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## ORIGINAL

# HEALTH AWARENESS MEDIATION ROLE AMONGST HEALTH CARD LIVE STORY, HEALTH COMMUNICATION, HEALTH AWARENESS PROGRAMS, AND HEALTH LIVING CULTURE: A STUDY ON IRAQ MEDICAL COLLEGES

Hayder N. Jawoosh<sup>1\*</sup>, Ali Abdulhussain Fadhil<sup>2</sup>, Ahmed W. AL Rubaye<sup>3</sup>, Abed J. Kadhim<sup>4</sup>, Ammar Muhi Khleel Alghurabi<sup>5</sup>, Hani Moslem Ahmed<sup>6</sup>, Mostafa Hsan Elwan<sup>7</sup>

<sup>1</sup>Physical Education and Sport Sciences Department, Al-Mustaqbal University College, Babylon, Iraq

Email: [hayder@mustaqbal-college.edu.iq](mailto:hayder@mustaqbal-college.edu.iq)

<sup>2</sup>College of Medical Technology/ Medical Lab techniques, Al-Farahidi University/Iraq

<sup>3</sup>Al-Manara College For Medical Sciences/ (Maysan)/Iraq

Email: [ahmedw.alrubaye@uomanara.edu.iq](mailto:ahmedw.alrubaye@uomanara.edu.iq)

<sup>4</sup>Al-Nisour University College/Iraq

<sup>5</sup>college of education/ The Islamic University in Najaf, Iraq

<sup>6</sup>Department of Dental Industry Techniques, Al-Noor University College, Nineveh, Iraq

<sup>7</sup>Department of pharmacy/ Ashur University College/Baghdad/ Iraq

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## ABSTRACT

This study aimed to examine the function of health awareness meditation in health card live narrative, health communication, health awareness programs, and healthy living culture among Iraqi medical college students. For this objective, data was collected using a self-administered questionnaire and a suitable sample approach from medical students attending medical colleges in the public sector in Iraq and utilized a quantitative research strategy, a cross-sectional study design, and the Partial Least Square (PLS)-Structural Equation Modeling (SEM) method. The PLS-SEM results reveal that health life card stories positively and statistically significantly impact health life culture and health consciousness. The health awareness program has beneficial and substantial effects on the living culture and health consciousness. On the other hand, health communication positively and significantly impacts the healthy living culture and health consciousness. Moreover, health consciousness has a good and important impact on healthy culture. Additional indirect impact results reveal that health awareness mediators considerably and positively the association between health life

narrative, health awareness, health communication, and health life culture. Based on the findings, this study is regarded as a pioneering study that produced valuable results that might assist future researchers in conducting their studies. This research might also assist policymakers and medical college professors in understanding the significance of health activities in enhancing people's standard of life.

**KEYWORDS:** healthy communication, healthy live cards story, healthy live culture, Iraq, colleges.

## INTRODUCTION

For a rich and productive society, prioritizing a healthy lifestyle should be of the utmost importance. A healthy lifestyle is a collection of behaviors that promote health, such as adhering to regular eating and sleeping routines, choosing nutritious meals, engaging in regular physical exercise, and practicing excellent personal cleanliness (brushing teeth, bathing, grooming fingernails and hair, etc.). (Crowe, Stanley, Probst, & McMahon, 2017). Each individual must take responsibility for their health and participate in the promotion of public health (Beckerman-Hsu et al., 2021). As a result of the present COVID-19 outbreak, individuals were less inclined to leave their houses. This requires them to engage in activities such as studying and working from home to avoid going out in public and dealing with crowds (Yudiawan, Sunarso, & Sari, 2021).

Thus, there is a renewed emphasis on encouraging healthy lifestyles. Hence, a culture of healthy living is the standard for sustaining a healthy lifestyle. A healthy lifestyle includes eating properly, exercising often, getting enough sleep, and maintaining good personal cleanliness at all times (Wu et al., 2018). Thus, individuals must prioritize both their internal and outward health. As health development actors, it is anticipated that community members would be able to assume responsibility for their health and actively contribute to attaining public health. There is an emphasis on promoting a culture of healthy living via the school system. Thus this is also reflected in the policies. With the transmission of knowledge and education on the significance of healthy lifestyle choices, a community's culture of healthy living may be formed or strengthened. As young people's brains are more pliable and receptive, they must begin learning about healthcare best practices in medical schools to implement them in their daily lives (Gurusamy, Gandhi, Damodharan, Palaniappan, & Venkatasubramanian, 2021). There are several aspects connected with a healthy living culture. Nutritional awareness programs, healthy communication, and health awareness are essential factors that might influence promotion of a healthy living culture (Hasanah, Sari, & Marini, 2022).

