

THE IMPACT OF FISHERMEN'S FAMILIES ON ADOLESCENT CHILDREN EDUCATION IN BLANAKAN VILLAGE, SUBANG REGENCY.

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ABSTRACT

Children's education is one of the areas that must receive special attention in the implementation of national development. Education is one of the social capitals that are directed towards development, especially in the fields of fisheries and maritime affairs in the future. This is closely related to fisheries and marine development which are not only seen from the current economic and material point of view but are also determined by Human Resources (HR). Managing human resources optimally and supporting the development of a country can be realized by the existence of qualified, intelligent, tough, and resilient human resources. The factors that are thought to affect the education of adolescents are the age of the head of the family, the level of education of the head of the family, the age of the mother, the level of education of the mother, the sex of the child, number of family dependents, fisherman status, fisherman income, perception, motivation, and interest in education. The research method used by. The research method used is descriptive with data processing using binary logistic regression test which is then analyzed descriptively. The arrests were carried out in August - September 2020 in Blanakan Village, Subang Regency. The results showed that two factors influenced the sustainability of the education of fishermen's children, namely the age of the head of the family and interest. As much as 74% of changes or variations in the education sustainability of fishermen's children can be explained by changes or variations in factors that have been predicted. Meanwhile, 26% is influenced by other factors that are not explained in this research model.

Keyword : *Adolescent Children, Education, Fisherman Family Influence*

1. INTRODUCTION

Children's education is one of the areas that must receive special attention in the implementation of national development. Education is one of the social capitals that are directed towards development, especially in the fields of fisheries and maritime affairs in the future. This is closely related to fisheries and marine development which are not only seen from the current economic and material point of view but are also determined by Human Resources (HR). Managing human resources optimally and supporting the development of a country can be realized by the existence of qualified, intelligent, tough, and resilient human resources. Parents' age can determine how to think according to the level of knowledge and experience obtain about education for their children [1]. The earlier or the children of fishermen, women, and women, the sooner they are involved in the work process as fishermen, from preparing their parents to go to sea to selling their catch so that it affects the level of education they get. This is also conveyed by Dahuri [2] regarding this matter as if it is a burden and not a priority in the life choices of coastal communities and this condition causes the education level of fishermen's families to be below. Also, fishermen who have low-quality human resources can give birth to children with low quality and so on. Meanwhile, the level of

education obtained by parents also determines how parents guide and direct their children in the field of education [3]. On the one hand, formal education is needed by fishermen, but on the other hand, formal education requires education costs. The high cost of education is one of the inhibiting factors for small fishing families to continue or meet the need for higher education. Poor living conditions, especially economically, and a large number of dependents of the head of the family are other factors, as in Sunardi and Evers (1982), if only the head of the family works, the wages are only small while the number of dependents is large so that it becomes a burden to fulfill their needs. sustainability of life. Meanwhile, according to Suryani et al (2004), the policy has not been on competency-based curriculum development, the government is obliged to develop a curriculum, namely the situation and conditions of the coastal community environment. Following to Masuri [7] apart from age, knowledge, or education as a fundamental factor in human development with consideration of data, knowledge is known by the presence of two indicators, namely the literacy rate and the average length of study. school. Development in coastal areas generally cares about poverty alleviation for fishermen whose lives always depend on fishing activities.

2. METHODOLOGY

This research was conducted in Blanakan Village, Subang Regency, when the research was carried out from August to September 2020. Data collection and other information related to research activities were carried out by observation and interviews with fishermen's families.

2.1 Research Method

The research method used in this research is a descriptive qualitative method based on case studies. Qualitative descriptive can be obtained from data that can be studied with local people, and descriptive in this study with descriptions and information regarding the information needed about the influence of fishing families on the education of adolescent children. To analyze the factors that affect the education of adolescents using binary logistic regression analysis and then analyzed descriptively. Data and information were collected from respondents through questionnaires in Blanakan Village, Subang Regency.

