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Social Media as a Virtual Public Sphere in Health Education: A Systematic Review from the Perspective of Habermas' Public Sphere Theory

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Abstract

Social media has become an important platform in health education. It allows individuals to connect and share information about health. However, no studies have systematically explored the role of social media as a virtual public space in health education. This systematic review aims to explore the role of social media as a virtual public sphere in health education, from the perspective of Habermas' public sphere theory. The review was conducted by searching for research articles published in reputable scientific journals between 2010 and 2023. The method used to write this article is a systematic literature review (SLR). The systematic literature review method used in this research is the PRISMA method. Article search, article extraction, and article classification using the Watase UAKE application. The article search was conducted online using two (2) database sources, namely Scopus (Q1-Q4) and Semantic Scholar. The review showed that social media has the potential to be an effective virtual public sphere in health education. This platform can be used to. Increase awareness and understanding of health Provide information and support for individuals in need, strengthen community participation in health education, However, social media also has some limitations in supporting health education. These limitations include: Disinformation and misinformation, Polarization of opinion Conflict of interest. In this review concludes that social media can be a valuable tool for health education. However, it is important to be aware of its limitations and take steps to overcome them.

Keywords: Virtual Public Sphere, Social Media, Habermas, Health Education

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1. BACKGROUND

In modern culture, the role of media in shaping societal views and debates on various subjects, including health, is substantial. The public sphere concept, as introduced by Jurgen Habermas, provides a

theoretical understanding of how media influences public dialogue and encourages meaningful conversations about health. This concept refers to a sphere where individuals engage in thoughtful, critical discussions, contributing to the evolution of public opinion (Angelis, 2021) (Mattila, 2020). It's important to note, however, that Habermas' idea of the public sphere excludes academic research, laws, and philosophical texts (Widdersheim, 2015). Therefore, it is vital to engage deeply and broadly with different media sources, including traditional and emerging social media, to enhance an informed and vibrant public debate on health issues.

The importance of this issue is underscored by recent data. By 2023, over 4.5 billion people globally were using social media, a number that continues to grow rapidly. The surge in digital connectivity has made social media an integral part of daily life, significantly influencing health-related perceptions, attitudes, and actions. The COVID-19 pandemic exemplifies social media's dual nature: it facilitates quick dissemination of vital health information, but also spreads misinformation and divisive discourse (Neresini et al., 2019).

The digital public sphere has become a crucial arena for shaping public opinion and advancing constructive health discussions (Staab & Thiel, 2022). Both mass media and social media play substantial roles in influencing conversations about health. Mass media campaigns on public health can effectively convey messages about harmful health impacts of sugary drinks and the need to reduce added sugars, thereby influencing the behavior of a wide audience (Subramaniam et al., 2022). On the other hand, social media offers personalized, interactive communication, enabling users to engage in debates, share experiences and information about health (Ghahramani et al., 2022). However, these media's influence on health discussions is not without challenges. The spread of misinformation and false information on social media has become a growing concern, leading to confusion, doubt, and harmful health decisions (Walker et al., 2020) (Adnan et al., 2022). Moreover, the way mass media selects and presents information can shape public opinion and affect health policies (Radic et al., 2021).

Understanding the unique characteristics of each media type is key to evaluating their impact on public discourse. Traditional media like newspapers, TV, and radio have historically been the main sources of public information. In contrast, social media platforms such as Facebook, Twitter, and

Instagram represent a more interactive communication model, where content creation and dissemination are open to anyone with internet access. This shift has resulted in a public sphere that is more inclusive yet more fragmented and polarized.

Analyzing Habermas' public sphere theory provides insight into this shift. Habermas describes the public sphere as a societal area where public opinion is formed, allowing people to participate in discussions and influence political actions. However, he acknowledges potential distortions in this sphere due to media and economic pressures. In health communication, these distortions appear as misinformation, echo chambers, and the commercialization of health narratives.

This article focuses on the impact of social media on public health discussions, using Habermas' public sphere theory as a lens. It addresses complex issues like information accuracy, public engagement, and the formation of public opinions and behaviors regarding health.

