

Dynamics of Health Capital Formation and its Implications for Community Health Outcomes: An Analysis at the Individual Level of the Poor in Banten Province

Muhammad Angga Anggriawan^{1*}, Tata Rustandi¹, Billy Tejaarie¹

¹ Faculty of Economics and Business, Universitas Bina Bangsa, Serang, Banten, Indonesia.

Received: September 22, 2024

Revised: December 17, 2024

Accepted: February 25, 2025

Published: February 28, 2025

Corresponding Author:

Muhammad Angga Anggriawan

muhhammadanggaanggriawan@gmail.com

DOI: [10.29303/jppipa.v11i2.9234](https://doi.org/10.29303/jppipa.v11i2.9234)

© 2025 The Authors. This open access article is distributed under a (CC-BY License)



Abstract: This study examines the factors influencing health capital formation and its impact on public health outcomes among the poor in Banten Province using the SEM-PLS method. Health capital is shaped by various aspects, including health education and knowledge, access to healthcare services, environmental conditions, genetic and hereditary factors, lifestyle, as well as physical and mental health. The findings indicate that higher education levels enhance individuals' understanding of health, while easier access to healthcare services contributes to improved community health conditions. Additionally, environmental factors and lifestyle play a crucial role in determining an individual's overall health quality. The objective of this study is to identify the key determinants of individual health capital and analyze their implications for public health. These findings highlight the need for policy interventions focused on improving health education and knowledge, as well as expanding equitable access to healthcare services. Continuous education programs and better healthcare facilities, especially for low-income communities, are recommended. However, this study has limitations, including cross-sectional data and potential self-report biases. Therefore, future research should employ longitudinal data and consider additional variables to gain a deeper understanding of the dynamics of health capital and its impact on public health outcomes.

Keywords: Dynamics; Health Capital; Health Outcomes; Poor Communities; Banten

Introduction

Banten Province is one of the regions in Indonesia that has a significant number of poor people. Based on BPS data in 2022, the number of poor people in Banten Province reached 814,020 thousand people or around 6.16% of the total population in the province (Statistik, 2022). In the context of challenging economic circumstances, individuals from disadvantaged backgrounds in Banten Province frequently encounter obstacles in accessing and utilising health services. The primary impediments to accessing appropriate care for

the poor in Banten Province are financial limitations, geographical distance, a lack of knowledge about health, and inadequate health infrastructure (Dewi, 2023). Consequently, a considerable proportion of the economically disadvantaged are more likely to suffer from inferior health outcomes and a higher mortality rate than those who are more affluent (Christie, 2022; Rami et al., 2023). Furthermore, the dynamics of health capital formation, which encompasses physical, mental, and social aspects, is a significant determinant of public health outcomes (Schneider, 2021). Those in poverty frequently encounter obstacles in developing their

How to Cite:

Anggriawan, M. A., Rustandi, T., & Tejaarie, B. (2025). Dynamics of Health Capital Formation and its Implications for Community Health Outcomes: An Analysis at the Individual Level of the Poor in Banten Province. *Jurnal Penelitian Pendidikan IPA*, 11(2), 719–728.
<https://doi.org/10.29303/jppipa.v11i2.9234>

health capital, due to the constraints of their environment, the unavailability of requisite resources, and the absence of social support (Chowdhury, 2022; Sano et al., 2021). For example, low levels of education and income may limit their access to health information, nutritious food, and health care facilities, all of which are crucial elements in the development of health capital (Health, 2020; Zajacova & Lawrence, 2018).

Understanding the dynamics of health capital formation and its relationship to individual health outcomes is essential, especially for the poor. This study explores the factors influencing health capital and the challenges in accessing and utilizing healthcare services in Banten Province. By analyzing at the individual level, this research identifies barriers such as limited access, lack of health knowledge, and minimal social support. A deeper understanding of these aspects can help design more effective policies and interventions to improve the health and well-being of the poor while reducing health disparities. Governments and health institutions need to prioritize the formation and maintenance of health capital as part of broader public health strategies. The findings of this study are expected to provide new insights into the relationship between health capital and health outcomes among the poor and serve as a foundation for efforts to improve health welfare in the region.

Some previous studies have identified macro-level determinants of health capital such as government spending or investment in education and health infrastructure (Kaneva, 2021; Kousar et al., 2023; Shuyong et al., 2024), while at the individual level previous studies have mostly highlighted spatially only such as the condition of the neighbourhood where people live (Meyrick & Newman, 2023), accessibility and affordability to health services (Amaro et al., 2024), perception of own health (Maalaoui et al., 2023), and social capital conditions of the community (Li et al., 2022; Hao et al., 2023; Watanabe et al., 2022), meanwhile, in terms of community health outcomes, health insurance ownership plays an important role in individual health levels (Kurniawanto et al., 2023; Zhang & Zhao, 2022). Meanwhile, research related to the dynamics of health capital formation and its implications for individual-level health outcomes specifically among the poor in Banten Province is still very limited, therefore this study tries to fill this knowledge gap by analysing in depth the dynamics of health capital formation and its impact on individual health outcomes among the poor in Banten Province. The novelty of this research lies in its micro approach, which will explore the various factors that influence health capital, including access to health services, environmental conditions, education, and other socio-economic aspects.

