The Relationship between Healthcare Digital Marketing Exposure and Health Improvement Practices among Students at a Medical School in Davao: A Mixed Methods Study

# ABSTRACT

**Aims:** This study explores the relationship between healthcare digital marketing exposure and health improvement practices among Grade 12 students in the Accountancy, Business, and Management (ABM) strand. It also aims to clarify how digital marketing influences their health-related behaviors, providing insights relevant to both educational and healthcare sectors.

**Study Design:** This was a mixed-methods study utilizing an explanatory sequential design.

**Place and Duration of Study:** The research was conducted at a medical school in Davao City from August to December 2024.

**Methodology:** The study involved 66 Grade 12 ABM students who participated in the quantitative phase through a researcher-made survey, selected using total sampling. For the qualitative phase, 15 students were chosen through purposive sampling and participated in semi-structured Focus Group Discussions (FGDs). Quantitative data were analyzed using statistical tools such as mean and Pearson r test, while qualitative data were examined using thematic analysis. Triangulation was applied to compare and validate the findings from both phases.

**Results:** A significant positive relationship was found between exposure to healthcare digital marketing and the adoption of health improvement practices (p < 0.05). Students reported moderate exposure to healthcare digital marketing (mean = 3.34) and high engagement in health improvement practices (mean = 3.46). Thematic analysis from the FGDs supported these statistical results, with participants stating that exposure to digital healthcare content through platforms such as social media, healthcare websites and blogs, and email marketing influenced their decisions related to diet, exercise, and health product consumption.

**Conclusion:** The study highlights the relevance of digital marketing in shaping youth health behaviors. Findings suggest that targeted digital health campaigns can effectively influence students' wellness practices. Practically, the study underscores the need for integrating digital health literacy programs in the curriculum to empower students to critically assess online health information and adopt healthier lifestyles.

*Keywords: Healthcare Digital Marketing Exposure, Health Improvement Practices, ABM students, Mixed-Methods, Health Behavior, Digital Health Exposure.*

# INTRODUCTION

Healthcare digital marketing plays a crucial role in influencing audiences to connect with healthcare services and practices that will improve their overall well-being. Al-Shorbaji (2021) suggests that limited access to healthcare and health improvement practices is often due to a lack of awareness of available services. This lack of awareness can be attributed to inadequate marketing of healthcare through digital media and the internet. This alters how people take care of their health, well-being, and disease prevention practices (Gopi et al., 2024). Consequently, it has been observed that the absence of health improvement practices is linked to the insufficient utilization of digital media within healthcare marketing strategies. These practices may include adopting healthy lifestyle habits such as regular physical activity, maintaining a balanced diet, and managing stress (World Health Organization, 2020). Social media has also transformed how hospitals communicate, promote services and engage with patients. It also supports education, recruitment, and access to credible health information in an industry often filled with misinformation (Wati, 2025).

While the relationship between healthcare digital marketing exposure and health improvement practices have been extensively researched, little research has been done locally, notably among Grade 12 ABM students at a medical school in Davao City. Therefore, the purpose of this study is to assess healthcare digital marketing exposure and health improvement practices among such students. The study examines the relationship between exposure to marketing and health practice with social media, search engine optimization, and mobile marketing. It also measures the improvement in students' health in mental, physical, and cognitive aspects.

According to ColorWhistle (2024), no healthcare digital marketing service refers to the process of promoting your services to healthcare aspirants through online platforms. Healthcare digital marketing exposure refers to the visibility of an advertisement, message, or content, directly correlating to the number of potential customers who are exposed to it, made by a healthcare organization or provider through online marketing efforts (Hodak, 2023). Additionally, digital marketing, which includes email campaigns, social media, and content marketing, is crucial for promoting services online. In healthcare, where patients increasingly seek accessible information, hospital digital marketing plays a vital role. This enables providers to engage with patients—particularly students—on a more personal level (Craig, 2023). Khiong (2022) emphasized that digital technology marketing has led to major increases in user engagement, demand for content, and online product searches, which has driven the widespread adoption of digital strategies across many industries, including healthcare.

