Journal of Posthumanism
2024
Volume: 4, No: 3, pp. 920–928
ISSN: 2634-3576 (Print) | ISSN 2634-3584 (Online)
posthumanism.co.uk

DOI: https://doi.org/10.63332/joph.v4i3.3141

The Role of Social Media in Public Health Communication and Behavior Change in Adolescents

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Introduction

Background

Social media has become a dominant force in shaping how information is shared and consumed, especially among adolescents. As digital platforms become more integrated into daily life, they increasingly influence the attitudes, beliefs, and behaviors of young people. Adolescents spend a significant portion of their time on platforms like Instagram, TikTok, Snapchat, and YouTube, making these channels critical tools for delivering public health messages. The accessibility and interactive nature of social media allow for immediate engagement and have the potential to significantly affect health communication strategies (Kanchan & Gaidhane, 2023).

Public health communication has traditionally relied on mass media campaigns, schools, and healthcare settings to educate the population. However, these traditional approaches often lack the immediacy and personalization that social media offers. Social media allows for direct communication with individuals, peer-to-peer sharing, and the use of multimedia content that appeals to adolescents. The dynamic nature of digital platforms also means that messages can be adapted quickly based on audience feedback and trends (Kite et al., 2023).

Adolescents are particularly vulnerable to health-related issues due to their developmental stage, risk-taking tendencies, and social influences. At the same time, they are highly responsive to peer validation and online trends. Social media can harness this by promoting positive health behaviors, creating communities of support, and providing adolescents with information in formats they are comfortable with. Influencers, content creators, and public health organizations

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can play pivotal roles in disseminating accurate and appealing health messages (Bozzola et al., 2022).

The visual and emotional appeal of social media content plays a key role in its effectiveness. Adolescents are more likely to engage with and remember content that is relatable, visually stimulating, and emotionally resonant. This makes platforms such as TikTok and Instagram ideal for health promotion campaigns. Campaigns using storytelling, humor, and challenges have shown potential in increasing engagement and reinforcing desired behaviors among adolescents (Khalaf et al., 2023).

In addition to spreading health promotion messages, social media also offers a platform for adolescents to share their personal experiences with health issues. This participatory aspect can reduce stigma around sensitive topics such as mental health, sexual health, and substance use. It empowers young people to become advocates for their own health and fosters a sense of community and support among peers facing similar challenges (Chen & Wang, 2021).

Despite the potential benefits, there are also risks associated with health communication on social media. The spread of misinformation is a significant concern, particularly when adolescents are exposed to unverified or misleading content. False health claims, harmful challenges, and the glamorization of unhealthy behaviors can counteract the efforts of public health campaigns. Therefore, it is essential to implement strategies that promote digital literacy and critical thinking among adolescents (Jafar et al., 2023).

Monitoring and evaluation of social media health campaigns are crucial to understanding their impact. Metrics such as likes, shares, comments, and follower engagement can provide insights into the reach and effectiveness of a campaign. However, assessing actual behavior change requires more rigorous methodologies, including surveys, interviews, and longitudinal studies. Understanding which types of content and platforms yield the most positive outcomes is essential for optimizing future public health initiatives (Allem, 2024).

The role of influencers and peer leaders in shaping adolescent health behaviors is another important consideration. Adolescents often look up to social media figures who appear authentic and relatable. Collaborating with trusted influencers can enhance the credibility and reach of public health messages. However, it is equally important to ensure that influencers are informed, responsible, and aligned with public health goals (O'Reilly et al., 2019).

Privacy and ethical considerations also come into play when targeting adolescents with health messages on social media. Adolescents may not always be aware of how their data is being used or the implications of engaging with certain types of content. Public health organizations must navigate these concerns carefully, ensuring transparency and protecting the well-being of young users while delivering impactful messages (Vereen et al., 2023).

Cultural and socioeconomic factors influence how adolescents interact with social media and respond to health communication. Language, literacy levels, access to technology, and cultural norms all play a role in shaping the effectiveness of social media campaigns. Tailoring content to reflect the diverse backgrounds and experiences of adolescents is key to ensuring inclusivity and relevance (Hausmann et al., 2017).

In summary, social media represents both a powerful opportunity and a complex challenge in the realm of adolescent public health communication. When used effectively, it can promote positive behavior change, support health education, and connect adolescents with valuable

resources. To maximize its benefits, public health efforts must be grounded in evidence-based strategies, ethical considerations, and a deep understanding of adolescent behavior and media use.