2. METHODS

The method used to write this article is a systematic literature review (SLR). The literature review method used in this research is the PRISMA method.

Article search, article extraction, and article classification using the Watase Uake application. The article search was conducted online using two (2) database sources, namely Scopus (Q1-Q4) and Semantic Scholar. The search covered worldwide research published between 2020 and 2023. The keyword combinations used in the article search were health communication media, digital public space theory, the impact of mass and social media, online public health discourse, the role of media in public dialogue, and online health information ethics. The literature search also used English language inclusion criteria, articles published between 2020 and 2023, and full text.

The screening stage assessed the quality and appropriateness of the articles generated from the identification process. Articles consisting of conference proceedings and literature reviews did not meet the criteria. In addition, the Watase application automatically distinguishes articles with duplicate citations. At this stage, the collected articles had to be accessible via the DOI address and then downloaded for inclusion in the Watase Uake report. Some articles were successfully downloaded, but others were not accessible. As the Watase Uake

application can only search for articles from the Scopus database, the researchers had to manually add the articles obtained from Semantic to the application.

3. RESULTS

As shown in Figure 1, from the results of the article search from the Watase application, 14 Scopus-indexed articles were included in the review and 9 Semantic Scholar-indexed articles were added, making a total of 23 articles reviewed in this study.

The results of the review articles that were successfully extracted, as shown in Table 1, indicate that the following were found.
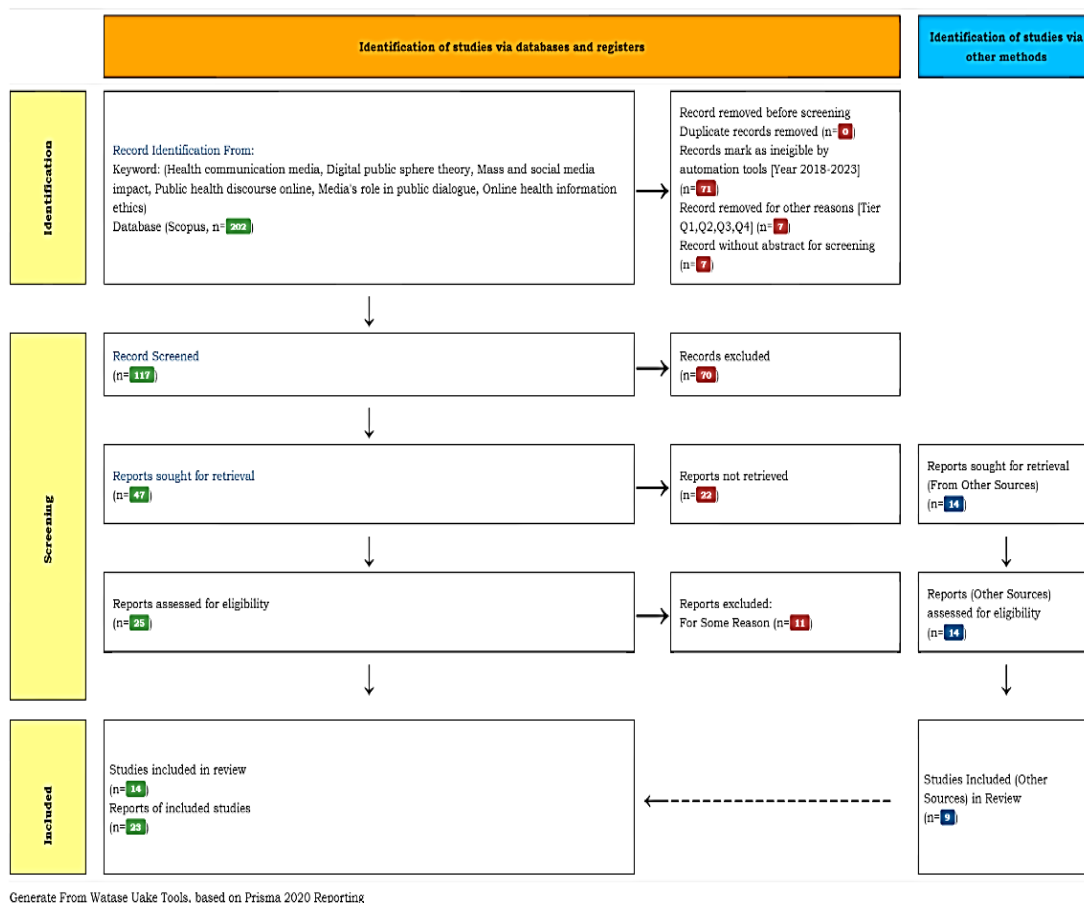