The healthy story card is innovative and novel because it blends a story card with an emphasis on healthy living choices, all inside an engaging narrative. The narrative card contains a brief overview of the story as well as graphics to assist students in visualizing the events described and remembering the information supplied (Frank, 2006; Hasanah et al., 2022). This narrative card shows a "physically, socially, and spiritually healthy"

setting. There are several advantages of utilizing story cards in the classroom as a kind of media, including but not limited to the following: (1) Pupils appear to be more actively applying analytical reasoning to the supplied content; (2) the learning process appears to be more directed and provide learners with greater learning freedom; and (3) a feeling of community is generated. Students might use the story card media to recollect school, family, and community activities they participated in (Colley, Brownrigg, & Tremblay, 2012). In light of the above, the current study evaluated the effectiveness of story cards in promoting a healthy lifestyle. The purpose of this study was to create and validate a collection of story card products that might be used to persuade kids to embrace healthier lives.

In addition to healthy narrative cards, the study investigated the impact of health awareness workshops on students' attitudes toward healthy lifestyles (Hasanah et al., 2022). According to empirical evidence, healthy awareness initiatives have a favorable and considerable impact on healthy lifestyle cultures (Hasanah et al., 2022). Also, communication promotes a healthy lifestyle culture (Witte & Morrison, 1995). Health consciousness also has good and important effects on the culture of healthy living (Hasanah et al., 2022). These previous studies indicate that the healthy live cards story, health awareness programs, healthy communication, and health awareness are important factors that could promote a healthy culture. Still, surprisingly little attention has been paid to the combined effect of these factors on healthy live card cultures. Because earlier research focused more on the impact of health awareness programs and health life cards on health living culture but paid less attention to the effects of health communication on health living culture, this study focuses on the third indicator, health communication (Hasanah et al., 2022). Thus, this study contributes to health communication with two other elements, namely health awareness programs and health life cards, on the culture of healthy living. In addition, the majority of previous research has focused on the direct effect of health awareness programs, health communication, and health life cards on the healthy living culture (Bonofiglio, 2022; Witte & Morrison, 1995), while the indirect mediating effect of health awareness has received little attention.

Consequently, based on prior research outcomes, this study has the potential to become a pioneering study due to its important contribution to the literature about mediating effects. In addition, most of the previous work has concentrated on other developed economies. Still, from the perspective of current Iraqi society, there is a shortage of studies on forming a healthy lifestyle standard among its population. In addition, the promotion of a healthy lifestyle among students within the setting of educational institutions has received little attention.

The Iraqi educational system is well respected for its dedication to innovation. In Iraq, the "Ministry of National Education" oversees the administration of all educational institutions (Faraj, 2022). Three to eleven years of school are necessary to earn a medical degree. The intermediate phase length is 10 years. However, some institutions offer expedited programs that extend to twelve years. Due to the coexisting Islamic

educational system, medical institutions get core curriculum instruction and extracurricular activities, such as those based on Islam.

Furthermore, most kindergartens and medical schools are publicly sponsored and owned (AL-Ghraibawy, 2022). In addition to giving students practical skills, public medical schools emphasize promoting healthy lifestyles. In Iraq, college students are obliged to engage in sports, a nutritious diet, three square meals per day, laughter, cycling, the use of sunscreen, sufficient sleep, and excellent exercise, to mention a few healthy lifestyle practices (Rikawarastuti, Ngatemi, & Yusro, 2018). As a result, it is projected that most medical schools would conduct health care programs semi-regularly or often. College students should prioritize health education, which teaches them the distinction between good and bad habits and their consequences. Regrettably, most universities do not implement regulations encouraging a culture of healthy living among students (Fausiah, Turnip, & Hauff, 2019). A few universities have used healthy life experience cards and education campaigns, which may be used to educate students on the significance of health care and urge them to adopt more health-conscious attitudes and behaviors (Lee & Chung, 2021). Based on prior theoretical, practical, and contextual gaps, the present study aims to evaluate the function of health awareness mediation among health card live narrative, health communication, health awareness programs, and healthy living culture among Iraqi medical college students.