By delving deeper into the factors that influence individual health capital formation at the micro level, this study seeks to provide a more detailed and contextualised understanding of the challenges faced by individuals in building their health. In addition, this study also explores the direct implications of health capital formation on public health outcomes, thus providing valuable insights for policy makers and health practitioners in designing more effective and relevant interventions to improve the health welfare of the poor in Banten Province.

Method

This study used survey, interview, and Focus Group Discussion (FGD) methods to collect data on people's experiences, perceptions, and needs related to quality health services and good health practices. The survey was designed to cover various aspects, such as user satisfaction regarding health education, economic empowerment programmes, level of accessibility of health services, and challenges faced in health capital formation. Interviews were conducted to gain deeper insights into the experiences and perceptions of each community. FGDs were used to facilitate broader group discussions on topics related to health services, so as to generate more comprehensive insights.

This research uses a quantitative method with a correlational approach to quantitatively measure the relationship between two or more variables. In this method, the researcher collects numerical data about the variables to be connected and then analyses the data to find the correlation between the variables (Rana et al., 2021). Data was obtained by distributing questionnaires to selected respondents based on predetermined criteria.

The population in this study is the entire poor population in Banten Province, which totalled 826,130 people as of June 2024 (BPS, 2024). The research focuses on the three districts with the highest number of poor people, namely Pandeglang, Lebak, and Tangerang (Anwar, 2023). The sample of this study is the poor population in these three districts. The sample size was determined using the formula provided by Slovin (Formula 1).

$$n = \frac{N}{1+N(e^2)} \quad (1)$$

Whereabouts:

- n is the number of samples required;
- N is the population size;
- e is the permissible error rate, set at 5%.

So the number of samples needed for each district is as many as;

$$n = \frac{826.130}{1 + 826.130 (0,05^2)}$$

$$n = \frac{826.130}{2.066}$$

$$n = 399,86$$

The sample size needed for each Kabupaten is 400 people, so the total number of respondents is 1,200 people. The questionnaire used in this study is the result

of modifications from previous studies that are adjusted to the characteristics of the population in Indonesia. The questionnaire consists of two parts, namely the measurement of health capital and the measurement of health outcomes.

Health capital measurement is measured from several parameters based on research (Schneider, 2021; Dittrich, 2011) including: physical health, mental health, lifestyle, access to health services, education and health knowledge, environmental conditions and genetic or hereditary factors.

Table 1. Health Capital Measurement Parameters

Variable	Indicator	Definition
Physical Health	Nutritional status	The nutritional condition of an individual, such as weight, height, and body mass index (BMI).
	Physical fitness	The level of strength, endurance, and flexibility of an individual's body.
	Chronic illness or condition	The presence of long-term medical conditions that affect general health.
Mental Health	Health history	The individual's health history, including previous medical history, medical treatments, and health interventions.
	Emotional stability	The ability to manage emotions effectively and cope with daily stress.
	Psychological well-being	An individual's level of happiness, life satisfaction, and psychological well-being.
Lifestyle	Stress coping skills	Skills in managing life's pressures and responding positively to challenging situations.
	Diet	Food and beverage consumption habits, including frequency and type
	Physical activity level	The amount and intensity of physical activity an individual engages in on a daily basis.
Access to Health Services	Alcohol and tobacco consumption	The level of consumption of alcoholic beverages and tobacco products by individuals.
	Sleep habits	Adequate quality and duration of sleep to support physical and mental health.
	Medical facilities	Availability and accessibility to health facilities such as hospitals, clinics, and doctors
Health Education and Knowledge	Trained medical personnel	Availability of healthcare providers who have appropriate training and qualifications.
	Level of education	The level of formal education an individual has attained.
	Health knowledge	An individual's understanding of health principles, including good and bad health practices.
Environmental Conditions	Air and water quality	The quality of air and water around where the individual lives, including the level of pollution and contamination.
	Good sanitation	Availability of safe and hygienic sanitation facilities, such as toilets and water treatment facilities.
	Access to nutritious food	The availability and accessibility of nutritious food is important for health.
Genetic and Hereditary Factors	Pollution level	The level of pollution of the air, water, soil or neighbourhood that may affect an individual's health.
	Family history	A history of disease or health conditions in an individual's family that may affect health risks.
	Genetic factors	Genetic inheritance that can affect health conditions or predisposition to certain diseases.

Furthermore, the measurement of Health Outcomes is measured based on research parameters

(Chen et al., 2021) including: number of diseases, number of limitations and number of difficulties.

Table 2. Health Outcomes Measurement Parameters

Variable	Indicator	Definition
Diseases	Number of diseases	The number of diseases an individual has based on a doctor's diagnosis, including hypertension, high cholesterol, diabetes, and others.
Limitations	Number of activity limitations	The amount of limitation in performing daily activities, such as walking, dressing, and lifting.
Difficulties	Number of Difficulties with instrumental activities	The number of difficulties in performing daily instrumental activities, such as bathing, shopping, and taking medication.

