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The Mediating Role of Online Media Credibility in the Relationship Between Self-Determination and Non-Communicable Disease (NCD) Prevention Among Malaysian University Students

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ABSTRACT

In today's digital era, online media has emerged as a central source of health information, significantly shaping individuals' health behaviors and decision-making processes. The credibility of digital media plays a pivotal role in ensuring effective health communication, especially in efforts to prevent non-communicable diseases (NCDs). This study examines the mediating role of online media credibility in the relationship between self-determination and NCD prevention among university students in Malaysia. Specifically, this study aims to analyze how elements of self-determination influence preventive health behaviors and to assess whether perceptions of online media credibility serve as a mediating factor. Data were collected through structured questionnaires distributed to students at selected public universities across five regions in Malaysia. Regression analysis was employed to examine the relationships among self-determination, online media credibility, and NCD prevention behavior. The findings reveal that students with higher levels of self-determination are more inclined to engage in preventive practices, and this relationship is significantly mediated by their perception of the credibility of online health information. These results highlight the importance of fostering media literacy and ensuring access to trustworthy digital health content to support informed health decisions among young adults. The study contributes to the growing discourse on digital health communication and offers valuable insights for policymakers, educators, and media professionals in cultivating a health-aware digital generation.

Keywords: Online Media Credibility, NCD Prevention, Self-Determination, University Students

INTRODUCTION

In today's digital age, online platforms have become a primary source of health information, particularly for university students who are digital natives. The widespread adoption of digital media has transformed the way young adults access health guidance, positioning online media credibility as a crucial factor in shaping health behaviors. In Malaysia, where internet penetration is among the highest in Southeast Asia, reaching 89.6% of the population in 2020 (MCMC, 2020), the reliance on online health information is especially pronounced. Social media platforms dominate internet use, with individuals aged 25–34 and 18–24 spending substantial time-consuming content such as videos and social media posts (Malaysia Social Media Statistics and Facts, 2023). Given this trend, understanding how university students assess and respond to online media credibility is essential for promoting informed health behaviors and NCD prevention. This paper explores the mediating role of online media credibility in the relationship between self-determination and non-communicable disease (NCD) prevention among Malaysian university students.

The role of digital media in health communication.

Previous research has consistently found that the rise of social media and the democratization of content creation have boosted the spread of false information and fake news, particularly concerning health-related claims (Flanagin & Metzger, 2000a; Radwan, 2022). False information travels quickly, leading to public confusion, distrust of medical professionals, and potentially compromising public health programs (Lovari, 2020; van der Meer & Jin, 2020; Vraga et al., 2020). In addition to misinformation, disinformation, and a lack of evidence-based methods, many health promotions promote unhealthy commodities despite being health-promoting items. The health-related messaging could include promoting unhealthy foods, sweetened beverages, or items with no obvious nutritional benefits (Ashton et al., 2017; Smit et al., 2020; Tajik et al., 2016). These situations may normalize or support unhealthy behaviours, making it more difficult to inspire healthy behaviour change (Ayub et al., 2019).

Therefore, the overflow of information on the internet causes competition between false information and accurate information. The misinformation of health messages can be harmful and dangerous to both individual and societal health and well-being (World Health Organization, 2022). Scholars are increasingly pointing out the prevalence of misinformation in the scientific and medical fields online as a problem with repercussions for both individual and societal health. Studies indicate that people who 'like', 'share', and 'reply' erroneous postings might cause disinformation to propagate on social media more quickly than true information (Chow Zhi En, 2023; Jowore & Turpin, 2022).

Digital media not only disseminates credible and deceptive health information, but it also allows for real-time updates and health campaigns (Freberg et al., 2011). During health crises like COVID-19, it facilitated the quick dissemination of evidence-based information and safety precautions (Cinelli et al., 2021). Its interactive aspect enables users to interact with the content, fostering trust and collaborative learning (Ibrahim et al., 2023). However, the same interaction can also speed the spread of disinformation, emphasizing the importance of digital literacy efforts.

Furthermore, how people interpret health messages is directly influenced by their perceptions of the trustworthiness of online media, which are moulded by interactivity, transparency, and competence (Metzger et al., 2003; Westerman et al., 2014). The reach of

digital media and maintaining the integrity of information must be balanced by health communicators. It is possible to combat false information and encourage healthy habits by working with reliable influencers, utilizing vetted sources, and utilizing algorithmic filters (Brewster & Lyu, 2020).

The importance of online media credibility in influencing health behaviors

In today's digital landscape, online platforms have become a central source of health information, particularly for university students who are digital natives. Their familiarity with digital technologies makes them highly dependent on online channels for guidance on health-related matters, highlighting the growing influence of digital media on health behaviors (Hussin et al., 2020; Metzger & Flanagin, 2008). This shift underscores the need to examine how online media credibility shapes health decisions, particularly among young adults.

In Malaysia, this reliance is further reinforced by the country's high internet penetration rate, which was recorded at 89.6% of the population in 2020 (Malaysian Communication and Multimedia Commission, 2020). With internet access being widespread, young Malaysians, especially those pursuing higher education, are among the most engaged consumers of online content. They often turn to social media and streaming platforms for health information (Malaysia Social Media Statistics and Facts, 2023), making these digital sources increasingly central to their health information-seeking behaviors.

Demographic data shows that most social media users in Malaysia fall within the 25–34 age group, followed closely by those aged 18–24 (Malaysia Social Media Statistics and Facts, 2023). These groups also spend considerable time-consuming content on social media and video streaming platforms, averaging over three hours daily. This extensive engagement with digital content necessitates a closer examination of how online media credibility impacts students' interpretation and use of health information (Flanagin & Metzger, 2000b; Kim & Johnson, 2009).

Given these trends, it is crucial to explore how university students evaluate the trustworthiness and reliability of online health content, particularly in the context of non-communicable disease (NCD) prevention (Lou & Kim, 2019; Metzger & Flanagin, 2015). By understanding their perceptions of online media credibility, stakeholders can develop more effective public health communication strategies aimed at promoting informed decision-making and healthier behaviors among young people in the digital age.

Research Objectives

1. To examine the influence of self-determination elements, namely perceived autonomy, perceived competence, and relatedness on non-communicable disease (NCD) prevention behaviors among university students in Malaysia.
2. To investigate the mediating role of online media credibility in the relationship between self-determination and non-communicable disease (NCD) prevention behaviors among university students in Malaysia.

LITERATURE REVIEW

Self-Determination and Health Behavior

The prevention of non-communicable diseases (NCDs) has increasingly focused on behavioral and lifestyle modifications, with self-determination theory (SDT) emerging as a central framework for understanding health-related motivation and action (Kim & Yang, 2020; Rodrigues & Macedo, 2021). Introduced by Deci and Ryan (1985), Self Determination Theory (SDT) posits that motivation ranges along a continuum from intrinsic to extrinsic, with greater autonomy linked to more consistent and sustained engagement in health-promoting behaviors (Ng et al., 2012).

SDT consists of three basic psychological elements such as autonomy, competence, and relatedness. When these needs are fulfilled, individuals experience enhanced intrinsic motivation, which in turn promotes lasting behavioral change (Ryan & Deci, 2000; Legault, 2017). Autonomy refers to the sense of control and ownership over one's actions, which facilitates adherence to personal health goals such as healthy eating or regular physical activity (Glendinning, 2018; Lakerveld et al., 2020). Competence, the belief in one's ability to perform health-related tasks effectively, has been shown to significantly boost health engagement (Deci & Ryan, 2012; Sheeran et al., 2020). Meanwhile, relatedness is the feeling of social connection that serves as an important motivator, particularly when reinforced through supportive networks (Denneson et al., 2020; McGovern et al., 2020).

