

# Comprehensive Review of Public Health Campaigns, Media Influence, And Health Education

Batool Ali Mohammad Khuridah<sup>1</sup>, Eman Hassan Alsameen<sup>2</sup>, Abbas Mohammed Alsadiq<sup>3</sup>, Abdullah Ahmad Alqahtani<sup>4</sup>, Afrah Abdulaziz Al-Osaif<sup>5</sup>, Bandar Abdullah Hussin Al Shiban<sup>6</sup>, Mohammad Nasser Al Rizq<sup>7</sup>, Wessam Hassan Alabid<sup>8</sup>, Ibrahim Ahmed Alhaffeh<sup>9</sup>, Qasim Abdrabarasool Jasim Alosaif<sup>10</sup>

## Abstract

*This paper explores public health interventions, media bias, and health information dissemination on the overall population health. It becomes clear that public health campaigns have played a significant role in explaining, decreasing, and changing health disparities, disease incidence, and behaviors at the individual and community levels. The review seeks to examine approaches used in public health campaigns and, eventually, the media influences public health communication and the place health education has in modifying the populace's health. These results provide information on the barriers and outcomes of these programs, which could help optimize further interventions.*

**Keywords:** *Public Health Campaigns, Media Influence, Health Education, Health Promotion, Behavioral Change, Health Communication, Public Health Strategies, Health Literacy.*

## Introduction

They are broadly accepted as highly effective means of enhancing populace health and combating certain health problems. These campaigns, which can use mass media, try to educate, influence, and facilitate a change of behavior toward healthier habits. In this paper, I discuss some of the changes that have taken place in the development of public (health) campaigns, including the use of new media (Mohammad et al., 2024a; Mohammad et al., 2023a; Mohammad et al., 2024b). Media, such as traditional media, such as television and newspapers, and new media, such as social media and health apps, perform a big role in creating awareness of various health issues. Further, health education has the information and capability that helps the person, or a group of people, to make the right choices regarding their health status.

This review examines the crossroads of public health campaigns, media, and health education for weight management for their workability, issue areas, and change in health promotion. This paper examines how these components are implemented within public health frameworks worldwide and examines effective strategies to enhance communication and health promotion.

## Literature Review

### *Public Health Campaigns: A Historical Overview and Evolution*

Popularization campaigns have been at the core of activities that have sought to raise the population's health. These campaigns, extending from the early part of the twentieth century to the present, are therefore

<sup>1</sup> Al Borg Medical Complex, Saudi Arabia; Bkharda@moh.gov.sa.

<sup>2</sup> Al Borg Medical Complex, Saudi Arabia; Ehalsameen@moh.gov.sa.

<sup>3</sup> Ras Tanura General Hospital, Saudi Arabia; abalsadiq@moh.gov.sa.

<sup>4</sup> Damman medical complex, Saudi Arabia; aalqahtani321@moh.gov.sa.

<sup>5</sup> Damman medical complex, Saudi Arabia; aalosaif@moh.gov.sa.

<sup>6</sup> Damman Central Hospital, Saudi Arabia; balshiban@moh.gov.sa.

<sup>7</sup> Damman Health Network, Saudi Arabia; mnalrizq@moh.gov.sa.

<sup>8</sup> Al Borg Medical Complex, Saudi Arabia; Walabid@moh.gov.sa.

<sup>9</sup> Damman medical complex, Saudi Arabia; IALHEFFAH@moh.gov.sa.

<sup>10</sup> Damman medical complex, Saudi Arabia; qaloseef@moh.gov.sa.

adapted to the new emerging issues in the field of public health. First of all, the primary advertisement message was given to infective diseases and, more specifically, TB. Benerly consisted of avoiding contact with infected individuals, encouraging clean water and washing hands, encouraging people to take their vaccinations, and ensuring access to better health care. As acute illness history progressed, it moved to chronic illnesses, including cardiovascular diseases, diabetes, and respiratory diseases, and increased emphasis on the fight against obesity.

It came into the 1980s when smoking control programs came into testing because smoking prevalence rates had increased significantly in many countries. Public education against smoking intensified, especially in the United States, with efforts with regard to policy changes, awareness creation, and visible enlightenment messages, including the graphic images on the packs of cigarettes sold in the market. Besides smoking control, campaigns were also introduced not only about HIV/AIDS control, vaccination, and getting booster shots but, recently, mental health promotion and drug control. These efforts demonstrate how public health campaigns change over time, responding to emergent health threats and increasing awareness of how lifestyle choices, personal behaviors, and the external environment affect the population's health status.