The data obtained were then analysed using two main methods, viz: exploratory factor analysis (EFA) and variance-based structural equation modelling (SEM). First, exploratory factor analysis was used to identify the main dimensions or factors underlying the formation of health capital at the individual level in poor communities in Banten Province. EFA helps in gaining a deeper understanding of the data structure and the relationship between the observed variables. Next, a variance-based structural equation model (SEM), which uses the Partial Least Squares (PLS) technique, was used to test the relationship between the factors found in the EFA and community health outcomes. SEM allows researchers to evaluate the relationship between latent and observed variables and test the underlying theoretical model. Thus, the combination of these two methods provides a comprehensive approach to understanding the dynamics of health capital formation and its implications for the health outcomes of the poor in Banten Province.

Result and Discussion

The systematic process of data collection was carried out through a survey using a questionnaire filled out by 1,200 residents from 3 districts in Banten Province with the highest poverty rate, namely Pandeglang District, Lebak District, and Tangerang District. Based on gender, here is a summary.

Table 3. Characteristics of Respondents Based on Gender

Gender	Percentage
Male	54
Female	46

Measurement Model

Model measurement is carried out to test the relationship (loading value) between indicators and constructs (latent variables). Individual reflexive measures are said to be high and good if they correlate more than 0.7 with the construct. The following (Figure 1) can be seen as a whole correlation of each variable in the research model construct by adding moderating variables and intervening variables.

Indicators are considered reliable if the correlation value of the indicator exceeds 0.7, then it is considered reliable. Research model 1 as a whole shows that all its variables have correlation values above the 0.7 threshold, signalling a good level of reliability. Thus, this model fulfils the requirement of convergent validity.

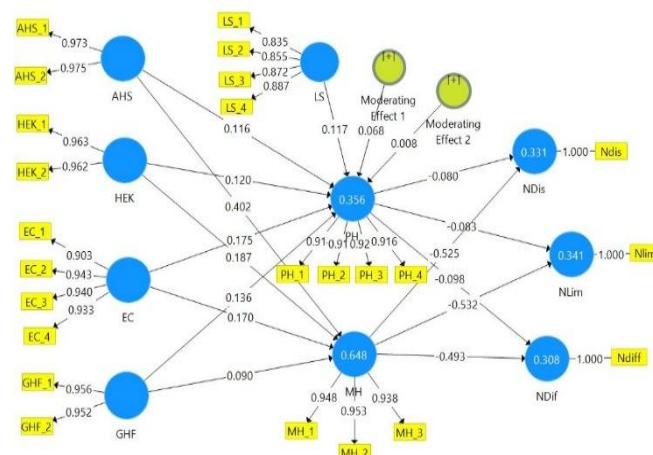


Figure 1. The correlation of each variable in the research model construct by adding moderating variables and intervening variable

Source: Primary data processed with Smart PLS, 2024

Description:

AHS	: Access to Health Services
HEK	: Health Education and Knowledge
EC	: Environmental Conditions
GHF	: Genetic and Hereditary Factors
LS	: Lifestyle
PH	: Physical Health
MH	: Mental Health
NDis	: Number of Diseases
NLim	: Number of Limitations
NDif	: Number of Difficulties

Inner Model Test

Ghozali (2021), the inner model reflects the relationship between latent variables rooted in substantial theory, also known as the structural model. Testing the inner model, or structural model, aims to identify the relationship between constructs and the significance of values in the research structure. In this study, inner model testing will be carried out for several

research models, namely first to determine the direct/partial relationship between independent variables, then to determine the impact of lifestyle moderation variables and to determine the impact of adding intervening variables of Physical Health and Mental Health.

Table 4. Result Path Coefficient

Description	Original Sample	Sample Mean	Standard	T Statistic	P Values
AHS -> PH	0.116	0.117	0.047	2.448	0.015
AHS -> MH	0.402	0.407	0.041	9.919	0.000
HEK -> PH	0.120	0.120	0.042	2.891	0.004
HEK -> MH	0.187	0.186	0.037	5.082	0.000
EC -> PH	0.175	0.176	0.071	2.464	0.014
EC -> MH	0.170	0.166	0.055	3.067	0.002
GHF -> PH	0.136	0.133	0.051	2.650	0.008
GHF -> MH	0.090	0.092	0.042	2.165	0.031
LS -> PH	0.117	0.118	0.030	3.913	0.000
Moderating Effect 1 LS (HEK->PH)	0.068	0.065	0.034	1.995	0.047
Moderating Effect 2 LS (GHF-> PH)	0.008	0.012	0.034	0.228	0.819
PH -> NDis	-0.080	-0.081	0.036	2.205	0.028
PH -> NLim	-0.083	-0.084	0.039	2.140	0.033
PH -> NDif	-0.098	-0.098	0.038	2.563	0.011
MH->NDis	-0.525	-0.527	0.036	14.672	0.000
MH->NLim	-0.532	-0.533	0.039	13.718	0.000
MH ->NDif	-0.493	-0.495	0.039	12.790	0.000

Table 5 presents a comprehensive analysis of the determinants that affect the coverage of public health outcomes such as number of diseases, number of difficulties and number of limitless using the PLS SEM model. The table evaluates the impact of various variables Access to Health Services, Health Education and Knowledge, Environmental Conditions, Genetic and Hereditary Factors, Physical Health, Mental Health and the addition of Lifestyle as moderating. Whether the results have a statistically significant effect.