Empirical evidence supports the applicability of SDT across various health domains. Studies have demonstrated that individuals with higher autonomous motivation are more likely to maintain long-term behaviors such as physical activity (Sánchez-Miguel et al., 2020; Wicker, 2020), adhere to diabetes care routines (Williams et al., 2009), and succeed in smoking cessation programs (Ntoumanis et al., 2021). These findings highlight the importance of self-determined motivation in encouraging individuals not only to adopt healthy behaviors but also to sustain them over time (Bray, 2021; Dolan et al., 2019).

Regionally, research affirms the relevance of SDT among Southeast Asian populations. In Thailand, self-regulated motivation has been shown to influence young adults' commitment to exercise and nutritious diets (Sittiprapaporn, 2017). Similarly, a study conducted in Malaysia by Alias et al. (2021) found that university students with greater perceived autonomy and competence were more inclined to engage in preventive health behaviors and avoid risky lifestyle choices.

Taken together, these findings highlight the value of incorporating SDT into public health initiatives, particularly those targeting young adults. By fostering psychological needs for autonomy, competence, and relatedness, self-determination can serve as a powerful catalyst for promoting healthier lifestyles and enhancing long-term NCD prevention outcomes.

Role of self-determination in health-related decision-making.

Self-determination is a critical psychological factor that influences how individuals make decisions about their health, particularly in the prevention of non-communicable diseases (NCDs). Grounded in Self-Determination Theory (SDT) by Deci and Ryan (2000), this framework emphasizes the importance of autonomy, competence, and relatedness in fostering sustainable health behaviors. When individuals feel that their health decisions are self-initiated and aligned with personal values and goals, they are more likely to maintain practices such as

regular physical activity, nutritious eating, and avoidance of harmful substances (Rodrigues & Macedo, 2021; Morbée et al., 2020).

The first element of Self-Determination, known as Autonomy, refers to the sense of being in control of one's choices. This element plays a foundational role in motivating individuals to adopt and sustain healthy lifestyles. This is complemented by competence, which builds confidence in managing health behaviors, and relatedness, which reinforces the importance of social connection and support (Ryan et al., 2009; Bray, 2021). Together, these elements promote internal motivation and long-term behavioral adherence.

Self-determination also intersects meaningfully with the concept of self-efficacy—the belief in one's ability to carry out behaviors that achieve specific outcomes (Bandura, 1997). Research shows that when individuals feel both capable and autonomous, their likelihood of making and maintaining health-conscious decisions increases (Hocevar et al., 2014; Holden, 2021).

For university students, self-determination becomes especially significant due to the transitional nature of this life stage. As students navigate increased independence, academic stress, and lifestyle changes, they often face challenges that may lead to unhealthy behaviors such as poor diet choices and sedentary lifestyles (Nagata & Bibbins-Domingo, 2022; Kalnina et al., 2022). These behaviors, if left unaddressed, heighten the risk of early-onset NCDs (Al Mamun et al., 2020; Rashidi et al., 2023). Thus, instilling self-determined motivation is not only beneficial but necessary to foster lasting health outcomes during this formative period.

In collectivist cultures such as Malaysia, where social and familial influences are strong, health-related decisions among students are shaped by both personal autonomy and communal values (Kim & Park, 2016). This highlights the need to culturally adapt health interventions that blend intrinsic motivation with social context. For example, integrating cultural and religious values such as perceived religiosity into health promotion efforts may enhance their effectiveness among Malaysian youth.

Given the rising prevalence of NCDs in Malaysia (Ministry of Health Malaysia, 2020), promoting self-determination through university-based wellness programs could be a strategic and impactful approach. When students feel empowered to make voluntary, informed health choices, rather than simply complying with external instructions, they are more likely to engage in preventive behaviors and internalize positive health messages (Patrick & Williams, 2012; Tan et al., 2018).

In sum, self-determination fosters a deeper, more sustainable commitment to health by encouraging individuals, especially university students, to take ownership of their choices. When this internal motivation is supported by a culturally sensitive and socially supportive environment, it holds great promise in shaping healthier generations and reducing the long-term burden of NCDs.

Online Media Credibility

In today's highly digitized world, where information is abundant and easily accessible, the credibility of online media has become a vital concern, especially in health communication. Online media credibility refers to the perceived trustworthiness and reliability of digital information, which has significant implications for how individuals interpret and act upon health-related content. With the surge of user-generated content and the decline of traditional

media gatekeeping, audiences face growing challenges in discerning credible sources from misinformation.

Credibility in the online realm is shaped by multiple factors, including the accuracy, objectivity, expertise, and sincerity of both the content and its source (Flanagin & Metzger, 2008; Metzger & Flanagin, 2015). Foundational theories by Hovland et al. (1953) emphasized ***expertise*** and ***trustworthiness*** as key pillars of credibility, the qualities that remain central in today's digital communication environment. In the context of health information, these attributes determine whether users perceive the content as dependable, thereby influencing their attitudes and health behaviors (Metzger & Flanagin, 2013; Kim & Johnson, 2009).

Trust in the media plays a crucial role in shaping how individuals respond to information, particularly in sensitive areas like health. When audiences perceive a source as credible, they are more likely to accept and act on the information provided (Arabi Idid et al., 2019; Hussin et al., 2020). However, this trust is increasingly challenged by the widespread circulation of misinformation, fake news, and unverified content online. The rapid spread of inaccurate health information, especially through social media can erode public confidence and contribute to harmful outcomes, ultimately posing significant risks to community well-being (Vyas et al., 2021; Jowore & Turpin, 2022).

Research has outlined three key dimensions of credibility: *message credibility* (the content itself), *source credibility* (the origin of the message), and *media credibility* (the platform delivering the message) (Metzger et al., 2003). These dimensions collectively shape how users evaluate the legitimacy of the information they consume. Traits such as sincerity, originality, and accuracy further enhance the perceived authenticity of media messages (Balaban et al., 2022).

Online media credibility is especially influential among digitally connected populations such as university students. In Malaysia, where internet usage is widespread and social media is deeply integrated into daily life, youth often turn to platforms like Instagram and YouTube for health information (MCMC, 2023). Studies have shown that students are more likely to engage in health-promoting behaviors when they perceive online content as credible, trustworthy, and evidence-based (Zulkefli et al., 2020; Sari et al., 2021). However, the line between credible health advice and misleading content is not always clear, making media literacy an essential skill.

Globally, the positive correlation between perceived online credibility and proactive health behaviors is well-documented. For example, Shi et al., (2021) found that individuals who placed greater trust in online health information were significantly more likely to adopt preventive health measures. Similarly, Segovia-Villarreal & Rosa-Díaz, (2022) demonstrated that users who perceived online health sources as credible were more inclined to follow through on medical advice, especially for disease prevention and lifestyle changes. More recently, Balaban et al., and De Jans et al., (2022) noted that perceived source credibility influenced not only acceptance of health information but also information retention and behavioral intention, particularly among younger users in digital environments.

In the Malaysian context**,** where digital platforms such as Instagram, YouTube, and TikTok are dominant sources of health communication among youth, credibility remains a key factor in influencing behavior. Hanawi et al. (2020) and Liyanage et al. (2022) found that university students who regarded social media health content as credible were more likely to engage in behaviors such as healthy eating, exercising, and attending medical screenings.

