



Investigating the Role of Health Life Story Cards and Health Awareness Program on the Healthy Living Culture in Elementary Schools

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ABSTRACT

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Purpose. Students' health has been an essential element, especially in the education sector, to produce better results in education and gain the attention of policymakers and recent studies. This study aimed to analyze the effectiveness of the healthy life story cards and health awareness programs to improve the healthy living culture of elementary school students in Jakarta, Indonesia. The study also examined the mediating role of health awareness among the nexus of healthy life story cards, health awareness programs and healthy living culture of elementary school students. **Methods.** The study used quantitative research method, with a sample size of 760 elementary school students in the Jakarta area who were selected by purposive sampling technique. Smart-PLS was used to test the linkage among the variables.

Findings. The results of this study proved that the healthy life story card product and health awareness programs were feasible and effective to be used as a health promotion media to improve the healthy living culture of elementary school students. The results also exposed that health awareness significantly mediated among the linkage of healthy life story cards, health awareness programs and healthy living culture of elementary school students. **Implications for Research and Practice.** Through story cards, students can easily remember the messages conveyed so that they can apply the culture of healthy living in their lives. The results of this study would contribute and provide solutions for education practitioners to instill a culture of healthy living since elementary school age so as to create a healthy generation of youth physically, socially, and mentally holistically.

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Introduction

The culture of healthy living is a major concern for a healthy progressive society and sustainable economy. Healthy living culture is a healthy lifestyle which is the combination of healthy living practices like setting a proper timetable for eating food, having healthy foods, getting proper rest, taking physical fitness exercise, and taking care of personal hygiene including oral healthcare, body wash, cutting nails, and cleanliness of hair, etc. (Crowe et al., 2017; Ross et al., 2018). People must feel their duty on the part of themselves to maintain, improve, and sustain their own health status as well as play an active role in achieving public health (Beckerman et al., 2019; Walsh et al., 2018). The current COVID-19 pandemic has further forced people to limit their activities outside the home. As a result, they need to do learning and work activities from inside the house, in order to avoid crowds and gather in crowded places (Widodo et al., 2020; Yudiawan et al., 2021).

The culture of healthy living is now again a concern. Healthy living culture is the habit of running a lifestyle that is beneficial to the body. Some lifestyles that are part of a healthy living culture, such as eating nutritious food, exercising regularly, getting enough rest, and of course always maintaining body hygiene (Wu et al., 2018). People therefore must have concern for the health that is inside and outside themselves (the surrounding environment). The community is expected to be able to play a role as actors in health development in maintaining and improving their own health status and playing an active role in realizing public health. It is also included in the educational policies to promote public health culture through education sectors. Healthy living culture can be developed or improved in a community by instilling healthy living thinking and behaviors in the individuals. As in the early age of life, individuals have plain minds and can learn something more effectively and make it part and parcel of their life, they must be taught about the different health care practices since the elementary school age so that they should apply these practices in actual for leading a healthy life (Gandhi et al., 2019).

Indonesia has a high education system based on innovation standards. The Ministry of National Education is in charge of education in Indonesia, and the overall system is administered by this education ministry (Hill et al., 2018). Primary education is compulsory for 3-11 years, out of which six years for elementary education and junior high school for three years. After optional pre-school playgroups, which may begin in a child's third year, the primary phase begins. The majority of primary schools are run by the government (Leung et al., 2019; Suhartono et al., 2018). Some institutions offer expedited programs that cut the phase time in half to just five years. Because the Islamic educational system runs concurrently with this, in elementary schools, students are not only given curriculum education, but they are provided with non-curriculum activities including Islam-based activities. Moreover, most of the primary schools, including kindergarten and elementary institutions, are state-owned and financed by the government (Kosasih et al., 2021) In these government schools, it is considered important to develop a healthy lifestyle in the students apart from making them productive. The healthy lifestyle practices expected to be carried out in elementary schools in Indonesia include sports, eating healthy food, eating three meals a day, laughing, cycling, wearing sunscreen, getting enough sleep, and healthy exercise (Rikawarastuti et al., 2018).

Therefore, most of the public elementary schools are expected to carry out regular or periodical health care programs. It is important for schools to realize health education, where students can be taught the meaning of healthy and unhealthy behaviors and their consequences. But, unfortunately, most elementary schools fail to implement these policies specially designed for developing healthy living culture among students (Fausiah et al., 2019; Gwyther et al., 2018). A few school though have introduced health awareness programs (the programs which are aimed to promote health awareness) and healthy life story cards (use of story cards to develop health awareness and behavior in an attractive manner) and can be applied to instill the health care thinking, habits, or behaviors in the children (Lee & Chung, 2021; Levin-Zamir et al., 2017).

The story card media are the latest and innovative elements wherein a story card media is integrated with a healthy living culture and wrapped in an interesting story. The story card contains a simple short story description and is equipped with pictures in it so that it makes it easier for students to remember and understand the context of the message contained on the card. The healthy context contained in this story card is physically, socially, and spiritually healthy. Some of the advantages of story card media include: (1) students are more active in thinking and processing the information provided themselves, (2) learning activities are more guiding and providing freedom of learning to students, and (3) forming a spirit of togetherness. The story cards media could also be used as a support for remembering tasks that students applied in school, family, and community environment.

Based on the description above, the current research analyzed the effectiveness of the story cards that have been applied to elementary school age students. This study aimed to have story card products that were developed and were found suitable for use and effective as well to improve students' healthy living culture. It also examined the impact of healthy life story cards and health awareness programs on the development of a healthy living culture in the students at elementary schools in Indonesia. It also aimed at analyzing the mediating role of health awareness between healthy life story cards and health awareness programs and developing a healthy living culture in the school students. There is a dearth of studies on the development of healthy living culture in individuals in the recent past from the point of view of the Indonesian society. No attention has also been paid on the development of healthy living culture among students with reference to education sectors. It is hoped that this study will give useful insights about the influence of healthy life story cards and health awareness programs on health awareness and developing a healthy living culture in the students. This study will prove distinct as it explores the mediating role of health awareness among the graduates.