Access to Health Services has a significant positive impact on an individual's Physical Health. The positive coefficient of 0.116 indicates that the better the access to health services, the better the physical health of individuals. The t-statistic of 2.448 and p-values of 0.015 confirm the statistical significance of this relationship. This finding indicates that easier access to health services can improve an individual's physical health condition. In this context, increased access to health services can play a role in improving individuals' physical well-being, which is important for supporting the health and well-being of the wider community (Kemp & Fisher, 2022).

Access to Health Services has a significant positive impact on individual Mental Health. The high positive coefficient of 0.402 indicates that the better the access to health services, the better the individual's mental health. The high t-statistic value of 9.919 and very low p-values of 0.000 indicate the statistical significance of this relationship. This finding emphasises the importance of

The results for Inner Weight in this study are the results of the direct/partial relationship path coefficient value and involve lifestyle variables as moderating variables in Table 2.

adequate access to health services in supporting individuals' mental health. Increased access to health services is expected to provide better protection and care for individuals' mental health, which in turn can contribute to mental wellbeing and overall health of society at large (Barrow & Thomas, 2022).

Health Education and Knowledge) has a significant positive influence on an individual's physical health. The positive coefficient of 0.120 indicates that the better health education and knowledge individuals have, the better their physical health conditions. The t-statistic value of 2.891 and p-values of 0.004 indicate that this relationship is statistically significant. This finding confirms the importance of health education and knowledge in improving and maintaining individuals' physical health. With increased knowledge about health, individuals are expected to make better decisions regarding self-care, which will ultimately support their physical well-being (Kaminsky et.al, 2022).

Health Education and Knowledge has a significant positive effect on Mental Health with a coefficient of 0.187. The high t-statistic value of 5.082 and p-values of 0.000 indicate that this relationship is highly statistically significant. This means that the better a person's level of health education and knowledge, the better their mental health condition. Knowledge about health enables individuals to better understand how to maintain mental balance, manage stress, and seek appropriate support when needed. This finding emphasises the importance of health education as a key factor in

improving people's mental wellbeing (Campbell, et.al 2022).

Environmental Conditions (EC) has a significant positive effect on *Physical Health* (PH), with a coefficient of 0.175. The *t-statistic* value of 2.464 and *p-values* of 0.014 indicate that this relationship is statistically significant. This means that the better a person's environmental conditions, such as air quality, access to hygiene facilities, and a healthy neighbourhood, the better their physical health. This finding highlights the importance of a healthy environment in supporting physical health, where optimal environmental conditions can help reduce disease risk and improve an individual's quality of life (Martin, et.al 2024).

Environmental Conditions (EC) has a significant positive effect on *Mental Health* (MH), with a coefficient of 0.170. The *t-statistic* value of 3.067 and *p-values* of 0.002 indicate that this relationship is statistically significant. This means that the better the environmental conditions, the better the individual's mental health. A healthy and comfortable environment, such as access to green space, clean air, and a positive social environment, can have a significant impact on mental well-being. These findings underline the importance of creating a supportive environment, which not only improves people's physical health but also their mental health (Upshaw, et.al 2023).

Genetic and Hereditary Factors (GHF) has a significant positive influence on *Physical Health* (PH), with a coefficient of 0.136. The *t-statistic* value of 2.650 and *p-values* of 0.008 indicate that this relationship is statistically significant. This means that genetic and hereditary factors play an important role in determining a person's physical health condition. Individuals with a good family health history tend to have better physical health, while certain hereditary factors may also increase the risk of certain diseases. These findings highlight the importance of understanding family health history as one of the predictive factors for physical health and managing health risks more appropriately (Andreassen, et.al 2023).

Genetic and Hereditary Factors (GHF) has a significant positive effect on *Mental Health* (MH), with a coefficient of 0.090. The *t-statistic* value of 2.165 and *p-values* of 0.031 indicate that this effect is statistically significant. This means that genetics and heredity play a role in one's mental health. Individuals with a family history of good mental health tend to have a lower risk of mental disorders. Conversely, certain hereditary factors may increase susceptibility to mental disorders such as depression or anxiety. These findings emphasise the importance of considering genetic factors in understanding and managing one's mental health (Bicher, et.al 2024).