Similarly, Hussin et al. (2020) emphasized that trust in the source of health information significantly influences youth attitudes and actions toward disease prevention, particularly in combating the rising rates of NCDs. This is supported by Arabi Idid et al. (2019), who stressed that media credibility plays a pivotal role in shaping public health outcomes, particularly in multicultural societies like Malaysia, where health messaging must resonate across diverse belief systems.

Further, Ibrahim et al., (2023) highlighted that during global health crises such as the COVID-19 pandemic, credible online health messaging enhanced compliance with recommended practices, whereas misinformation diminished trust and hindered effective response. These findings underscore the critical need for credible digital health communication, particularly for younger populations, to foster a health-aware and proactive generation in the face of growing public health challenges such as NCDs.

In sum, online media credibility plays a pivotal role in shaping public understanding, belief, and behavior related to health. As digital platforms continue to dominate the information landscape, ensuring that users, especially young adults, are equipped to critically assess the credibility of online health content is essential. Efforts to enhance digital literacy and promote reliable, evidence-based health messaging can help counteract misinformation and support healthier societies.

The influence of online media credibility on health information processing

In the digital age, where information is just a click away, online media platforms have become essential sources of health information, particularly for youth and university students. With nearly 98.8% of Malaysian adults aged 18 and above using social media (Sue Howe, 2023), and most internet users being teenagers (MCMC, 2018), understanding how online media credibility influences health information processing is increasingly critical. These "digital natives" differ markedly from previous generations in how they consume and evaluate information, favoring digital platforms like Facebook, Twitter, YouTube, and blogs for both social and informational purposes (Gong & Verboord, 2020; Valizadeh-Haghi et al., 2021).

University students are among the most active and loyal internet users. Their reliance on digital platforms for learning, social interaction, and health-related content makes them especially vulnerable to misinformation. Despite this, there remains a lack of clear guidance on how to assess the reliability and accuracy of online information. Research shows that young users often turn to peers, family, and popular websites as their main sources of health advice (Chooi & Krishnan, 2023; Flint et al., 2022), highlighting the importance of source credibility in shaping their understanding and behavior.

Credibility in online media, typically assessed through perceived trustworthiness**,** expertise**,** and accuracy (Flanagin & Metzger, 2007), plays a central role in how health information is cognitively processed. Studies indicate that individuals are more likely to accept and act upon health information when it originates from credible sources (Eastin, 2001; Freeman & Spyridou, 2012). Conversely, exposure to low-credibility content often leads to confusion, skepticism, or rejection of health recommendations (Zulkefli et al., 2020).

The rise of social media platforms has further complicated this landscape. During critical events like the COVID-19 pandemic, credible digital sources, such as institutional channels and certified health professionals, proved significantly more effective in encouraging compliance with health guidelines compared to unverified influencers (Chou et al., 2020; Wang

et al., 2019). In Southeast Asia, culturally embedded trust in local institutions also plays a role. For instance, students in Thailand responded more positively to messages from university health centers, while in Indonesia, Instagram campaigns by medical professionals outperformed those from commercial influencers in persuading youth to adopt healthier behaviors (Sari et al., 2021; Chaiprasit et al., 2020).

In Malaysia, where internet penetration is among the highest in the region (MCMC, 2023), university students increasingly rely on platforms such as TikTok, YouTube, and Instagram for health-related content. However, their ability to distinguish credible from non-credible sources remains limited. Studies reveal that students who perceived online health information as credible demonstrated greater understanding, information retention, and readiness to act (Zulkefli et al., 2020). This underscores the need for enhanced media literacy to filter digital health messages effectively.

From a theoretical perspective, the Elaboration Likelihood Model (Petty & Cacioppo, 1986) provides further insight into how credibility influences information processing. When students encounter health messages from credible sources, they are more likely to engage in central route processing, a deeper, more thoughtful analysis of the message. In contrast, low-credibility content triggers peripheral processing, where decisions are based on superficial cues rather than substantive evaluation. This cognitive distinction impacts not only knowledge retention but also the likelihood of adopting preventive health behaviors.

In essence, online media credibility acts as a cognitive filter that determines how health information is perceived, processed, and acted upon, especially among university students immersed in a digitally saturated environment. As the boundaries between credible and misleading information become increasingly blurred, equipping young adults with the skills to critically assess online sources is vital. Promoting credible digital health communication and fostering digital literacy will be key to improving health outcomes and combating the spread of misinformation in today's interconnected world.

Non-communicable Disease (NCD) Prevention Among University Students

The rising prevalence of non-communicable diseases (NCDs) such as diabetes, cardiovascular diseases, and obesity has emerged as a critical global health concern that increasingly affects younger populations, including university students. Once considered diseases of older adults, NCDs are now impacting individuals in early adulthood due to lifestyle shifts, sedentary behaviors, and poor health habits formed during formative years (Peters et al., 2019; Walensky et al., 2021). This troubling trend highlights the urgent need for proactive and preventive health strategies targeted at young adults.

In Malaysia, this issue is particularly pronounced. According to the World Health Organization (2020) and the National Health and Morbidity Survey (NHMS)**,** the country has one of the highest rates of NCD risk factors in Asia. Diabetes, for instance, is projected to affect 7 million Malaysians aged 18 and above by 2025, with a significant proportion remaining undiagnosed (Chooi & Krishnan, 2023). Additionally, the 2022 NHMS report noted that Malaysian adolescents maintain high rates of tobacco use, exceeding those in neighboring countries like Thailand, Indonesia, and the Philippines, with male students showing particularly high usage rates of cigarettes, vape, and other tobacco products.

University students in Malaysia represent a high-risk group due to their lifestyle habits, which often include high consumption of processed and fast foods, sugary beverages, and

alcohol, coupled with low intake of fruits and vegetables (Wong et al., 2023). These dietary patterns, exacerbated by sedentary lifestyles, elevate the risk of early-onset NCDs and are influenced by factors such as globalization and increased access to processed food (Park et al., 2020).

Research indicates that while health knowledge is important, it is not sufficient to foster sustained preventive behavior. Psychological factors such as motivation, self-efficacy, and environmental support play a crucial role in translating awareness into action (Plotnikoff et al., 2015; Kwan et al., 2013). Studies in countries such as Vietnam and the Philippines show that habits formed during university years persist into adulthood, emphasizing the importance of early intervention (Tran et al., 2020; Almario et al., 2019).

In the Malaysian context, university students face unique barriers in adopting healthy behaviors. Cultural norms, peer influence, academic stress, and conflicting information sources can hinder efforts to adopt healthier lifestyles (Liew et al., 2021). Furthermore, exposure to health misinformation online, combined with limited digital health literacy, adds another layer of complexity, making it harder for students to differentiate between credible and misleading content (Afful-Dadzie et al., 2021; JLiu et al., 2023).

Despite these challenges, there is a strong foundation for change. Health literacy and information-seeking behaviors are powerful tools for empowering youth to take charge of their well-being (Adawiah et al., 2020; Wu et al., 2022). With the right combination of accessible, trustworthy health information and supportive campus environments, students can be guided toward preventive behaviors that reduce long-term NCD risks. Importantly, Malaysia's public health initiatives, while robust must be tailored to the unique needs of university students to be fully effective.

In conclusion, addressing NCD prevention among university students requires a multi-dimensional approach that includes improving health literacy, countering misinformation, fostering self-regulation, and creating health-supportive environments. As this demographic represents both current and future contributors to society, investing in their health today is an essential step toward a healthier and more sustainable tomorrow.

