

The Influence of Life Expectancy and Health on Poverty Levels Using Education as an Intervening Approach to Variable Path Analysis

Dhea Nita Rambe¹, Aini Rahma², Sukardi³, Ahmad Albar Tanjung⁴

Universitas Sumatera Utara, Indonesia

rambedenita@gmail.com, ainirahma942@gmail.com, sukardi.usu@gmail.com,
alb4rt4njung@gmail.com

Article History

Received:

10-06-2024

Revised:

22-07-2024

Accepted:

24-07-2024

Available online:

30-12-2024

ABSTRACT

In Sibolga City there are several problems that must be resolved, such as high levels of poverty and low levels of life expectancy, health and education. This research aims to analyze the influence of health on the poverty level in Sibolga City and its relationship with the poverty level because life expectancy in Sibolga City is still relatively low. Data collection techniques used questionnaires with a sample size of 40 respondents, structured and unstructured interviews and observations on research objects with the variables Life Expectancy (X1), Health (X2), Poverty (Y1), and Education (Z). The data analysis techniques used are simple regression analysis, hypothesis testing (t test and f test), coefficient of determination test and path analysis test. Based on the results of $F_{count} (163.572) > F_{table} (3.25)$ it can be concluded that the hypothesis states that the variables Life Expectancy (X1), Health (X2) and Education (Z) have a joint (simultaneous) and significant effect on Poverty (Y) accepted. The results of the research show that life expectancy and health have an influence on poverty levels with education as an intervening approach in society. However, the health variable has no influence on education as an intervening variable in this study. So the researchers concluded that based on the data analysis carried out by the researchers there was a direct positive and significant influence on life expectancy, health and education on poverty in Sibolga. With an influence level of 57.9%.

Keywords: Life expectancy, health, education and poverty

ABSTRAK

Di Kota Sibolga terdapat beberapa masalah yang harus diselesaikan seperti tingginya tingkat angka kemiskinan dan juga rendahnya angka harapan hidup, kesehatan dan pendidikan. Penelitian ini bertujuan untuk menganalisis pengaruh kesehatan terhadap tingkat kemiskinan di Kota Sibolga dan hubungannya dengan tingkat kemiskinan karena angka harapan hidup di Kota Sibolga masih tergolong rendah. Teknik pengumpulan data menggunakan kuisisioner dengan jumlah sampel 40 responden, wawancara terstruktur dan tidak terstruktur serta observasi pada objek penelitian dengan variabel Angka Harapan Hidup (X1), Kesehatan (X2), Kemiskinan (Y1), dan Pendidikan (Z). Teknik analisis data yang digunakan yaitu analisis regresi sederhana, uji hipotesis (uji t dan Uji f), uji koefisien determinasi dan uji analisis path. Berdasarkan hasil $F_{hitung} (163,572) > F_{tabel} (3,25)$ dapat disimpulkan bahwa Hipotesis yang menyatakan bahwa variabel Angka Harapan

Hidup (X1), Kesehatan (X2) dan Pendidikan (Z) berpengaruh secara bersama-sama (simultan) dan signifikan terhadap Kemiskinan (Y) diterima. Hasil penelitian menunjukkan bahwa angka harapan hidup dan kesehatan berpengaruh terhadap tingkat kemiskinan dengan pendidikan sebagai pendekatan intervening yang terjadi masyarakat. Namun pada variabel Kesehatan tidak memiliki pengaruh terhadap pendidikan selaku variabel intervening pada penelitian ini. Maka peneliti menyimpulkan bahwa berdasarkan analisis data yang dilakukan peneliti terdapat pengaruh langsung positif dan signifikan angka harapan hidup, kesehatan dan juga pendidikan terhadap kemiskinan di Sibolga. Dengan tingkat pengaruh sebesar 57,9%.

Keywords: *Harapan hidup, kesehatan, pendidikan and kemiskinan.*

A. INTRODUCTION

The problem of poverty is faced by all countries in the world, especially in developing countries like Indonesia. There are many negative impacts caused by poverty, apart from the emergence of many social problems, poverty can also affect the economic development of a country (Chairunnisa & Qintharah, 2022). In Indonesia itself, the problem of poverty is quite complicated because of the vast area, the variety of social and cultural conditions of society, and different experiences of poverty (Hutauruk, 2017). Apart from the problems above, the causes of poverty also revolve around the phenomena of low education, poor nutrition, poor quality of human resources, less creative and unproductive ways of thinking so that unemployment increases, and low income. According to BPS Sibolga City (2014-2023), poverty is seen as an economic inability to meet basic food and non-food needs as measured in terms of expenditure. There are several factors that cause poverty, namely population size, limited job opportunities, limited capital, education, health and others (Suryandari, 2018).