The research comprises several areas. After giving the relevant background information for this study, the authors' perspectives on the link between story cards and health awareness programs, students' healthcare quality, and the construction of a healthy living culture were studied and presented as hypotheses. The third part offers methods for in-depth nexus analysis among the defined constructs. The results are then compared to those of other research using empirical analysis after this section is the consequences, effects, and suggestions for additional research.

## **LITERATURE REVIEW**

### **Healthy living behavior**

The mental and emotional health of a person and society are vital components of what we refer to when we discuss the importance of living a clean and healthy lifestyle. WHO defines health as "a complete physical, mental, and social wellbeing and not merely the absence of disease" (Bender, 2020; Hasanah et al., 2022). Yet, many restrict the definition of health to the absence of sickness or to states of physical and mental wellbeing that foster healthy relationships. Owing to the deterioration of their physical, mental, and social health, these individuals are no longer useful members of society. Negative job features, such as an excessive workload, an unhealthy office culture, and disagreeable coworkers, can also decrease productivity. Maintaining a balance between one's physical, mental, and social life is crucial for effective living.

Choosing a clean and healthy way of life The mental and emotional

health of a person and society are essential components of what we mean when we discuss the importance of living a clean and healthy lifestyle. WHO defines health as "a complete physical, mental, and social wellbeing and not merely the absence of disease" (Bender, 2020). Yet, many restrict the definition of health to the absence of sickness or to states of physical and mental wellbeing that foster healthy relationships. Owing to the deterioration of their physical, mental, and social health, these individuals are no longer useful members of society. Variables linked with a stressful job, such as unrealistic task expectations, an unpleasant working environment, and toxic coworkers, can also hinder productivity. Maintaining a balance between one's physical, mental, and social life is crucial for effective living.

It is vital to instill healthy and hygienic behaviors in children early on. Schools are good settings for implementing health education because they offer a secure and regulated environment to educate children about the distinctions between healthy and ill lifestyle choices and their consequences. Adolescence is a good period to teach cultural ideals of wellness as a potential change agent for promoting healthy behaviors in families, neighborhoods, and institutions. Primary school physical, health, and leisure lessons highlight the need for a clean and healthy lifestyle. Healthy school activities promote and equip students, educators, and the larger school community to adopt and sustain ecologically and socially responsible lives. As a result of education, individuals must take responsibility for their health and wellbeing and contribute to developing a community free of sickness. Several Australian schools' health promotion survey data indicate the significance of school leadership and habituation activities in promoting healthy habits among students (Camiling, 2019; Wodarek, 2020).

By employing an appropriate manner of instruction, communicating courteously with pupils, and addressing their health concerns, Schools, particularly primary schools, may play a significant role in nurturing a generation of healthy, environmentally conscious citizens by implementing specialized health awareness initiatives periodically (Kabir, Miah, & Islam, 2018). Adopting a healthy lifestyle by society's people appears to be a vital component in defining the health of society as a whole, which leads to the development of high-quality human resources and competent labor for a thriving economy. School-aged children are at a golden age for learning and memorizing, making them an ideal target group for promoting a healthy lifestyle by cultivating a healthy culture (Perkins, Reid, Arajo, Clark, & Williamon, 2017). This study examined how health awareness programs and health card live narrative can assist primary school students in learning about health concerns and adopting a better lifestyle. A modest number of research have examined the impact of health story cards and health awareness programs on students' health knowledge and tendency to follow a healthy lifestyle.