The Conceptual Framework

The conceptual framework of this study provides a structured guide for exploring the research objectives, drawing from the Self-Determination Theory (SDT), Source Credibility Theory (SCT), and the Information Motivation Behavioral Skills Model (IMBS). This integrated framework investigates how self-determination and online media credibility influence non-communicable disease (NCD) prevention among university students in Malaysia.

Within this framework, self-determination functions as the independent variable, comprising three components: perceived autonomy, competence, and relatedness. These elements reflect an individual's intrinsic motivation and social connections, contributing to their health-related decisions.

Online media credibility serves as the mediating variable, focusing on perceptions of trustworthiness and expertise (Hocevar et al., 2014; Metzger et al., 2003; Rice et al., 2021). This variable highlights how individuals' evaluations of the credibility of online health information influence their behaviors.

The dependent variable in this framework is NCD prevention, represented through three components: information (knowledge), motivation, and behavioral skills ((Bartholmae, 2017;

Gao et al., 2013; Osbon et al., 2010). These elements underscore the capacity of university students to make informed health choices, adopt preventive measures, and sustain healthy behaviors.

This conceptual framework establishes a solid theoretical foundation for the study, aligning the chosen models, SDT, SCT, and IMBS, with the research objectives and questions. It illustrates the relationships and interactions among the independent, mediating, and dependent variables, providing a clear pathway for examining how self-determination and online media credibility contribute to NCD prevention among Malaysian university students.

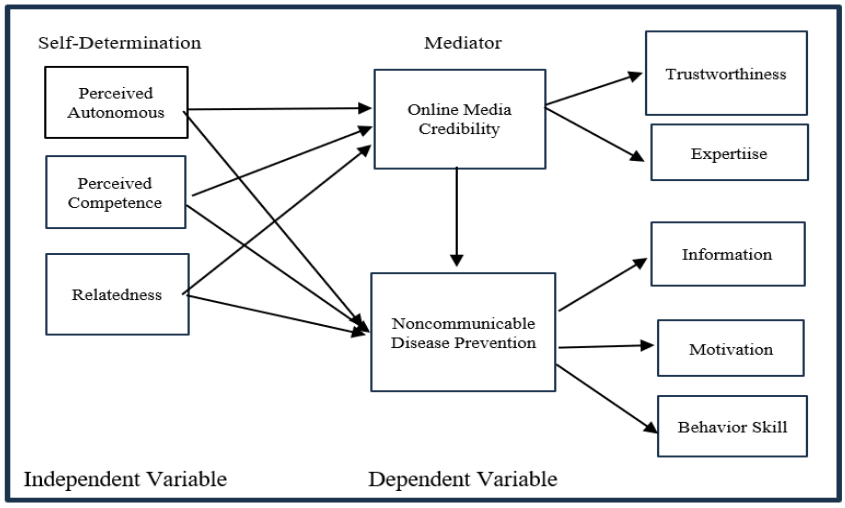

Figure 1The Conceptual Framework

Justification of Variables in the Conceptual Framework

This study draws upon Self-Determination Theory (SDT) developed by Deci and Ryan (1985) to explore the psychological mechanisms that influence non-communicable disease (NCD) prevention among university students. Specifically, three key elements of self-determination, Perceived Autonomy, Perceived Competence, and Relatedness, are conceptualized as independent variables. These constructs represent fundamental psychological needs that have been extensively linked to internal motivation and sustained health behavior engagement (Ng et al., 2012).

Perceived Autonomy refers to the sense of volition and self-endorsement in one's actions. Within the context of NCD prevention, individuals who feel that their health-related decisions are self-initiated are more likely to maintain behaviors such as regular exercise, healthy eating, and participation in health screenings (Williams et al., 2009). This is particularly relevant for university students, who are navigating a phase of life marked by increased independence and identity formation.

Perceived Competence, meanwhile, encompasses the belief in one's ability to successfully carry out health-related actions. Students who feel confident in their ability to process health information and make informed decisions are more likely to follow through with preventive behaviors (Fortier et al., 2007). Finally, relatedness reflects the sense of connectedness with others, whether peers, family, or institutional actors. In a collectivist

society like Malaysia, social belonging and support are crucial motivators for health engagement, reinforcing behaviors through social norms and communal values (Patrick & Williams, 2012).

Online Media Credibility serves as a mediating variable**,** bridging the relationship between internal motivation and actual health behavior. With digital platforms now being the dominant source of health information for youth, the credibility of that information, measured through perceived trustworthiness, accuracy, and expertise, significantly shapes how health messages are received and acted upon (Flanagin & Metzger, 2007). The inclusion of this variable acknowledges that self-determined individuals may be motivated to engage in preventive practices, but the effectiveness of that motivation depends on the credibility of the information they consume. Prior research suggests that when digital health content is perceived as reliable and evidence-based, it enhances behavioral outcomes (Wang et al., 2019; Chou et al., 2020). Thus, online media credibility plays a critical interpretive role in the behavioral translation of internal motivation.

The dependent variable**,** NCD Prevention, reflects the health outcomes this study aims to promote. This construct includes proactive behaviors such as maintaining a balanced diet, exercising regularly, avoiding tobacco and alcohol, and undergoing routine health check-ups. The increasing prevalence of NCDs among Malaysian youth underscores the urgency of early intervention strategies (Ministry of Health Malaysia, 2020). University students represent a key demographic for such efforts, as their current lifestyle choices are likely to persist into adulthood. By examining NCD prevention as the behavioral outcome of both psychological motivation and credible health information engagement, this study seeks to offer a comprehensive understanding of how university students can be better supported in adopting long-term health-preserving behaviors.

METHODOLOGY

Research Design

This study employed a quantitative research approach, utilizing a cross-sectional survey design to investigate the mediating role of online media credibility in the relationship between self-determination and non-communicable disease (NCD) prevention among Malaysian university students. The quantitative methodology was selected due to its suitability for systematically examining relationships between variables through statistical analyses.

Sampling Selection

The sampling process combined multistage sampling and purposive sampling techniques. Initially, respondents were selected through multistage sampling from public universities across five geographical regions in Malaysia—Northern, Southern, Eastern, Western, and Central. Within these universities, purposive sampling was further applied to identify respondents who actively use online media for health-related information. This approach ensured the representation of students with relevant experiences and behaviors pertinent to the study's objectives.

Data Collection

Data were collected via structured questionnaires distributed online using Google Forms, facilitating efficient reach to a diverse and geographically dispersed sample. The questionnaire

comprised validated scales measuring self-determination, online media credibility, and NCD prevention behaviors, employing a 4-point Likert scale for consistent responses. The survey distribution targeted undergraduate and postgraduate students from selected public universities, resulting in a final sample size of 588 respondents.

Quantitative data analysis was performed using regression analysis to evaluate the relationships between self-determination, online media credibility, and NCD prevention, and to specifically test the mediating role of online media credibility within this relationship as stated in the research objectives.

Measurement Instruments

The questionnaire consists of four sections with a total of 80 items. Each section has a specific focus. Section A consists of the respondent's demographic background with single multiple-choice questions. Section B relates to self-determination elements; Section C consists of non-communicable disease prevention; and Section D contains online media credibility items. Furthermore, all questions in sections B, C, and D are in the form of matrix point rating questions with a four-point scale ("strongly disagree", "disagree", "agree", and "strongly agree").