The problem of poverty is a concern and responsibility of all groups in alleviating poverty. Even though poverty alleviation has been started a long time ago by all countries including world organizations, it is still not complete (Pandiangan, 2021). The term poverty arises because a person or group of people is unable to meet their living needs or are unable to fulfill their economic needs which are considered basic needs which constitute the minimum standard of living (Salsabil & Rianti, 2023). Poverty is also closely related to the unavailability of job opportunities where job opportunities are limited and they are usually categorized as poor without having a job (unemployed), as well as low levels of education and health due to economic limitations. Overcoming the problem of poverty cannot be done separately because poverty is related to the problem of unemployment, education, health and other problems which are closely related to the problem of poverty (Andriana, 2020).

Based on Law no. 24 of 2004, poverty is a socio-economic condition of a person or group of people whose basic rights are not fulfilled to maintain and develop a dignified life. Basic needs that are the right of a person or group of people include the needs for food, health, education, employment, housing, clean water, land, natural resources, the environment, a sense of security from treatment or threats of violence, and the right to participate in social life organizations. and politics. The People's

Welfare Sector Report issued by the Ministry of People's Welfare (Kesra) in 2004 also explained that this condition called poverty also applies to those who work but whose income is insufficient to meet basic needs (Sinaga & Kumenaung, 2024) .

Factors Affecting Property

According to Rustanto (2015) Poverty is indeed a multidimensional problem that covers various aspects of life. Poverty conditions are at least caused by the following factors:

1. Low level of education, low level of education results in limited self-development abilities and causes limited job opportunities that can be entered. In competing for existing jobs, the level of education is what determines. Low levels of education also limit the ability to seek and exploit opportunities.
2. Low level of health, low level of health and nutrition causes low physical endurance, thinking power and initiative.
3. Limited employment opportunities, conditions of poverty due to education and health conditions are exacerbated by limited employment opportunities. As long as there are still jobs or businesses, as long as there is still hope to break the cycle of poverty.
4. Isolated conditions, many poor people are economically powerless because they are remote and isolated. They live in remote areas because it is difficult or inaccessible to access education, health and progress services that other communities can enjoy.

These four causes indicate the existence of a cycle of poverty. Poor households generally have low education and are concentrated in rural areas. Because education is low, productivity is also low so that the rewards received are not enough to meet minimum living needs, including food, clothing, health, housing and education needed to be able to live and work (Harry, 2016) .

Health

According to Health Law no. 9 of 1960, Chapter I Article 2 Health is defined as a condition that includes physical (physical), spiritual (mental) and social health, and is not just a state of being free from disease, disability and weakness. The health limits mentioned above have now been updated if the previous health limits only covered three dimensions or aspects, namely: physical, mental and social, then in Law NO. 23 of 1992, health includes 4 aspects, namely: physical (body), mental (soul), social and economic (Haikal, 2022) . These health limits are inspired by the latest WHO health limits. The current definition of health is indeed broader and more dynamic than previous boundaries. This means that a person's health is not only measured in physical, mental and social terms, but is also measured in terms of productivity in the sense of having a job or producing something economically (Hutagalung, 2015) .

According to Mills and Gilson in Mahardika (2018), health economics is defined as the application of economic theories, concepts and techniques to the health sector, so that health economics is closely related to the following:

1. Allocation of resources among various health efforts.
2. The number of resources used in health services.
3. Organization and financing of various health services.
4. Efficient allocation and use of various resources.
5. The impact of prevention, treatment and health restoration efforts on

individuals and society (Ginting, 2020) .

Health is a state of dynamic balance, influenced by genetic factors, the environment and daily living patterns such as eating, drinking, having sex, working, resting and managing emotional life. This health status becomes damaged if the balance is disturbed, but most of the damage in the initial period is not serious damage if people are willing to realize it (Aisyaturridho, 2018) .

Basically, health is one aspect that determines a person's standard of living. Therefore, humans need a relatively good level of health to support all their life activities. Every individual will try to achieve this health status by investing in and/or consuming a number of health goods and services (Akasumbawa & Adim, 2021) . So, to achieve good health conditions, good health facilities are also needed (Hasanah & Syaparuddin, 2011) .

