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Evaluating the effectiveness of health awareness programs on social media in changing health behaviors among the residents of the Gaza Strip

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Chapter (1)

1.Introduction

1.1 Background

Various users have increasingly relied on social media for health-related purposes (Zhong, Y., Liu, W., Lee, T., Zhao, H., & Ji, J. 2020) Instead of the conventional one-to-many and personal one-to-one communication, websites like Facebook, Instagram,

and Twitter—collectively referred to as social media—allow many-to-many communication (Duggan, M., & Brenner, J. 2012) Despite the continued effectiveness of social media in changing health behaviour, there is increasing dependence on these media across the globe especially in areas facing significant economic, political and social challenges The Gaza Strip which has endured a prolonged blockade for years, stands out as one of the regions most in need of specialized research due to the dire circumstances faced by its population. The blockade severely restricts the movement of people and goods, including essential medicines and medical equipment, making access to basic healthcare services incredibly difficult. Furthermore, hospitals and clinics in Gaza are grappling with a critical shortage of medical supplies and medications, highlighting the urgent need for disease prevention through health awareness campaigns rather than relying solely on treatment. Additionally, the high population density in Gaza (UNRWA,2017)which is among the highest in the world, means that any disease outbreak could spread rapidly and have devastating consequences. For these reasons, prevention is undeniably more effective than cure Therefore, this study aims to evaluate the effectiveness of health awareness programs delivered through social media in changing health behaviors in the Gaza Strip.

1.2 Problem statement

Health education programs on social media have become widely popular. However, previous research has predominantly focused on stable regions with sufficient resources, largely overlooking areas facing blockades and political and economic challenges, such as the Gaza Strip. This neglect in the literature has created a gap in understanding how these unique challenges—such as internet disruptions, poverty, and blockades—affect the ability of health education programs to change health behaviours. Therefore, this study aims to evaluate the effectiveness of health education programs on social media under these difficult conditions and provide recommendations for improving them in regions facing similar circumstances.

1.3 Justification of the study

This study is important because it addresses an issue that has not received sufficient attention in previous research. While most studies have focused on areas with high-quality infrastructure, another study like Localization of digital health tools used by displaced populations in low and middle[4]-income settings ,which examined low-income countries, did not specifically address the case of Gaza or similar crises and wars, along with their unique challenges, such as internet outages and poverty. Therefore, I believe this study will help in understanding how to improve these programs in marginalized areas.

Additionally, the recent war in Gaza between 2023 and 2025 has shifted our focus toward the importance of prevention rather than relying entirely on treatment. During the war, the healthcare sector in Gaza faced unprecedented challenges, including shortages of medicines and medical supplies and the collapse of healthcare infrastructure. These conditions made it difficult to provide adequate healthcare, leading to increased awareness of the importance of prevention and the promotion of .public health as a first line of defense against diseases

In this context, health awareness programs on social media have become an effective tool for spreading awareness about common diseases and how to prevent them, especially given the limited access to traditional healthcare services. For example, during the war, Hepatitis A spread abnormally, but some individuals and organizations, such as the World Health Organization (WHO), began talking about the importance of personal hygiene to combat this epidemic. Indeed, people started paying attention to personal hygiene as much as possible despite the severe shortage of cleaning supplies in all forms, following awareness campaigns by organizations. Therefore, this study comes at a critical time to evaluate the effectiveness of these programs during crises and to provide recommendations for enhancing their role in promoting public health. By focusing on prevention, these programs can help reduce reliance on treatment, especially in areas suffering from resource shortages and deteriorating healthcare services due to wars and crises.

1.4 Purpose of study

The primary purpose of this study is to evaluate the effectiveness of health awareness programs delivered through social media platforms (e.g., Facebook, Instagram, and TikTok) in changing health behaviors among individuals in the Gaza Strip.

1.5 Specific objective

1. Assessing the reach of health awareness programs through social media platforms (Facebook, Instagram, TikTok) to the population of the Gaza Strip.
2. Evaluating the impact of health awareness programs on increasing the knowledge of Gaza residents about health issues, with a focus on preventive measures.
3. Evaluating the impact of health awareness programs on changing health behaviors among Gaza residents, including preventive behaviors.
4. Identifying the challenges faced by Gaza residents in engaging with health awareness programs on social media platforms.
5. Providing simple recommendations to improve health awareness programs on social media platforms, with a focus on enhancing preventive measures.