Table 1: The Distribution of Instruments and number of items

Section	Questions	Elements	Items
A	Demographic Background and mandatory questions about current lifestyle and health status, health behavior, source of health information type of information searched.	Demographic Background	15
B	Self Determination Elements (Perceived Autonomus, Perceived Competence and Relatedness)	3	24
C	NCD Prevention Behavior (Information, Motivation, Behavioral Skills)	3	20
D	Online Media Credibility (Trustworthiness and Expertise)	2	15
	Total	8	

Data Collection Procedure

This study employed a questionnaire survey distributed to selected public universities across Malaysia to collect data on self-determination, online media credibility, and NCD prevention. The use of a questionnaire, as suggested by Tuckman (1978), enables efficient data collection from many respondents while minimizing potential observer bias. According to Creswell (2007), questionnaires are advantageous for studies involving widely dispersed populations due to their cost-effectiveness, ease of analysis, and standardized format that reduces researcher bias.

Three strategies were implemented to distribute the questionnaire: direct researcher engagement, support from enumerators, and online distribution using Google Forms. The researcher actively engaged potential respondents through social media, online forums, and youth-oriented community events, enhancing participation and awareness of the study. Ethical

considerations were upheld, and extensive follow-ups ensured a diverse and representative sample of university students from public institutions across Malaysia.

DATA ANALYSIS

Descriptive Analysis

Table 2: Demographic Profile of Respondents

Variable	Frequency (588)	Percentage (%)
Sex		
Male	244	41.5
Female	344	58.5
Age		
18-20	210	35.7
21-23	275	46.8
24-26	85	14.5
27-29	9	1.5
Above 30	9	1.5
Name of university		
UM	74	12.6
UKM	133	22.6
UPM	102	17.3
IIUM	49	8.3
USM	59	10.0
UMP	59	10.0
UTM	70	11.9
UNIMAS	42	7.1
Program of study		
Certificate	7	1.2
Diploma	22	3.7
Bachelor's degree	537	91.3
Master/PhD	22	3.7
Year of Study		
Year 1 / Semester 1 &2	293	49.8
Year 2/ Semester 3 &4	113	19.2
Year 3/ Semester 5&6	92	15.6
Year 4/ Semester 7 &8	83	14.1
Year 5 and above	7	1.2
Field of study		
Social Sciences & Humanities	116	19.7
Science & Technology	96	16.3
Medicine & Health Science Business &	20	3.4
Economics	14	2.4
Law & International Studies	88	15.0
Architecture, & Design	7	1.2
Applied Science & Social Work	7	1.2
Tourism & Hospitality	1	.2
Agricultural & Natural Resources	5	.9

Others	234	39.8
Current place of residence		
Urban	360	61.2
Suburban	113	19.2
Rural	115	19.6
Household income category		
B40	304	51.7
M40	208	35.4
T20	76	12.9
Race		
Malay	466	75.9
Chinese	58	9.9
Indian	27	4.6
Others	57	9.7
Religion		
Islam	475	80.8
Christian	43	7.3
Buddhism	43	7.3
Hinduism	22	3.7
Others	5	9
Total	**588**	**100**

This study surveyed 588 undergraduate and postgraduate students from various Malaysian public universities. Female students constituted the majority at 58.5%, with males at 41.5%, aligning with typical gender distributions in Malaysian higher education. Most participants were aged 21–23 (46.8%) and 18–20 years (35.7%), representing typical undergraduate ages. Fewer respondents were aged 24–26 (14.5%), with only a small fraction aged 27 years and above (3.0%), primarily postgraduates or extended studies students.

Participants represented diverse universities, with most from Universiti Kebangsaan Malaysia (22.6%), Universiti Putra Malaysia (17.3%), and Universiti Malaya (12.6%). Other institutions included UTM (11.9%), USM (10.0%), UMP (10.0%), IIUM (8.3%), and UNIMAS (7.1%).

In academic terms, 91.3% pursued a bachelor's degree, followed by Diploma (3.7%), postgraduate (3.7%), and Certificate programs (1.2%). Most respondents were in their first year or first two semesters (49.8%), followed by Year 2 (19.2%), Year 3 (15.6%), and Year 4 (14.1%). Few students were in extended studies (1.2%).

Participants' academic backgrounds were varied, with the largest group selecting "Others" (39.8%). Defined categories included Social Sciences and Humanities (19.7%), Science and Technology (16.3%), Law and International Studies (15.0%), and Medicine and Health Sciences (3.4%). Other fields included Business and Economics (2.4%), Architecture, Design and Applied Sciences (1.2%), Tourism and Hospitality (0.2%), and Agricultural and Natural Resources (0.9%).

Regarding residence, the majority lived in urban areas (61.2%), while the remainder resided in rural (19.6%) and suburban areas (19.2%). Over half (51.7%) were from the B40 income group, with 35.4% from M40 and 12.9% from T20, reflecting broader Malaysian socioeconomic distributions.

Meanwhile, the race and ethnicity of respondents were predominantly Malay (75.9%), followed by Chinese (9.9%), Indian (4.6%), and others (9.7%). Islam was the most common religion (80.8%), followed by Christianity (7.3%), Buddhism (7.3%), Hinduism (3.7%), and other faiths (0.9%).

Overall, the demographics provide a well-rounded representation of Malaysian university students, essential for analyzing factors influencing self-determination, online media credibility, and non-communicable disease prevention behaviors.

Reliability and Validity Tests

A reliability analysis was conducted to assess the internal consistency and validity of the study's instruments for each variable, following the guidelines provided by Hair et al. (2019). Cronbach's alpha was used as the primary measure, with values between 0.6 and 0.7 considered the lower threshold of acceptability, and values above 0.7 indicating strong internal consistency and homogeneity of items. This reliability assessment ensured that the instruments effectively measured the intended constructs in this study: self-determination, online media credibility, and NCD prevention. The Cronbach's alpha values, along with Composite Reliability (CR) and Average Variance Extracted (AVE), are presented in Tables 3 and 4, which show the Fornell-Larcker Criterion for Discriminant Validity.

Table 3: Cronbach's Alpha, Composite Reliability (CR) and Average Variance Extracted (AVE)

Construct and label	**Factor Loading (>0.50)**	**Cronbach's Alpha (α) (>0.7)**	**AVE (>0.50)**	**Composite Reliability (>0.70)**
Self-Determination				
Perceived Autonomous		.842	0.54	0.877
PA1	0.73			
PA2	0.65			
PA3	0.78			
PA4	0.74			
PA5	0.79			
PA6	0.75			
Perceived Competence		.828	0.55	0.83
PC2	0.73			
PC4	0.77			
PC5	0.74			
PC6	0.72			
Relatedness		.807	0.46	0.896
RE1	0.65			
RE2	0.66			
RE3	0.66			
RE4	0.73			
RE5	0.74			
RE6	0.62			
RE7	0.62			
RE8	0.67			

RE9	0.74			
RE10	0.72			
Online Media Credibility				
Trustworthiness		.868	0.58	0.917
TR				
TR1	0.67			
TR2	0.70			
TR3	0.71			
TR4	0.83			
TR5	0.83			
TR6	0.82			
TR7	0.73			
TR8	0.79			
Expertise		.833	0.518	0.882
EX1	0.69			
EX2	0.73			
EX3	0.69			
EX4	0.79			
EX5	0.81			
EX6	0.63			
EX7	0.69			
NCDs Prevention Behavior				
Information		.934	0.63	0.932
IK1	0.79			
IK2	0.75			
IK3	0.76			
IK4	0.83			
IK5	0.79			
IK6	0.81			
IK7	0.77			
IK8	0.84			
Motivation		.887	0.57	0.869
MT1	0.74			
MT2	0.77			
MT3	0.74			
MT4	0.78			
MT5	0.75			
Behavioral Skill		.894	0.76	0.926
BS4	0.68			
BS5	0.89			
BS6	0.95			
BS7	0.94			

Table 4: Fornell-Larcker Criterion for Discriminant Validity

Constructs	**PA**	**PC**	**RE**	**OMC**	**Information**	**Motivation**	**BehSk**	**NCD**
PA	****0.73**							

PC	0.53	**0.74**						
RE	0.48	0.55	**0.68**					
OMC	0.44	0.46	0.50	**0.81**				
Information	0.42	0.41	0.43	0.49	**0.76**			
Motivation	0.39	0.47	0.41	0.46	0.56	**0.71**		
BehSk	0.37	0.45	0.44	0.50	0.55	0.59	**0.79**	
NCD	0.46	0.54	0.48	0.52	0.61	0.64	0.66	**0.75**

The discriminant validity analysis, which examines whether constructs are truly distinct from one another, was assessed using the Fornell-Larcker criterion. This approach compares the square root of the Average Variance Extracted (AVE) for each construct (represented in bold on the diagonal) with the correlations between that construct and all others in the model.