Figure 1. PRISMA diagram Literature Selection Process

In table 1 below, the results showed that from the review of 23 articles, several concepts related to social media in health education in virtual public spaces were identified, namely the impact of social media on health education, the role of social media in health communication, the challenges of digital public spaces in the perspective of Habermas' public space theory, social media to improve digital health literacy and critical thinking.

Table 1. Literature Review Results (n=23)

Author	Publisher	Research Title	Concept Findings
Michelle De Jong, Anthony Collins, Simóne Plüg (2021)	Springer Science and Business Media LLC	'I've become so healthy that I can't live anymore': exploring 'health as balance' discourses and the construction of health and identity among young urban South African adults	Impact of Social Media on Health Discourse
Emma Mcclaughlin, Sara Vilar-Lluch, Tamsin Parnell, Dawn Knight, Elena Nichele, Svenja Adolphs, Jérémie Clos, Giovanni Schiazza (2023)	Elsevier B.V.	The reception of public health messages during the COVID-19 pandemic	Necessity for Media Literacy
Mythily Subramaniam, Jue Hua Lau, P V Asharani, Edimansyah Abdin, Kumarasan Roystonn, Peizhi Wang, Fiona Devi, Janhavi Ajit Vaingankar, Lorainne Tudor Car, Chee Fang Sum, Eng Sing Lee, Rob M Van Dam, Ann Chong (2022)	Oxford University Press (OUP)	Sources of information on diabetes and its demographic correlates: a nationwide survey among Singapore residents	–Impact of Social Media on Health Discourse –Necessity for Media Literacy
Claudia Ritzi (2023)	Wiley	The hidden structures of the digital public sphere	
Sebastian Sevignani(2022)	SAGE Publications	Digital Transformations and the Ideological Formation of the Public Sphere: Hegemonic, Populist, or Popular Communication?	–Challenges in the digital public sphere –Necessity for Media Literacy
Philipp Staab, Thorsten Thiel (2022)	SAGE Publications	Social Media and the Digital Structural Transformation of the Public Sphere	–Challenges in the digital public sphere
Martin Seeliger and Sebastian Sevignani (2022)	SAGE Publications	A New Structural Transformation of the Public Sphere? An Introduction	–Challenges in the digital public sphere –Habermasian public sphere theory
Meiqi Xin, Sitong Luo, Suhua Wang, Junfeng Zhao, Guohua Zhang, Lijuan Li, Liping Li, Joseph Tak-Fai Lau (2022)	SAGE Publications	The Roles of Information Valence, Media Literacy, and Perceived Information Quality on the Association Between Frequent Social Media Exposure and COVID-19 Vaccination Intention	–Impact of Social Media on Health Discourse –Role of Social Media
Gabriele De Angelis (2021)	SAGE Publications	Habermas, democracy and the public sphere: Theory and practice	Habermasian public sphere theory
Rasha Abdulla (2023)	SAGE Publications	Social Media, the Public Sphere, and Public Space in Authoritarian Settings: A Case Study of Egypt's Tahrir Square and 18 Years of User-Generated Content	Challenges in the digital public sphere
Michael Roguski and Karen Mcbride-Henry sc (2020)	Springer Science and Business Media LLC	Insights into the oral health crisis amongst pre-schoolers in Aotearoa/New Zealand: a discourse analysis of parent/caregiver experiences	
Jad Melki, Hani Tamim, Dima Hadid, Maha Makki, Jana El Amine, Eveline Hitti (2021)	Public Library of Science (PLoS)	Mitigating infodemics: The relationship between news exposure and trust and belief in COVID-19 fake news and social media spreading	Impact of Social Media on Health Discourse Role of Social Media
Abdullah Almuqren. (2023)	Scholar Publishing	The Contemporary Public Sphere-Habermas' Perspective	Habermasian public sphere theory