### **Health card live story Impact on Healthy Living Culture**

To enhance students' comprehension of the information offered on narrative cards regarding, among other things, the importance of a healthy

lifestyle to education, sentence cards are used to help students better appreciate the material presented on these cards. On media story cards, the summary phrases of a story are neatly structured, offering a useful framework. While using story cards as a teaching tool, students may better organize their ideas on a tale or essay framework. Some study (Graham, Harris, & McKeown, 2014; Kaplan-Rakowski & Loranc-Paszylski, 2017) suggests that story cards are utilized as a teaching aid by having students organize tale summary cards into an acceptable essay structure. Using story cards as a kind of instructional media, students are encouraged to learn through playing. This implies that teachers construct their classes so students learn without recognizing them. This story card learning media encourages student competition (Balaman, 2018; Pérez-Gómez & Daza, 2019) as students work together or separately to attain a common objective. In activities where story cards are utilized as a learning medium, teachers merely serve as a "jury" or "referee" who sets time limitations and chooses the winner. Students will consider this a personal challenge and use great effort to succeed.

According to the research by Fadlallah et al. (2019), using cards with healthy life stories to persuade primary school pupils to embrace a more health-conscious lifestyle is an enjoyable strategy. Several primary schools use story cards to teach subjects outside the conventional curriculum. In tale cards, written or graphical narratives are displayed. Story cards are an effective strategy for shaping children's attitudes and behavior due to their beautiful appearance. These cards captivate children's attention or interest with vivid graphics or shapes (Tomteberget & Larsson, 2020). Using health card live stories as a teaching tool, colorful story cards with captivating images, phrases, and short narratives are provided to classrooms to educate kids on the significance of maintaining a healthy lifestyle. Many story cards on healthy lifestyles include nutritious food, frequent exercise, personal hygiene, and harmful substances. There is a link between adopting these narrative cards and the growth of a healthy lifestyle culture among students (Nsangi et al., 2017). To evaluate the effect of health education on cleanliness and healthy behavior, (Mufida, Yunitasari, & Ulfiana, 2021) investigated the prevalence of a healthy lifestyle among persons who had had diarrhea using the card-telling method. A strategy "almost like an experiment" was utilized. Instead of being born into the sample, sixty children were randomly chosen to complete questionnaires. For statistical analysis, the Wilcoxon signed-rank test and the Mann-Whitney U test continue to be applied. According to recent research, utilizing story cards to teach students about the significance of personal cleanliness and other healthy practices increased their healthy living culture. It made them more equipped to handle a diarrhea epidemic.

### **Health Awareness Programs Impact on Healthy Living Culture**

Many efforts aim to educate students on the importance of maintaining healthy lifestyles by encouraging them to eat well, exercise regularly, practice excellent cleanliness, and recognize and prevent the spread of infectious illnesses. Oral health activities, health festivals, healthcare videos, health talks, educational lectures, health-drama performances, and health-based

question competitions are common health education activities. Researchers examined the effects of primary healthcare programs, healthy living standards, and oral health disparities at Gargano, Mason, and Northridge institutions (2019). These initiatives' impacts on students' attitudes toward healthy lifestyles, their access to care, and their health-related wellbeing were investigated. The health-promoting school concept of the World Health Organization (WHO) was established using an ecological model based on pertinent case studies. Based on the data, it was found that an effective oral health awareness campaign contains the following components: practice, promotion of healthcare entrees, and promotion of a healthy lifestyle. Rojas-Andrade and Bahamondes (2019) did a significant empirical study on mental healthcare awareness programs in schools to promote a healthy lifestyle.

### **Health Communication and Healthy Living Culture**

Previous empirical research has demonstrated a correlation between health communication and a culture of healthy living. For example, (Bazargan, Cobb, Assari, & Bazargan-Hejazi, 2022) revealed that health communication had a favorable and substantial influence on healthy living culture. Ye et al. (2022) discovered a negative and statistically significant connection between healthy communication and healthy living culture in another investigation. Other research revealed no link between health communication and healthy lifestyle culture (Hasse, 2022). This prior research shows that health communication is associated with a culture of healthy living, although their conclusions are contradictory.

### **Mediating Role of Health Awareness**

Recognizing the significance of health and fitness necessitates awareness of possible threats, readiness for them, and appropriate action. In addition, it highlights the need for a nutritious diet and frequent exercise to prevent sickness and maintain physical fitness. These conventions reflect a culture that prioritizes healthy living. A 2017 article by Laholt, Guillemin, Mcleod, Olsen, and Lorem addressed the health card live narrative, health education, and a focus on healthy behaviors (2017). The research has shown that a health card live narrative can increase elementary kids' health consciousness. For example, the story cards emphasized proper sanitation methods, such as cleaning one's teeth, washing one's hands before eating and after using the toilet, and sterilizing oneself.