The study is formed of several parts. After the introduction to research, the views of the past authors are analyzed to present the hypotheses regarding the relationship among story cards and health awareness programs, health awareness and development of a healthy living culture in the students. The third section presents the methodology used for sampling, data collection and data analysis of nexus among the given constructs. Finally, the results make the empirical analysis in comparison with previous studies. This section is followed by study implications, conclusions, and future recommendations.

Literature review and hypotheses development

- *Clean and healthy living behavior*

Clean and healthy living behavior, in addition to health, also means physical, social, and mental wellbeing of individual and society. World Health Organization (WHO) observes health as a state in which a person's mental, physical and social well-being function normally, and that such a state is characterized by absence of any disease (Jakab, 2011; UNICEF et al., 2020). However, many think that health is only about not being sick, or physically and mentally conducive to social health. Such persons are no longer productive individuals because of the imbalance between the three aspects of health, namely physical, mental, and social. Not to mention, sometimes the negative work environment factors, massive work pressure, abusive culture and toxic co-workers also add to the list of declining productivity in the work environment. In fact, to be productive, one must be in a good condition to balance between physical, mental, and social life states.

Promoting a healthy living culture among children in elementary schools can be implemented through clean and healthy living behavior, which is a state where individuals in Indonesian households (families) implement clean and healthy living behaviors in order to prevent disease and other health problems, improve health status, utilize health services, and develop and organizing community-based health efforts (Bourke-Taylor et al., 2019; Darani & Moghaddam, 2020; Schuh et al., 2017; Vázquez-Cano et al., 2020). Clean and healthy living behavior is a set of behaviors that is practiced based on awareness as a result of learning that makes individuals/families/groups able to help themselves in the health sector and play an active role in realizing community health degrees. Clean and healthy lifestyle is a form of embodiment of a healthy paradigm in a healthy-oriented individual, family, and community culture, aiming to improve, maintain, and protect their physical, mental, spiritual and social health (Hinton et al., 2021; Pecukonis et al., 2019).

Clean and healthy living behavior is very important to be trained since elementary school age. Schools are effective institutions for realizing health education, where students can be taught about the meaning of healthy and unhealthy behaviors and their consequences. In addition, school age is a golden age for instilling cultural values of healthy living and has the potential as an agent of change to promote a culture of healthy living in schools, families, and communities. Clean and healthy lifestyle is part of physical education, health and recreation lessons based on the curriculum in elementary schools. Activities in schools are efforts to empower students, teachers, and the school community to practice clean and healthy lifestyle and play an active role in realizing healthy schools. This behavior must be carried out based on awareness because of learning, so that they can independently prevent disease, improve their health, and play an active role in creating a healthy environment. Based on data from Health promotion surveys in several schools held in Australia, it shows that school leadership, habituation activities are very necessary to improve students' healthy lifestyles (Camiling, 2019; Dix et al., 2019; Włodarek, 2020; Zakharova et al., 2020).

Education institutions, especially up-to elementary schooling, can play an effective role in developing health awareness and clean behaviors in the children by adopting a suitable way of teaching, interacting politely with the students, dealing with their health matters,

and carrying on certain health awareness programs in periodical sessions (Kabir et al., 2018). A healthy society produces good quality human resources and professional actors for a sustainable economy, and a healthy society is determined by a healthy lifestyle adopted by society individuals. It is best to promote a healthy lifestyle by developing healthy living culture among school-going children as at this age humans have the ability to learn and memorize something quickly (Perkins et al., 2017; Sharara et al., 2018).

The current study examined the role of healthy life story cards and health awareness programs in creating health awareness and developing a healthy living culture in the students at elementary schools. A few studies have paid a good attention to the influence of healthy life story cards and health awareness programs on health awareness and the development of a healthy living culture in the students. Their arguments were utilized for building suitable hypotheses.

- *Healthy Life Story Cards and Healthy Living Culture*

Learning through healthy life story cards containing sentences are used as one of the learning tools to increase students' understanding of the contents or messages written in them. Media story cards contain the main sentences of a story in order and form a good outline. With the use of story card media in learning, students can organize their reasoning power about a story or essay plot appropriately. A few studies (Fukushima, 2019; Harris et al., 2006; Kaplan-Rakowski & Loranc-Paszylk, 2017; Reese et al., 2010) state that the use of story card learning media is usually by sorting the cards containing the main sentences of a story so that they are in order and form a good essay framework. By using story card learning media, students are invited to play while learning. This means that the teachers create an atmosphere in such a way that students unconsciously carry out learning activities in the game. Through this story card learning media, students are also invited to compete with other students, both individually and in groups in order to win the game (Balaman, 2018; Pérez-Gómez & Daza, 2019). In learning activities using story card learning media, the teachers only act as a "jury" or "referee" who determine the time and the winner of the game. Thus, students will feel challenged and try so that they can win this game.

According to Fadlallah et al. (2019), healthy life story cards are attractive teaching instruments to develop a healthy living culture among elementary students. In many educational institutions at the elementary level, story cards are used to teach the students other than the regular course of study. Story cards contain words, pictures, or stories written on them. Story cards are attractive which catch the attention or interest of the children with colorful pictures or shapes drawn on the, and thus, they are an effective tool to instill something in their minds and behaviors (Taryn et al., 2017; Tomteberget & Larsson, 2020). Healthy life story cards, which contain interesting pictures, words, or short stories in different colors, aim to teach the student in such a way as to promote healthy lives. Different healthy life story cards mention healthy eating patterns, healthy food, daily exercise, personal hygiene, and harmful substance. The use of these healthy life story cards develop a healthy living culture among the students as these attractive cards influence the children thinking, emotions, and habits and shape them accordingly (Nsangi et al., 2017). Mufida et al. (2021), with an aim to examine the influence of health education for hygiene and healthy behavior, employed a card-telling way to examine healthy living culture for prevention of diarrhea. A quasi-experimental design was applied. Using the purposive

sampling method, questionnaire data were collected from 60 children. For analysis, the Wilcoxon sign rank test and Mann-Whitney U test were used. The results of the study proved that the use of healthy life story cards for personal hygiene and healthful behavior enhanced healthy living culture among the students and prepared them to fight against diarrhea attack. Hence, a hypothesis can be developed such as:

H1: *Healthy life story cards have a positive impact on the development of healthy living culture in the students.*

- *Health Awareness Programs and Healthy Living Culture*

The health awareness programs are organized in educational institutions with the purpose to create sense, awareness, and knowledge regarding the significance of harmful events and substances; about healthy diet, physical fitness activities, and hygienic measures; and to avoid infections and promote a healthy living style. Health awareness programs also include oral health activities, health weeks, health videos, health dialogues, informative talks, health-drama performances, and health-based quiz competitions. Gargano et al. (2019), investigated the influences of oral health care programs, healthy living culture, oral health equity at the school level. The oral health programs addressed essentials of healthcare access, skills-based health education, and health-related welfare and the impacts on healthy living culture among students. An ecological model was taken from relevant case studies and the health-promoting school concept of the World Health Organization (WHO) came into origin. The study implied that effective organization of oral health awareness programs should include practice, promoting oral health equity, healthcare access, health education, and healthy living culture with health-related welfare.

In an in-depth empirical research, Rojas-Andrade and Bahamondes (2019) examined the mental healthcare awareness programs in schools for promoting healthy living culture. The data were collected from four electronic databases (PUBMED, EBSCO, APA PsycNET, and ISI-WEB Science), which provided 31 articles written during 2006-2016. According to the study results, the educational institutions arranged for mental health awareness programs, including health activities, health weeks, health videos, health dialogues, informative talks, and health-drama performances, which helped students to develop a high-level healthy living culture. Hence, the study hypothesizes as follows:

H2: *Health awareness programs have a positive impact on the development of healthy living culture in the students.*

- *Mediating Role of Health Awareness*

Health awareness is knowing about harmful objects or substances, taking precautions, and understanding health or physical fitness significance. Besides, it also includes awareness about healthy diet, physical hygiene to prevent infections, fight against diseases, and maintain good health. These behaviors characterize a healthy living culture. Laholt et al. (2017) presented arguments on the relationship among healthy life story cards, health awareness, and healthy living culture. The study revealed that among the children in elementary level schools, health awareness can be created by applying healthy life story cards. For instance, the story cards denoted personal hygiene through pictures, words, short stories in the form of descriptions or short, attractive games like oral health activities,

hand wash before eating or after getting free from the toilet, disposal of litter properly, and use some sanitizer.

Health awareness can also be the result of making use of healthy life story cards, promoting healthful habits and behavior during study at school or routine life outside school. Similarly, the study of Tischner (2019), also advocated the healthy life story cards for health awareness among school-going children and the development of healthy living culture among them in social life. The schools are the place that can better teach the children good manners essential for their health as they create health awareness through introducing healthy life story cards. The consequent high-level health awareness leads the children to develop healthy living culture. Therefore, it may be hypothesized as:

H3: *Health awareness is a mediator between the healthy life story cards and developing a healthy living culture in the school students.*

In addition, health awareness is also an essential outcome of awareness programs conducted at school levels with attention to promoting knowledge and cognitive skills in the students to avoid, prevent, or fight against some infection or disease attack and to maintain their health. Health awareness among students helps them develop healthy habits which become a part of their daily life. Hence, health awareness can be developed through health awareness programs, and it can also develop a healthy living culture within the institution, family, or society (Mawani & Chiluba, 2020). Lim (2017) identified a nexus among health oral awareness programs, health awareness, and healthy living culture in Songwon University Gwangju in South Korea. The relationship among the health oral awareness programs, health awareness, and healthy living culture were analyzed in the light of panel data through questionnaires conducted on 290 respondents from Songwon University Gwangju in South Korea during 2013- 2017. The results indicated that students learned to prevent sickness, lessen the effects of a disease, and preserve their health through health awareness programs in educational institutions. Thus, health awareness aids students in developing a healthy lifestyle culture. Therefore, it may be right to hypothesize that:

H4: *Health awareness is a mediator between the health awareness programs and developing a healthy living culture in the school students.*

Methodology

Research Design

This study aimed to develop an integrated health story card literacy to improve the healthy living culture of elementary school students. It examined the effectiveness of the healthy life story cards and health awareness programs to improve the healthy living culture and examined the mediating role of health awareness among the nexus of healthy life story cards, health awareness programs and healthy living culture of elementary school students in Jakarta, Indonesia. The study has also used two predictors, healthy life story cards (HLSC) with twelve items and health awareness programs (HAP) with eight items. In addition, healthy living culture (HLC) was used as the dependent variable with ten items, and health awareness (HA) was used as the mediating variable with six items. These variables are shown in Figure 1.

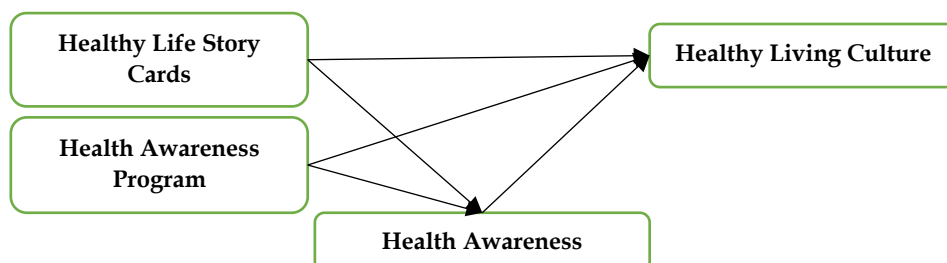


Figure 1: Theoretical model

Research sample

The sample of the study was based on purposive sampling technique. Elementary school students from top sixty elementary schools in Jakarta, Indonesia were selected. The sample included 270 female students and 490 male students, from classes one to six of elementary schools.

Research instrument and procedure

The quantitative research tools like questionnaires were used to collect the data. These questionnaires were distributed by making personal visits to the selected schools.

Data Analysis

Smart-PLS package was used to check the validity and reliability through a measurement model, while the association among the variables was checked through a structural model. Smart- has a unique characteristic of providing significant results when data has both small and large sample sizes (Hair et al., 2014). In addition, it also provides a valid estimation of even complex frameworks used in research (Hair et al., 2019).