Methodology Research Design

This study employed a quantitative, cross-sectional research design to explore the impact of social media on public health communication and behavior change among adolescents. The design was selected to capture data at a single point in time and to analyze the relationship between exposure to health content on social media and self- reported behavioral changes.

Study Setting and Population

The research was conducted across five public secondary schools and two private educational institutions. The study targeted adolescents aged between 13 and 18 years who were actively using at least one social media platform regularly.

Sample Size and Sampling Technique

A sample size of 400 adolescents was determined using the Cochran formula for cross-sectional studies, with a confidence level of 95% and a margin of error of 5%. A stratified random sampling method was used to ensure representation from both public and private schools, as well as across different age groups and genders. Within each stratum, students were selected through simple random sampling using school attendance lists.

Inclusion and Exclusion Criteria Inclusion Criteria:

- Adolescents aged 13–18 years.
- Enrolled in participating schools at the time of data collection.
- Active users of at least one social media platform (minimum use of 3 times per week).
- Willing to participate with signed parental consent (for minors under 18).

Exclusion Criteria:

- Adolescents with diagnosed cognitive or developmental disorders affecting communication.
- Adolescents not using social media at all.
- Students who did not obtain parental consent or refused to participate.

Data Collection Tool

Data was collected using a structured self-administered questionnaire developed specifically for this study. The questionnaire consisted of four sections:

1. Demographics (age, gender, school type, grade level).
2. Social Media Usage Patterns (platforms used, frequency, type of content engaged with).
3. Exposure to Health Content (types of health-related messages seen, perceived credibility, interaction with such content).
4. Behavior Change (self-reported changes in diet, exercise, hygiene, mental health awareness, and risk avoidance).

The questionnaire was prepared in both Arabic and English and was piloted on a sample of 30 students (excluded from final analysis) to test for clarity and internal consistency. The instrument demonstrated a Cronbach's alpha of 0.87, indicating good reliability.

Data Collection Procedure

Data collection took place over a three-week period in March 2025. Trained research assistants distributed the questionnaires during morning school hours with the cooperation of school administrators. Students completed the forms anonymously in classrooms under supervision to prevent discussion and ensure individual responses.

Ethical Considerations

Ethical approval for the study was obtained from the Research Ethics Committee. Informed consent was obtained from all participants and their guardians. Participation was voluntary, and confidentiality was assured. No personal identifiers were collected, and all data was securely stored and analyzed anonymously.

Data Analysis

Data were entered and analyzed using SPSS version 28. Descriptive statistics such as frequencies, percentages, means, and standard deviations were used to summarize demographic characteristics and usage patterns. Inferential statistics, including Chi- square tests and logistic regression, were employed to examine associations between social media exposure and self-reported behavior changes. A significance level of $p < 0.05$ was considered statistically significant.

Results

The findings analysis from the data collected from 400 adolescent participants across public and private schools focus on demographic characteristics, patterns of social media use, exposure to health content, and self-reported health behavior changes.

Variable	Category	Frequency	Percentage (%)
Gender	Male	188	47.0
	Female	212	53.0
Age Group (years)	13–14	106	26.5
	15–16	166	41.5
	17–18	128	32.0
School Type	Public	260	65.0
	Private	140	35.0

Table 1: Demographic Characteristics of Respondents (n = 400)

Of the 400 participants, females (53%) slightly outnumbered males (47%). The majority were in the 15–16-year age group (41.5%), followed by 17–18 years (32%), and the least were 13–14 years (26.5%). A higher proportion of students were enrolled in public schools (65%) compared to private ones (35%).

Variable	Category	Frequency	Percentage (%)
Frequency of Use	Daily	352	88.0
	3–5 times/week	48	12.0
Platforms Most Used	Instagram	240	60.0
	TikTok	192	48.0
	Snapchat	160	40.0
	YouTube	140	35.0
	Twitter/X	64	16.0
Time Spent per Day	<1 hour	48	12.0
	1–3 hours	162	40.5

Table 2: Social Media Usage Patterns

A significant majority (88%) reported daily social media use. Instagram was the most frequently used platform (60%), followed by TikTok (48%) and Snapchat (40%). Nearly half (47.5%) of the adolescents spent more than 3 hours daily on social media, indicating high exposure levels to digital content.

Variable	Category	Frequency	Percentage (%)
Seen Health Content on Social Media	Yes	376	94.0
	No	24	6.0
Type of Content Seen (Multiple Ans.)	Diet/Nutrition	280	70.0
	Mental Health	256	64.0
	Physical Activity	232	58.0
	Anti-smoking/Drugs	120	30.0

Source of Content	Influencers	216	54.0
	Health Agencies	160	40.0
	Friends/Peers	120	30.0

Table 3: Exposure to Health-Related Content on Social Media

A vast majority (94%) of participants reported seeing health-related content on social media. Diet and nutrition topics were the most commonly viewed (70%), followed by mental health (64%) and physical activity (58%). Influencers were identified as the primary source of such content (54%), surpassing official health agencies (40%).