Utilizing a health card live narrative helps increase one's health awareness and motivates them to adopt more healthy behaviors in their daily academic or extracurricular activities and their daily life. The research of Tischner (2019) concurs, proposing using health card live stories to increase students' health literacy and promote the formation of a lifelong commitment to healthy practices, both in and outside the classroom. Health card live narrative is best suited to improve students' understanding of the significance of leading a healthy lifestyle in the classroom. Young people choose a more health-conscious lifestyle due to this increased health consciousness.

In addition, a crucial outcome of college-level awareness campaigns is

promoting health knowledge, emphasizing equipping students with the information and cognitive abilities necessary to prevent the emergence of infectious illnesses or recover from their consequences. A student's health consciousness results in the adoption of lifetime healthy behaviors. Thus, health awareness initiatives may develop a healthy culture in any organization, including schools, families, and communities (Mawani & Chiluba, 2020). Lim (2017) at Songwon University in Gwangju, South Korea, has connected programs that promote a healthy lifestyle, health consciousness, and a pleasant health environment. Between 2013 and 2017, 290 students at Songwon University in Gwangju, South Korea, were given questionnaires to investigate the relationship between health oral awareness programs, health consciousness, and the atmosphere of healthy living.

Additionally, school-based health education activities were connected with increased student awareness of how to avoid sickness, reduce its consequences, and maintain good health. Consequently, increasing students' health awareness contributes to establishing a healthy lifestyle standard. Hence, it is reasonable to assume.

### Research Framework and Hypothesis Development

The paradigm for research has evolved in response to prior deficiencies. Prior research has mostly concentrated on direct effects, whereas indirect mediation has received less attention. In addition, past research has mostly concentrated on two indicators—health card live narrative and health awareness program—while giving little attention to healthy communication. The variables are therefore projected in Figure 1 based on past gaps. These variables consist of three types: independent factors (health card live narrative, healthy awareness program, and healthy communication), a mediating variable (health awareness), and a dependent variable (healthy living culture).

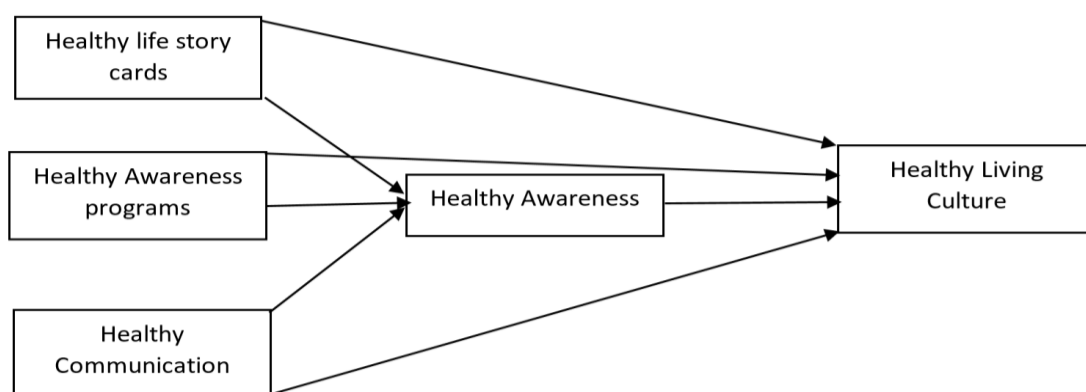


Figure.1: Research Framework

Based on the above discussion, the research hypothesis is formulated below.