1.6 Research question

1. To what extent do health awareness programs on social media platforms (Facebook, Instagram, TikTok) reach the population of the Gaza Strip?
2. How do health awareness programs impact the knowledge of Gaza residents about health issues, particularly preventive measures?
3. What is the impact of health awareness programs on changing health behaviors, including preventive behaviors, among Gaza residents?
4. What are the challenges faced by Gaza residents in engaging with health awareness programs on social media platforms?

5. What recommendations can be proposed to improve the effectiveness of health awareness programs on social media platforms, with a focus on enhancing preventive measures?

1.7 Study Hypotheses

1. Hypothesis 1 (H1):

- H1: There is a positive relationship between the use of social media platforms (Facebook, Instagram, TikTok) and the reach of health awareness programs among the population of Gaza.

2. Hypothesis 2 (H2):

- H2: Health awareness programs on social media lead to an increase in the knowledge of Gaza's population regarding preventive measures (such as handwashing, social distancing, and vaccinations).

3. Hypothesis 3 (H3):

- H3: Health awareness programs on social media lead to positive changes in preventive health behaviors among the population of Gaza.

4. Hypothesis 4 (H4):

- H4: Challenges such as internet outages, low digital literacy, and lack of awareness about the importance of prevention negatively affect the engagement of Gaza's population with health awareness programs.

5. Hypothesis 5 (H5):

- H5: Implementing specific recommendations (such as optimizing posting times and using more engaging content) will enhance the effectiveness of health awareness programs on social media.

Chapter (II)

2.1 literature review

(H. Al-Dmour, A. Salman, M. Abuhashesh.2020)

Study title

Influence of Social Media Platforms on Public Health Protection Against the COVID-19 Pandemic via the Mediating Effects of Public Health Awareness and Behavioral Changes: Integrated Model

Abstract

The study aimed to examine the impact of social media platforms on public health protection against the COVID-19 pandemic through the mediating effects of public health awareness and behavioral changes. A quantitative approach was used to collect data via online questionnaires in Jordan, with a sample of 2,555 social media users. Structural Equation Modeling (SEM) was employed to analyze the data and test the hypotheses.

Conclusion

The study confirms that social media platforms play an important role in promoting health awareness and changing behaviors during health crises such as the Covid-19 pandemic. These platforms can be used as an effective tool to disseminate health information and increase awareness among the public, which contributes to improving public health protection. However, more research is needed to evaluate the effectiveness of these platforms in different cultural contexts

(Gamboa, J., Lamb, M. M., de la Cruz, P., Bull, S ,2019)

Study title:

Using Social Media to Increase Preventative Behaviors Against Arboviral Diseases: A Pilot Study Among Teens in the Dominican Republic

Abstract:

This study aimed to evaluate the effectiveness of using social media as a peer-to-peer communication tool to promote education and encourage preventative behaviors against arboviral diseases among youth in the Dominican Republic. Thirty-one teens aged 14–18 years were divided into two groups: an intervention group that received weekly educational content on Facebook for 3 months, and a control group that received no intervention. Results showed a significant increase in knowledge scores and preventative behaviors in the intervention group compared to the control group. Increased online engagement was also associated with greater improvements in outcomes. This study provides evidence of the effectiveness of social media as a practical and low-cost tool to improve knowledge and preventative behaviors among youth in low- and middle-income countries.

Conclusion

The study provides evidence that using social media as a peer-to-peer educational tool can be an effective and low-cost way to increase knowledge and promote preventive behaviors among young people in low- and middle-income countries. Increased

online engagement was associated with significant improvements in outcomes, suggesting the importance of designing interactive social media-based educational interventions to achieve public health goals. These findings could be useful in designing future health education campaigns, especially in resource-poor settings.

