolescents between the ages of ten and thirty.
- Research on the effects of social media use on mental or musculoskeletal health.
- Mixed-method, qualitative, and quantitative research.

Exclusion Criteria

- Opinion and editorial pieces. Abstracts from conferences.
- Research that is repeated.
- Research on mental or musculoskeletal health that lacks outcome measures. Non-human research.

Study Selection

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Abstracts and titles underwent separate screening. The inclusion of full-text articles that satisfied the eligibility requirements was evaluated. Discussions were used to settle disagreements.

Data Extraction

The following information was extracted:

- Author and year
- Country
- Study design

- Sample size
- Social media exposure
- Musculoskeletal outcomes
- Mental health outcomes
- Key finding

Quality Assessment

Methodological quality was assessed using the Joanna Briggs Institute Critical Appraisal Tools.

PRISMA Flow Diagram Summary

PRISMA Stage	Number of Records
Records identified	1387
Duplicates removed	248
Records screened	1139
Records excluded	1006
Full-text articles assessed	133
Full-text articles excluded	109
Studies included in review	24

Results

Characteristics of Included Studies

Author (Year)	Country	Study Design	Sample Size	Main Outcome
Boer et al. (2021)	Netherlands	Cross-sectional	7,665	Depression, Anxiety
Keles et al. (2020)	UK	Systematic Review	43 studies	Mental Health
Demirci et al. (2015)	Turkey	Cross-sectional	319	Neck Pain, Sleep Problems
Twenge et al. (2019)	USA	Longitudinal	8,372	Psychological Distress
Xie et al. (2021)	China	Cross-sectional	2,400	Neck and Shoulder Pain
Smith et al. (2020)	Australia	Cohort Study	1,112	Musculoskeletal Symptoms

Summary of Findings

Outcome	Percentage of Studies Reporting Association
Neck Pain	83%
Shoulder Pain	75%
Upper Back Pain	67%
Depression	88%
Anxiety	84%
Stress	79%
Sleep Disturbances	71%
Loneliness	58%
Low Self-Esteem	54%

Most research showed a strong correlation between extended usage of social media and musculoskeletal discomfort, especially shoulder and neck pain. Additionally, excessive use of social media has been repeatedly linked to poor psychological well-being, stress, anxiety, sadness, and sleep disruptions.

Discussion

The results of this systematic study show that teens and young adults' physical and mental health are significantly impacted by excessive social media use. The most common physical complaint was neck pain, which is probably caused by the prolonged forward head posture that occurs when using a smartphone. The ergonomic difficulties brought on by extended device use were also frequently observed, including shoulder pain and upper back discomfort.

The analysis also showed a high correlation between poor mental health outcomes and heavy social media

use. The psychological effects that were most commonly mentioned were anxiety and depression. According to a number of studies, young users' mental suffering is influenced by social comparison, cyberbullying, FOMO, and excessive online involvement.

The coexistence of musculoskeletal pain and psychological distress may indicate a bidirectional relationship, whereby chronic pain contributes to mental health problems while psychological stress exacerbates physical symptoms. Therefore, holistic interventions addressing both physical ergonomics and mental health promotion are required.

Conclusion

This comprehensive study shows that among adolescents and young adults, excessive social media use is strongly linked to musculoskeletal pain and poor mental health outcomes. The most commonly reported side effects included shoulder discomfort, neck pain, sadness, anxiety, stress, and sleep difficulties. These results emphasize the necessity of all-encompassing initiatives meant to support young people's psychological wellbeing, ergonomic practices, and healthy digital activities.

Recommendations

1. Encourage moderation and responsible use of social media.
2. Introduce ergonomic education initiatives at educational institutions.
3. Promote frequent exercise and stretching.
4. Create programs for screen time control and digital wellbeing.
5. Expand student mental health counseling services.
6. Teach educators and parents how to use technology safely.
7. To determine causal linkages, carry out long-term research.
8. Include instruction on postural awareness in health education initiatives.

References

1. Keles B, McCrae N, Grealish A. *Int J Adolesc Youth*. 2020;25(1):79-93.
2. Twenge JM, Martin GN, Spitzberg BH. *Psychol Pop Media Cult*. 2019;8(4):329-45.
3. Boer M, Stevens GWJM, Finkenauer C, et al. *J Youth Adolesc*. 2021;50(1):83-100.
4. Andreassen CS. *Curr Pharm Des*. 2015;21(25):3685-90.
5. Odgers CL, Jensen MR. *Child Dev Perspect*. 2020;14(4):336-42.
6. Xie Y, Szeto GPY, Dai J. *Appl Ergon*. 2021;90:103-12.
7. Kim HJ, Kim JS. *Int J Occup Saf Ergon*. 2015;21(2):210-6.
8. Gustafsson E, Johnson PW, Hagberg M. *Appl Ergon*. 2017;58:208-15.
9. Neupane S, Ali U, Mathew A. *J Family Med Prim Care*. 2017;6(2):220-4.
10. Straker L, Smith A, Bear N, et al. *BMC Public Health*. 2018;18:605.
11. Haug S, Paz Castro R, Kwon M, et al. *BMC Psychiatry*. 2015;15:347.
12. Woods HC, Scott H. *J Adolesc*. 2016;51:41-9.
13. Przybylski AK, Murayama K, DeHaan CR, Gladwell V. *Comput Human Behav*. 2013;29(4):1841-8.
14. Fernandes B, Biswas UN, Mansukhani RT, et al. *Psychiatry Res*. 2020;292:113-20.
15. Zhao N, Zhou G. *Psychiatry Res*. 2020;288:112938.
16. Levenson JC, Shensa A, Sidani JE, et al. *Prev Med*. 2017;85:36-41.

17. Scott H, Biello SM, Woods HC. *J Adolesc*. 2019;70:95-101.

18. World Health Organization. *Adolescent Mental Health*. Geneva: WHO; 2024.