**H1:** health card live story significantly affects healthy living culture.

**H2:** health card live story has a significant effect on health awareness.

**H3:** healthy awareness programs have a significant effect on healthy living culture.



**H4:** healthy awareness programs have a significant effect on health awareness.

**H5:** healthy communication programs have a significant effect on healthy living culture.

**H6:** healthy communication programs have a significant effect on health awareness.

**H7:** healthy awareness has a significant effect on healthy living culture.

**H8:** healthy awareness significantly mediates between healthy living story cards and healthy living culture.

**H9:** healthy awareness significantly mediates between healthy awareness programs and healthy living culture.

**H10:** healthy awareness significantly mediates between healthy communications and healthy living cultures.

### **Research design and sampling Technique**

Iraqi medical students enrolled in public-sector medical schools were surveyed. The data was acquired using a self-administered survey questionnaire and a convenient sampling technique. The questionnaire was delivered to 600 medical students. Among those recovered were 450 research instruments. The research consisted of a quantitative methodology and a cross-sectional design. The nature of the study was correlational. The research instrument was derived from a prior study (Hasanah et al., 2022). The research instrument utilized a five-point scale ranging from 1 (strongly disagree) to 5 (strongly agree).

### **Data Analysis and Interpretation**

The data was gathered in two evaluated models: the structural model for testing hypotheses and the model to assess reliability and validity. The Smart PLS software was used to run these two models. The "partial least squares method for structural equation modeling" Continued use of Partial Least Square (PLS)-Structural Equation Modeling (SEM)." PLS-SEM is unquestionably one of the most popular quantitative research methods (Hoque, 2014). It computes measurement errors and addresses the inaccuracy of predicting relationships.

Moreover, rather than concentrating just on certain links, the model may be examined as a whole. This differs from typical study regression analysis (Collier, 2020). The proposed model was analyzed and evaluated using PLS-SEM. PLS-SEM is recognized as one of the most popular quantitative research packages (Ahmad, Ahmad, Farhan, & Arshad, 2020; Collier, 2020). This provides several benefits regarding distribution criteria, variable kinds, sample size, and evaluable model complexity (Hair Jr, Hult, Ringle, & Sarstedt, 2016).

The first measurement model was evaluated for convergent and discriminant validity. Cronbach alpha, composite reliability, factor loadings, and average variance extracted were used to determine convergent validity (Hair Jr et al., 2016). Cronbach alpha suggested value is at least 0.70, the factor loadings recommended value is at least 0.5, and the composite

reliability value recommended value is at least 0.70. The average variance extracted value recommended value is at least 0.50. (Hair Jr et al., 2016). All of the results are in Table.1 suggest that they are larger than the recommended levels, demonstrating the construct's convergent validity.

**Table.1:** Construct Reliability and Validity

	<b>Cronbach's Alpha</b>	<b>rho_A</b>	<b>Composite Reliability</b>	<b>Average Variance Extracted</b>
<b>HELSC</b>	0.75	0.779	0.833	0.505
<b>HELC</b>	0.812	0.833	0.858	0.551
<b>HEA</b>	0.91	0.587	0.899	0.751
<b>HEAP</b>	0.734	0.742	0.834	0.557
<b>HEC</b>	0.79	0.812	0.855	0.545

According to the third criterion, hetrotrait mononotrait correlation (HTMT), the construct discrimination value must be less than 0.85 and less than 0.90 according to other suggested values. If the correlation values fall below 0.85 or 0.90, the notion is judged to have discriminant validity (Henseler, Ringle, & Sarstedt, 2015). Table 3's predicted values indicate that the concept has discriminant validity because its values are less than 0.85 (Henseler et al., 2015).

**Table.2:** Discriminant Validity

	<b>HELC</b>	<b>HELC</b>	<b>HEA</b>	<b>HEAP</b>	<b>HEC</b>
<b>HELSC</b>					
<b>HELC</b>	0.248				
<b>HEA</b>	0.046	0.191			
<b>HEAP</b>	0.598	0.145	0.068		
<b>HEC</b>	0.569	0.201	0.167	0.532	

### Multicollinearity

Multicollinearity is a statistical term that defines the association between many model variables. If a model has multicollinearity, there are several possible independent variables. Following conventional knowledge, a variance inflation factor (VIF) of 10 or less is acceptable; nevertheless, this is valid only during the estimate phase. (The matrix is not invertible if the others roughly define one independent variable) (Hair, Risher, Sarstedt, & Ringle, 2019).