Health improvement practices are actions taken to enhance patient care, safety, and overall health outcomes. These practices can include individual behavior changes, healthcare system improvements, and community-based interventions. According to Hill et al. (2020),

studies have demonstrated that continuous quality improvement methods significantly enhance healthcare outcomes by focusing on processes like clinical care, patient outcomes, and organizational efficiencies. Furthermore, Willmington et al. (2022) also described benchmarking as a method often used to measure and compare performance, playing a key role in improving health practices by highlighting areas for improvement and encouraging the adoption of best practices. Studies in this area, particularly between 2010 and 2020, have shown significant improvements in process indicators like medication management and patient documentation.

The focus of the study did not extend to any other variables outside the scope of this study. Any health improvement practices or marketing exposures occurring beyond the study's focal date of the school year 2024 - 2025 under the patronage of a medical school in Davao City were not included in the analysis. This study did not cover healthcare marketing strategies that are not digital and will exclude other potential factors that could influence health improvement practices that are not within our scope.

The study focused on the relationship between Healthcare Digital Marketing Exposure and Health Improvement Practices. This study aims to provide insightful information on how healthcare digital marketing exposure relates to the health improvement practices of students, particularly in a medical school in Davao City. The study was beneficial to a medical school in Davao City, Teachers, Parents, Students, and Future Researchers.

# MATERIAL AND METHODS

## Research Design

This study used a convergent mixed-methods approach, which means it combined both quantitative and qualitative methods to better understand how healthcare digital marketing affects students’ health practices. According to Dovetail (2023), using mixed methods helps researchers look at a topic in more than one way and solve the limits of using only one kind of method. The study followed an explanatory sequential design, where the researchers first gathered and analyzed survey data, then used those results to guide the questions for group discussions.

## Research Environment

The study was conducted at a medical school in Davao City known for its strong healthcare foundation and Senior High School programs. Established in 1975, the school began offering the ABM strand in 2016, making it a suitable setting to examine the link between healthcare digital marketing exposure and health improvement practices among Grade 12 ABM students.

## Research Respondents

The respondents for the quantitative online survey were all Grade 12 ABM students currently enrolled at a medical school in Davao City. The researchers used total sampling to

include all eligible students in the study. Total sampling is a non-probability sampling method where every member of the target population is included (Creswell & Poth, 2020). In this case, data was collected from all 66 Grade 12 ABM students enrolled at the medical school during the 2024–2025 school year. For the qualitative phase, 15 participants were selected using purposive sampling. This method involves selecting individuals based on specific characteristics relevant to the research. The students chosen met the following criteria: (1) they were officially enrolled as Grade 12 ABM students, (2) they had prior exposure to healthcare digital marketing, and (3) they were engaged in practices to improve their health.

## Research Instrument

This study used an Explanatory Sequential Mixed Method design, starting with a quantitative survey followed by a qualitative Focus Group Discussion (FGD). The quantitative survey included two questionnaires, one focusing on healthcare digital marketing exposure and the other on health improvement practices, with both using a Likert scale for analysis. The qualitative phase involved a semi-structured FGD to gather deeper insights on how healthcare digital marketing influences students’ health practices. The FGD included questions about students’ exposure to healthcare ads and their impact on health awareness and behaviors.

## Data Gathering Procedure

Before collecting data, the researchers obtained consent from the principal, Grade 12 supervisor, and class advisers, ensuring institutional approval and compliance with ethical guidelines. For the quantitative online survey, all Grade 12 ABM students were surveyed using total sampling. Consent forms were distributed, and the survey was conducted via Google Forms. For the qualitative phase, a semi-structured Focus Group Discussion (FGD) was conducted which lasted 30 minutes and was recorded with consent. Participants' information was anonymized using codes, and the data was transcribed, reviewed, and analyzed using thematic analysis. Focus group discussions provide participants an opportunity to share insights (Dargan et al., 2022), and the data was analyzed to identify key themes (Barenfeld et al., 2024).