(Alkhaldi, M., Abuzerr, S., Abu Obaid, H., Alnajjar, G., Alkhaldi, A., & Alkaiyat, A. ,2021)

Study title:

Social Determinants of Health in Fragile and Conflict Zones Before and During Coronavirus Pandemic: the Focus on the Gaza Strip

Abstract:

This study examines the Social Determinants of Health (SDH) in the Gaza Strip, focusing on the health challenges exacerbated by prolonged conflicts and the Israeli blockade. The study explores the social, economic, environmental, and political factors affecting the health of the population in Gaza and provides recommendations for improving the health situation. Key findings include high rates of poverty and unemployment, deteriorating health infrastructure, shortages of medical supplies, and the impact of the blockade on access to healthcare. The study also discusses the impact of the COVID-19 pandemic on health in Gaza and emphasizes the need to enhance health awareness programs through social media to promote disease prevention.

conclusion

Suffering and unemployment in Gaza led to the deterioration of the nervous system, especially as a result, unfortunately. These problems are compounded by the Covid-19 epidemic, which has increased the burden on the health system. However, health awareness programs via social media can help promote and mitigate some of these challenges.

(Shorrab, A. A., Nassef, M., Subhi, A., Giwa, B. L., & Buheji, M ,2024)

Study title

Health in the Crossfire - Analyzing and Mitigating the Multifaceted Health Risks of the 2023 War on Gaza

Abstract:

In order to comprehend and resolve these intricate issues, this study uses a systems thinking method to analyze the various and growing health concerns connected to the ongoing conflict in Gaza. The study focuses on a comprehensive examination of the health hazards associated with the 2023 War on Gaza, taking into account both the

direct and indirect effects on the population and health systems. Taking into account environmental conditions, the disintegration of healthcare infrastructure, and the development of infectious diseases, the study investigates the buildup of health risks in Gaza. A new '3S Framework' for immediate action is presented in the report, which includes supply management, security and prevention, and the recovery of the supportive health system. This strategy seeks to reduce Gaza's short-term and long-term health hazards, particularly in light of the ongoing conflict.

Conclusion:

The 2023 war on Gaza caused a severe health crisis, with bombings leading to injuries, high mortality rates, and the collapse of healthcare infrastructure. Prolonged violence resulted in widespread mental health issues like PTSD, anxiety, and depression. Pregnant women and children faced limited healthcare access, malnutrition, and increased risks of sexual violence. Environmental damage, food shortages, and lack of clean water worsened the crisis, spreading infectious diseases. Immediate action is urgently needed to address these escalating health risks.

(Abu Hamad, B., Jones, N., & Gercama, I. ,2021).

Study title

Adolescent Access to Health Services in Fragile and Conflict-Affected Contexts: The Case of the Gaza Strip

Abstract

This study explores adolescents' access to health services in the Gaza Strip, their experiences, and perceptions of these services. Data were collected from 240 adolescents using in-depth interviews, focus group discussions, and a tablet-based survey. The findings highlight that gender norms, particularly those related to girls' sexual purity, shape adolescent health in multiple ways. Girls face increasing restrictions on their mobility, limiting their access to health services. Adolescent boys are at high risk of substance abuse and peer violence. Key challenges include the absence of preventive health initiatives, limited information on sexual and reproductive health, drug shortages, high treatment costs, and inappropriate interactions with service providers.

Conclusion

The study highlights significant barriers that adolescents in Gaza face in accessing health services due to social, economic, and conflict-related challenges. Girls experience mobility restrictions limiting their healthcare access, while boys are at high risk of substance abuse and peer violence. Additionally, the absence of preventive health initiatives, limited sexual and reproductive health information, drug shortages, and high treatment costs further hinder access to care. Inappropriate interactions with healthcare providers were also cited as a major barrier, emphasizing the need for adolescent-friendly and conflict-sensitive health services.

(Evans, W. D., Abroms, L. C., Broniatowski, D., Napolitano, M. A., Arnold, J., Ichimiya, M., & Agha, S,2022).

Study title

Digital Media for Behavior Change: A Review of an Emerging Field of Study

Abstract

This paper reviews an emerging field related to the use of digital media for changing health behaviors. Despite the widespread prevalence of digital media in modern life, research on its impact on behavior is still in its early stages. The paper aims to provide an overview of the methods used in this field, present practical case studies, and outline a future research agenda. The main methods include: (1) digital interventions for behavior change, (2) formative research using digital media, and (3) the use of digital media for conducting evaluations. Case studies are reviewed in areas such as healthy weight management, tobacco control, and vaccination promotion. The paper emphasizes the need to accelerate research to better understand the impact of digital media on human behavior.