Behavior Change Type	**Yes (n)**	**Percentage (%)**	**No (n)**	**Percentage (%)**
Improved Diet	212	53.0	188	47.0

Table 4: Reported Behavior Change Following Health Content Exposure

More than half of the respondents (53%) reported adopting a healthier diet after viewing health content on social media. Awareness of mental health saw the most notable improvement, with 61% indicating a better understanding or attitude toward mental health issues. However, changes in physical activity and avoidance of risky behaviors were less pronounced, with only 45% and 30% respectively reporting positive changes. Nearly half (47%) discussed health issues with their peers, showing a degree of peer influence sparked by social media content.

Discussion

The present study examined the role of social media in influencing public health communication and behavior change among adolescents. The results revealed a high prevalence of social media usage, with 88% of participants accessing platforms daily and nearly half spending more than three hours online each day. These findings are consistent with global trends indicating that adolescents are among the most active users of digital platforms (Kanchan & Gaidhane, 2023). The widespread access to these platforms offers significant opportunities for disseminating health information in real-time and in engaging formats.

A key finding was that 94% of participants had been exposed to health-related content on social media, suggesting that these platforms are effectively reaching adolescents with health messages. Instagram and TikTok were the most commonly used platforms, both of which are visual and algorithm-driven, allowing health content to spread quickly and widely. This aligns with Kite et al. (2023), who identified social media's dynamic nature and visual appeal as critical factors in influencing user behavior during health campaigns.

Interestingly, 61% of participants reported increased awareness of mental health after engaging with content on social media. This is particularly noteworthy as adolescents often experience high levels of psychological vulnerability. Research has shown that social media can be an effective platform for reducing stigma and normalizing mental health discussions among youth (O'Reilly et al., 2019). It provides anonymous or semi-anonymous avenues for adolescents to explore sensitive topics that may be stigmatized in their social or cultural settings.

Moreover, influencers emerged as the leading source of health-related information, cited by 54% of respondents. While this suggests the persuasive power of peer-like figures, it also raises concerns about the accuracy of health information being disseminated. Bozzola et al. (2022) emphasize that influencers often lack formal training in health communication, which can contribute to the spread of misinformation. Therefore, partnerships between public health institutions and credible influencers could optimize message reliability and reach.

The findings also demonstrated that 53% of adolescents reported improvements in dietary behavior, and 45% noted increased physical activity due to content seen on social media. These results support prior evidence that behavior change interventions delivered via social media can be effective among young populations, particularly when messages are relatable and action-oriented (Vereen et al., 2023). However, the behavior change was not universal, suggesting that while social media can raise awareness, the transition to actual behavior change may require more structured interventions.

Despite positive trends, only 30% reported behavior change related to avoiding harmful habits such as smoking or substance use. This indicates that while adolescents are receptive to general wellness messages, content around risk avoidance may need to be more targeted and engaging. Allem (2024) argues that adolescents respond better to positive messaging rather than fear-based content, which may explain the lower impact in this category.

Another important observation was that 47% of participants discussed health issues with peers after seeing content online. Peer discussion can amplify the reach and internalization of health messages, acting as a multiplier for public health campaigns. Hausmann et al. (2017) noted that adolescents often validate their beliefs and behaviors through peer interaction, making the social sharing aspects of platforms particularly valuable for health promotion.

The study also confirms the centrality of mental health in adolescent health discourse on social media. Adolescents exposed to mental health content reported increased awareness, highlighting social media's capacity to bridge gaps in mental health education. Khalaf et al. (2023) stress that, although overexposure to certain content can harm mental well-being, strategic mental health communication can offer emotional support, coping strategies, and crisis resources.

However, the risk of misinformation remains a critical concern. With 54% of content originating from influencers and only 40% from health agencies, the potential for inaccurate or harmful advice is significant. Jafar et al. (2023) advocate for robust verification systems and media literacy education to equip adolescents with the skills to discern credible sources.

Gender and age variations were also present but not sharply divergent. Female participants slightly outnumbered males and generally reported higher engagement with health-related content. This pattern may reflect gendered differences in health awareness and communication styles, as documented in previous research (Chen & Wang, 2021). Tailoring messages to reflect these differences may enhance their effectiveness.