Findings

A total of 1110 questionnaires were distributed to the students but after two weeks only 760 were received. This shows a response rate of about 68.47 percent. The respondents of the study included 270 female students and 490 male students. In addition, 5.26 percent of the respondents were from classes one and two, while 68.42 percent of the respondents were from classes three and four and 26.32 percent of the respondents are from classes five and six. The descriptive statistics of the respondents are given in Table 1.

Table 1:

Descriptive statistics

Gender	Respondents	Percentage
Male	490	64.47%
Female	270	35.53%
Total	760	100%
Qualification	Respondents	Percentage
Class One to two	40	5.26%
Class three to four	520	68.42%
Class five to six	200	26.32%
Total	760	100%

The results show a convergent validity that exposes the linkage among items. In this study, four criteria were used to check convergent validity: average variance extracted (AVE), Alpha, factor loadings, and composite reliability (CR). The standard value for the AVE and loadings was higher than 0.50, while for Alpha and CR, it was bigger than 0.70. The results exposed that loadings and AVE values were not less than 0.50, and Alpha and CR values were not smaller than 0.70. Thus, the results indicated a valid convergent validity and a high linkage among items. Table 2 highlights the results of convergent validity.

Table 2:

Convergent validity

Constructs	Items	Loadings	Alpha	CR	AVE
Health Awareness	HA1	0.802	0.860	0.895	0.589
	HA2	0.828			
	HA3	0.732			
	HA4	0.754			
	HA5	0.803			
	HA6	0.677			
Health Awareness Programs	HAP1	0.742	0.881	0.906	0.548
	HAP2	0.807			
	HAP3	0.785			
	HAP4	0.751			
	HAP5	0.622			
	HAP6	0.771			
	HAP7	0.771			
	HAP8	0.655			
Healthy Living Culture	HLC1	0.690	0.893	0.913	0.540
	HLC10	0.725			
	HLC2	0.714			
	HLC3	0.714			
	HLC4	0.752			
	HLC5	0.758			
	HLC7	0.761			
	HLC8	0.724			
	HLC9	0.770			
Healthy Life Story Cards	HLSC1	0.731	0.907	0.922	0.519
	HLSC10	0.708			
	HLSC11	0.686			
	HLSC12	0.700			
	HLSC2	0.731			
	HLSC3	0.629			
	HLSC4	0.724			
	HLSC5	0.775			
	HLSC6	0.772			
	HLSC7	0.733			
HLSC8	0.722				

The results also show a discriminant validity that exposes the linkage among variables. Heterotrait Monotrait (HTMT) ratio criteria was used to check the discriminant validity. The standard value for the HTMT ratio was not higher than 0.90. The results exposed that HTMT ratios were lower than 0.90. Thus, the results indicated a valid discriminant validity and a low linkage among variables. Table 3 and Figure 2 highlight the results of discriminant validity.

Table 3:

Discriminant validity

	HA	HAP	HLC	HLSC
HA				
HAP	0.563			
HLC	0.735	0.753		
HLSC	0.711	0.723	0.891	

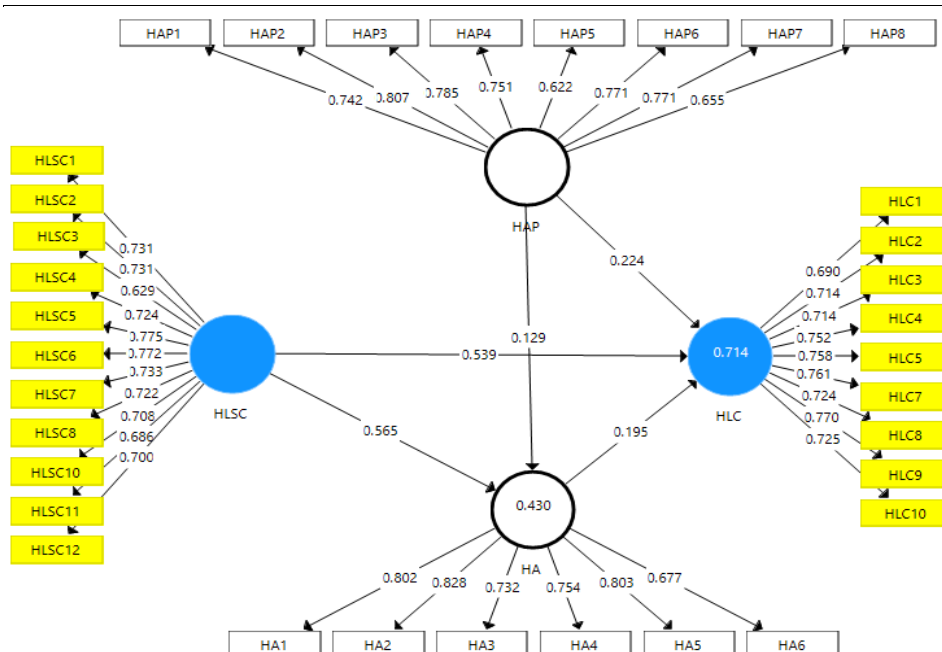


Figure 2: Measurement model assessment

The results of the direct path proved that the healthy life story card product and health awareness programs are feasible and effective to be used as health promotion media and improve the healthy living culture of elementary school students and thus H1 and H2 were accepted. The results also exposed that if one unit rose in the HA, the HLC would rise by 0.195 units and vice versa. In addition, the results also exposed that if one unit increased in the HAP, the HLC would increase by 0.224 units and vice versa. Finally, the results also exposed that if the unit increased in the HLSC, the HLC would increase by 0.539 units and vice versa. These direct relationships are shown in Table 4.

Table 4

Direct path

Relationships	Beta	Standard Deviation	T Statistics	P Values	L.L.	U.L.
HA -> HLC	0.195	0.030	6.400	0.000	0.132	0.245
HAP -> HA	0.129	0.039	3.316	0.001	0.055	0.208
HAP -> HLC	0.224	0.033	6.732	0.000	0.164	0.288
HLSC -> HA	0.565	0.036	15.851	0.000	0.487	0.626
HLSC -> HLC	0.539	0.032	17.042	0.000	0.472	0.590

The results of the indirect path also exposed that health awareness significantly mediated among the linkage of healthy life story cards, health awareness programs and healthy living culture of elementary school students. These indirect relationships are presented in Table 5 and Figure 3.