Lifestyle (LS) has a significant positive influence on *Physical Health* (PH), with a coefficient of 0.117. The high *t-statistic* value of 3.913 and *p-values* of 0.000 indicate that this effect is highly statistically significant. This means that an individual's lifestyle, such as diet, physical activity level, sleep habits and other healthy behaviours, has a strong impact on physical health. A healthy lifestyle tends to increase endurance, prevent chronic diseases, and improve overall quality of life. These findings confirm the importance of adopting healthy living habits to achieve and maintain optimal physical health (Hills, 2024).

Lifestyle (LS) has a significant moderating effect on the relationship between *Health Education and Knowledge* (HEK) and *Physical Health* (PH), with a coefficient value of 0.068. The *t-statistic* value of 1.995 and *p-values* of 0.041 indicate that this moderation is statistically significant. This means that lifestyle strengthens the relationship between knowledge and health education with physical health. In other words, while increased health education and knowledge may improve physical health, this impact will be stronger in individuals who also have a healthy lifestyle. This finding underscores the importance of lifestyle in maximising the benefits of health education, where healthy behaviours can amplify the positive effects of health knowledge on physical health (Liao, et.al 2023).

Lifestyle (LS) had no significant moderating effect on the relationship between *Genetic and Hereditary Factors* (GHF) and *Physical Health* (PH), with a coefficient value of 0.008. The *t-statistic* value of 0.228 and *p-values* of 0.819 indicate that this moderating effect is not statistically significant. This means that lifestyle does not strengthen or weaken the relationship between genetic and hereditary factors and physical health. This suggests that although genetics and heredity influence physical health, lifestyle does not play a significant role in moderating these influences. Thus, in this context, the influence of genetic factors on physical health stands alone and is not influenced by individual lifestyle (Hrint, et.al 2024).

Physical Health (PH) has a significant negative effect on the number of diseases that have been diagnosed by a doctor (*Ndisease*), with a coefficient value of -0.080. The *t-statistic* value of 2.205 and *p-values* of 0.028 indicate that this relationship is statistically significant. That is, the better one's physical health condition, the fewer the number of diseases diagnosed by doctors. This suggests that individuals with better physical health tend to have a lower risk of suffering from various diseases. This finding underscores the importance of maintaining optimal physical health to reduce the likelihood of disease diagnosis, which can ultimately improve an individual's quality of life and well-being (Kim, et.al 2023).

Physical Health (PH) has a significant negative effect on the number of limitations in activities of daily living (*NLimitations*), with a coefficient value of -0.083. The *t-statistic* value of 2.140 and *p-values* of 0.033 indicate that this relationship is statistically significant. This means that the better a person's physical health condition, the fewer limitations they experience in carrying out daily activities. This indicates that individuals with better physical health tend to have a greater ability to carry out various activities without obstacles or limitations. This finding emphasises the importance of maintaining physical health to improve independence and quality of life, especially in carrying out daily activities (Redzovic, et.al 2023).

Physical Health (PH) has a significant negative effect on the amount of difficulty in instrumental activities of daily living (*NDifficulty*), with a coefficient of -0.098. The *t-statistic* value of 2.563 and *p-values* of 0.011 indicate that this relationship is statistically significant. This means that the better one's physical health, the less difficulty they experience in performing instrumental daily activities, such as shopping, managing finances, or using transport. Individuals with better physical health are more likely to be able to carry out these activities without experiencing many obstacles. This finding underscores the importance of maintaining physical health to improve independence in performing daily instrumental activities and overall quality of life Yun & Yun, 2023).

Mental Health (MH) has a significant negative effect on the number of diseases that have been diagnosed by a doctor (*Ndisease*), with a coefficient value of -0.525. The very high *t-statistic* value of 14.672 and *p-values* of 0.000 indicate that this relationship is highly statistically significant. This means that the better one's mental health, the fewer the number of illnesses diagnosed by doctors. This indicates that good mental health is not only important for psychological well-being but also has a direct impact on physical health, by reducing the risk of illness. These findings emphasise the importance of maintaining mental health to prevent various diseases, while demonstrating the close relationship between mental and physical health in an effort to improve overall quality of life (Kim, et.al 2023).

Mental Health (MH) has a significant negative effect on the number of limitations in activities of daily living (*NLimitations*), with a coefficient value of -0.532. The high *t-statistic* value of 13.718 and *p-values* of 0.000 indicate that this relationship is highly statistically significant. This means that the better a person's mental health, the fewer limitations they experience in carrying out their daily activities. Optimal mental health can help individuals carry out daily activities more easily and without many obstacles. This finding underscores the importance of maintaining mental health to support

independence and ability to perform activities, and improve overall quality of life. Good mental health not only affects the psychological aspect, but also affects the physical ability to carry out daily routines (Bhattarai, et.al 2022).

Mental Health (MH) has a significant negative influence on the amount of difficulty in instrumental activities of daily living (*NDifficulty*), with a coefficient of -0.493. The high *t-statistic* value of 12.790 and *p-values* of 0.000 indicate that this relationship is highly statistically significant. This means that the better one's mental health, the less difficulty they experience in performing everyday instrumental activities, such as managing finances, shopping, or using transport. Good mental health allows individuals to perform instrumental tasks more effectively and without much hindrance. These findings emphasise the importance of maintaining mental health, which not only affects psychological well-being but also the ability to undertake more complex daily activities. Good mental health plays a role in improving independence and quality of life (Potts, et.al 2023).