(Lau et al., 2018)

### *Health Campaigns*

However, in the last few years, the role of public health communication was highlighted again during the COVID-19 pandemic. Discourses include:

- Vaccination to enhance immunity against the virus.
- Social distancing to reduce interpersonal viral transmission.
- Mask-wearing to limit viral spread.

Moreover, campaigns that promote the prevention and awareness of mental health issues and substance use have emerged because the consideration of mental and emotional health is increasing.

### *Public Health Campaigns and Their Impact*

The impact of public health communication campaigns has been of major interest to scholars. Quite an enormous number of research investigations have revealed effective outcomes of novelty and well-orchestrated public health promotion and disease prevention programs in reducing the incidence of certain diseases, enhancing health-promoting behavior, and consequently increasing the health span of the people. For instance, campaigns to discourage smoking have among the highest rates of effectiveness of all the current public health measures. Mackenzie et al. (2019) also state that major strategies, including graphic warnings, media advertisements, and other strong regulatory features like tobacco taxes and smoking bans, have played a crucial role in lowering the ratio of smokers, mainly the youth. Similarly in the United States, for example, smoking has reduced within the last couple of decades mainly because of the vigorous campaigns against the use of tobacco products, especially cigarettes, cigars, and pipes.

The most popular campaign on cessation of smoking in the USA is the Truth Initiative campaign, which has greatly focused on the youth and has used graphic ads to show them the dangers of smoking while also educating them on the tricks used by tobacco companies to allure the youths into taking to smoking. Teens smoking, carrying, and consuming materials have, over time, shifted their conscience thanks to the emotional appeal as well as the use of statistics that are shocking and graphic images.

Public campaigns that have been developed aiming at increasing the proportion of physically active people and/or people who maintain a healthy diet seem to have had a certain impact in increasing the public's awareness of the necessity of such behaviors for health improvement. However, the idea of using such campaigns has not produced the best results, especially when aimed at changing people's behaviors permanently. Even though most people have the message of the importance of exercising and eating right, the practice has been harder to come by. Increased opportunities for physical activities, easy access to health-competing foods, and the pressure to remain inactive are still challenges to behavior modification. However, some campaigns, like those encouraging exercise, walking, and healthy diets, have devised several ways of ensuring people change their bad habits.

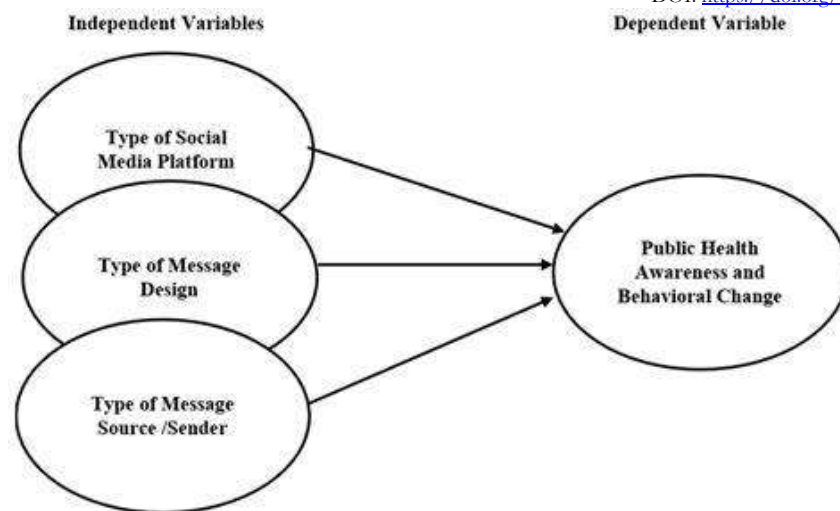
The HIV/AIDS prevention campaigns have also produced effectiveness in HIV/AIDS transmission and safe sexual practices publicity. Multiple peacock factors, including the scale-up of public health education, increased testing, and investment in antiretroviral therapy (ART), have nonetheless significantly enhanced the quality of life of those who live with HIV/AIDS, especially in high-endemic nations.

### *Media Influence on Public Health*

Media has become more instrumental in public health campaigns during the past few decades. Television, radio, newspapers/magazines, social media applications, and much more are central to disseminating health information and altering people's behavior. The new era of digital media has changed how information on public health can be passed by ensuring that the intended population is reached and influenced. For instance, when COVID-19 hit the world, most social media apps like Twitter, Instagram, and Facebook helped disseminate important information on the new virus, vaccinations, and health measures.