Health Goals

Law Number 36 of 2009 explains that health is a healthy condition, both physically, spiritually and socially, which enables everyone to live a productive life socially and economically. And it has also been stipulated that everyone has the right to obtain health services. Regulation of the Minister of Health of the Republic of Indonesia Number 75 of 2014 concerning Community Health Centers (Puskesmas) are health service facilities that carry out public health efforts and first-level individual health efforts, by prioritizing promotive and preventive efforts, to achieve public health goals. the highest level of public health in the work area (Susanto & Pangesti, 2019) .

Factors That Influence Health

According to Widodo (2015) health is an economic phenomenon that can be assessed as an investment which can later be considered as the target of various goals to be achieved by individuals, households or communities, known as welfare goals. Health conditions are caused by the following factors:

1. Physical health is realized when a person does not feel and complain of pain or has no complaints and objectively does not appear sick. All body organs function normally or do not experience problems.
2. Mental health (soul) includes 3 components, namely mental, emotional, spiritual, healthy thinking is reflected in the way of thinking, healthy emotions are reflected in a person's ability to express their emotions, for example fear, joy, worry. , sadness and so on, and spiritual health is reflected in the way a person expresses gratitude, praise, trust, and so on towards something outside this mortal realm, namely God Almighty. For example, a healthy spirit can be seen from a person's religious practice. In other words, spiritual health is a condition where a person carries out worship and all the rules of the religion he adheres to.
3. Social health is realized when a person is able to relate to other people or other groups well, without discrimination based on race, ethnicity, religion or belief, social, economic, political status, etc., and is tolerant and respectful of each other.
4. Health from an economic aspect is seen when a person (adult) is productive, in the sense of having activities that produce something that can support the life of his family financially. For those who are minors (students) and elderly (retirees), this restriction does not apply.

Therefore, for this group what applies is being socially productive, namely carrying out activities that are beneficial for their lives in the future, for example achieving achievements for students, and social, religious or other community service activities for the elderly (Isroviyah , 2022) .

Education

According to Martoyoto (2015) education is the basis for developing human resources. Sedarmayanti (2016) said that education is a long-term educational process that utilizes systematic and organized procedures, where managerial personnel learn conceptual and theoretical knowledge for general purposes. According to Law no. 20 of 2003 concerning the National Education System article 1 paragraph (1) explains that education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have religious spiritual strength, self-control, personality, intelligence, morals. . noble, as well as the skills needed by himself, society, nation and state (Nalle et al., 2022) .

The meaning of education when it is related to workforce preparation is as stated by Sedarmayanti (2010), that through education a person is prepared to have the provisions to be ready to know, recognize and develop a systematic way of thinking in order to be able to solve problems. that will be faced in life in the future. According to Effendi (2012), he added that the level of education of the workforce will influence the level of productivity of the workforce itself. He admitted that with higher education, workers will have the ability to utilize and manage existing resources in an area which are useful for the production process and ultimately have an impact on increasing workers' economic income. This ability to increase the added value of production will result in changes in the value of economic growth (Manik, 2020) .

Educational Goals

According to Tirtahardja (2018), the aim of education contains a description of the values of a good, noble, proper, true and beautiful life (Rolland, 2014) . Education has two functions, namely giving direction to all educational activities and being something that all educational activities want to achieve. Educational objectives are divided into four, namely:

1. The general aim of national education is to form Pancasila people.
2. Institutional goals are goals that are the task of a particular educational institution to achieve.
3. Curricular objectives are the objectives of a field of study or subject.
4. Instructional objectives, namely the objectives of the curriculum material in the form of a field of study consisting of subject matter and sub-subjects, consisting of general instructional objectives and specific instructional objectives.

The aims of education according to the National Law of the Republic of Indonesia no. 20 of 2003 is to improve the quality of people who have faith, are devoted to God Almighty, have noble character, are disciplined, intelligent and skilled and are physically and spiritually healthy (Triono & Sangaji, 2023) .

Factors That Influence Education

According to Hasbullah (2010) education is all efforts to advance children's character, mind and body, so that they can advance the perfection of life, namely living and leading children to a life in harmony with nature and society. The following factors influence education, namely:

1. Ecological ideology: all humans born into the world have the same rights, especially the right to obtain education and increase knowledge and education.
2. Socio-Economic The higher the socio-economic level allows a person to achieve a higher level of education.
3. Socially and culturally, there are still many parents who do not realize the importance of formal education for their children.
4. The development of science and technology requires continuous updating of knowledge and skills so that they are not inferior to developed countries. Conceptual Educational Psychology is a tool for developing individual personalities to make them more valuable (Sianturi & Syafii, 2021) .