Table 5

Indirect path

Relationships	Beta	Standard Deviation	T Statistics	P Values	L.L.	U.L.
HLSC -> HA -> HLC	0.110	0.019	5.748	0.000	0.072	0.143
HAP -> HA -> HLC	0.025	0.008	3.062	0.003	0.011	0.040

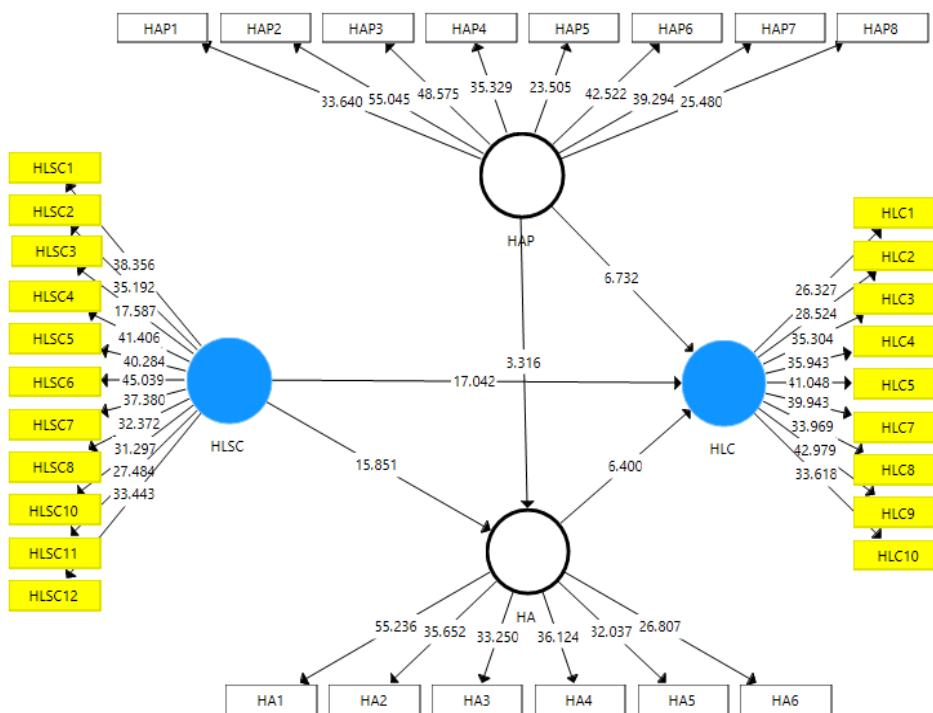


Figure 3: Structural model assessment

Discussion

The study results have indicated that healthy life story cards have a positive impact on the development of healthy living culture in Indonesian students. These results are in line with the previous study of Jones et al. (2018), which shows that the use of story cards that mention harmful things or actions and their consequences, healthy food, healthy eating, exercise, and rest time, develop healthy living habits in the students, could help them lead their lives without affecting their health. These results are also supported by Sahu (2020), which revealed that the use of healthy life story cards, apart from the regular course of study, could develop habits in students so that they could make their decisions about rest, food eating, exercise, hygiene or work, that they can maintain their health.

The study results have shown that health awareness programs have a positive impact on the development of healthy living culture in students. These results are in line with the previous study of Seymour (2018), which stated that when, at the elementary level, the educational institution took to show care for health of students and design their policies on different health awareness programs, the students could develop health care behavior for application in school and afterlife. These results also agree with the past study of Martin et al. (2017), which showed that the arrangement of health awareness programs in periodical sessions provided knowledge to the students about the harmful health-damaging things or actions, their consequences, and the ways how to tackle the health issues.

The study results significantly indicated that health awareness can be a mediator between the healthy life story cards and developing a healthy living culture in school students. These results match with the recent study of Li et al. (2021), which revealed that the healthy life story cards speak of the stories based on topics like a healthy diet, exercise, sleep and wake timing, body hygiene, cleanliness importance, create health awareness among school students and when they utilize this awareness in practical life they develop healthy living culture. The study results also indicated that health awareness could be a mediator between the health awareness programs and developing a healthy living culture in the school students. These results match with another study of Salerno (2016), which examined that health awareness programs within the educational institutions created awareness in students so that they can prevent disease, minimize the impacts of disease, and maintain their health. This awareness helped the students to develop healthy living culture.

Conclusions, Implications and Limitations

This study was conducted to solve the health problems within the country. The aim to write this study was to check the role of healthy life story cards and health awareness programs in developing a healthy living culture in the Indonesian students and to examine the relationship of health awareness with healthy life story cards and health awareness programs, and to develop a healthy living culture. A research survey was conducted on the students of elementary schools in Indonesia to collect quantitative data about nexus among the healthy life story cards, health awareness programs, health awareness, and developing a healthy living culture in the students. The results which were obtained through PLS-SEM analysis, indicated that health life story cards like exercise story cards, healthy habits story cards, the cards which teach health & hygiene principles, were used to

teach students about the health necessities and way to be healthy and to develop a healthy living culture. The results also displayed that health awareness programs on several health and hygiene issues, like health weeks, health-videos, health dialogues, health-drama performances, health-based quiz competitions, etc., develop a healthy living culture. The study reveals that health awareness plays a mediating role between healthy life story cards and health awareness programs and developing a healthy living culture in the students.

The current study has the potential to make both theoretical and empirical implications. Theoretically, it has made a considerable contribution to education-based literature. This study analyzed the influences of two significant health-related factors like healthy life story cards and health awareness programs on developing a healthy living culture in the students of elementary schools. This study also examined the linking influences on the association between healthy life story cards and health awareness programs and developing a healthy living culture in the school students. Prior to this study, the role of healthy life story cards and health awareness programs in developing healthy living cultures had been analyzed but individually in separate research studies. Moreover, the current study, for the first time has addressed health awareness as a mediator between healthy life story cards and health awareness programs and developing a healthy living culture in school students. This study also has great empirical importance. It can prove to be a guideline to health agencies, educational management, and government in drafting the policies to promote the health of individuals, families, and groups, which is critical to the social and economic progress of a country. This study suggests that with the healthy life story cards and health awareness programs healthy living culture can be developed in the students.