2.2 Data Sources and Types

Sources of data in this study using primary and secondary data. Primary data is obtained directly from the field by interviewing respondents who are given questionnaires, while secondary data comes from data from the Subang Regency Fisheries Service, Blanakan District Office, KUD Mina Fajar Sidik, and literature sourced from related agencies. There are two types of data used, namely qualitative data and quantitative data. Qualitative data is descriptive data in the form of spoken or written words from humans about observed human behavior, while quantitative data is data in the form of values or numbers presented in a concise form [8]

2.3 Data Retrieval Method

For the quantitative method, by taking the number of respondents 50% of the number of fishermen registered at KUD Mina Fajar Sidik who live in Blanakan Village. Respondents in this study were fishermen families who have teenage children aged 12-18 years and are not married. The sampling method used to take the sample in this study was simple random sampling. Simple random sampling is a sample taken in such a way that each research unit or elementary unit of the population has an equal chance of being selected as the sample. The choice of the sample must be completely based on coincidence, free from the subjectivity of the researcher or the subjectivity of others [9].

2.4 Data Analysis

Data analysis in this study uses descriptive-analytical methods to describe the reality of the object under study and then linked to a previous theory or research and is used to find solutions based on problems that arise related to the factors that affect the education of adolescents in fishing families (Y) with does not continue with code 0 and continues with code 1. This study will explain the effect of the independent variables between father's age (X1), father's education (X2), mother's age (X3), mother's education (X4), number of dependents (X5), type child gender (X6), family income (X7), fisherman status (X8), parental perceptions (X9), parental motivation (X10), and parental interest in education (X11) in Blanakan Village, Blanakan District, Subang Regency, West Java which is formulated in several analyzes, one of which is binary logistic regression. The data analysis steps are as follows:

- Collecting questionnaire data
- Perform multiple hypothesis testing or model testing using the G test statistic

- Perform a partial hypothesis test using the Wald test statistic
- Determine the logistic regression model

The binary logistic regression model is used to analyze the relationship between one response variable and several predictors, where the response variable is in the form of dichotomic qualitative data, which is 1 to state the existence of a characteristic and 0 to state the absence of a characteristic [10].

The binary logistic regression model can be used if the response variable produces two categories that have a value of 0 and 1, so the Bernoulli distribution follows [11].

$$f(y_i) = \pi_i^{y_i} (1 - \pi_i)^{1-y_i}$$

Description :

π_i = Chance of an i-event

y_i = The I random variable consisting of 0 and 1

With the response variable (Y) and the predictor variable, the binary logistic regression equation model in this study is obtained

$$\pi(x) = \frac{\exp(\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots + \beta_{11} X_{11})}{1 + \exp(\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots + \beta_{11} X_{11})}$$

To make it easier to estimate the regression parameters, then $\pi(x)$ in the above equation can be transformed to produce a logistic regression logit form, as follows:

$$g(x) = \ln \left[\frac{\pi(x)}{1 - \pi(x)} \right] = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots + \beta_{11} X_{11}$$

Description :

π : The opportunities for children to continue their education

$1 - \pi$: The opportunity for the child to not continue their education

β_0 : Constanta

β_n : Independent variable regression coefficient

The solution to estimate parameters can use the Maximum Likelihood Estimation (MLE) method which is then solved by the Newon Raphson Iteration method. The maximum likelihood method can provide an estimated value that can maximize the likelihood function. Before carrying out the statistical test, the model test was carried out first to examine the role of the predictor variables on the response variable simultaneously. This concurrent test is also called the chi-square model test at the 5% significance level. The hypothesis for the model test is as follows:

$H_0: \beta_1 = \beta_2 = \dots = \beta_0 = 0$ (there is no influence between the independent variable on the dependent variable)

H_1 : there is at least one parameter with $\beta_j \neq 0$ $j = 1, 2, \dots, p$ (there is an influence between the independent variable on the dependent variable)

G test statistics or Likelihood Ratio Test

$$G = -2 \ln \left[\frac{\binom{n_1}{n}^{n_1} \binom{n_0}{n}^{n_0}}{\prod_{i=1}^n \pi_i^{y_i} (1 - \pi_i)^{1-y_i}} \right]$$

Description :

n_1 = Many observations continue in education

n_0 = Many observations not continue in education

The Likelihood Ratio Test or G test statistic follows the chi-square distribution, so that a comparison is made to decide with the table value X^2 with degrees of freedom (db) = k-1, k is the number of independent variables. Test criteria (H_0 reject) if the value $G > X^2_{(db), \alpha}$ or if P-value $< \alpha$.