**Table.3:** VIF

	<b>HEA</b>	<b>HELSC</b>
<b>HEA</b>		1.972
<b>HEAP</b>	1.154	2.482
<b>HEC</b>	1.102	1.875
<b>HELSC</b>	2.118	2.226

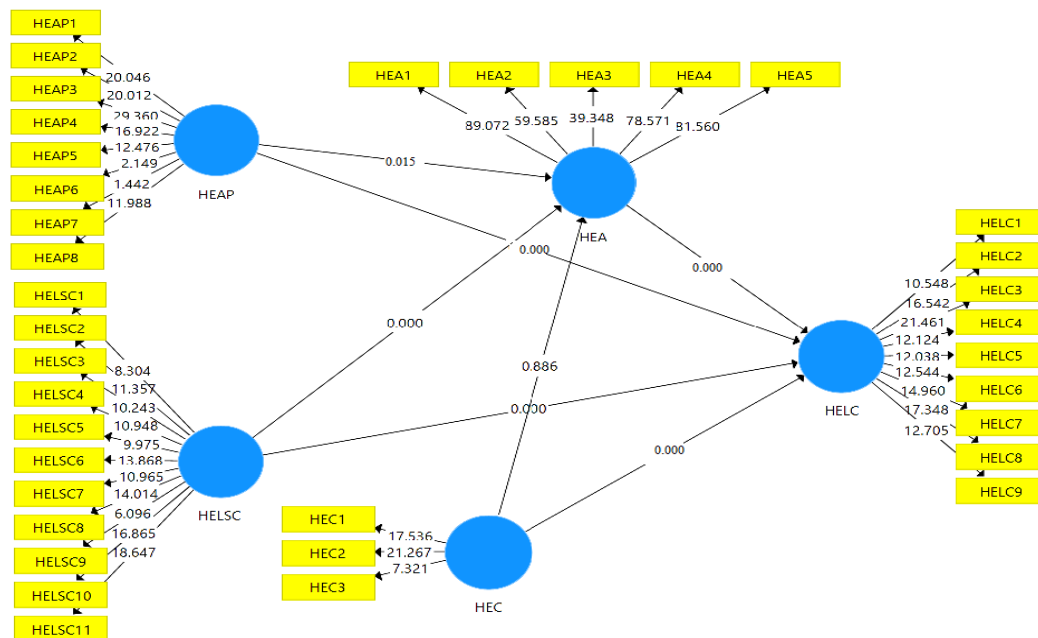
### Hypothesis Testing

Following the evaluation methodology, the study's hypothesis will be tested. The PLS-SEM results reveal that the health life narrative has a favorable and statistically significant influence on health life culture and health consciousness. The health awareness program has beneficial and substantial effects on the living culture and health consciousness. On the other hand, health communication positively and significantly impacts the healthy living

culture and health consciousness. Moreover, health consciousness has a good and important impact on healthy culture. Further indirect impact results reveal that health awareness mediators considerably and positively the association between "health life story, health awareness, health communication, and health life culture." The anticipated results are presented in Table.4 below.

**Table.4:** Hypothesis Results

	Original Sample	Standard Deviation	T Statistics	P Values	Decision
HELSC ->HEL C	0.109	0.038	2.958	0.000	Accepted
HELSC->HEA	0.233	0.058	3.983	0.000	Accepted
HEAP -> HELC	0.258	0.054	4.798	0.000	Accepted
HEAP -> HEA	0.134	0.055	2.446	0.015	Accepted
HEC -> HELC	0.217	0.057	3.809	0.000	Accepted
HEC-> HEA	0.143	0.037	3.875	0.000	Accepted
HEA-> HELC	0.245	0.048	5.071	0.000	Accepted
HELSC->HEA->HEL C	0.208	0.059	3.53	0.000	Accepted
HEAP -> HEA->HEL C	0.208	0.061	3.42	0.001	Accepted
HEC-> HEA ->HEL C	0.205	0.06	3.386	0.001	Accepted