Author	Publisher	Research Title	Concept Findings
Christian Fuchs (2021)	The University of Westminster Press	The Digital Commons and the Digital Public Sphere How to Advance Digital Democracy Today	Challenges in the digital public sphere
Shi Chen, Lina Zhou, Yunya Song, Qian Xu, Ping Wang, Kanlun Wang, Yaorong Ge, Daniel Janies, Xsl - Fo (2021)	JMIR Publications Inc.	A Novel Machine Learning Framework for Comparison of Viral COVID-19-related Sina Weibo and Twitter Posts: Workflow Development and Content Analysis	Impact of Social Media on Health Discourse
Angela Chang, ; Peter, Johannes Schulz, Wen Jiao, Guoming Yu, Ya Yang, Xsl - Fo (2022)	JMIR Publications Inc.	Media Source Characteristics Regarding Food Fraud Misinformation According to the Health Information National Trends Survey (HINTS) in China: A Comparative Study	Impact of Social Media on Health Discourse
Andrine Prima Afneta Arzil (2020)	Atlantis Press	Indonesia Digital Public Sphere: An Alternative and Counterhegemonic Space for COVID-19	
Sufri Eka Bhakti, Saifuddin Dhuhri (2022)	IAIN Bukittinggi	The Digital Public Sphere and Muslim Piety in Aceh: Rethinking Habermas' Conception of Communicative Action	Impact of Social Media on Health Discourse
Qasim Mahmood, Zarmina Gull, and Rao Nadeem Alam (2022)	Humanity Only - HO	Re-Conceptualizing Public Sphere in the Digital Era: From Habermas' Public Sphere to Digitally Networked Public Sphere	Challenges in the digital public sphere
Georgina Murphy, Dirk Bruland, Jatinderkumar Saini, Yongbing Liu, Sun, Liu This, Huiping Sun, Lin Qian, Mengxin Xue, Ting Zhou (2022)	Frontiers Media SA	The relationship between eHealth literacy, social media self-efficacy, and health communication intention among Chinese nursing undergraduates: A cross-sectional study	−Impact of Social Media on Health Discourse −Role of Social Media
Hana Chen -Roy Marzo - Nur Sapa - Absar Ahmad - Haryati Anuar - Mohammed Faez Baoba - Nurul Jamaludin - Hazian Hamzah - Siamak Sarrafan - Hassan Ads (2023)	MDPI AG	Trends in Health Communication: Social Media Needs and Quality of Life among Older Adults in Malaysia	−Impact of Social Media on Health Discourse
Carlos de las Heras-Pedrosa , Dolores Rando-Cueto, Carmen Jambrino-Maldonado and Francisco J. Paniagua-Rojano (2020)	MDPI AG	Exploring the Social Media on the Communication Professionals in Public Health. Spanish Official Medical Colleges Case Study	−Impact of Social Media on Health Discourse −Role of Social Media
Johannes J Rasker, Moshiur Rahman Khasru, Fariha Haseen, Samiha Yunus, Tangila Marzen, Abu Bakar Siddiq, Khandakar Mohammad Hossain, Syed Atiar Rahman Sabuj, Mohammad Tariqul Islam, Akm Salek, Shahidullah Sikder, Shariful Syed Islam, Iracema Leroi, Peter M Ten Klooster (2021)	Frontier Research Publication	Bangladesh health journalism: A pilot study exploring the nature and quality of newspaper health reporting	−Role of Social Media

4. DISCUSSION

The influence of social media on discussions related to health

Social media has significantly reshaped the way health communication is conducted in today's world. This issue is complex, encompassing various facets of communication, information sharing, and public involvement. Recent studies have shed light on this complicated relationship.