Conclusion

The study suggests that digital media have significant potential in behavior change, but further research is needed to better understand their impact. To maximize their effectiveness, digital interventions should leverage the full range of digital device functionalities and promote continuous engagement and self-management. The study highlights the importance of future experimental research to examine the effects of varying levels of engagement and exposure intensity to digital media in behavior change.

(A. Ghahramani, M. de Courten, M. Prokofieva.2022)

Study title:

The potential of social media in health promotion beyond awareness creation: An integrative review

Abstract

The study is an integrative review of published research on the use of social media in health promotion campaigns with a focus on the methods used to assess the impact of these campaigns on health behavior change and not just awareness raising.

The main objective is to fill the gap in the scientific literature by assessing how social media contributes to changing individuals' behavior in the long term, not just raising awareness.

Conclusion

good evaluation of social media campaigns on integrated health behavior change. Campaigns require design that aligns with the phases of change and achieves more sustainable results.

2.2 Theoretical Framework

Definition of Basic Concepts

-Health Awareness Program

Health awareness programs are activities or campaigns aimed at disseminating health information and raising awareness about specific health issues, such as disease prevention, improving personal hygiene, or adopting healthy lifestyles. These programs use various means to spread information, such as traditional media (TV, radio) or modern platforms (social media) .

-Social Media:

Social media refers to digital platforms that allow users to create, share, and interact with content. These platforms include Facebook, Instagram, Twitter, TikTok, and others. Social media is used to disseminate information quickly and widely, making it an effective tool for health awareness .

-Health Behaviors:

Health behaviors are actions or practices undertaken by individuals to maintain or improve their health. These behaviors include handwashing, social distancing, following a healthy diet, exercising, and getting vaccinated against diseases .

-Changing Health Behavior:

Changing health behaviors refers to the process of transforming unhealthy or neutral practices into positive health practices. This involves increasing awareness, motivating individuals, and providing the necessary resources to adopt new health behaviors .

-Effectiveness of Programs

The effectiveness of programs refers to the extent to which a program succeeds in achieving its intended goals. In the context of health awareness programs, effectiveness includes the reach of information to the target audience, its impact on raising awareness, and changing health behaviors .

-Gaza Strip

The Gaza Strip is a small geographical area located on the eastern coast of the Mediterranean Sea and is considered one of the most densely populated regions in the world. The residents of the Gaza Strip face difficult living conditions due to the Israeli blockade, lack of resources, and weak health infrastructure .

Theory of Planned Behavior (TPB)

This study is based on the Theory of Planned Behavior (TPB), introduced by Ajzen in 1991, to understand the impact of health awareness programs on social media on individuals 'intentions to adopt preventive behaviors such as handwashing and social distancing in the Gaza Strip. This theory suggests that behavioral adoption relies on three key factors:

1- Attitudes:

Attitudes reflect individuals 'perceptions of health behaviors and their importance in disease prevention. In this study, this factor will be measured through a questionnaire assessing the extent to which individuals believe in the benefits of handwashing and social distancing, using a Likert scale.

2- Subjective Norms:

Subjective norms relate to the influence of the social environment, such as family and friends, on individuals 'health-related decisions. This will be evaluated through questions assessing the degree to which an individual's social circle encourages the adoption of these health behaviors.

3- Perceived Behavioral Control:

This factor represents individuals 'perception of their ability to implement these behaviors despite various challenges, such as water shortages or overcrowding. It will be measured through a questionnaire that assesses how easy or difficult individuals find it to adopt these preventive measures in their daily lives

Social Learning Theory (SLT)

This study is grounded in Social Learning Theory (SLT) , developed by Bandura (1977), to examine the influence of health awareness programs on social media in promoting the adoption of preventive health behaviors among individuals in the Gaza Strip. According to this theory, behavioral change occurs through observational learning and social reinforcement, which are influenced by three primary factors:

1-Observational Learning

refers to the process by which individuals acquire new behaviors by observing and imitating others, particularly credible sources such as healthcare professionals or influential community figures. In the context of this study, this factor will be evaluated through a questionnaire designed to measure individuals 'exposure to health-related content on social media, such as videos or posts addressing disease prevention.

2-Social Reinforcement

Social reinforcement pertains to the impact of feedback from others, such as likes, shares, and comments on social media, which can either encourage or discourage the

adoption of health-related behaviors. This factor will be assessed through questions that evaluate the extent to which social interactions on digital platforms influence individuals' willingness to adopt preventive health practices.