There were some limitations faced in this study, which ought to be removed in future studies. For instance, this study analyzed only healthy life story cards and health awareness programs as factors developing a healthy living culture in the students at elementary schools. The development of healthy living culture is a broad concept, which may be affected by a larger number of factors. Future studies may analyze other factors like health communication, health on social media and health in curriculum, in this regard. This study also analyzes the elementary school system in Indonesia for developing a hypothesis about the relationship among the aforementioned factors. Future studies may go beyond this relationship and try to devise a theoretical framework. Lastly, the Indonesian elementary school system proved a limited context for the analysis of the selected variables. Future research ought to see these factors in a broader context.

References

- Balaman, S. (2018). Digital storytelling: A multimodal narrative writing genre. *Journal of Language and Linguistic Studies*, 14(3), 202-212. <https://dergipark.org.tr/en/download/article-file/650695>
- Beckerman, J. P., Aftosmes-Tobio, A., Kitos, N., Jurkowski, J. M., Lansburg, K., Kazik, C., . . . Figueroa, R. (2019). Communities for healthy living (CHL)—a family-centered childhood obesity prevention program integrated into Head Start services: study protocol for a pragmatic cluster randomized trial. *Contemporary clinical trials*, 78, 34-45. <https://doi.org/10.1016/j.cct.2019.01.002>

- Bourke-Taylor, H. M., Jane, F., & Peat, J. (2019). Healthy mothers healthy families workshop intervention: A preliminary investigation of healthy lifestyle changes for mothers of a child with a disability. *Journal of Autism and Developmental Disorders*, 49(3), 935-949. <https://doi.org/10.1007/s10803-018-3789-1>
- Camiling, M. K. S. (2019). eHealth Literacy of High School Students in the Philippines. *IAFOR Journal of Education*, 7(2), 69-87. <https://doi.org/10.22492/ije.7.2.04>
- Crowe, R., Stanley, R., Probst, Y., & McMahon, A. (2017). Culture and healthy lifestyles: A qualitative exploration of the role of food and physical activity in three urban Australian Indigenous communities. *Australian and New Zealand journal of public health*, 41(4), 411-416. <https://doi.org/10.1111/1753-6405.12623>
- Darani, L. H., & Moghaddam, M. M. (2020). 'Please' as an impoliteness marker in English discourse. *Eurasian Journal of Applied Linguistics*, 6(2), 243-263. <https://ejal.info/please-as-an-impoliteness-marker-in-english-discourse/>
- Dix, K. L., Green, M. J., Tzoumakis, S., Dean, K., Harris, F., Carr, V. J., & Laurens, K. R. (2019). The survey of school promotion of emotional and social health (sspesh): a brief measure of the implementation of whole-school mental health promotion. *School Mental Health*, 11(2), 294-308. <https://doi.org/10.1007/s12310-018-9280-5>
- Fadlallah, R., El-Jardali, F., Nomier, M., Hemadi, N., Arif, K., Langlois, E. V., & Akl, E. A. (2019). Using narratives to impact health policy-making: a systematic review. *Health Research Policy and Systems*, 17(1), 1-22. <https://doi.org/10.1186/s12961-019-0423-4>
- Fausiah, F., Turnip, S. S., & Hauff, E. (2019). Community violence exposure and determinants of adolescent mental health: A school-based study of a post-conflict area in Indonesia. *Asian journal of psychiatry*, 40, 49-54. <https://doi.org/10.1016/j.ajp.2019.01.020>
- Fukushima, S. (2019). EmoTan: enhanced flashcards for second language vocabulary learning with emotional binaural narration. *Research and Practice in Technology Enhanced Learning*, 14(1), 1-19. <https://doi.org/10.1186/s41039-019-0109-0>
- Gandhi, S., Gurusamy, J., Damodharan, D., & Ganesan, V. (2019). Facilitators of healthy life style behaviors in persons with schizophrenia – a qualitative feasibility pilot study. *Asian Journal of Psychiatry*, 40, 3-8. <https://doi.org/10.1016/j.ajp.2019.01.003>
- Gargano, L., Mason, M. K., & Northridge, M. E. (2019). Advancing oral health equity through school-based oral health programs: An ecological model and review. *Frontiers in public health*, 7, 359-376. <https://doi.org/10.3389/fpubh.2019.00359>
- Gwyther, H., Shaw, R., Dauden, E.-A. J., D'Avanzo, B., Kurpas, D., Bujnowska-Fedak, M., . . . Holland, C. (2018). Understanding frailty: a qualitative study of European healthcare policy-makers' approaches to frailty screening and management. *BMJ open*, 8(1), e018653. <http://dx.doi.org/10.1136/bmjopen-2017-018653>
- Hair, J. F., Sarstedt, M., Hopkins, L., & G. Kuppelwieser, V. (2014). Partial least squares structural equation modeling (PLS-SEM). *European Business Review*, 26(2), 106-121. <https://doi.org/10.1108/EBR-10-2013-0128>
- Hair, J. F., Sarstedt, M., & Ringle, C. M. (2019). Rethinking some of the rethinking of partial least squares. *European Journal of Marketing*, 53(4), 566-584. <https://doi.org/10.1108/EJM-10-2018-0665>
- Harris, K. R., Graham, S., & Mason, L. H. (2006). Improving the writing, knowledge, and motivation of struggling young writers: Effects of self-regulated strategy development with and without peer support. *American educational research journal*, 43(2), 295-340. <https://doi.org/10.3102%2F00028312043002295>
- Hill, M. R., Goicochea, S., & Merlo, L. J. (2018). In their own words: stressors facing medical students in the millennial generation. *Medical education online*, 23(1), 15305-15323. <https://doi.org/10.1080/10872981.2018.1530558>