## Data Analysis

The data from the surveys were analyzed using mean to determine the average responses and the Pearson r test to examine the relationship between healthcare digital marketing exposure and health improvement practices. For the qualitative phase, thematic analysis was used to identify recurring themes and patterns in the students’ responses during the

focus group discussions. To ensure the validity of the results, triangulation was applied which compares the findings from both the quantitative surveys and the qualitative discussions.

## Scope and Delimitation of the Study

This study utilized an explanatory sequential research design to investigate healthcare digital marketing exposures and health improvement practices among Grade 12 ABM students at a medical school in Davao City. Data was gathered from 66 students using total population sampling for the quantitative phase, and 15 students were purposively selected for the qualitative phase. The study focused on specific indicators of digital marketing exposures (social media, SEO, mobile marketing) and health practices (mental, physical, and cognitive health), excluding non-digital marketing strategies and students outside the Grade 12 ABM strand for the academic year 2024–2025.

# RESULTS AND DISCUSSION

## Quantitative Research Results

#### Level of Healthcare Digital Marketing Exposure among Grade 12 ABM Students

The overall mean for Healthcare Digital Marketing Exposure is 3.34. This can be characterized as moderate. This means that the students are moderately exposed to healthcare digital marketing, but the exposure is moderate. This suggests that students moderately encounter healthcare-related digital marketing content, making them well-informed about various healthcare programs and services in the digital space. This result is in line with the study by Craig (2023) which highlights that digital marketing in healthcare enables providers to engage with patients—particularly students—on a more personal level. The accessibility of this information through smartphones and computers allows students to stay connected to healthcare resources anytime and from anywhere, deepening their awareness and engagement with the healthcare sector.

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| **Table 1. Level of Healthcare Digital Marketing Exposure among Grade 12 ABM Students** | | |
| **Healthcare Digital Marketing Exposure** | **Mean** | **Description** |
| Social Media Usage and Marketing | 3.43 | High |
| Search Engine Optimization and Marketing | 3.59 | High |
| Mobile Marketing | 3.00 | Moderate |
| **Overall** | **3.34** | **Moderate** |

#### Level of Health Improvement Practices among Grade 12 ABM Students

The overall mean for Health Improvement Practices is 3.46, which can be characterized as high. This suggests that students actively engage in various health improvement practices, indicating a positive attitude in maintaining mental, physical, and cognitive health. This result is in line with the study by Nilsagard et al. (2023) which highlights that a practice that promotes a healthy lifestyle would enhance the overall well-being. The study highlights that when individuals make their health a priority through regular health improvement practices, the benefits extend beyond just physical health. Therefore, the students' high engagement in health improvement practices supports the idea that adopting a healthy lifestyle can positively influence all aspects of an individual's well-being.

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| **Table 2. Level of Health Improvement Practices among Grade 12 ABM Students** | | |
| **Health Improvement Practices** | **Mean** | **Description** |
| Mental Health | 3.51 | High |
| Physical Health | 3.24 | Moderate |
| Cognitive Health | 3.62 | High |
| **Overall** | **3.46** | **High** |

#### ​ The Relationship Between Healthcare Digital Marketing Exposure and Health Improvement Practices

The results show that there is a significant relationship between the two variables. The test, which examined the relationship between healthcare digital marketing exposure and health improvement practices among Grade 12 ABM students at a medical school in Davao City, rejected the null hypothesis at a significance level of 0.05. This finding aligns with the study of Abas et al. (2024) which emphasizes that there is a significant relationship between digital health marketing and health improvement practices that would enhance public health outcomes.