Conclusion

This study examines the factors influencing an individual's physical and mental health and their interactions. Access to healthcare services plays a crucial role in improving physical and mental well-being, highlighting the importance of adequate healthcare infrastructure. Health education also has a positive impact, enabling individuals to make better decisions regarding self-care. Environmental conditions contribute to health balance, while genetic factors influence individual health predictions. Lifestyle enhances the positive effects of health education on physical health but does not moderate the influence of genetic factors. Overall, integrating healthcare access, education, environment, genetic factors, and lifestyle is essential for improving individual and community well-being. Additionally, physical and mental health affect public health outcomes, including the number of diagnosed diseases, activity limitations, and difficulties in daily activities. Individuals with better health tend to experience fewer illnesses, fewer limitations, and less difficulty in performing complex tasks.

This study underscores the importance of a holistic approach to improving quality of life by facilitating healthcare access, health education, and a supportive environment. Health policies focusing on prevention and health promotion should be prioritized to reduce activity limitations and prevent diseases. However, this study has limitations, including a cross-sectional design that does not establish causal relationships and self-reported data, which may introduce bias. Variations in

healthcare quality and other factors such as health literacy, social support, and economic conditions were also not considered, despite their significant role in individual health and daily functioning. Further research is needed to better understand the relationship between health and activity limitations.

Acknowledgments

The author expresses gratitude to DRTPM, the Directorate General of Higher Education, Research, and Technology under the Ministry of Education, Culture, Research, and Technology of Indonesia, for the opportunity to conduct this research.

Author Contributions

Preparation of M.A.A, T.R.B.T., proposals; M.A.A data collection; T.R., Data analysis and preparation of articles; M.A.A, B.T., Correction of data results and article; T.R, B.T., validation; B.T.

Funding

This research was funded by DRTPM, the Directorate General of Higher Education, Research, and Technology under the Ministry of Education, Culture, Research, and Technology of Indonesia, for the 2024 fiscal year.

Conflicts of Interest

The authors declare no conflict of interest.

References

Al-Hrinat, J., Al-Ansi, A. M., Hendi, A., Adwan, G., & Hazaimeh, M. (2024). The impact of night shift stress and sleep disturbance on nurses' quality of life: Case in Palestine Red Crescent and Al-Ahli Hospital. *BMC Nursing*, 23(1), 24. <https://pubmed.ncbi.nlm.nih.gov/38185660/>

Amaro, E., Rodriguez, J., Jackson, D., Popovich, D., Frias, K. M., & Castañeda, E. (2024). The impact of cultural health capital on market choice along the Texas-Mexico border. *Journal of Racial and Ethnic Health Disparities*, 11(2), 1139–1151. <https://doi.org/10.1007/s40615-023-01593-7>

Andreassen, O. A., Hindley, G. F., Frei, O., & Smeland, O. B. (2023). New insights from the last decade of research in psychiatric genetics: Discoveries, challenges, and clinical implications. *World Psychiatry*, 22(1), 4–24. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9840515/>

Anwar, K. (2023, March 28). *Ini tiga daerah termiskin di Provinsi Banten*. IDN Times Banten. <https://banten.idntimes.com/news/banten/khaerul-anwar-2/ini-tigadaerah-termiskin-di-provinsi-banten?page=all>

Barrow, E., & Thomas, G. (2022). Exploring perceived barriers and facilitators to mental health help-seeking in adolescents: A systematic literature review. *Educational Psychology in Practice*, 38(2), 173–193. <https://research.manchester.ac.uk/en/publications/exploring-perceived-barriers-and-facilitators-to-mental-health-he>

Bhattarai, M., Smedema, S. M., Hoyt, W. T., & Bishop, M. (2022). The role of mindfulness in quality of life of persons with spinal cord injury: A cross-sectional study. *Health and Quality of Life Outcomes*, 20(1), 148. <https://hqlo.biomedcentral.com/articles/10.1186/s12955-022-02059-w>

Blicher-Hansen, J., Chilcot, J., & Gardner, B. (2024). Experiences of successful physical activity maintenance among adults with type 2 diabetes: A theory-based qualitative study. *Psychology & Health*, 39(3), 399–416. <https://pubmed.ncbi.nlm.nih.gov/35475454/>

Campbell, F., Blank, L., Cantrell, A., Baxter, S., Blackmore, C., Dixon, J., & Goyder, E. (2022). Factors that influence mental health of university and college students in the UK: A systematic review. *BMC Public Health*, 22(1), 1778. <https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-022-13943-x>

Chen, X., Wang, Y., Strauss, J., & Zhao, Y. (2021). China Health and Retirement Longitudinal Study (CHARLS). In *Encyclopedia of Gerontology and Population Aging* (pp. 948–956). Springer International Publishing. https://doi.org/10.1007/978-3-030-22009-9_333.