Life expectancy

Regarding quality of life, there is an element of life expectancy (AHH) in it. Life Expectancy (AHH) is one of the indicators used to assess the health status of the population using quality of life (Muda & Koleangan, 2019) . Based on BPS, life expectancy (AHH) is a tool for assessing the government's performance in improving the welfare of society in general, and improving health status in particular. The low life expectancy of an area must be followed by health development programs and other social programs including environmental health, nutritional and calorie adequacy, including poverty alleviation programs (Nugraha, 2023) .

One assessment that reflects the success of development is an increase in the life expectancy of a population. The increasing growth in life expectancy has an impact on the number of elderly people (seniors) every year. Elderly is someone who has reached the age of 60 (sixty) years and above. The world's elderly population (aged 60 years and over) is growing very quickly, even faster than other age groups. An explosion in the number of elderly people is expected to occur starting in 2010. Prediction results show that the percentage of the elderly population will reach 11.34 percent in 2020 (Tanaya, 2015).

The increase in the number of elderly people is basically a positive impact of development. Development improves people's standard of living, reduces death rates and increases life expectancy (AHH). However, on the other hand, development also indirectly has a negative impact through changes in family values which have a negative impact on the welfare of the elderly (Parinduri, 2014). Human life expectancy has increased compared to a century ago (Barclay, 2018). In the late nineteenth century, advances in medicine and sanitation combined with new models of family, social, economic, and political organization to further reduce death rates. An aging population is a new demographic reality for most of the Asian population (Nursita, 2023) .

The economic challenge associated with an aging population is how to reduce the potential impact of a decline in the employment to population ratio and a decline in labor productivity (Qibithiyah, 2016). The high life expectancy (AHH) reflects a decrease in the death rate or also means an increase in the number of elderly people. This has a negative impact because it will cause population problems, one of which is burdening the population of productive age or what is called the burden of dependents (Pratama, 2022) .

Relationship Between Variables

Health to Poverty

Life Expectancy Rate (AHH) is a tool for evaluating the government's performance in improving the welfare of the population in general, and improving health status in particular. When comparing welfare levels between social groups, it is very important to look at life expectancy (Safitri & Triwahyuningtyas, 2022) . In countries with better health levels, each individual lives longer on average, so economically they have the opportunity to earn a higher income (Rifa'i, 2015) .

According to Arsyad (2010), interventions to improve health from the government are also an important policy tool for reducing poverty. One of the factors underlying this policy is that improving health will increase the productivity of poor people. Better health will increase work capacity, reduce non-working days and increase energy output (Rivanti, 2017) .

Education Against Poverty

The Influence of Education Level on Poverty Rates According to Simmons (in Todaro, 2010), education is one way to save oneself from poverty and education is also a fundamental development goal, namely playing a key role in shaping a country's ability to absorb modern technology. and to develop capacity to create sustainable growth and development (Rahayu, 2015) .

The relationship between poverty and education is very large because education provides the ability to develop through mastery of knowledge and skills which will ultimately increase work productivity and increase opportunities to obtain more decent work and obtain prosperity. Education also instills awareness of the importance of human dignity. Educating and providing knowledge means reaching the future. This should be an encouragement to continue making efforts to educate the nation (Rivaldhi, 2019) .

B. RESEARCH METHODS

According to Nazir, a research approach is a scientific research method carried out to search for the truth according to logical considerations. This type of research is quantitative research, where one method is a scientific approach to collecting data from a case/phenomenon that is raised (Zakaria, 2020) . This sampling technique is probability sampling and uses the random sampling method. Population and sample approach: This research included all families registered in the city of Sibolga for the 2014-2023 period with a sample of 40 people.

This research approach uses path analysis. Data analysis This research uses a quantitative approach with time series data (2014-2023) with the Path Analysis method using E Views 10 software . Path analysis aims to prove the hypothesis, namely to prove whether the education variable can be an intervening variable in supporting poverty in Sibolga City seen from the life expectancy and health figures, with the following equation

1. First Education;

$$Y_1 = \beta_{Y_1 X_1} X_1 + \beta_{Y_1 X_2} X_2 + e$$

2. Second Education

$$Z = \beta_{Z X_2} X_2 + \beta_{Z X_1} X_1 + \beta_{Z Y_1} Y_1 + e$$

3. Application Education

$$1. \text{ Education } 1 \quad Z = \beta_{Z X_1} X_1 + \beta_{Z Y_1} Y_1 + e$$

2. Education 2 $Z = PZX2 + PZY1 + e$

3. Education 3 $Y1 = PY1X1 + e$

4. Education 4 $Y1+PY1X2+e$

Information :

X1 = Life Expectancy

X2 = Health

Z = Education

Y1 = Poverty

Path Analysis (Path Analisis) is supported by the Ordinary Least Square (OLS) Model regression mediation test. The Mediation Test aims to test whether the intervening variable functions as a mediator or intermediary. With the provision of :

$P1 < P2 \times P3$ or direct influence < indirect influence then H_a is accepted.