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| **Table 3. The Relationship Between Healthcare Digital Marketing Exposure and Health Improvement Practices** | | |
| **p-value** | **Interpretatio n** | **Decision** |
| 0.000001 | Significant | Reject Ho |

## Qualitative Research Results

#### ​ The Platforms where Grade 12 ABM Students Encounter Healthcare Digital Marketing

**Table 4. The Platforms where Grade 12 ABM Students Encounter Healthcare Digital Marketing.**

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| **THEMES** | **DESCRIPTION** |
| **Social Media Platforms** | The use of these platforms can deliver targeted advertisements, which supports the results of the study by Alanezi et al. (2021) it shows that social media is an effective medium for health education and awareness. |
| **Healthcare Websites and Blogs** | Interactive features boost user engagement by linking related content, making blogs and websites effective tools for digital marketing and healthcare awareness among students (Chen et al., 2023). |
| **Email Marketing** | The use of email marketing in promotions helps to have a convenient way to deliver healthcare ads directly to the target audience. As a form of direct marketing, email marketing is widely recognized for its broad reach and direct consumer engagement (Elrod, 2020). |

**Social Media Platforms**. These platforms enable real-time interaction, allowing students to ask questions and receive feedback about healthcare services. As a result, social media plays a significant role in shaping students' understanding and perception of healthcare marketing.

*"I usually see these kinds of ads on Tik Tok, and most of the time, they are promoting medicine."* -S3, L5.

The use of these platforms can deliver targeted advertisements, which supports the results of the study by Alanezi et al. (2021) it shows that social media is an effective medium for health education and awareness. Additionally, Amoah et al. (2024) highlights that social media plays a crucial role in the healthcare industry by promoting patient engagement, facilitating communication among professionals, and serving as a platform for health education and outreach. This emphasizes the growing impact of digital marketing on students' awareness of healthcare topics.

**Healthcare Websites and Blogs**. Healthcare websites and blogs provide students with detailed and credible information about health services, treatments, and wellness tips. These platforms not only inform but also serve as channels for digital marketing.

*"Yes, and I usually see these on websites or in blogs written by authors discussing health topics or diseases that are common these days."* -S1, L1.

Interactive features boost user engagement by linking related content, making blogs and websites effective tools for digital marketing and healthcare awareness among students (Chen et al., 2023).

**Email Marketing**. Email marketing serves as a direct and personalized channel for healthcare organizations to communicate with students. Through newsletters, promotional emails, and appointment reminders, students are kept informed about healthcare services and updates.

*"Yes, I have encountered healthcare ads and promotions online, and they usually promote these through email marketing. Since email can reach a larger audience, it is widely utilized for this purpose. I am one of the audiences they have reached."* -S10, L2.

The use of email marketing in promotions helps to have a convenient way to deliver healthcare ads directly to the target audience. As a form of direct marketing, email marketing is widely recognized for its broad reach and direct consumer engagement (Elrod, 2020). Furthermore, the ability to customize emails allows businesses to share health-related content tailored to students’ interests, increasing the likelihood of engagement (Rabab’ah et al., 2024).

#### The Influence of Healthcare Digital Marketing Exposure on Health Improvement Practices of Grade 12 ABM students

**Table 5. The Influence of Healthcare Digital Marketing Exposure on Health Improvement Practices of Grade 12 ABM students**

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| **THEMES** | **DESCRIPTION** |
| **Increasing Health Awareness and Highlighting Informed Decision Making** | Increased exposure to targeted digital marketing campaigns has greatly increased awareness of healthcare issues, especially by informing students the proper use of products and possible contraindications (Santos, 2024). |
| **Behavioral Influence on Healthcare Habits** | When the students observe the promotion of health behaviors by peers and health workers online, the students adopt such behaviors (Nguyen et al, 2020). |
| **Increase of Utilization of Digital Health Tools and Services** | Rich visual digital interventions not only enhance knowledge acquisition and skill development but also encourage people to incorporate health-promoting behaviors into their daily lives (Sharil et al., 2024). |

For the Grade 12 ABM Students' influence of healthcare digital marketing exposure on health improvement practices, these are the themes that have emerged: **Increasing Health Awareness and Highlighting Informed Decision Making, Behavioral Influence on Healthcare Habits, and Increase of Utilization of Digital Health Tools and Services.**

**Increasing Health Awareness and Highlighting Informed Decision Making.** Healthcare digital marketing enhances health awareness among students by providing accessible and reliable information about health-related topics.