The role of social media in shaping health-related discussions is an evolving and complex field of study. Social media has become a key channel for promoting diverse health narratives, often contrasting with mainstream or government-controlled media (Abdulla, 2023). This development is crucial in the context of public discourse, as social media can facilitate populist messages, challenging established or widely accepted communication patterns (Sevignani, 2022). Additionally, the nature and content of information on social media significantly influence individual health choices, as shown by research linking COVID-19 vaccination decisions to regular social media use (Xin et al., 2022).

In restricted communication environments like Tahrir Square in Egypt, social media has carved out important public spheres, showcasing its power to drive public dialogue even under limitations (Abdulla, 2023). This highlights social media's significant role in shaping public conversation, even in controlled settings. The effect of mass media campaigns, including digital platforms like social media, in molding health behaviors across populations further illustrates social media's extensive reach in health information distribution and consumption (Subramaniam et al., 2022). Additionally, social media's transformation into alternative digital public spheres for specific communities, such as Muslims in Aceh, shows its evolving role in facilitating diverse health discourses and narratives (Bhakti & Dhuhri, 2022). The interplay of social practices, normative influences, and their foundational principles underlines the complex relationship between social media, democracy, and public sphere (Angelis, 2021). Furthermore, exploring health and identity among young adults in urban South Africa reveals the intricate link between health discussions and social identity, highlighting the need to consider social inequities in health discourse (Jong et al., 2021). This underscores the importance of understanding the wider social, cultural, and economic factors shaping health discussions on social media platforms.

The impact of social media on health communication

Recent studies have placed a spotlight on the critical role of social media in the domain of health communication, illuminating the diverse and constantly evolving landscape of digital communication channels. Research has

underlined the link between exposure to COVID-19 related content and the degree of trust people place in sources such as healthcare professionals and governmental bodies. This encompasses belief in COVID-19 myths and false information propagated via social media platforms (Melki et al., 2020-2021).

Additionally, the effectiveness of social media as a tool for health communication among the elderly has been highlighted, demonstrating its influence on their quality of life and social support (Chen, 2023). The study by Abdulla (2023) delved into the significant effects of social media on public spheres and communication networks, particularly in authoritarian regimes, exemplified by the critical role of social media in the evolution of communication networks during the events at Tahrir Square in Egypt. Sun et al. (2022) investigated the relationship between eHealth literacy, confidence in using social media, and intentions for health communication among nursing students in China, finding that social media significantly enhances health behavior and promotes health communication. Xin et al. (2022) explored the association between regular social media usage and the inclination to receive vaccinations, focusing on the influence of information

type, media content comprehension, and perceived information reliability on health-related decision-making during the pandemic. Moreover, the analysis of social media's role in shaping public discourse has offered insights into potential populist communication trends and the dynamics of various communication styles in digital environments (Sevignani, 2022). The growing involvement of public health communication experts in social media, recognizing it as a credible health communication platform, has been noted (Pedrosa et al., 2020). Researchers have also studied the contribution of media outlets in spreading misinformation about food fraud, highlighting the effects of health risk information disseminated through multiple media and interpersonal communication channels (Chang et al., 2022). The importance of social media in disseminating vital health information during global health crises, such as the COVID-19 pandemic, has been emphasized, underlining its crucial role in health communication (Chen et al., 2021).

Challenges of Digital Public Spaces from the Perspective of Habermas' Theory of the Public Sphere

Contemporary research has delved into the complexities of the digital public

sphere, drawing upon Habermas' conceptual framework of the public sphere. This framework elucidates the evolution of public discourse and communication in the context of the digital era. These investigations have probed into the multifaceted nature of the digital public sphere, scrutinizing its structural shifts, ideological constructs, and its influence on political, social, and health-related dialogues. The work of Seeliger & Sevignani (2022) provides a comprehensive analysis of Habermas' insights on the emergence and decline of the bourgeois public sphere, highlighting its intrinsic link to democratic principles. Their study further discusses the ongoing transformation of the public sphere, influenced by factors such as digitalization, commodification, and globalization (Seeliger & Sevignani, 2022). Moreover, Almuqren (2023) investigates the dynamics of communication within the modern public sphere, especially in relation to social media and virtual environments, to determine their impact on the quality of rational discourse. This research aims to evaluate the structure, operation, and role of the public sphere as envisioned by Habermas (Almuqren, 2023).