**Figure.2:** Structural Model

## DISCUSSION AND CONCLUSION

This research aimed to find answers to the nation's health challenges. This study aimed to assess if health card lives narrative, health communication, and health awareness programs effectively promote a healthy lifestyle among Iraqi medical college students and investigate the relationships between health consciousness and these two variables. The medical college students were polled for research that sought to quantify the association between health awareness programs, healthy life card tales, health communication, and the health living card, with health awareness as a mediator. The results reveal that health life story cards favor and significantly impact health culture and health consciousness. The major findings show that the health card live narrative facilitates the adoption of healthy lifestyle

behaviors among Iraqi students. These findings are consistent with those of Jones, Huffer, Adams, Jones, and Church (2018), who discovered that providing students with health story cards that feature positive role models, as well as information about the dangers of certain behaviors and their consequences, as well as positive role models, food, a nutritious diet, physical activity, and downtime, helped to cultivate a healthy lifestyle culture and ultimately assisted those students in living healthier lives. Hasanah et al. (2022) confirm these findings by demonstrating that exposing students to health card live story outside of the classroom can assist them in developing healthy routines regarding sleep, nutrition, physical activity, personal hygiene, and time management, which all contribute to the maintenance of their health.

On the other hand, health awareness initiatives appear to have a positive and substantial effect on health life culture and health consciousness. The findings indicate that health awareness initiatives assist students in adopting healthier living practices. These findings are consistent with earlier research by Seymour (2018), who discovered that when elementary schools demonstrated concern for their students' health and develop policies around a variety of health awareness programs, those students demonstrated health-conscious behaviors that benefited them throughout their academic careers and beyond. These results are similar to a recent study by Martin et al. (2017), which indicated how regularly scheduled health awareness workshops taught students about the causes and remedies of a healthy living culture. On the other side, the primary findings further revealed that health communication also has a good and substantial influence on health life culture and health awareness. This outcome is backed by earlier research (Thomas, Fine, & Ibrahim, 2004).

In addition, health consciousness has a favorable and strong mediating effect on "health life story cards, health communication, health consciousness, and healthy living culture." These findings are consistent with those of more recent research by Li et al. (2021), who discovered that distributing "health card live story," which features fictional accounts of people learning about the importance of healthy eating, regular exercise, and maintaining clean living environments, increases students' knowledge of health issues and motivates them to adopt a more healthful lifestyle. This notion is further corroborated by Salerno (2016), who examined how school-based health awareness initiatives helped students become more aware of strategies to prevent disease and mitigate its impacts. The pupils adopted a better lifestyle as a result of this awareness. Based on these data, it was possible to conclude that health consciousness played a crucial role in moderating the influence of exogenous and endogenous variables.

### **Contributions and Future Recommendations**

This investigation could have significant theoretical and practical ramifications. From a theoretical standpoint, it has made major contributions to educational writing. This study studied the effects of health awareness programs, health communication, and healthy life care tales on creating a culture of healthy living among primary school pupils. This combined effect model was tested for the first time, according to the researcher's best

knowledge, because previous studies focused more on the effect of health awareness programs and health life cards on health living culture but less on the impact of health communication on health living culture (Hasanah et al., 2022). Thus, this study contributes to health communication with two other elements, namely health awareness programs and health life cards, on the culture of healthy living.

Additionally, earlier research focused mostly on the direct influence of health awareness programs, health communication, and health life cards on health living culture, whereas indirect mediation effects of health awareness received less attention. Consequently, based on prior research outcomes, this study has the potential to become a pioneering study due to its important contribution to the literature about mediating effects. In addition to having great practical use, this paper also contains substantial theoretical merit. This document might serve as a resource for health organizations, educational administration, and the government as they develop policies to foster the economic and social development of individuals, families, and regions. According to the findings of this study, a culture of healthy lifestyles may be promoted among students via health awareness programs and story cards emphasizing the advantages of healthy living.

A few deficiencies in the existing study must be addressed in future studies. The current study centered on medical students and the effect that health awareness programs and health card live stories have in promoting a culture of healthy living. Several elements can impact its development, given the breadth of the healthy living culture. In addition to health education, social media, and other possible future study subjects in this field, health exercise and health trivia are potential future research topics. This study also investigates the medical college system in Iraq to produce theories on the interaction of the elements mentioned above. Future research may aim to provide a theoretical framework that transcends the current emphasis. Lastly, the sample size of medical colleges in Iraq was insufficient to study the variables of interest comprehensively. Future studies should have a broader perspective on these aspects. In addition, the research was done using a cross-sectional design with data obtained using a survey-based analysis; future research might be undertaken using a hybrid qualitative and quantitative approach.

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