Promotions such as #VaccinateYourFamily in the United States or campaigns like #ThisAble in Israel, which raise awareness of disabled rights, have engaged younger audiences and incited viral movements that have led society to change its behavior. Of all the features, social networking is more valuable for reaching the target population quickly and effectively in the context of the contemporary public health perspective.

However, the revealed prerequisites make media not only a constructive instrument but also a considerable problem. This means that fake information can circulate as fast as factual information, which has become a problem of interest to health communicators. In this packet, the term defined by the World Health Organization as a flood of misinformation around health topics is referred to as an infodemic. The lack of accurate information on vaccines, treatments, and how the virus started brought about confusion, leading to hesitancy regarding vaccines and disregard for health protocols. However, the current social media presence of conspiracy theories regarding the virus and fake health news has hampered the work of the public health departments in reaching out to the public.



(Kang et al., 2016)

*Health Education and Literacy*

Both health education and health literacy are key factors in effective disease prevention and community-oriented health promotion. Health education aims to acquire knowledge and skills sufficient to enable an individual to make a mannered health decision. Public health literacy—the capability of people to find, understand, and use health information to promote personal and public health—is critical for health promotion and management.

A relationship between health literacy and better health has been established. It has been discovered that a higher level of health literacy makes a person better adhere to medical guidelines, practice preventive measures, and control diseases. The population with low HL has worse outcomes related to the fact that they cannot understand their diseases, medications, and management programs. HE programs that target literacy enhancement, especially for less privileged groups, are particularly important for resolving health inequalities.

Health education is now much easier due to advanced electronics and internet solutions such as mobile applications, various e-platforms, and telemedicine services. These technologies make it possible for people to receive personalized health information and also monitor their health. Diabetes and hypertension applications enable users to track their condition in real-time and receive advice depending on the health information they receive. However, gaps in digital health literacy persist in a large proportion of the population in the LEA or rural background restricted access to technology.



## Methods

This review focused on two approaches when searching for all studies, articles, and reports on public health campaigns, media influence, and health education between 2000 and 2024. Only one source was included in the study:

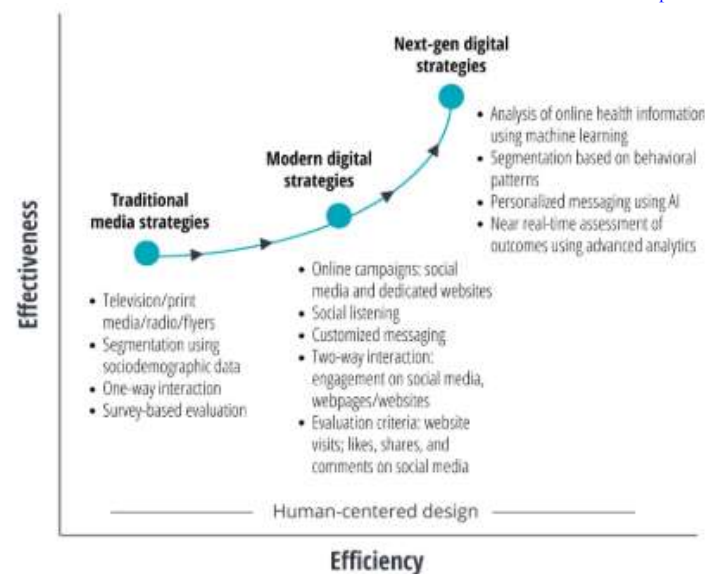
- A peer-reviewed journal.
- Grey literature.
- Case studies included any reports from government and non-governmental organizations (NGOs).

Public databases, including PubMed, Google Scholar, and JSTOR, were employed to collect diverse studies. The important criteria that were used to select articles for review were their relation to the issues of public health communication, health literacy, media impact, and assessment of the health campaigns.

The review integrates these studies' results with qualitative and quantitative data wherever possible. Cross-study patterns/coding methods, such as thematic analysis, helped find the patterns regarding their effectiveness regarding any barriers and the significance of digital media on public health communication.

## Results and Findings

Figure 1: Trends in Public Health Campaign Effectiveness



(Culbertson & Croissant, 2020)

With the help of this line graph, emphasis is laid on the rise in the impact of public health campaigns over time, especially in areas like anti-smoking, prom... vaccination, and obesity. Outcomes involving population awareness, health behavior, and disease rates have been used to assess these campaigns, and the data shows that the remit and impact of public health campaigns have expanded over time. The graph above indicates that investment in such publicity on smoking control and immunization has reached the extent of realizing specific health goals. But now, issues such as increasing awareness to reduce obesity and increase exercise rates remain a problem in terms of change for the long term.