Chowdhury, J., & Ravi, R. P. (2022). Healthcare accessibility in developing countries: A global healthcare challenge. *Journal of Clinical Biomedical Research*, 1(5). <https://www.onlinescientificresearch.com/articles/healthcare-accessibility-in-developing-countries-a-globalnbsphcare-challenge.pdf>

Christie-Mizell, C. A. (2022). Neighborhood disadvantage and poor health: The consequences of race, gender, and age among young adults. *International Journal of Environmental Research and Public Health*, 19(13), 8107. <https://www.mdpi.com/1660-4601/19/13/8107>

Dewi, I. R. (2023). Mengupas kemiskinan di Provinsi Banten: Bagaimanakah peran faktor kependudukan dan ekonomi? *Ecoplan*, 6(2), 100–117. <https://ecoplan.ulm.ac.id/index.php/iesp/article/view/666>

Dittrich, L. O. (2011). Health capital as a determinant of living standard and life satisfaction: An empirical study. *International Advances in Economic Research*, 17(4), 413–420.

Hao, C., Guo, D., Ren, H., Wang, X., Qiao, Y., & Qiu, L. (2023). The relationship between social capital and health from a configuration perspective: An

evidence from China. *BMC Public Health*, 23(1), 1–11. <https://doi.org/10.1186/s12889-023-16547-1>

Hills, A. P. (2024). Imagine a healthy lifestyle for all: Early years nutrition and physical activity to prevent obesity. *European Journal of Clinical Nutrition*, 78(1), 1–5. <https://www.nature.com/articles/s41430-022-01230-2>

Kaminsky, L. A., German, C., Imboden, M., Ozemek, C., Peterman, J. E., & Brubaker, P. H. (2022). The importance of healthy lifestyle behaviors in the prevention of cardiovascular disease. *Progress in Cardiovascular Diseases*, 70, 8–15. <https://pubmed.ncbi.nlm.nih.gov/34922952/>

Kaneva, M. A. (2021). Health capital estimates for Russian regions in 2004–2018. *Regional Research of Russia*, 11(4), 524–532. <https://doi.org/10.1134/S2079970521040067>

Kemp, A. H., & Fisher, Z. (2022). Wellbeing, whole health and societal transformation: Theoretical insights and practical applications. *Global Advances in Health and Medicine*, 11, 21649561211073077. <https://doi.org/10.1177/21649561211073077>

Kim, H. J., Fredriksen-Goldsen, K., & Jung, H. H. (2023). Determinants of physical functioning and health-related quality of life among sexual and gender minority older adults with cognitive impairment. *Journal of Aging and Health*, 35(1–2), 138–150. <https://pubmed.ncbi.nlm.nih.gov/35766354/>

Kim, K. T., Hawkins, B. A., Lee, Y. H., & Kim, H. (2023). Social support and daily life activity: Determinants of aging well. *Activities, Adaptation & Aging*, 47(2), 171–194. https://www.researchgate.net/publication/363312882_Social_Support_and_Daily_Life_Activity_Determinants_of_Aging_Well

Kousar, S., Ahmed, F., & Afzal, M. (2023). Is government spending in the education and health sector necessary for human capital development? *Humanities and Social Sciences Communications*, 10(1), 1–11. <https://doi.org/10.1057/s41599-023-01593-7>

Kurniawanto, H., Anggriawan, M. A., & Rustandi, T. (2023). Health outcomes masyarakat: Mengukur seberapa penting peran BPJS Kesehatan di Kota Serang. *Al Qalam: Jurnal Ilmiah Keagamaan dan Kemasyarakatan*, 17(6), 4284.

Li, W., Yang, S., Li, J., Li, Z., Yan, C., & Gui, Z., et al. (2022). Social capital and self-rated health among Chinese rural empty nesters: A multiple mediation model through sleep quality and psychological distress. *Journal of Affective Disorders*, 298, 1–9. <https://doi.org/10.1016/j.jad.2021.12.035>

Liao, C. C., Hsu, C. H., Kuo, K. P., Luo, Y. J., & Kao, C. C. (2023). Ability of the sport education model to promote healthy lifestyles in university students: A randomized controlled trial. *International Journal of Environmental Research and Public Health*, 20(3), 2174. <https://doi.org/10.3390/ijerph20032174>

Maalaoui, A., Rejeb, N., Razgallah, M., Perano, M., & Strologo, A. D. (2023). Perceived health as human capital in entrepreneurial intention among people with disability. *International Entrepreneurship and Management Journal*, 19(3), 1367–1394. <https://doi.org/10.1007/s11365-023-00870-5>

Martín-Rodríguez, A., Gostian-Ropotin, L. A., Beltrán-Velasco, A. I., Belando-Pedreño, N., Simón, J. A., López-Mora, C., & Clemente-Suárez, V. J. (2024). Sporting mind: The interplay of physical activity and psychological health. *Sports*, 12(1), 37. <https://pubmed.ncbi.nlm.nih.gov/38275986/>