$P1 > P2 \times P3$, or direct influence > indirect influence then H_a is rejected.

The collection techniques and instruments used in this research were observation, structured interviews, and also questionnaires conducted among the people of Sibolga City. The data analysis techniques used are simple regression analysis, hypothesis testing (t test and f test), coefficient of determination test and path analysis test.

C. RESULTS AND DISCUSSION

RESULT

The problem of poverty is a concern and responsibility of all groups in alleviating poverty. Even though poverty alleviation has been started for a long time by all countries including world organizations, it is still not complete (Pandiangan, 2021). The term poverty arises because a person or group of people is unable to meet their living needs or are unable to fulfill their economic needs which are considered basic needs which constitute the minimum standard of living (Salsabil & Rianti, 2023). Poverty is also closely related to the unavailability of job opportunities where job opportunities are limited and they are usually categorized as poor without having a job (unemployed), as well as low levels of education and health due to economic limitations. Overcoming the problem of poverty cannot be done separately because poverty is related to the problems of unemployment, education, health and other problems which are closely related to the problem of poverty (Andriana, 2020).

The results of data analysis that have been processed using SPSS 26 show the following regression results :

Table 1 Normality Test Results

| | | Unstandardized Residuals |
|-----------------------------------|----------------|--------------------------|
| N | | 40 |
| Normal Parameters ^{a, b} | Mean | .0000000 |
| | Std. Deviation | .61989202 |
| Most Extreme Differences | Absolute | .106 |
| | Positive | ,090 |
| | Negative | -.106 |
| Statistical Tests | | .106 |
| Asymp. Sig. (2-tailed) | | ,200 ^{c, d} |

It can be seen that the results of the normality test using the Kolmogorov-Smirnov test have an Asymp. Sig. (2-tailed) presented is 0.200 (= 0.200). The results of the Kolmogorov-Smirnov test show that the data in this study is normally distributed, and the regression model can be used in this study because $0.200 > 0.05$. So, based on the test results in the table above, it can be concluded that the tests carried out have a normal distribution and further tests can be carried out.

Table 2 Validation and reliability test results

| No | Variable | Corrected Item-Total Correlation | Cronbach's Alpha |
|----|-----------------|----------------------------------|------------------|
| 1 | Life expectancy | ,337 | ,917 |
| 2 | Health | ,529 | ,572 |
| 3 | Education | ,353 | ,922 |
| 4 | Poverty level | ,362 | ,653 |

From the table above, the SPSS output results show the validity value in the item-total correlation correction column > 0.3 and the Cronbach's alpha value > 0.60 so it can be concluded that the variables life expectancy, health, education, poverty level are declared valid and reliable. So in this case it can be continued to the next testing stage.

Table 3 t test results

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|-----------------|-----------------------------|------------|---------------------------|--------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | -12,357 | 4,012 | | -3,080 | ,007 |
| | Life expectancy | ,321 | .103 | ,685 | 3,137 | ,007 |
| | Health | ,050 | ,062 | ,168 | ,816 | ,030 |
| | Education | ,175 | ,092 | ,435 | 1,806 | ,015 |

From the table above, a calculation using the SPSS version 26 program, the tcount for the variable Life Expectancy (X1) is 3,137, the Health variable (X2) is 0,816. Education (Z) is 1.806. From the t test table, the results of hypothesis testing are as follows:

- a) Life Expectancy (X1) Against Poverty (Y). From the table above, it can be concluded that Life Expectancy (X1) influences Poverty (Y) in Sibolga City.
- b) Health (X2) Against Poverty (Y). From the table above, it can be concluded that Health (X2) has an effect on Poverty (Y) in Sibolga City.
- c) Education (Z) Against Poverty (Y). From the table above it can be concluded that Education (Z) influences poverty (Y) in Sibolga City.