3-Self-efficacy

reflects individuals' confidence in their ability to adopt and maintain health behaviors based on the information and motivation they receive through social media. This factor will be measured using a questionnaire that assesses individuals' perceived ability to implement preventive practices, taking into account potential barriers such as resource limitations and social constraints

By applying the Social Learning Theory, this study examines how digital health awareness campaigns can serve as effective tools for shaping health behaviors in crisis-affected regions like Gaza, where traditional health education resources may be limited.

Persuasion Theory

This study is based on Persuasion Theory, developed by various scholars, including Richard Petty and John Cacioppo in 1986, to understand the impact of health awareness programs on social media in changing individuals' health behaviors in the Gaza Strip. This theory suggests that behavior change occurs through persuasive communication, which relies on three key factors:

1- Credibility of the Source:

This factor refers to the trustworthiness and influence of the entity delivering the awareness messages. In this study, this element will be assessed through a questionnaire measuring the extent to which health awareness content from credible sources, such as global health organizations and medical professionals, influences individuals' willingness to adopt preventive health behaviors.

2- Message Content:

This factor relates to the clarity and appeal of the health information provided and its impact on changing beliefs and behaviors. In this study, it will be measured by analyzing individuals' engagement with health-related posts, such as videos and infographics, and their responsiveness to information about disease prevention.

3-Communication Channel:

The communication channel represents the medium through which health messages are delivered, such as interactive videos or awareness campaigns on social media.

This factor will be evaluated through a questionnaire assessing the effectiveness of various platforms, such as Facebook, Instagram, and TikTok, in spreading health awareness and encouraging individuals to adopt preventive behaviors.

By applying Persuasion Theory, this study aims to analyze how social media can serve as an effective tool in influencing individuals' health decisions by enhancing content credibility, delivering persuasive health messages, and utilizing effective communication channels to reach target populations in the Gaza Strip.

Transtheoretical Model of Behavior Change - TTM

This theory was developed by Prochaska and Diclemente in 1983 and this study is based on this theory, as this study tries to understand how individuals move from not caring about healthy behaviors to caring about them, and as this theory does not impose change all at once, but rather in stages gradually

1-Precontemplation stage:

Individuals at this stage do not realize the importance of health behavior or refuse to change it, as this stage can be measured in the study through a questionnaire that measures the extent to which individuals are aware of the importance of health awareness through social media.

2- Contemplation stage:

Individuals begin to think about changing their behavior but have not yet taken action. This stage can be assessed by the extent to which individuals interact with health content on social media, such as watching awareness videos without taking action.

3- Preparation:

Individuals decide to change their behavior soon and start looking for information. This stage can be correlated with the extent to which individuals engage in comments or search for reliable sources of health information.

4- Action stage:

Individuals implement healthy behaviors such as handwashing or social distancing. This stage is measured through questionnaires that measure the extent to which they implement these practices after being exposed to awareness campaigns through social media.

5- Maintenance stage:

Individuals continue to apply the health behavior for a long time without returning to old habits, as this stage is assessed by analyzing the extent to which individuals continue to share and publish healthy content.

Based on this theory, the study hypothesizes that social media health awareness programs can push individuals to move from poor health behaviors to positive health behaviors, which enhances the effectiveness of these programs in achieving lasting behavioral change.

Diffusion of Innovations Theory

developed by Everett Rogers in 1962, where this theory aims to explain how new ideas or practices (such as health behaviors) spread among members of society, where according to Roger there are several key factors for the theory.

The main factors of the theory:

1- Innovation Characteristics

-Innovation characteristics refer to the qualities that make an innovation (such as health information) acceptable or unacceptable. According to Roger, there are five key characteristics that influence the adoption of innovation:

- Relative Advantage: The extent to which the innovation is superior to old practices.
- Compatibility: The extent to which the innovation is compatible with existing values and beliefs.
- Complexity: How easy the innovation is to understand and apply.
- Trialability: The ability to try the innovation before fully committing to it.
- Observability: How easy it is to observe the results of the innovation.

Based on this point, the extent to which health information is aligned with the values of the community in Gaza will be measured

2-Communication Channels:

refer to the means through which information is transmitted. In this study, social media (e.g. Facebook and Instagram) are considered the main channels for disseminating health information, where the effectiveness of social media in disseminating health information will be evaluated.