- Hinton, T., Dowdy, E., Furlong, M. J., Nylund-Gibson, K., Carter, D., & Wagle, R. (2021). Examining the Social Emotional Health Survey-Secondary for use with Latinx youth. *Journal of Psychoeducational Assessment*, 39(2), 242-246. <https://doi.org/10.1177%2F0734282920953236>
- Jakab, Z. (2011). Constitution of WHO. In *Official Records of WHO* (pp. 1-18). https://www.who.int/governance/eb/who_constitution_en.pdf
- Jones, M., Huffer, C., Adams, T., Jones, L., & Church, B. (2018). BMI health report cards: parents' perceptions and reactions. *Health Promotion Practice*, 19(6), 896-904. <https://doi.org/10.1177%2F1524839917749489>
- Kabir, A., Miah, S., & Islam, A. (2018). Factors influencing eating behavior and dietary intake among resident students in a public university in Bangladesh: A qualitative study. *PloS one*, 13(6), 1988-2018. <https://doi.org/10.1371/journal.pone.0198801>
- Kaplan-Rakowski, R., & Loranc-Paszylk, B. (2017). Students' views on the helpfulness of multimedia components of digital flashcards in mobile-assisted vocabulary learning. In L. B. S. T. K. Borthwick (Ed.), *CALL in a climate of change: adapting to turbulent global conditions - short papers from EUROCALL 2017* (pp. 170-176). Research-publishing.net. <https://doi.org/10.14705/rpnet.2017.eurocall2017.708>
- Kosasih, C. E., Lukman, M., Solehati, T., & Mediani, H. S. (2021). Effect of dengue hemorrhagic fever health education on knowledge and attitudes, in elementary school children in West Java, Indonesia. *Linguistics and Culture Review*, 5(S1), 191-200. <https://doi.org/10.21744/lingcure.v5nS1.1349>
- Laholt, H., Guillemin, M., Mcleod, K., Olsen, R. E., & Lorem, G. F. (2017). Visual methods in health dialogues: A qualitative study of public health nurse practice in schools. *Journal of Advanced Nursing*, 73(12), 3070-3078. <https://doi.org/10.1111/jan.13371>
- Lee, M. K., & Chung, W. J. (2021). Relationship between symptoms and both stage of change in adopting a healthy life style and quality of life in patients with liver cirrhosis: a cross-sectional study. *Health and Quality of Life Outcomes*, 19(1), 1-11. <https://doi.org/10.1186/s12955-021-01787-9>
- Leung, H., Shek, D. T., Leung, E., & Shek, E. Y. (2019). Development of contextually-relevant sexuality education: Lessons from a comprehensive review of adolescent sexuality education across cultures. *International journal of environmental research and public health*, 16(4), 621. <https://doi.org/10.3390/ijerph16040621>
- Levin-Zamir, D., Leung, A. Y. M., Dodson, S., & Rowlands, G. (2017). Health literacy in selected populations: Individuals, families, and communities from the international and cultural perspective. *Information Services & Use*, 37(2), 131-151. <https://doi.org/10.3233/ISU-170834>
- Li, Y., Wang, Y., Jiang, J., Valdimarsdóttir, U. A., Fall, K., Fang, F., . . . Zhang, W. (2021). Psychological distress among health professional students during the COVID-19 outbreak. *Psychological medicine*, 51(11), 1952-1954. <https://doi.org/10.1017/S0033291720001555>
- Lim, S.-A. (2017). Convergence factors of subjective oral health awareness perception on oral health improvement behavior in some university students. *Journal of the Korea Convergence Society*, 8(11), 167-175. <https://doi.org/10.15207/JKCS.2017.8.11.167>
- Martin, S. L., Ashley, O. S., White, L., Axelson, S., Clark, M., & Burrus, B. (2017). Incorporating trauma-informed care into school-based programs. *Journal of school health*, 87(12), 958-967. <https://doi.org/10.1111/josh.12568>
- Mawani, I. K., & Chiluba, B. C. (2020). Assessment of Non Communicable Diseases Awareness Among Pupils with hearing impairment at Munali High School in Lusaka, Zambia. *IJDS: INDONESIAN JOURNAL OF DISABILITY STUDIES*, 7(1), 19-27. <http://dx.doi.org/10.21776/ub.ijds.2019.007.01.3>