*"Of course, yes. I became more aware since they promote it, and they also explain how to use it. For example, in skincare, there are products that aren't suitable for oily skin and with that, I become aware that it's not good for oily skin."* -S3, L33

Increased exposure to targeted digital marketing campaigns has greatly increased awareness of healthcare issues, especially by informing students the proper use of products and possible contraindications (Santos, 2024). Furthermore, exposure to health-related digital content has been linked to improved personal health management and decision-making, consistent with findings that targeted digital messages can empower youth to adopt healthier lifestyles (Fitzpatrick, 2024).

**Behavioral Influence on Healthcare Habits.** Healthcare digital marketing influences student behavior by promoting positive health practices and encouraging healthier lifestyle choices.

*"Yes, especially with what I eat every day. Like on Facebook, I often see a doctor promoting healthy foods, posting them on his wall. That influenced me to be more mindful of what I eat."* -S1, L32

When the students observe the promotion of health behaviors by peers and health workers online, the students adopt such behaviors (Nguyen et al., 2020).

**Increase of Utilization of Digital Health Tools and Services**. Digital health tools and services have made healthcare more accessible and convenient for students. Healthcare digital marketing, increases awareness about these tools, encouraging students to monitor their health and seek professional advice when needed.

*"Yes, I would say that videos or images in health-related promotions, especially videos, have influenced my thoughts on improving my health. They push me to use health tools and services, like fitness apps or progress tracker apps about your health, so yeah."* -S6, L43

Rich visual digital interventions not only enhance knowledge acquisition and skill development but also encourage people to incorporate health-promoting behaviors into their daily lives (Sharil et al., 2024). As Arizka et al. (2025) highlights, the effectiveness of digital marketing in healthcare depends on strategies that match current conditions, particularly how individuals behave and engage online which makes it a key factor in encouraging the use of digital health services.

### CONCLUSION

This study concludes that Grade 12 ABM students are moderately exposed to Healthcare Digital Marketing, with Search Engine Optimization and Marketing being the most impactful channel. Despite lower engagement with mobile marketing, students demonstrate a high level of participation in health improvement practices, particularly in cognitive and mental health. A significant positive relationship was found between digital marketing exposure and students' health behaviors, indicating that increased exposure enhances health awareness and promotes informed decision-making. Qualitative insights further reveal that platforms like TikTok, Facebook, and YouTube play a crucial role in shaping students' perceptions and actions toward health, emphasizing the growing influence of digital marketing on youth wellness practices.

### CONSENT

All authors declare that written informed consent was obtained from all participants involved in this study for the publication of the research paper titled “The Relationship Between *Healthcare Digital Marketing Exposure and Its Relationship to Health Improvement Practices among Grade 12 ABM Students at a Medical School in Davao City.”*

The participants were fully informed about the purpose, procedures, and scope of the study, including the intention to publish the findings. Participation was voluntary, and anonymity and confidentiality were strictly maintained throughout the research process.

A copy of the signed written consent forms is available for review by the editorial office/chief editor/editorial board members of this journal upon request.

### ETHICAL APPROVAL

This study was conducted in accordance with the ethical standards of the institution AI-shorbaji (2021) Declaration and its later amendments. Ethical approval was obtained from the Institutional Review Board of the *Medical School in Davao City.* Participants were assured of confidentiality, anonymity, and their right to withdraw at any time without penalty. All data were stored securely and used solely for academic purposes.

### DEFINITIONS, ACRONYMS, ABBREVIATIONS

Term Definition

**ABM** Accountancy, Business, and Management

**FGDs** Focus Group Discussions

**p** Probability Value

**r** Pearson Correlation Coefficient

**R.A.10173** Republic Act No. 10173

**SEO** Search Engine Optimization

**Ho** Null Hypothesis

**p-value** Probability Value

Disclaimer (Artificial intelligence)

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Details of the AI usage are given below:

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