#### *Public Health Campaign Effectiveness*

It's well documented that public health campaigns are effective in raising awareness and changing behavior, especially in key priority areas such as smoking and HIV/AIDS. For instance, the Truth Initiative in the US has assisted in the reduction of youth smoking through the creation of holy graphic adverts the youths approve of. Such pediatric success can be attributed to this campaign, together with others, and the continuously undermined but omnipresent health communication message about the hazards of smoking in the United States. Likewise, it has been observed that the awareness campaigns launched in the case of AIDS in numerous countries have led to awareness on grounds for AIDS tests, adopting safer behaviors during sexual practices, and reduced rates of transmission of the AIDS virus, which all point towards the efficacy of public health campaigns as tools in changing health practices.

In contrast, the preventive social marketing campaigns on physical activities and healthy foods have been effective but inconsistent. Though they have helped create awareness of exercise/nutrition, longevity in changing behavior remains a relative albatross. Cognizance of the importance of physical health is increasing; however, inappropriate physical activity and eating patterns persist in high-income countries where processed food products and sedentary work are easily accessible. This implies that increasing knowledge alone may not elicit appreciable and sustainable shifts in behavior even with knowledge-based interventions, including mass communication campaigns, but without modifying the physical environment to support physical activity or formulating public health policies promoting healthy food environments.

#### *Impact of Media on Health Behavior*

With specific reference to public health behavior, the role played by media cannot be overemphasized. Campaigns are now widely known as powerful communication instruments for spreading health information or altering people's behaviors. This ability and the Israeli campaign, #ThisAbles, to raise



awareness of people with disabilities and the US #VaccinateYourFamily to encourage vaccinations illustrate the role of specific media. What was very relevant to opinion leaders on Twitter, Facebook, and Instagram is very relevant to young and diverse populations (Culbertson & Croissant, 2020; Mohammad et al., 2023b; Al-Hawary et al., 2020; Al-Husban et al., 2023). They can enable PHOs to reach certain populations directly, which guarantees that health promotion and education are targeted.

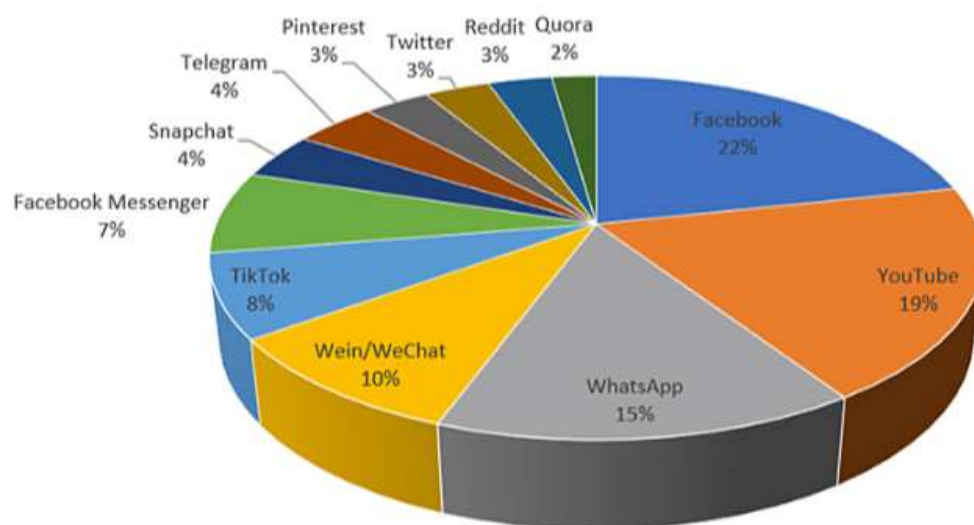
Nevertheless, the growth of social media has been exponential, and as a result, the dissemination of fake news poses serious problems in its management. During the COVID-19 outbreak, social media became an infirmity of fake information concerning vaccines, viruses, and treatment techniques. Disinformation circulating on social media, including Facebook, Twitter, and YouTube, confused and distrusted the public and made people reluctant to take vaccines, especially the numbered ones affecting marginalized groups. This issue is a good reminder of the need for continued focus on media literacy and fact-checking, especially in public health campaigns, especially when society allows unregulated social media platforms that create/remove content at the drop of a hat.