Table 4 Test Results f

| Model | Sum of Squares | df | Mean Square | F | Sig. |
|--------------|----------------|----|-------------|---------|-------------------|
| 1 Regression | 146,965 | 3 | 76,322 | 163,572 | .038 ^b |
| Residual | 31,441 | 26 | ,090 | | |
| Total | 182,406 | 29 | | | |

Based on Table 4 F count (163.572) > F table (3.25) it can be seen that the hypothesis states that the variables Life Expectancy (X1), Health (X2) and Education (Z) have a joint (simultaneous) and significant effect on Poverty (Y) is accepted.

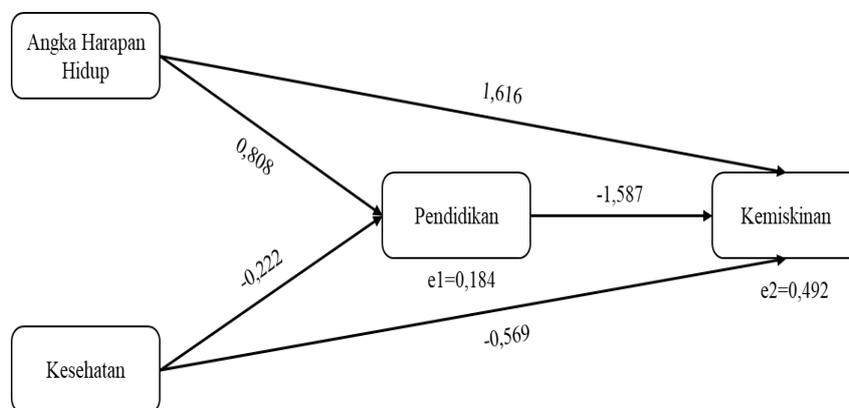
Table 5 Coefficient of Determination Test Results

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1 | ,764 ^a | ,579 | ,534 | .69598 |

a. Predictors: (Constant), Life Expectancy, Health, Education, Poverty

Based on the table above, the R Square value or Coefficient of Determination is obtained at 0.579, which means that the influence of Life Expectancy (X1) and Health (X2) on Poverty (Y) is Education (Z) as an intervening variable has an influence of 57.9% and the remaining 42.1% is influenced by other variables not discussed in this research.

Figure 1 Path Analysis Test Results



From the picture above, it can be seen that the influence of Life Expectancy on Education is 0.808, so it can be concluded that there is a positive and significant direct influence between Life Expectancy and Education in Sibolga.

- The magnitude of the influence of health on education is -0.222, so it can be concluded that there is a negative and insignificant direct influence between health and education in Sibolga.
- The effect of life expectancy on poverty is 1.616, so it can be concluded that there is a direct positive and significant effect of life expectancy on poverty in Sibolga.
- The effect of health on poverty is -0.569 so it can be concluded that there is a direct and significant negative effect of health on poverty in Sibolga.
- The effect of education on poverty is -1.587 so it can be concluded that there is a negative and significant direct effect of poverty on poverty in Sibolga.

DISCUSSION

The life expectancy rate through education against poverty is $(0.808) \times (-1.587) = -1.28$. So the total effect of the life expectancy variable on poverty is $0.808 + (-1.28) = -0.47$. Based on the calculation results above, it is known that the direct influence value is greater than the indirect influence value. The Effect of Life Expectancy through

Education on Poverty. It is known that the effect of life expectancy on poverty through education is 0.808 multiplied by -1.587, the result is -1.28. This shows that increasing life expectancy, which affects education, has a negative impact on poverty levels. This means that when life expectancy increases, and this affects education, poverty levels tend to decrease. This shows that the Education variable does not function as an intervening variable. So, in summary, increasing life expectancy has an impact on reducing poverty both directly and through increasing education. The total combined effect of the two pathways shows that an increase in life expectancy is associated with a decrease in poverty levels.

Based on the research results, the research hypothesis which states that life expectancy influences poverty through education does not receive empirical support or it can be concluded that the hypothesis is rejected. There is previous research that supports this research (Arfa Valiant Kevin, 2022) which states that Life Expectancy has a negative and significant effect on poverty in the Districts/Cities of Central Java Province.

Meanwhile, health through education on poverty is $(-0.222) \times (-1.587) = 0.35$. So the total effect of health variables on poverty is $-0.222 + 0.35 = 0.13$. Based on the calculation results above, it is known that the direct influence value is smaller than the indirect influence value. The Effect of Health Through Education on Poverty n It is known that the effect of health on poverty through education is -0.222 multiplied by -1.587, the result is 0.35. This shows that improving health, which influences education, has a positive impact on poverty levels. This means that when health improves, and this affects education, poverty levels tend to decrease. This shows that the Education variable functions as an intervening variable. Thus, improving health has two channels of influence on poverty: directly and through education. Indirect effects through education show that when health improves and this influences education, it can reduce poverty. However, the direct effect of health on poverty is negative, meaning that improving health is directly related to increasing poverty. The total combined effect shows that the overall effect of improving health tends to slightly increase poverty, although the impact through education actually helps reduce poverty (Tungkele & Lopian, 2023) .