In this case, all diagonal values, for Perceived Autonomy (PA) = 0.73, Perceived Competence (PC) = 0.74, Relatedness (RE) = 0.68, Online Media Credibility (OMC) = 0.81, Information = 0.76, Motivation = 0.71, Behavioral Skills = 0.79, and NCD Prevention = 0.75 are greater than the correlation values found in the corresponding rows and columns. This demonstrates that each construct shares more variance with its indicators than with other constructs in the model.

These results confirm that each construct, especially the key self-determination variables **(**PA, PC, and RE), is conceptually and statistically distinct from the others. Notably, the construct of Online Media Credibility (OMC) shows strong discriminant validity with a square root of AVE value of 0.81, suggesting that it is reliably measured and differentiated from related constructs such as information, motivation, and behavioral skills.

The relatively moderate inter-construct correlations (ranging from 0.37 to 0.66) also support the argument that while the constructs are related, as expected in a theoretically integrated model they are not redundant. This reinforces the structural integrity of the model and supports the validity of subsequent path analyses.

Table 5: Direct and Indirect Effects of Self-Determination Constructs on NCD Prevention

Pathway	**Standardized Estimate**	**Type of Effect**	**Interpretation**
PA → OMC	0.24	Indirect	Moderate positive influence of autonomy on OMC
PC → OMC	0.38	Indirect	Stronger positive effect of competence on OMC
RE → OMC	0.41	Indirect	Highest contribution among self-determination factors on OMC
OMC → NCD	0.11	Indirect	Small but significant effect of OMC on NCD prevention
PA → NCD	0.63	Direct	Strong direct influence of autonomy on NCD behavior
PC → NCD	0.87	Direct	Very strong direct effect of competence on NCD behavior

RE → NCD	0.59	Direct	Strong direct effect of relatedness on NCD behavior

The above Table 5 reveals a comprehensive pathway illustrating how the components of self-determination, perceived autonomy (PA)**,** perceived competence (PC)**,** and relatedness (RE), influence university students' engagement in non-communicable disease (NCD) prevention behavior**,** with online media credibility (OMC) functioning as a mediating variable**.**

Among the three elements, perceived competence (PC) exhibits the strongest direct effect on NCD prevention behavior (β = 0.87). This finding implies that students who possess a high level of confidence in their ability to perform health-related tasks are significantly more likely to engage in preventive health behaviors. Similarly, relatedness (RE) also shows a notable direct effect (β = 0.59), indicating that the sense of social connection and support from peers and community members plays a crucial role in encouraging positive health practices. In addition, perceived autonomy (PA) contributes a strong direct effect (β = 0.63), reflecting the importance of students' sense of self-endorsement and internal motivation in influencing their decision to adopt and maintain NCD prevention behaviors.

In examining the indirect effects through OMC, the model shows that all three self-determination components have positive and significant effects on online media credibility. Among them, relatedness (RE) demonstrates the strongest indirect influence on OMC (β = 0.41), followed by perceived competence (PC) (β = 0.38), and perceived autonomy (PA) (β = 0.24). These findings suggest that students who feel connected, competent, and autonomous are more likely to perceive online health media as trustworthy and credible.

Furthermore, online media credibility itself exerts a modest but significant influence on NCD prevention behavior (β = 0.11), confirming its role as a partial mediator in the relationship between self-determination and health behavior. Although the mediating effect is smaller in magnitude compared to the direct effects, it still underscores the value of credible online information in supporting and reinforcing students' motivation to engage in health-protective actions.

FINDINGS AND DISCUSSIONS

The findings of this study reveal that psychological factors, specifically perceived autonomy, perceived competence, and relatedness, have a stronger influence than sensory responsiveness in predicting non-communicable disease (NCD) preventive behaviors among Malaysian university students. This pattern can be better understood when situated within Malaysia's unique cultural, religious, and lifestyle contexts.

Malaysia is widely recognized as a collectivist society, where social harmony, group affiliation, and interdependence are deeply embedded in daily life (Hofstede, 2001; Abdullah, 1996). Within such a cultural framework, the construct of relatedness plays a prominent role in motivating behavior. For students, the decision to engage in healthy lifestyles may not arise solely from personal health goals but also from the desire to meet social expectations and uphold familial or communal norms. As such, socially driven psychological motivations can often override physiological cues, making constructs like relatedness more impactful than sensory responsiveness in shaping behavior.

The influence of power distance, another hallmark of Malaysian culture, further underscores the role of perceived competence. In societies with high power distance,

individuals tend to place considerable trust in authority figures such as educators, healthcare providers, and religious leaders (Asma & Pedersen, 2003). When health recommendations are endorsed by these trusted sources, students are more likely to internalize them as credible and achievable, thereby reinforcing their sense of competence in carrying out preventive behaviors.

Religious values, particularly within Malaysia's Muslim-majority population, also contribute significantly to health-related decision-making. Islamic teachings emphasize personal responsibility in preserving one's health as an act of faith and discipline (Krauss et al., 2006). This alignment with the autonomous dimension of self-determination strengthens the internalization of health behaviors such as dietary moderation and preventive care, rendering them not just personal choices but also moral and spiritual duties.

Moreover, many students may lack adequate health literacy to recognize and act on bodily cues. Research suggests that young adults in Malaysia may be less attuned to sensory feedback due to limited emphasis on intuitive health monitoring in both education and cultural practice (Kaur et al., 2012). In contrast, constructs like motivation, confidence, and social support are more actively cultivated, both academically and socially, thus becoming more influential drivers of preventive behavior.

The pervasiveness of online media also plays a critical role in reinforcing psychological over sensory influences. Malaysian youth frequently access health-related content through digital platforms that rely on expert commentary, infographics, and peer testimonials. These formats emphasize cognitive processing and reflective thinking (Khalid & Mahmud, 2017; Lim et al., 2020), fostering trust and self-guided action rather than instinctual reactions. This further supports the centrality of perceived autonomy and competence in guiding NCD-related behaviors.

Urban lifestyle patterns also contribute to the diminishing role of sensory responsiveness. The fast-paced routines experienced by university students, often shaped by academic stress, time constraints, and urban living, can blunt the natural cues of hunger, fatigue, or discomfort. As a result, intentional, motivational factors become more reliable and salient in guiding health decisions (Mustapha et al., 2020).

Taken together, the prominence of psychological constructs in this study reflects broader cultural, religious, technological, and lifestyle factors that shape health behavior among Malaysian university students. These findings suggest the need for culturally responsive health interventions that leverage self-determination, confidence-building, and social connectedness. At the same time, efforts should be made to enhance sensory awareness and health literacy to provide students with a more holistic foundation for long-term NCD prevention.