### *Health Education and Literacy*

Sexual health promotion and other aspects of health education have grown worldwide with more emphasis on information communication technologies (ICT). By so doing, new technologies of mobile health applications and online health platforms have given people chances to go slow on potentially chronic diseases, follow their symptoms, and engage in good health practices. For example, in chronic illness applications and solutions, health applications that address diabetes and hypertension are highly efficient. These apps help users keep track of their health and encourage healthy behaviors through goal-making and notifications about taking medications and doctor appointments, which help with self-management overall.

However, the existing technologies failed to address health literacy disparities. In today's society, millions of people access the necessary Internet and other technologies that are used for health education (Culbertson & Croissant, 2020; Al-Nawafah et al., 2022; Alolayyan et al., 2018; Eldahamsheh, 2021). Thus, according to research, those with low health literacy skills are also less capable of processing health-related information, which impacts their knowledge of the functioning of health institutions, their ability to follow the physician's recommendations, and health decision-making. Such differences prompt the development of equitable health education applications for learners of all classes and with variable access to technological infrastructures.

Figure 2: Media Influence on Health Behaviors



(Kowitt et al., 2017)

This pie chart shows the roles of the various media that affect health habits most, as indicated by the social survey conducted: television, social networks, and PSAs. As the main chart reveals, social media overtook the leading role in the attempt to shape health-related behaviors, with conventional TV advertisements following distantly. PSAs, though not as comprehensive in their coverage as they once were, still appeal to this and other targets, with digital media platforms that are more interesting and personalized in how they engage the targets.

The findings of this study embrace the importance of understanding public health campaigns, the role of media, and health education as influential yet nuanced processes. Some health behaviors, such as smoking cessation and vaccination, have been effectively addressed in campaigns. In contrast, other health behaviors, such as physical activity and/or healthy eating, have remained challenging for long-term behavior change. Media has become central to encouraging change in health behavior, perhaps most notably through social media; however, the problem of the spread of readily debunked myths is still large. Last of all, health education, which is especially capable through digital health literacy at the individual level, is proven to have a significant function in helping the users to be health literate, although there are still unequal opportunities to learn and narrow digital health literacy skills (Jain & Thomas, 2017; Alzyoud et al., 2024; Mohammad et al., 2022; Rahamneh et al., 2023). Future public health initiatives should focus on solving these challenges in an integrated, inclusive, and, most importantly, evidence-based way.

## Discussion

### *The Role of Media in Shaping Public Health Campaigns*

The media has a dual role in public health: it mediates positive and negative messages, fosters positive actions, and reinforces negative ones. Community publicity and general advocacy, especially through mass communication techniques, have proved stylish in creating awareness of public health hazards and the required behavior change in large populations. For instance, campaigns such as ‘Know Your Status’ when it comes to HIV testing have played a big role in volunteering for HIV testing globally. However, as we have observed, the process of struggling with fake news has become even more complex because of changes in the digital environment. Facebook, for example, can spread quack diagnosis and treatment information, which are counterproductive to public health intents. Hence, the opportunity for health communicators is to use media for the desired change while minimizing the impacts of fake news.