Overall, improved health has a more complex impact on poverty, where the positive effects through education are not large enough to completely offset the negative direct effects. Based on the research results, the research hypothesis which states that health influences poverty through education has empirical support or it can be concluded that the hypothesis is accepted. There is research that supports this research (Nila Isroviyah, 2022) which states that education and health together influence the level of poverty in Indonesia (Isroviyah, 2022) .

Meanwhile, according to the Human Development Report 2020 by the United Nations Development Program (UNDP), increasing life expectancy has a positive

correlation with higher levels of education, which can significantly reduce poverty levels. Education provides the skills and knowledge needed for better jobs and And according to The Role of Education in Economic Development and Poverty Reduction, life expectancy and good health increase individual productivity, which can then be optimized through education as an intervening variable to strengthen the positive impact of health and life expectancy on poverty reduction.

Based on the results of the research conducted, the researchers saw that this was in line with what was happening in the field, specifically in Sibolga City. The results of the research are that life expectancy has an effect on poverty, where poverty can of course cause high levels of death caused by various things, one of which is influenced by the level of health possessed by the community, especially people who live in the Sibolga City area.

Likewise with health which has an influence on the level of poverty in society, especially the people in Sibolga City. People who have the maximum level of health will of course find it easier to survive, find work and also carry out other activities in order to survive and so on compared to people who have a low level of health, which of course will affect the activities of that community and It also affects the activities of people around them who have to sacrifice time, energy and materials for the community.

Meanwhile, the intervening variable, namely education, has a significant influence on poverty, especially in Sibolga City. Education provides the skills and knowledge needed for better jobs and higher incomes, which of course will reduce poverty rates, with education people can change their lives for the better.

Based on the research results obtained and also the results of observations made by researchers in the field, it shows that increasing life expectancy, which affects education, has a negative impact on poverty levels. This means that when life expectancy increases, and this affects education, poverty levels tend to decrease.

D. CONCLUSION

Based on the research results obtained by researchers, it is related to the influence of life expectancy and health on poverty levels with education as an intervening approach in society. That the Health variable has a value of -0.222, which means it has no influence on education as an intervening variable in this study. The life expectancy variable has a value of 1.616, which means it has an influence on poverty, the health variable has a value of -0.659, which means it has an influence on poverty, and the education variable has a value of -1.587, which means it has an influence on poverty. Data analysis and processing shows that indicators of life expectancy, health and education have quite a large influence on the level of poverty that occurs in Sibolga City. Based on the overall research results, the influence level was 57.9%. The suggestions that the author gives are strong commitment from local governments, effective collaboration with various stakeholders, and active participation from the community itself. With a holistic and integrated approach, it is hoped that the poverty level in Sibolga City can be reduced significantly thereby improving the quality of life of its people. And the Sibolga

city government is increasingly paying attention to health services, sexual education, nutritional programs for pregnant women and the implementation of family planning (KB) programs. So that life expectancy in Sibolga can be controlled.