After estimating the parameters, partial hypothesis testing is carried out, partial testing is used to test the effect of each β_i individual in the model that has been obtained. The results of partial/individual testing will show whether an independent variable is eligible to be included in the model or not [11]. This test can be done with the Wald test with the following variable hypotheses:

$H_0: \beta_i = 0$. to $j = 1, 2, \dots, p$ (There is no influence between the independent variable on the dependent variable)

$H_1: \beta_i \neq 0$. to $j = 1, 2, \dots, p$ (There is an influence between the independent variable on the dependent variable)

Wald test (W) :

$$W = \frac{\hat{\beta}_i}{SE(\hat{\beta}_i)}$$

and

$$SE(\hat{\beta}_i) = \sqrt{(\sigma^2(\hat{\beta}_i))}$$

Description :

$SE(\hat{\beta}_i)$ = estimated standard error coefficients β_i

$\hat{\beta}_i$ = the estimated value for the parameter (β_i)

The ratio obtained from the wald test under the hypothesis H_0 will follow the standard normal distribution, which result in a decision to make comparison with the standard normal distribution (Z). The H_0 criterion is rejected if the value of $W > Z_{\alpha/2}$ or $p - value < \alpha$.

The odds ratio is a measure in the form of a trend number or can be defined as the ratio between the number of individuals who have experienced a particular case and the number of individuals who do not experience that case, both in the sample and population. For the chances of success, the odds ratio is defined as follows [11]

$$\Omega_i = \frac{\pi_i}{1 - \pi_i}$$

The likelihood ratio Ω_1 and Ω_2 them called the odds ratio are as follows :

$$\psi = \frac{\Omega_1}{\Omega_2} = \frac{\pi_1 / 1 - \pi_1}{\pi_2 / 1 - \pi_2} = \frac{e^{\beta_0 + \beta_1}}{e^{\beta_0}} = e^{\beta_1}$$

If the value $\psi = 1$, then there is no relationship between the two variables. If the value $\psi < 1$, then between the two variables there is a negative relationship to the change in the category of the x value and vice versa if $\psi > 1$.

3. RESULTS AND DISCUSSION

The education level of the people of Blanakan Village is lower, this is of course closely related to the ability to transfer new technology and the analytical power of the local community. According to the 2019 population data collection, most of the population only reaches elementary school or equivalent, even the percentage of the society who does not complete school is quite high, namely 20.7% of the total population. The population who graduated from elementary school/equivalent is 2,990 people or 24.3% of the total population, during the total population who has reached the tertiary level is only 0.9% of the total population.

The educational facilities available in Blanakan include one kindergarten, five elementary schools, three junior high schools, three senior high schools or vocational schools, which are scattered throughout the Blanakan Village area. Until now, there are still no non-formal educational institutions in Blanakan Village, either initiated by the surrounding community or outside assistance, both from the government and the private sector.

3.1 Characteristics Of The Fishing Family

The characteristics of fishermen families who become respondents have a different average age between the head of the family, and the wife of the fishermen, almost the entire age of the parents in Blankan village is of productive age. The family head is dominated by the age of the head of the family, ranging from 36-50 years old, while the wife of the fishermen's family is 20-35 years old. That is because women are more likely to get the impact of low education sustainability.