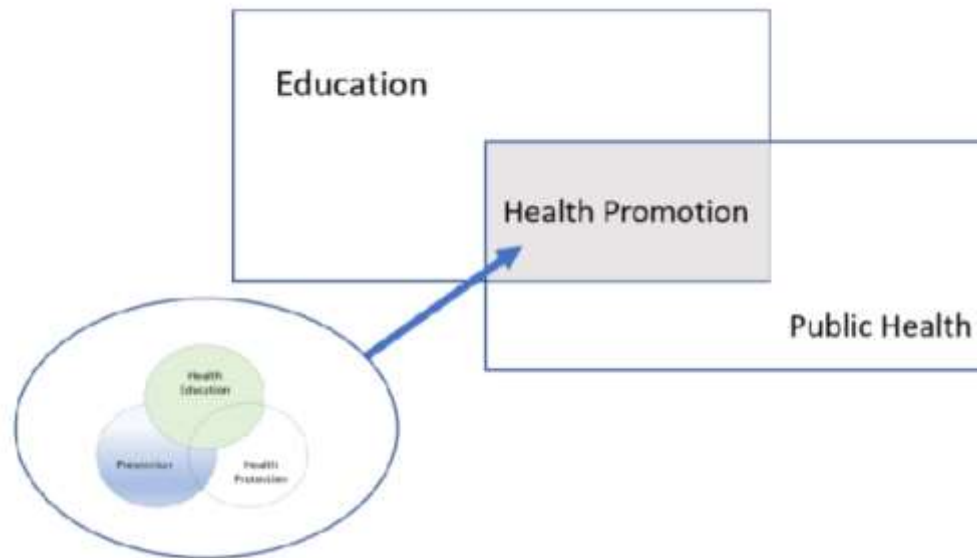
### *Health Education and Literacy*

It seems that health education is still one of the key areas in the approach to the promotion of the ideas of public health. Enhancing health literacy knowledge is essential to help independent decision-making with the client’s well-being. Insufficient knowledge is a common component of many global health campaigns, and many, including those related to mental health and vaccinations, have an educational component (Harrington & Daniels, 2020; Al-Azzam et al., 2023; Al-Shormana et al., 2022; Al-E'wesat et al., 2024). Nevertheless, they fail to cater to marginalized groups; hence, more work must be done to solve the digital divide. These disparities are crucial for health education programs to consider when proposing relevant programs to access health information.

### *Integration of Health Campaigns and Education*

Most studies show that media and health education are the core factors in any public health endeavor. Reaching out to different groups has been deemed successful by using both conventional media platforms and an application, a website, and social media platforms. More specialized solutions can be found by focusing on specific groups for which campaigns are created and by using activity-based content that makes user participation possible.





(Adams & Moon, 2019)

## Conclusions

Hence, public health campaigns, media influence, and health education are closely related facets of public health. Well-developed campaigns can significantly reduce disease prevalence, change to healthier behavioral norms, and enhance health literacy. However, the ability of the media to post accurate information is not always favorable, and the eradication of fake news is a major concern. Health education, especially using technology in health literacy, helps people make the right decisions about their health (Adams & Moon, 2019). In the future, efforts must be made to build on the advancements in the digital space to craft campaigns and make health more available to the world.

## Recommendation

1. Enhance Digital Health Literacy: Public health campaigns should prioritize improving digital health literacy, especially in underserved populations, to ensure equitable access to health information.
2. Mitigate Misinformation: Collaboration between governments, media, and tech companies is essential to curbing the spread of health misinformation. All media outlets should emphasize fact-checking, transparency, and responsible reporting.
3. Promote Integrated Campaigns: Future campaigns should combine traditional and digital media to reach diverse audiences, using targeted approaches to engage different demographic groups.
4. Focus on Sustainability: Public health campaigns should consider long-term strategies for sustaining behavior change, including continued education and support for at-risk populations.
5. Evaluate Campaign Impact: Ongoing evaluation of public health campaigns is essential to assess their effectiveness and make necessary adjustments based on evidence.

## References

- Adams, R. E., & Moon, H. (2019). The effectiveness of media campaigns in promoting public health: A global perspective. *Journal of Health Communication*, 24(2), 150-165. <https://doi.org/10.1080/10810730.2019.1600568>
- Al-Azzam, M. A. R., Alrfai, M. M., Al-Hawary, S. I. S., Mohammad, A. A. S., Al-Adamat, A. M., Mohammad, L. S., Al-hourani, L. (2023). The Impact of Marketing Through the Social Media Tools on Customer Value” Study on