Sevignani (2022) presents a theoretical model for understanding ideological structures and communication patterns within digital public spheres (Sevignani, 2022). Additionally, Mahmood et al. (2022) offer a redefined perspective of the public sphere in the digital era, transitioning from Habermas' model to a networked public sphere. This study focuses on key concepts that shape the idea of a 'networked public sphere' (Mahmood et al., 2022), aiming to deepen the comprehension of this concept. Furthermore, Arzil (2020) underscores the role of digital public spheres as alternative and counter-dominant arenas, especially highlighted during the COVID-19 pandemic. This analysis emphasizes the dissemination of crucial information, diverse knowledge forms, and debates on issues, challenges, and potential solutions within the digital public sphere (Arzil, 2020). The research collectively addresses the various challenges posed in the digital public sphere, encompassing structural, ideological, and transformative elements, as per Habermas' theoretical framework.

Social media to improve digital health literacy and critical thinking.

Contemporary research underscores the significance of digital literacy and

critical thinking, particularly in the realms of digital public spheres and health communication. This study emphasizes the essential role of media literacy in curbing the dissemination of misinformation and fostering critical thinking skills on social media, especially in the context of the infodemic discussed by Melki et al. (20–21). Furthermore, the association between media literacy and its effectiveness in diminishing the impact of negative content, while amplifying positive content, especially regarding vaccination attitudes during COVID-19 (Xin et al., 20–22). There's also a growing acknowledgment of the need to enhance public communication for fostering democratic education and improving communication abilities across the populace. This underscores the necessity of promoting critical thinking and digital literacy in public discourse (Sevignani, 2022). Additionally, the influential role of social media and digital transformations in the public sphere has been spotlighted, emphasizing the need for critical engagement and digital literacy in navigating the evolving landscape of public discourse (Staab & Thiel, 2022).

In the field of health communication, the pivotal role of digital literacy and critical thinking has been brought to light, particularly in sharing health-related information, such as on diabetes. Research has explored the sources of information and their connections to specific demographic segments, underscoring the importance of interacting with health information in a knowledgeable and critical manner (Subramaniam et al., 2022). The role of communication professionals in public health and information dissemination has also been highlighted, accentuating the value of digital literacy and strategic communication in the health sector (Pedrosa et al., 2020). Studies on health and identity formation among young adults in urban South Africa have offered insights into the implications of merging diverse perspectives on identity and health, stressing the need for critical examination of health discourses and the construction of health narratives (Jong et al., 2021). Moreover, the significant role of social media in health communication, particularly during global health emergencies like the COVID-19 pandemic, has brought to the fore the necessity for digital literacy and discerning judgment in accessing health information on digital platforms (Chen et al., 2021).

5. CONCLUSION

Recent research, viewed through the perspective of Habermas' theory of the

public sphere, has shed light on various issues within the digital public sphere. This includes an examination of how digital communication technologies have influenced public health messaging during the COVID-19 pandemic, particularly focusing on the role of social media in the proliferation of misinformation and its effects on public health. Additionally, the role of social media in forming a prominent public sphere, even under authoritarian regimes, showcases the influential capacity of digital platforms to reshape public discourse. Collectively, these studies underscore the necessity of critically analyzing and redefining public spheres in the digital era, considering the intricate interplay of digital evolution, ideological development, and networked communications.

AUTHOR CONTRIBUTIONS

Substantial contributions to conceptualization, data curation, analysis: Mohamad Guntur Nangi, Syamsu A. Kamaruddin, Arlin Adam, Sari Arie Lestari. Manuscript writing, revisions & editing: Mohamad Guntur Nangi, and Syamsu A. Kamaruddin.

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CONFLICT OF INTEREST

The authors declare no conflict of interest for this publication.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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