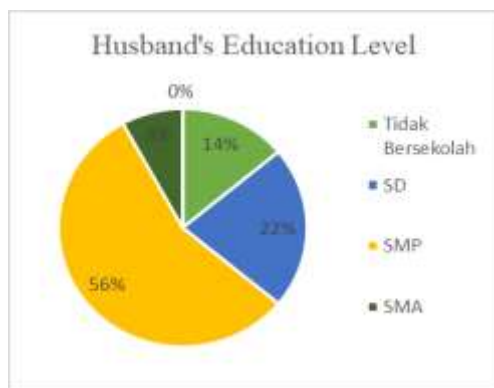


Figure -1 : Husband's Education Level

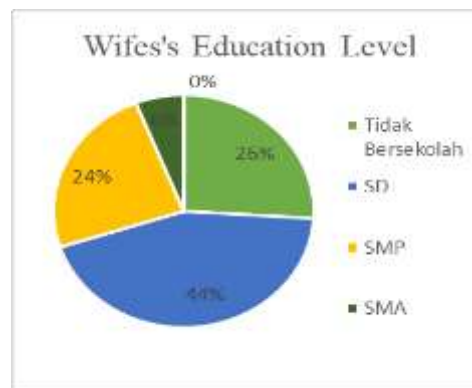


Figure -2: Wifes's Education Level

Economic and socio-cultural factors are also thought to be a factor in women having more marriages under the age of 25, that is due to the low level of education because it helps to ease the burden on the family. The education level of the parents of fishermen's families in Blanakan is low, as seen from the head of the family, most of the respondents be educated to the junior high school (JHS), the heads of families in Blanakan villages are in junior high school middle first. If that are fishermen do not meet the existing requirements then, they will be given sanctions to pay the fines that have been determined from the existing policies in the area. Also, there is an expert certificate stating that the names listed in the certificate are fishermen who are issued and endorsed by fisheries agencies and organizations in the area namely KUD Mina Fajar Sidik, and the level of education of fishermen wife's from the results of respondents is lower because the number of wives who did not get an education level was more than the head of the family namely 13 person. That is quite unfortunate because the mother figure is the first and foremost education for her child if a mother's knowledge is minimal, it can become an obstacle to her child's development. That is, a growing opinion among fishermen's that boys after graduating from elementary school must go to sea, and girls do not need to go to school because girls only need to take care of household chores, as stated by Kusnadi [13] that three main roles are carried out at once by women, namely as a child caregiver, someone who provides food, and if women are involved in work, their role increases as an economic source.

Low parental education can lead to less knowledge and direction of their children's future which will be passed on to their children. Parents' education level can influence efforts to improve children's learning achievement. Besides, the education of the fishermen's family can affect the status as a fisherman, the head of the respondent's family, the status of the fishermen who are the respondents who are dominated by ABK. The small number of skipper fishermen or owners who become respondents is because most of the fishermen who live in Blanakan are labor crew fishermen who are migrants from several areas. Also, some Blanakan fishermen are no longer skipper or owner fishermen because they no longer have the capital for operational costs of fishing to reduced human resources in capture fisheries. The increase in the price of diesel and other necessities is one of the reasons for the decrease in skipper fishermen or owners in Blanakan. As stated by Kusnadi [13], most fishermen do not have odd jobs, even though the time available to do other work besides fishing is very large.

These fishermen's wives choose to work because the income earned by their husbands is sometimes not sufficient to meet their daily needs, some other housewives can become laborers who cut fish when the harvest season arrives, some are deliberately opening food stalls or trading processed catch. The fishermen's wife working is a form of their anticipation when the fish dry season comes. A large number of dependents is also a factor in fishermen's wives looking for work to help meet family needs. The number of respondents' allowances is dominated by 4-6 people in one family. Most of the number of dependents of the respondent's family, which is more than four people, shows that the Keluarga Berencana (KB) program in the Blanakan area has not shown good results that is because the target of the Keluarga Berencana program is that each family is sufficient to have only two children.

The more dependents the family has, the lower the per capita income of the family, this can have an impact on the continuity of children's education and the number of children dropping out of school and early marriage will increase. Most of the income of fishermen's families in Blanakan Village is still very low because the monthly income received by families under the Subang Regency UMK in 2020 is IDR 2,965,468.00 [14]. Apart from the UMK, there is also an Upah Minimum Provinsi (UMP) whose scope usually covers only one province. The West Java provincial government sets the Upah Minimum Provinsi for West Java in 2020 of IDR 1,810,350.00 which has increased by 8.51% from the previous year's UMP which was IDR 1,668,372.00. Based on the West Java UMP, there are still seven fishermen whose income is below the West Java UMP. To comply with their daily life, all members of the fishing family work together to earn income to fulfill their daily needs. Some of the children who

took part in the work continued their schooling, but there were also some children who after working decided to leave school