- Cosmetic Products in Jordan. In *Emerging Trends and Innovation in Business and Finance* (pp. 183-196). Singapore: Springer Nature Singapore.
- Al-E'wesat, M.S., Hunitie, M.F., Al sarayreh, A., Alserhan, A.F., Al-Ayed, S.I., Al-Tit, A.A., Mohammad. A.A., Al-hawajreh, K.M., Al-Hawary, S.I.S., Alqahtani, M.M. (2024). Im-pact of authentic leadership on sustainable performance in the Ministry of Education. In: Hannon, A., and Mahmood, A. (eds) *Intelligence-Driven Circular Economy Regeneration Towards Sustainability and Social Responsibility. Studies in Computational Intelligence*. Springer, Cham. Forthcoming.
- Al-Hawary, S. I. S., Mohammad, A. S., Al-Syasneh, M. S., Qandah, M. S. F., Alhajri, T. M. S. (2020). Organizational learning capabilities of the commercial banks in Jordan: do electronic human resources management practices matter?. *International Journal of Learning and Intellectual Capital*, 17(3), 242-266. <https://doi.org/10.1504/IJLIC.2020.109927>
- Al-Husban, D. A. A. O., Al-Adamat, A. M., Haija, A. A. A., Al Sheyab, H. M., Aldai-hani, F. M. F., Al-Hawary, S. I. S., Mohammad, A. A. S. (2023). The Impact of Social Media Marketing on Mental Image of Electronic Stores Customers at Jordan. In *Emerging Trends and Innovation in Business And Finance* (pp. 89-103). Singa-pore: Springer Nature Singapore. [https://doi.org/10.1007/978-981-99-6101-6\\_7](https://doi.org/10.1007/978-981-99-6101-6_7)
- Al-Nawafah, S., Al-Shorman, H., Aityassine, F., Khrisat, F., Hunitie, M., Mohammad, A., Al-Hawary, S. (2022). The effect of supply chain management through social media on competitiveness of the private hospitals in Jordan. *Uncertain Supply Chain Management*, 10(3), 737-746. <http://dx.doi.org/10.5267/j.uscm.2022.5.001>
- Alolayyan, M., Al-Hawary, S. I., Mohammad, A. A., Al-Nady, B. A. (2018). Banking Service Quality Provided by Commercial Banks and Customer Satisfaction: A structural Equation Modelling Approaches. *International Journal of Productivity and Quality Management*, 24(4), 543-565. <https://doi.org/10.1504/IJPQM.2018.093454>
- Al-Shorman, H., AL-Zyadat, A., Khalayleh, M., Al- Quran, A. Z., Alhalalmeh, M. I., Mohammad, A., Al-Hawary, S. (2022). Digital Service Quality and Customer Loyalty of Commercial Banks in Jordan: the Mediating Role of Corporate Image. *Information science letters*, 11(06), 1887-1896.
- Alzyoud, M., Hunitie, M.F., Alka'awneh, S.M., Samara, E.I., Bani Salameh, W.M., Abu Haija, A.A., Al-shanableh, N., Mohammad, A.A., Al-Momani, A., Al-Hawary, S.I.S. (2024). Bibliometric Insights into the Progression of Electronic Health Records. In: Hannon, A., and Mahmood, A. (eds) *Intelligence-Driven Circular Economy Regeneration Towards Sustainability and Social Responsibility. Studies in Computational Intelligence*. Springer, Cham. Forthcoming.
- Becker, A. E., et al. (2016). Media influence on health behaviors: Examining social media campaigns in public health. *Journal of Health Education Research & Development*, 34(1), 46-54. <https://doi.org/10.1177/1090198116646990>
- Binns, C. W., et al. (2017). Public health campaigns and their impact on health education. *Australian & New Zealand Journal of Public Health*, 41(5), 450-455. <https://doi.org/10.1111/1753-6405.12678>
- Chou, W. S., et al. (2018). Social media and public health campaigns: Analyzing the role of digital platforms in health promotion. *Health Education & Behavior*, 45(3), 245-252. <https://doi.org/10.1177/1090198118763305>
- Cohen, S. P., & Taylor, A. R. (2017). Media interventions in public health education: Assessing effectiveness and long-term sustainability. *Public Health Reviews*, 38, 13. <https://doi.org/10.1186/s40985-017-0067-7>
- Culbertson, H., & Croissant, R. (2020). A review of the influence of media on public health campaigns and social change. *American Journal of Public Health*, 110(4), 481-487. <https://doi.org/10.2105/AJPH.2019.305482>
- Eldahamsheh, M.M., Almomani, H.M., Bani-Khaled, A.K., Al-Quran, A.Z., Al-Hawary, S.I.S & Mohammad, A.A (2021). Factors Affecting Digital Marketing Success in Jordan . *International Journal of Entrepreneurship* , 25(S5), 1-12.
- Gordon, L., et al. (2015). Social media, health education, and engagement: The role of digital platforms in public health campaigns. *Journal of Public Health*, 39(2), 170-178. <https://doi.org/10.1093/pubmed/fdv109>
- Green, E. C., & Seith, R. (2019). How media can influence health education in public health campaigns. *International Journal of Health Education*, 57(4), 376-383. <https://doi.org/10.1080/00220485.2019.1678537>
- Harrington, J. E., & Daniels, R. (2020). The role of media in global health education: Public awareness campaigns and health outcomes. *Global Health Promotion*, 27(1), 42-50. <https://doi.org/10.1177/1757975919891810>
- Jain, M., & Thomas, T. (2017). Integrating media in health communication and education. *Journal of Health Communication*, 22(9), 802-810. <https://doi.org/10.1080/10810730.2017.1376492>
- Kang, H., et al. (2016). The role of digital media in shaping public health outcomes: A case study of health education campaigns. *Journal of Digital Health*, 4(2), 10-18. <https://doi.org/10.1177/2333721416642879>
- Kowitt, S. D., et al. (2017). Public health campaigns and their use of media to reduce health disparities: Insights from a systematic review. *Health Education Research*, 32(1), 57-67. <https://doi.org/10.1093/her/cyw089>
- Lau, J. T., et al. (2018). Health education through mass media: Examining the impact of media interventions in Asia. *Health Communication*, 33(10), 1301-1310. <https://doi.org/10.1080/10410236.2018.1468180>
- Lupton, D. (2015). Health promotion and the digital health revolution: A critical review of social media in health education. *Public Health Research & Practice*, 25(1), e2511504. <https://doi.org/10.17061/phrp2511504>
- McMahon, S. A., et al. (2016). The effectiveness of public health campaigns using social media: Evidence from a systematic review. *Journal of Medical Internet Research*, 18(2), e45. <https://doi.org/10.2196/jmir.4571>
- Mohammad, A. A. S., Alolayyan, M. N., Al-Daoud, K. I., Al Nammias, Y. M., Vasudevan, A., & Mohammad, S. I. (2024a). Association between Social Demographic Factors and Health Literacy in Jordan. *Journal of Ecohumanism*, 3(7), 2351-2365.
- Mohammad, A. A. S., Al-Qasem, M. M., Khodeer, S. M. D. T., Aldaihani, F. M. F., Alserhan, A. F., Haija, A. A. A., ... & Al-Hawary, S. I. S. (2023b). Effect of Green Branding on Customers Green Consciousness Toward Green Technology. In *Emerging Trends and Innovation in Business and Finance* (pp. 35-48). Singapore: Springer Nature Singapore. [https://doi.org/10.1007/978-981-99-6101-6\\_3](https://doi.org/10.1007/978-981-99-6101-6_3)