Limitations and Recommendations for Future Research

While this study offers important insights, several limitations must be acknowledged. Firstly, the research sample was limited to students from selected Malaysian public universities, which may constrain the generalizability of the findings. The absence of representation from private institutions or students from different geographic and cultural backgrounds may not fully capture the diversity of Malaysian youth (Bryman, 2016).

Secondly, the study relied on self-reported questionnaires for data collection. Although this method is commonly used in behavioral research, it is subject to social desirability bias,

recall errors, and response distortions, which may affect the accuracy of the data (Podsakoff et al., 2003).

Thirdly, the current model is centered primarily on self-determination theory and online media credibility, omitting other psychosocial variables that could further enrich the understanding of NCD preventive behavior. Influences such as peer pressure, family support, and cultural norms are known to significantly affect youth health choices (Bandura, 2004; Triandis, 2001). The exclusion of these variables may overlook potential mediators and moderators in the behavior change process.

Future studies are encouraged to adopt more heterogeneous sampling techniques and incorporate mixed-method approaches, including interviews and focus groups, to provide a deeper and more nuanced exploration of youth health behavior. Integrating additional contextual variables will also allow researchers to develop more comprehensive and culturally grounded models for NCD prevention among young adults.

This study offers timely contributions to the expanding field of digital health communication by highlighting how self-determination and the perceived credibility of online media shape young adults' preventive health behaviors, particularly in the context of non-communicable disease (NCD) prevention. By examining the psychological and informational factors that influence health decision-making among university students, the study provides a deeper understanding of how motivation and trust in digital health content interact within culturally specific settings like Malaysia. These insights are essential in a digital age where youth are increasingly turning to online platforms as their primary source of health information.

The findings have practical relevance for key stakeholders. For policymakers, the results underscore the need for initiatives that strengthen digital health literacy and ensure access to credible, youth-friendly content. Educators can use these insights to design health education programs that not only inform but also empower students through motivation-building and critical media literacy. Meanwhile, media professionals and digital content creators are encouraged to produce trustworthy and culturally resonant health content that engages and informs youth effectively. Together, these efforts can support the development of a more health-aware digital generation, equipped to make informed choices in an increasingly complex online information landscape.

CONCLUSION

This study has provided robust evidence highlighting the critical role of Online Media Credibility (OMC) as a mediator between Self-Determination (SD) and Non-Communicable Disease (NCD) prevention behaviors among Malaysian university students. The findings reinforce the importance of intrinsic motivation, autonomy, and personal competence in facilitating positive health outcomes.

Furthermore, the results demonstrate that when students perceive online health sources as trustworthy and authoritative, their intrinsic motivations are effectively translated into tangible preventive behaviors. The identification of trustworthiness and expertise as key components of media credibility underscores the necessity for rigorous health literacy education, particularly in navigating online information environments. From a practical standpoint, health promotion strategies targeting university students should integrate principles of self-determination and explicitly focus on enhancing online media literacy. Ultimately, fostering self-determined health motivations combined with reliable and credible online

information can significantly strengthen youth engagement in preventive health practices, thus contributing positively to public health outcomes in Malaysia.

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REFERENCES

Abbas, J., Wang, D., Su, Z., & Ziapour, A. (2021). The role of social media in the advent of covid-19 pandemic: Crisis management, mental health challenges and implications. *Risk Management and Healthcare Policy*, *14*, 1917–1932. https://doi.org/10.2147/RMHP.S284313

Abdel-Khalek, A. M., & Tekke, M. (2019). The Association Between Religiosity, Well-Being, And Mental Health Among College Students From Malaysia. *Revista Mexicana de Psicología*, *36*, 5–16.

Arabi Idid, S., Sannusi, S. N., & Arandas, M. F. (2019). Reliance, Media Exposure and Credibility. *International Conference on Media and Communication*, 626–644. https://ssrn.com/abstract=3827533

Ashton, L. M., Hutchesson, M. J., Rollo, M. E., Morgan, P. J., & Collins, C. E. (2017). Motivators and Barriers to Engaging in Healthy Eating and Physical Activity: A Cross-Sectional Survey in Young Adult Men. *American Journal of Men's Health*, *11*(2), 330–343. https://doi.org/10.1177/1557988316680936

Ayub, S. H., Hassim, N., Yahya, A. H., Hamzah, M., & Bakar, M. Z. A. (2019). Exploring the characteristics of healthy lifestyle campaign on social media: A case study on FIT Malaysia. *Jurnal Komunikasi: Malaysian Journal of Communication*, *35*(4), 322–336. https://doi.org/10.17576/JKMJC-2019-3504-20

Baazeem, R. (2018). *Impact of Religiosity on Preserved Privacy on Social Media: Proposed Model of Self-disclosure Completed Research Paper*. https://www.researchgate.net/publication/326272219

Balaban, D. C., Szambolics, J., & Chirică, M. (2022). Parasocial relations and social media influencers' persuasive power. Exploring the moderating role of product involvement. *Acta Psychologica*, *230*. https://doi.org/10.1016/j.actpsy.2022.103731

Bartholmae, M. M. (2017). The information-motivation-behavioral skills model: An examination of obesity prevention behavioral change in children who participated in the afterschool program Virginia Beach Let's Move. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, *78*(3-B(E)), No-Specified. https://doi.org/10.25777/xv08-0b09

Brewster, M., & Lyu, J. (2020). Exploring the parasocial impact among nano, micro and macro influencers. *International Journal of Advertising*, *36*(5), 798–828. https://doi.org/10.1080/02650487.2017.1348035

CC, H., YS, C., YM, C., & MT, M. N. (2015). Development and Validation of Knowledge, Attitude and Practice on Healthy Lifestyle Questionnaire (KAP-HLQ) for Malaysian Adolescents. *Journal of Nutrition and Health Sciences*, *2*(4). https://doi.org/10.15744/2393-9060.2.407

Chow Zhi En. (2023, May 30). Disinformation,Misinformation and Fake News. *The Star*.

Cinelli, M., Morales, G. D. F., galeazzi, A., Quattrociocchi, W., & Starnini, M. (2021). The echo chamber effect on social media. *PNAS*, *118*.

Creswell, J. . (2007). Designing a Qualitative Study. In *Choosing Among Five Approaches* (2nd edition, pp. 35–41).

Dash, G., & Paul, J. (2021). CB-SEM vs PLS-SEM methods for research in social sciences and technology forecasting. *Technological Forecasting and Social Change*, *173*. https://doi.org/10.1016/j.techfore.2021.121092

De Jans, S., Hudders, L., Naderer, B., & De Pauw, V. (2022). Impact of Thin-Ideals in Influencer Posts Promoting Healthy vs. Unhealthy Foods on Tweens' Healthy Food Choice Behavior. *Frontiers in Psychology*, *13*. https://doi.org/10.3389/fpsyg.2022.789069

Flanagin, A. J., & Metzger, M. J. (2000a). Perceptions of Internet Information Credibility. *JbMC Quarterly*, *77*(3), 515–540.

Flanagin, A. J., & Metzger, M. J. (2000b). Perceptions Of Internet Information Credibility. *JbMC Quarterly*, *77*, 5–5.