3.2 Analysis of the Factors Associated with the Education Sustainability of Children of Fishermen

Based on the results of research conducted on fishermen families in Blanakan Village, data were obtained from 50 fisher family respondents consisting of 26 crew members (52%), 21 rental fishermen (42%), and 3 owner fishermen (6%). The independent variables tested in this study were the age of the head of the family (X1), the education level of the head of the family (X2), the age of the mother in the family (X3), the mother's education level (X4), the number of dependents (X5), gender (X6), family income (X7), fisherman status (X8), motivation towards education (X9), perceptions of education (X10), and interest in education (X11). The parameter significance test implements to determine whether the parameter estimates obtained can significantly influence the model or not. The parameter significance test implements simultaneously and partially.

Table -1 : Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	46.150 ^a	.362	.485

The results in Table 4.9 obtained a likelihood ratio value of 46,150 Nilia Chi-square table = 11.07 with $\alpha = 0.05$ and $df = 5$, thus it can be seen that $G \geq X^2(\alpha, v)$ yaitu $46.150 \geq 11.07$ so it is rejected, this means that at least one independent variable has a simultaneous effect on the dependent variable at $\alpha = 0.05$. The table above shows the logistic regression coefficient of determination (R²) of 0.485, so it is said that the contribution of the independent variable to the dependent variable is 48.5%. A partial (individual) test is conducted to determine the significance of the parameters to the model. This test can be done with the Wald test with the following hypotheses:

$H_0 : \beta_i = 0$. to $j = 1, 2, \dots, p$ (There is no influence between the independent variable on the dependent variable)

$H_1 : \beta_i \neq 0$. to $j = 1, 2, \dots, p$ (There is an influence between the independent variable on the dependent variable)

Table -2 : Variables in the Equation

		B	S.E.	Wald	Df	Sig.	Exp(B)
Step 1 ^a	X ₁	-1.472	.743	3.920	1	.048	.229
	X ₂	-.355	.631	.317	1	.573	.701
	X ₃	-1.773	.931	3.626	1	.057	.170
	X ₄	-1.043	.853	1.496	1	.221	.352
	X ₅	-1.553	1.069	2.109	1	.146	.212
	X ₆	-1.033	.949	1.185	1	.276	.356
	X ₇	.432	.695	.386	1	.534	1.540
	X ₈	-1.760	1.632	1.163	1	.281	.172
	X ₉	1.081	7.657	.020	1	.888	2.947
	X ₁₀	-3.119	5.014	.387	1	.534	.044
	X ₁₁	19.785	7.532	6.901	1	.009	391254805.80 0
	Constant	.814	7.074	.013	1	.908	2.256

The results of data interpretation with $\alpha = 0.05$ and $df = 1$ in the chi-square table obtained the chi-square table value = 3.841. From the results of the Wald statistical test above, the value of the Wald statistical test on the variable age of the head of the family (X1) and the interest of the fishing family (X11) is greater than the value of the chi-square table, while the value of the variables X2, X3, X4, X5, X6, X7, X8, X9, and X10 are smaller than the chi-square table values. From the results of the Wald test above it, can be concluded that H_0 is rejected, which means that only the variable age of the head of the family (X1) and interest in education (X11) has a significant effect on the education sustainability decisions of adolescent children in Blanakan Village.

The partial test result (individual) age of the head of the family (X1) is 0.048, and the family's interest in education is 0.009 which has a significant effect. A probability value that is less than 0.05, a correlation value of this size, means that there is a close relationship between the sustainability of the education of fishermen's children with the factors previously mentioned individually and do not affect one another. The partial test on the variable of family interest has a significant effect on valuable education but, only the variable of family interest has a positive value, where the results state that the higher the value of the fishing family's interest in education, the higher the education sustainability decision.