3- Time:

Time plays an important role in the process of innovation diffusion. According to the theory, innovation diffusion goes through different stages, from Early Adopters to Laggards, where the speed at which health information spreads among individuals will be analyzed

4-Social System:

refers to the social environment in which innovation diffusion occurs. In the context of this study, the society in the Gaza Strip is considered the social system in which health information is disseminated, where the impact of social factors on the adoption of health behaviors will be studied

Because it offers a theoretical framework for comprehending how health information spreads in a socioeconomically challenged society, like the Gaza Strip, the diffusion of innovations theory is especially pertinent to this study. This theory can be used to identify factors that either facilitate or impede the adoption of healthy behaviors, which aids in the creation of outreach initiatives that are more successful

Chapter (III)

3.MATERIALS AND METHODS

3.1 Research Type

This study will adopt a quantitative approach, as it aims to assess the impact of health awareness programs delivered via social media on changing health behaviors among

the population of the Gaza Strip. The quantitative method involves collecting numerical data and analyzing it statistically to test the proposed hypotheses, allowing for accurate and generalizable conclusions

3.2 Justification for Choosing the Quantitative Approach

1. Nature of the Study: The research focuses on measuring relationships between specific variables, such as the connection between social media usage and increased health awareness, and its effect on behavior change.
2. Hypothesis Testing: The study involves defined hypotheses that require statistical validation, such as examining how awareness programs contribute to enhanced health knowledge and behavioral changes
3. Measurable Data: Data is collected through structured, closed-ended questionnaires, facilitating statistical analysis using tools like SPSS or Excel
4. Objectivity: The quantitative approach ensures objective, measurable results, supporting the development of practical recommendations for enhancing health awareness programs

3.3 Data Collection Methods

Both primary sources and secondary sources were used to collect the necessary data for this study.

A. Primary Sources

1. Questionnaires: A closed-ended questionnaire will be designed to collect data from residents of the Gaza Strip who use social media. It will include questions about:
 - . The extent to which participants are exposed to health awareness programs on social media
 - . The improvement in their knowledge of preventive health measures after following these programs
 - . Changes in their health behaviors (such as handwashing, social distancing, and vaccination)
 - . The challenges they face in accessing these programs (such as internet outages or limited digital literacy)

B. Secondary Sources

1. Previous Studies: The study will refer to research on the role of social media in health awareness, especially in regions facing challenges similar to those in the Gaza Strip
2. Reports and Statistics: Reports from organizations such as the World Health Organization (WHO) and international relief agencies will be used to understand the health situation in the Gaza Strip

3.4 Questionnaire Design

The questionnaire will be structured into five main sections

1. Demographic Information: Including age, gender, and education level

- 2.Social Media Usage: Covering the number of hours spent daily on social media and the platforms used
- 3.Exposure to Health Awareness Programs: Assessing the extent of exposure and the types of content encountered
- 4.Impact of Programs on Health Knowledge and Behavior: Measuring the increase in knowledge of preventive health measures and changes in health-related behaviors.
- 5.Challenges: Addressing issues such as internet outages and limited digital literacy

3.4 Data Analysis

The collected data will be analyzed using statistical analysis through SPSS software. The analysis will include:

- 1.Descriptive Analysis to identify trends and patterns
- 2.Hypothesis Testing to determine the impact of health awareness programs on individuals' behaviors

3.6 Expected Challenges

- 1.Internet and Power Outages: Frequent disruptions in the Gaza Strip may affect participants' ability to complete the online questionnaire.
- 2.Limited Digital Literacy: Some residents may struggle with using social media, which could impact the accuracy of their responses.

Research Limitations

-Time constraints

The time allotted for data collection and analysis may be limited, affecting the comprehensiveness and accuracy of the study

-Geographical limitations

The study was limited to the population of the Gaza Strip, which means that generalizing the results to other regions with different circumstances is difficult

-Technical Limitations and War Conditions

Access to the internet and modern devices due to the economic conditions in the Gaza Strip, which affects the ability of participants to interact with awareness programs

-Cultural and social constraints

The impact of cultural factors on participants and their interpretation of health through social media, which affects the accuracy and reliability of the data

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Digital Media for Behavior Change: Review of an Emerging Field of Study

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