Freberg, K., Graham, K., McGaughey, K., & Freberg, L. A. (2011). Who are the social media influencers? A study of public perceptions of personality. *Public Relations Review*, *37*(1), 90–92. https://doi.org/10.1016/j.pubrev.2010.11.001

Gao, J., Wang, J., Zhu, Y., & Yu, J. (2013). Validation of an information-motivation-behavioral skills model of self-care among Chinese adults with type 2 diabetes. *BMC Public Health*, *13*, 1–6. http://www.biomedcentral.com/1471-2458/13/100

Hanawi, S. A., Saat, N. Z. M., Zulkafly, M., Rahim, A., Bashid, M., Aziz, A., & Low, F. J. (2020). Impact of a healthy lifestyle on the psychological well-being of university students. *Available Online Www.Ijpras.Com International Journal of Pharmaceutical Research & Allied Sciences*, *9*(2), 1–7. www.ijpras.com

Huang, Y., & Sundar, S. S. (2022). Do We Trust the Crowd? Effects of Crowdsourcing on Perceived Credibility of Online Health Information. *Health Communication*, *37*(1). https://doi.org/10.1080/10410236.2020.1824662

Hussin, N., Hashim, H., Mokhtar, W. N. H. W., Tokiran, N. S. M., Nordin, N., Izhar, T. A. T., & Ibrahim, Z. (2020). Theorizing Online Information Credibility among Teenagers. *International Journal of Academic Research in Business and Social Sciences*, *10*(11). https://doi.org/10.6007/ijarbss/v10-i11/8118

Ibrahim, R., Hassan, A., & Sabry, H. A. (2023). *Leveraging the Ability of the Online Health Information Seekers to Find Credible Online Sources*. https://doi.org/10.21203/rs.3.rs-1336448/v2

Jowore, R., & Turpin, M. (2022). How to Identify Fake News on Social Media: A Systematic Literature Review. *Lecture Notes in Networks and Systems*, *469 LNNS*. https://doi.org/10.1007/978-3-031-04819-7_11

Kim, D., & Johnson, T. J. (2009). A shift in media credibility: Comparing internet and traditional news sources in South Korea. *International Communication Gazette*, *71*(4),

283–302. https://doi.org/10.1177/1748048509102182

Liyanage, S., Saqib, K., Khan, A. F., Thobani, T. R., Tang, W. C., Chiarot, C. B., Alshurman, B. A., & Butt, Z. A. (2022). Prevalence of anxiety in university students during the COVID-19 Pandemic: A systematic Review. *International Journal of Environmental Research and Public Health*, *19*(1). https://doi.org/10.3390/ijerph19010062

Lou, C., & Kim, H. K. (2019). Fancying the New Rich and Famous? Explicating the Roles of Influencer Content, Credibility, and Parental Mediation in Adolescents' Parasocial Relationship, Materialism, and Purchase Intentions. *Frontiers in Psychology*, *10*(November), 1–17. https://doi.org/10.3389/fpsyg.2019.02567

Lovari, A. (2020). Spreading (Dis)trust: Covid-19 misinformation and government intervention in Italy. *Media and Communication*, *8*(2), 458–461. https://doi.org/10.17645/mac.v8i2.3219

Malaysian Communication and Multimedia Commission. (2020). *Internet Users Survey 2020*. http://www.mcmc.gov.my

Metzger, M., & Flanagin, A. (2008). *Digital Media, Youth and credibility*.

Metzger, M. J., & Flanagin, A. J. (2015). Psychological approaches to credibility assessment online. In *The Handbook of the Psychology of Communication Technology* (pp. 445–466). wiley. https://doi.org/10.1002/9781118426456.ch20

Osbon, C. Y., Amico, K. R., Fisher, W. A., Egede, L. E., & Fisher, J. D. (2010). An Information—Motivation—Behavioral Skills Analysis of Diet and Exercise Behavior in Puerto Ricans with Diabetes. *J Health Psychol.*, *15*(8), 1201–1213. https://doi.org/10.1177/1359105310364173.An

Radwan, N. (2022). The Internet's Role in Undermining The Credibility Of The Heathcare Industry. *International Journal of Computations, Information and Manufacturing (IJCIM)*, *2*(1). https://doi.org/10.54489/ijcim.v2i1.74

Rafique, G.M., Mahmood, K., Warraich, N.F. & Rehman, S.U. (2021). Readiness For Online Learning During Covid-19 Pandemic: A Survey of Pakistani LIS Students. *Journal of Academic Librarianship 47*(3): 1–10

Ridzuan, A. R., Bolong, J., Suyurno, S. S., Mohamad Kamal, R., Jafri, F. (2015). Developing SNS, Factors Structures Towards Constructing SNS Survey Questions, *Journal of Human Capital Development*, 8(2), 25-35.

Rice, R. E., Sundar, S. S., & Kim, H. S. (2021). THE ROLE OF TECHNOLOGY IN HEALTH COMMUNICATION: Trends and Trajectories. In *The Routledge Handbook of Health Communication, Third Edition*. https://doi.org/10.4324/9781003095828-32

Sah Allam, S. N., Hassan, M. S., Mohideen, R. S., Ramlan, A. F. & Kamal, R. M. (2020). Online Distance Learning Readiness During Covid-19 Outbreak among Undergraduate Students. *International Journal of Academic Research In Business and Social Sciences 10*(5): 642–657.

Segovia-Villarreal, M., & Rosa-Díaz, I. M. (2022). Promoting Sustainable Lifestyle Habits: "Real Food" and Social Media in Spain. *Foods*, *11*(2). https://doi.org/10.3390/foods11020224

Shi, Y., Ma, D., Zhang, J., & Chen, B. (2021). In the digital age: a systematic literature review of the e-health literacy and influencing factors among Chinese older adults. In *Journal of Public Health (Germany)*. https://doi.org/10.1007/s10389-021-01604-z

Smit, C. R., Buijs, L., van Woudenberg, T. J., Bevelander, K. E., & Buijzen, M. (2020). The

Impact of Social Media Influencers on Children's Dietary Behaviors. *Frontiers in Psychology*, *10*(January), 1–6. https://doi.org/10.3389/fpsyg.2019.02975

Tajik, E., Latiff, L. A., Siew, C. Y., Awang, H., & Asyura Adznam, S. N. (2020). Designing and validating a questionnaire on healthy lifestyle to reduce depressive symptoms among adolescents. *Iranian Journal of Psychiatry*, *15*(1), 27–40. https://doi.org/10.18502/ijps.v15i1.2437

Tajik, E., Latiffah, A. L., Awang, H., Siti Nur'Asyura, A., Chin, Y. S., Azrin Shah, A. B., Patricia Koh, C. H., & Mohd Izudin Hariz, C. G. (2016). Unhealthy diet practice and symptoms of stress and depression among adolescents in Pasir Gudang, Malaysia. *Obesity Research and Clinical Practice*, *10*(2), 114–123. https://doi.org/10.1016/j.orcp.2015.06.001

Talib, A. T., Sarjit Gill, Jawan, J., Ahmad. A., & Mohd Isa, N. A. (2012). Gagasan 1Malaysia dan implikasinya Terhadap, Perhubungan Antara Etnik. *Malaysian Journal of Youth Studies*, 7, 23 – 30.

van der Meer, T. G. L. A., & Jin, Y. (2020). Seeking Formula for Misinformation Treatment in Public Health Crises: The Effects of Corrective Information Type and Source. *Health Communication*, *35*(5), 560–575. https://doi.org/10.1080/10410236.2019.1573295

Vraga, E. K., Tully, M., & Bode, L. (2020). Empowering users to respond to misinformation about covid-19. In *Media and Communication* (Vol. 8, Issue 2, pp. 475–479). Cogitatio Press. https://doi.org/10.17645/mac.v8i2.3200

World Health Organization. (2022, October 20). *Collaboration is key to countering online misinformation about noncommunicable disease-new WHO/Europe toolkit shows how*.