Meyrick, K., & Newman, P. (2023). Exploring the potential connection between place capital and health capital in the post COVID-19 city. *NPJ Urban Sustainability*, 3(1). <https://www.nature.com/articles/s42949-023-00124-x>

Potts, A. J., Didymus, F. F., & Kaiseler, M. (2023). Psychological stress and psychological well-being among sports coaches: A meta-synthesis of the qualitative research evidence. *International Review of Sport and Exercise Psychology*, 16(1), 554–583. <https://doi.org/10.1080/1750984X.2021.1907853>

Rahaman, M. A., Kalam, A., & Al-Mamun, M. (2023). Unplanned urbanization and health risks of Dhaka City in Bangladesh: Uncovering the associations between urban environment and public health. *Frontiers in Public Health*, 11, 1269362. <https://www.frontiersin.org/journals/public-health/articles/10.3389/fpubh.2023.1269362/full>

Rami, F., Thompson, L., & Solis-Cortes, L. (2023). Healthcare disparities: Vulnerable and marginalized populations. In COVID-19: Health disparities and ethical challenges across the globe (pp. 111–145). Cham: Springer International Publishing. https://link.springer.com/10.1007/978-3-031-26200-5_6

Rana, J., Gutierrez, P. L., & Oldroyd, J. C. (2021). Quantitative methods. In Global Encyclopedia of Public Administration, Public Policy, and Governance (pp. 1–6). Cham: Springer International Publishing. https://link.springer.com/10.1007/978-3-319-31816-5_460-1

Redzovic, S., Vereijken, B., & Bonsaksen, T. (2023). Aging at home: Factors associated with independence in activities of daily living among older adults in Norway – A HUNT study. *Frontiers in Public Health*, 11, 1215417.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10583577/.

Sano, Y., Mammen, S., & Houghten, M. (2021). Well-being and stability among low-income families: A 10-year review of research. *Journal of Family and Economic Issues*, 42(S1), 107-117. <https://doi.org/10.1007/s10834-020-09715-7>

Schneider-Kamp, A. (2021). Health capital: Toward a conceptual framework for understanding the construction of individual health. *Social Theory & Health*, 19(3), 205-219. <https://doi.org/10.1057/s41285-020-00145-x>

Shuyong, F., Shuyu, C., & Maimaituxun, M. (2024). Discussion on the relationship between Chinese government's investment in health human capital and economic growth. *Journal of Knowledge Economy*. <https://doi.org/10.1007/s13132-024-01771-w>

Silfia, I. (2023). BPS: Garis kemiskinan Maret 2023 sebesar Rp550.458. *Antara News*. Retrieved March 28, 2024, from <https://www.antaranews.com/berita/3638640/bps-garis-kemiskinanmaret-2023-sebesar-rp550458>

Badan Pusat Statistik. (2024). *Jumlah dan persentase penduduk miskin menurut provinsi*, 2022. Badan Pusat Statistik. Retrieved March 27, 2024, from <https://www.bps.go.id/id/statistics-table/3/UkVkWGJVZFNWakl6VWxKVFQwWjVWeTISZDNabVFUMDkjMw==/jumlah-dan-persentase-penduduk-miskin-menurut-provinsi-2022.html?year=2022>

The Lancet Public Health. (2020). Education: A neglected social determinant of health. *The Lancet Public Health*, 5(7), e361. [https://doi.org/10.1016/S2468-2667\(20\)30144-4](https://doi.org/10.1016/S2468-2667(20)30144-4)

Upshaw, T. L., Craig-Neil, A., Macklin, J., Gray, C. S., Chan, T. C., Gibson, J., & Pinto, A. D. (2023). Priorities for artificial intelligence applications in primary care: A Canadian deliberative dialogue with patients, providers, and health system leaders. *The Journal of the American Board of Family Medicine*, 36(2), 210-220. <https://pubmed.ncbi.nlm.nih.gov/36948537/>

Watanabe, J., Kimura, T., Nakamura, T., Suzuki, D., Takemoto, T., & Tamakoshi, A. (2022). Associations of social capital and health at a city with high aging rate and low population density. *SSM - Population Health*, 17, 100981. <https://doi.org/10.1016/j.ssmph.2021.100981>

Yun, J. Y., & Yun, Y. H. (2023). Health-promoting behavior to enhance perceived meaning and control of life in chronic disease patients with role limitations and depressive symptoms: A network approach. *Scientific Reports*, 13(1), 4848. <https://pubmed.ncbi.nlm.nih.gov/36964273/>

Zajacova, A., & Lawrence, E. M. (2018). The relationship between education and health: Reducing disparities through a contextual approach. *Annual Review of Public Health*, 39(1), 273-289. <https://doi.org/10.1146/annurev-publhealth-031816-044628>

Zhang, Y., Zhao, G., & Gu, H. (2022). Investing in health capital: Does medical insurance matter? *Research in International Business and Finance*, 61, 101661. <https://doi.org/10.1016/j.ribaf.2022.101661>.