E. REFERENCE

- Aisyaturridho, A. (2018). *The Influence of Inflation, Gross Regional Domestic Product, and Life Expectancy on Poverty Levels in North Sumatra Province for the 2011-2016 Period*. North Sumatra State Islamic University.
- Akasumbawa, MD, & Adim, A. (2021). The Influence of Education, Life Expectancy and Population on Economic Growth in the Country with the Largest Population in the World. *Journal of Economic Research*.
- Adriana, T. (2020). The influence of health level, education level, and productivity on poverty in Kalimantan. *Journal of Regional Economics (JEDA)*, 01 (02).
- Chairunnisa, N., & Qintharah, Y. (2022). The influence of health, education level and minimum wage on poverty in West Java province in 2019-2020. *Journal of Theory & Economic Research*, 03 (01).
- Ginting, A. (2020). Impact of Life Expectancy and Job Opportunities on Poverty. *EcceS (Economic, Social and Development)*, 01 (03).
- Haikal, M. (2022). *The Influence of Education and Health on Worker Productivity in North Sumatra (Partial and Simultaneous Analysis)*. North Sumatra State Islamic University.
- Harry, R. (2016). *Analysis of the Influence of Open Unemployment Rates, Education, and Life Expectancy on Poverty in West Sumatra*. Andalas University.
- Hasanah, R., & Syaparuddin, S. (2011). The influence of life expectancy, average years of schooling and per capita expenditure on poverty levels in districts/cities in Jambi Province. *Jambi University E-Journal*, 02 (03).
- Hutagalung, D. (2015). *Analysis of the Welfare Level of Fishermen in Sibolga City*. University of North Sumatra.
- Hutauruk, MN (2017). *Analysis of the Poverty Level of Coastal Communities in Sibolga City*. University of North Sumatra.
- Isroviyah, N. (2022). Analysis of the Influence of Education and Health on Poverty in Indonesia 2016-2020. *BRAWIJAYA UNIVERSITY FEB Student Scientific Journal*.
- Manik, B. (2020). *Poverty, Education Budget, Health Budget on the Human Development Index in North Sumatra Province*.
- Young, R., & Koleangan, R.A. (2019). The Influence of Life Expectancy, Education Level and Per Capita Expenditure on Economic Growth in North Sulawesi 2003-2017. *Scientific Periodical Journal*, 04 (02).
- Nalle, F., Seran, S., & Bria, F. (2022). Analysis of Determining Factors of Poverty in East Nusa Tenggara Province. *Ocean Journal of Economics and Business*.
- Nugraha, M. (2023). *The Influence of GDP, Education Level, Health and Population Growth on Poverty in West Java Province in 2013*. Indonesian Islamic University.

- Nursita, L. (2023). Child labor education: the impact of poverty on education. *Jambura Journal of Economic Education* , 02 (03).
- Pandiangan, N. (2021). *Analysis of Factors Causing Fisherman Poverty in North Sibolga District, Pantai Ujung Sibolga* . Medan State University.
- Pratama, R. (2022). Economic Growth, Inflation, Education and Gini Ratio to Open Unemployment in Sibolga City for the 2002-2021 Period. *Eqien-Journal of Economics and Business* , 02 (04).
- Rahayu, TR (2015). *Analysis of the Influence of School Enrollment Rates and Life Expectancy on Poverty Levels in 6 Districts and Cities* .
- Rifa'i, A. (2015). *Analysis of the Effect of Economic Growth, Life Expectancy, Literacy Rate and Government Expenditure (Health and Education Sector)* . Lampung State University.
- Rivaldhi, A. (2019). *The Influence of Unemployment, Education, Life Expectancy, Per Capita Expenditure, and Village Funds on Poverty* . eprints.upnyk.ac.id.
- Rivanti, G. (2017). *The Influence of Life Expectancy, Average Years of Schooling and Per Capita Expenditure on Poverty Levels in Central Java Province in 2010-2015* . e-journal.uajy.ac.id.
- Rolland, R. (2014). *The Influence of Health, Education, and Inflation on Poverty Levels in Indonesia* . repository.unp.ac.id.
- Safitri, S., & Triwahyuningtyas, N. (2022). Analysis of Factors That Influence Poverty Levels in Banten Province. *Journal: Scientific Journal* .
- Salsabil, I., & Rianti, W. (2023). The Influence of Economic Growth, Education Level, Health and Population Growth on Poverty Levels. *Journal of Economics and Business Research* , 03 (05).
- Sianturi, VG, & Syafii, M. (2021). Analysis of Determining Poverty in Indonesia Case Study (2016-2019). *Ocean Journal of Economics and Business* , 01 (03).
- Sinaga, R., & Kumenaung, AG (2024). *Analysis of the Influence of Government Expenditures, Education and Health on Poverty Levels in North Sulawesi Province* . ejournal.unsrat.ac.id
- Suryandari, A. (2018). The Influence of Economic Growth, Education and Health on Poverty Levels in DIY Province in 2004-2014. *Journal of Education and Economics* , 02 (04).
- Susanto, R., & Pangesti, I. (2019). The Influence of Education Level on Poverty in DKI Jakarta. *JABE (Applied Journal)* . , 04 (01).
- Triono, T., & Sangaji, R. (2023). Factors that Influence Poverty Levels in Indonesia: Literature Study of BPS Poverty Data Report 2022. *Society Bridge Journal* .
- Tungkele, L., & Lopian, A.L.C. (2023). *The Influence of Economic Growth, Education Level and Health on Poverty in South Minahasa Regency* . ejournal.unsrat.ac.id.
- Zakaria, J. (2020). The influence of economic growth, education and unemployment on poverty levels in the city of Makassar. *Paradox: Economic Journal* . , 01 (03).