- Mufida, L., Yunitasari, E., & Ulfiana, E. (2021). Health Education of Clean and Healthy Lifestyle using Card Telling Methods towards Diarrhea Prevention Among Children in Elementary School. *Pedimatern Nursing Journal*, 7(1). <http://dx.doi.org/10.20473/pmnj.v7i1.21184>
- Nsangi, A., Semakula, D., Oxman, A. D., Austvoll-Dahlgren, A., Oxman, M., Rosenbaum, S., . . . Kaseje, M. (2017). Effects of the Informed Health Choices primary school intervention on the ability of children in Uganda to assess the reliability of claims about treatment effects: a cluster-randomised controlled trial. *The Lancet*, 390(10092), 374-388. [https://doi.org/10.1016/S0140-6736\(17\)31226-6](https://doi.org/10.1016/S0140-6736(17)31226-6)
- Pecukonis, E., Keefe, R. H., Copeland, V. C., Cuddeback, G. S., Friedman, M. S., & Albert, S. M. (2019). Educating the next generation of public health social work leaders: Findings from a summit. *Journal of Teaching in Social Work*, 39(2), 132-147. <https://doi.org/10.1080/08841233.2019.1586809>
- Pérez-Gómez, F. A., & Daza, C. V. (2019). Shaping Narrative Writing Skills through Creating Picture Books. *Gist Education and Learning Research Journal*(19), 148-171. <https://doi.org/10.26817/16925777.700>
- Perkins, R., Reid, H., Araújo, L. S., Clark, T., & Williamon, A. (2017). Perceived enablers and barriers to optimal health among music students: a qualitative study in the music conservatoire setting. *Frontiers in psychology*, 8, 968-977. <https://doi.org/10.3389/fpsyg.2017.00968>
- Reese, E., Suggate, S., Long, J., & Schaughency, E. (2010). Children's oral narrative and reading skills in the first 3 years of reading instruction. *Reading and Writing*, 23(6), 627-644. <https://doi.org/10.1007/s11145-009-9175-9>
- Rikawarastuti, R., Ngatemi, N., & Yusro, M. (2018). Development of web-based dental health ladder snake game for public elementary school students in Indonesia. *World Journal on Educational Technology: Current Issues*, 10(1), 20-28. <https://doi.org/10.18844/wjet.v10i1.3327>
- Rojas-Andrade, R., & Bahamondes, L. L. (2019). Is implementation fidelity important? A systematic review on school-based mental health programs. *Contemporary School Psychology*, 23(4), 339-350. <https://doi.org/10.1007/s40688-018-0175-0>
- Ross, S. E. T., Macia, L., Documét, P. I., Escribano, C., Naderi, T. K., & Smith-Tapia, I. (2018). Latino Parents' perceptions of physical Activity and healthy eating: at the intersection of culture, family, and health. *Journal of nutrition education and behavior*, 50(10), 968-976. <https://doi.org/10.1016/j.jneb.2017.12.010>
- Sahu, P. (2020). Closure of universities due to coronavirus disease 2019 (COVID-19): impact on education and mental health of students and academic staff. *Cureus*, 12(4), 354-376. <https://dx.doi.org/10.7759%2Fcureus.7541>
- Salerno, J. P. (2016). Effectiveness of universal school-based mental health awareness programs among youth in the United States: a systematic review. *Journal of school health*, 86(12), 922-931. <https://doi.org/10.1111/josh.12461>
- Schuh, D. S., Goulart, M. R., Barbiero, S. M., Sica, C. D. A., Borges, R., Moraes, D. W., & Pellanda, L. C. (2017). Healthy school, happy school: design and protocol for a randomized clinical trial designed to prevent weight gain in children. *Arquivos Brasileiros de Cardiologia*, 108(6), 501-507. <https://doi.org/10.5935/abc.20170072>
- Seymour, J. (2018). The impact of public health awareness campaigns on the awareness and quality of palliative care. *Journal of palliative medicine*, 21(S1), 30-36. <https://doi.org/10.1089/jpm.2017.0391>
- Sharara, E., Akik, C., Ghattas, H., & Obermeyer, C. M. (2018). Physical inactivity, gender and culture in Arab countries: a systematic assessment of the literature. *BMC public health*, 18(1), 1-19. <https://doi.org/10.1186/s12889-018-5472-z>

- Suhartono, S., Kartini, A., & Subagio, H. W. (2018). Pesticide exposure and thyroid function in elementary school children living in an agricultural area, Brebes District, Indonesia. *The international journal of occupational and environmental medicine*, 9(3), 137-144. <https://dx.doi.org/10.15171%2Fijoem.2018.1207>
- Taryn, O., Steve, M., & Rhona, H. (2017). Support for healthy eating at schools according to the comprehensive school health framework: evaluation during the early years of the Ontario School Food and Beverage Policy implementation. *Health promotion and chronic disease prevention in Canada: research, policy and practice*, 37(9), 303-325. <https://dx.doi.org/10.24095%2Fhpcdp.37.9.05>
- Tischner, I. (2019). Tomorrow is the start of the rest of their life – so who cares about health? Exploring constructions of weight-loss motivations and health using story completion. *Qualitative Research in Psychology*, 16(1), 54-73. <https://doi.org/10.1080/14780887.2018.1536385>
- Tomteberget, D. T., & Larsson, G. (2020). Interrelationship of daily uplifts, daily hassles, coping strategies and stress reactions over time among Norwegian military veterans. *Res Militaris*, 10(2), 1-21. <https://resmilitaris.net/index.php/2020/06/01/id1032021/>
- UNICEF, WHO, & IFRC. (2020). *Key Messages and Actions for COVID-19 Prevention and Control in Schools*. UNICEF/UNI220408/Pacific. <https://www.unicef.org/romania/documents/key-messages-and-actions-covid-19-prevention-and-control-schools>
- Vázquez-Cano, E., De la Calle-Cabrera, A. M., Hervás-Gómez, C., & López-Meneses, E. (2020). Socio-family context and its influence on students' PISA reading performance scores: Evidence from three countries in three continents. *Educational Sciences: Theory & Practice*, 20(2), 50-62. <https://doi.org/10.12738/jestp.2020.2.004>
- Walsh, A., Taylor, C., & Brennick, D. (2018). Factors that influence campus dwelling university students' facility to practice healthy living guidelines. *Canadian Journal of Nursing Research*, 50(2), 57-63. <https://doi.org/10.1177%2F0844562117747434>
- Widodo, A., Nursaptini, N., Novitasari, S., Sutisna, D., & Umar, U. (2020). From face-to-face learning to web base learning: How are student readiness. *Premiere Educandum: Jurnal Pendidikan Dasar Dan Pembelajaran*, 10(2), 149-160. <https://doi.org/10.25273/pe.v10i2.6801>
- Włodarek, M. (2020). Proces otwierania się architektury od modernizmu po współczesność. *socialspacejournal.eu*, 19(1), 143-164. [http://socialspacejournal.eu/Social%20Space%20Journal%2012020\(19\).pdf#page=143](http://socialspacejournal.eu/Social%20Space%20Journal%2012020(19).pdf#page=143)
- Wu, Y. P., Aspinwall, L. G., Nagelhout, E., Kohlmann, W., Kaphingst, K. A., Homburger, S., . . . Cassidy, P. (2018). Development of an educational program integrating concepts of genetic risk and preventive strategies for children with a family history of melanoma. *Journal of Cancer Education*, 33(4), 774-781. <https://doi.org/10.1007/s13187-016-1144-9>
- Yudiawan, A., Sunarso, B., & Sari, F. (2021). Successful Online Learning Factors in COVID-19 Era: Study of Islamic Higher Education in West Papua, Indonesia. *International Journal of Evaluation and Research in Education*, 10(1), 193-201. <https://doi.org/10.11591/ijere.v10i1.21036>
- Zakharova, V. A., Chernov, I. V., Nazarenko, T., Pavlov, P. V., Lyubchenko, V. S., & Kulikova, A. A. (2020). Social health and environmental behavior of students in the digital age. *Cypriot Journal of Educational Sciences*, 15(5), 1288-1294. <https://doi.org/10.18844/CJES.V15I5.5167>