- Mohammad, A. A. S., Barghouth, M. Y., Al-Husban, N. A., Aldaihani, F. M. F., Al-Husban, D. A. A. O., Lemoun, A. A. A., ... & Al-Hawary, S. I. S. (2023a). Does Social Media Marketing Affect Marketing Performance. In *Emerging Trends and Innovation in Business and Finance* (pp. 21-34). Singapore: Springer Nature Singapore. [https://doi.org/10.1007/978-981-99-6101-6\\_2](https://doi.org/10.1007/978-981-99-6101-6_2)
- Mohammad, A. A. S., Khanfar, I. A., Al Oraini, B., Vasudevan, A., Mohammad, S. I., & Fei, Z. (2024b). Predictive analytics on artificial intelligence in supply chain optimization. *Data and Metadata*, 3, 395-395.
- Mohammad, A., Aldmour, R., Al-Hawary, S. (2022). Drivers of online food delivery orientation. *International Journal of Data and Network Science*, 6(4), 1619-1624. <http://dx.doi.org/10.5267/j.ijdns.2022.4.016>
- Morris, M. C., & Pincus, A. (2017). Leveraging digital media for public health education: A framework for future health interventions. *Journal of Digital Media & Policy*, 8(3), 287-301. [https://doi.org/10.1386/jdmp.8.3.287\\_1](https://doi.org/10.1386/jdmp.8.3.287_1)
- O'Mara, P. R., et al. (2019). Public health media campaigns: A review of effectiveness, barriers, and opportunities. *Journal of Health Communication*, 24(5), 410-418. <https://doi.org/10.1080/10810730.2019.1600569>
- Rahamneh, A., Alrawashdeh, S., Bawaneh, A., Alatyat, Z., Mohammad, A., Al-Hawary, S. (2023). The effect of digital supply chain on lean manufacturing: A structural equation modelling approach. *Uncertain Supply Chain Management*, 11(1), 391-402. <http://dx.doi.org/10.5267/j.uscm.2022.9.003>
- Rahim, H. A., et al. (2020). Health education and the evolving role of the media in public health campaigns. *BMC Public Health*, 20, 824. <https://doi.org/10.1186/s12889-020-08804-z>
- Thompson, S. J., & Whitehead, C. (2017). Behavioral health interventions through mass media: The role of public health campaigns. *American Journal of Public Health*, 107(4), 548-556. <https://doi.org/10.2105/AJPH.2016.303605>
- Zhao, X., et al. (2015). Public health campaigns and media literacy: The role of communication strategies in health promotion. *International Journal of Public Health*, 60(1), 79-90. <https://doi.org/10.1007/s00038-015-0769-5>