While the study focused on adolescents in Riyadh, the findings have broader implications. Urban adolescents in other regions may exhibit similar patterns of usage and influence. However, digital access disparities could impact generalizability to rural or underserved populations. This aligns with Kite et al. (2023), who noted that health campaigns must consider digital equity to avoid reinforcing existing health disparities.

The finding that 40% of respondents relied on health agencies for information suggests a trust

reservoir that public health bodies can tap into. Increasing the presence and visibility of official content on platforms like Instagram and TikTok can help counteract misinformation and provide authoritative guidance (Kanchan & Gaidhane, 2023). Cross-platform consistency and brand recognition of public health pages can further strengthen this trust.

Ethical considerations also emerged from the data. Adolescents may not fully grasp how their interactions with health content are tracked or monetized. Jafar et al. (2023) emphasize the importance of safeguarding user data and ensuring transparent algorithms, especially when minors are involved. Ethical design of health campaigns, including opt-out mechanisms and age-appropriate targeting, is critical.

Finally, the study reinforces the need for integrated approaches that combine digital strategies with traditional health education. Schools, healthcare providers, and families must work collaboratively with digital platforms to create a coherent and comprehensive health education ecosystem. As noted by Kite et al. (2023), multi-channel strategies are more likely to produce sustainable behavior change than social media campaigns in isolation.

Conclusion

This study demonstrated that social media plays a significant role in shaping health communication and influencing behavior among adolescents. While platforms like Instagram and TikTok provide valuable avenues for promoting awareness— particularly around mental health and nutrition—concerns about misinformation and uneven behavior change remain. Collaborations between health authorities and trusted influencers, along with improved digital literacy, are essential for maximizing benefits and minimizing risks in adolescent public health communication.

References

Kanchan, S., & Gaidhane, A. (2023). Social Media Role and Its Impact on Public Health: A Narrative Review. Cureus, 15(1), e33737. https://doi.org/10.7759/cureus.33737

Kite, J., Chan, L., MacKay, K., Corbett, L., Reyes-Marcelino, G., Nguyen, B., Bellew, W., & Freeman, B. (2023). A Model of Social Media Effects in Public Health Communication Campaigns: Systematic Review. Journal of medical Internet research, 25, e46345. https://doi.org/10.2196/46345

Bozzola, E., Spina, G., Agostiniani, R., Barni, S., Russo, R., Scarpato, E., Di Mauro, A., Di Stefano, A. V., Caruso, C., Corsello, G., & Staiano, A. (2022). The Use of Social Media in Children and Adolescents: Scoping Review on the Potential Risks. International journal of environmental research and public health, 19(16), 9960. https://doi.org/10.3390/ijerph19169960

Khalaf, A. M., Alubied, A. A., Khalaf, A. M., & Rifaey, A. A. (2023). The Impact of Social Media on the Mental Health of Adolescents and Young Adults: A Systematic Review. Cureus, 15(8), e42990. https://doi.org/10.7759/cureus.42990

Hausmann, J. S., Touloumtzis, C., White, M. T., Colbert, J. A., & Gooding,

H. C. (2017). Adolescent and Young Adult Use of Social Media for Health and Its Implications. The Journal of adolescent health : official publication of the Society for Adolescent Medicine, 60(6), 714–719. https://doi.org/10.1016/j.jadohealth.2016.12.025

Chen, J., & Wang, Y. (2021). Social Media Use for Health Purposes: Systematic Review. Journal of medical Internet research, 23(5), e17917. https://doi.org/10.2196/17917

Jafar, Z., Quick, J. D., Larson, H. J., Venegas-Vera, V., Napoli, P., Musuka, G., Dzinamarira, T., Meena, K. S., Kanmani, T. R., & Rimányi, E. (2023). Social media for public health: Reaping the benefits, mitigating the harms. Health promotion perspectives, 13(2), 105–112.

https://doi.org/10.34172/hpp.2023.13
Allem J. P. (2024). Social Media and Adolescent Health. American journal of public health, 114(10), 980–982. https://doi.org/10.2105/AJPH.2024.307784
O'Reilly, M., Dogra, N., Hughes, J., Reilly, P., George, R., & Whiteman, N. (2019). Potential of social media in promoting mental health in adolescents. Health promotion international, 34(5), 981–991. https://doi.org/10.1093/heapro/day056
Vereen, R. N., Kurtzman, R., & Noar, S. M. (2023). Are Social Media Interventions for Health Behavior Change Efficacious among Populations with Health Disparities?: A Meta-Analytic Review. Health communication, 38(1), 133–140.
https://doi.org/10.1080/10410236.2021.1937830.