Other influential and significant variable factors are obtained from the output obtained by the age coefficient of the head of the family, which means that the effect is inversely proportional to the continuing education. This value is inversely proportional to the results of maternal age (X3), the partial test results (individuals) do not affect and are not significant because the significant value of the maternal age variable is 0.057, which is close to 0.050 in the sustainability of children's education. This can be shown in Table 11 with a value The significance of the added value of the coefficient of the reliability variable (X1) is negative at -1,773.

The results of the partial test analysis (individual) on the education level factor of the head of the family (X2) have a negative coefficient value of -0.355, meaning that the higher the level of education of the head of the family, the lower the level of education sustainability of fishermen's children. The significant value in this variable is 0.573, where there is no significant and significant influence on the sustainability of children's education. The results of the partial analysis (individual) at the level of mother's education (X4) get results with a significant value of 0.221 with a variable coefficient of -1.043, where this result is the same as the results of the partial test on the education level of the head of the family which has no and insignificant effect on the sustainability of children's education adolescence.

The results of the analysis on the number of family dependents (X5) have a negative variable coefficient value, meaning that there is no significant influence or the more the number of dependents in the fisherman's family, the lower the level of children's education sustainability will be. The coefficient value of the variable factor of the number of dependents of the head of the family (X5) is -1.553, while the significant value is 0.146. From the t count and t table, it can be stated that the null hypothesis is accepted. Statistically, it can be concluded that the factor of the number of family dependents (X5) has no and significant effect on the sustainability of the education of fishermen's children at the 95% confidence interval. Based on statistical tests using binary logistic regression. Most of the expenses earned will be spent on meeting the primary needs of family members so that the income allocated for children's education will be less.

The results of multiple linear regression analysis on the gender of the child showed the variable coefficient value of -1.033 while the significant value was 0.276. From the coefficient and significant values, it can be stated that the null hypothesis is accepted. Statistically, it can be concluded that the gender factor of the child (X6) has no significant effect on the sustainability of the education of fishermen's children at the 95% confidence interval. The gender of the child is used as one of the factors that are thought to affect the sustainability of the education of fishermen's children because it is suspected that there is still a treatment that differentiates between the rights of girls and boys. In fulfilling children's education rights, the respondents stated that they did not discriminate against children's rights in getting the opportunity to experience education at a higher level.

Business status in fishing communities is differentiated based on access to fleet ownership and fishing gear, namely business status as fisherman owner or boss and business status as labor fisherman (ABK). The business status results obtained from the binary logistic regression analysis on the business status factor (X7) showing the variable coefficient value of 0.432 and a significant value of 1.540. From the coefficient and significant value, it can be stated that the null hypothesis is accepted. Statistically, it can be concluded that the business status factor has no and insignificant effect on the sustainability of the education of fishermen's children at the 95% confidence interval. To assess the position of respondents in this study an objective approach, was used namely to assess the social position of fishermen based on business status. Fishermen's business status is divided based on fleet ownership and fishing gear.

The coefficient value of the family income factor (X8) is -1,760 while the significant value is 0.281. From the coefficient and significant values, it could state that the null hypothesis is accepted. Statistically, it can be concluded that the family income factor (X8) does not have a significant effect on the sustainability of the education of fishermen's children at the 95% confidence interval. The family income factor which has a significant influence is by the results of Suryani's (2004) research which states that fishermen's income does not affect the education level of fishermen's children. The low level of education of children in fishermen's families in Blanakan is due to the inaccessibility of education costs although education in primary and junior secondary schools has already provided relief with the BOS program (School Operational Assistance).

The value of the family perception factor coefficient (X9) is 1.081 while the significant value is 0.888. From the coefficient and significant values, it can be stated that the null hypothesis is accepted. Statistically, it can be concluded that the family income factor (X9) does not have a significant effect on the sustainability of the education of fishermen's children at the 95% confidence interval. The perception that someone has about children's education can be different from the perception of others. Some of the factors that influence the perceptions of fishermen's parents regarding children's education are the parent's past experiences regarding education, receiving information from other parties, the wishes and aspirations that will be realized, and the expectations of the parents for their children.

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Based on the data analysis that has been carried out with binary logistic regression, the coefficient of the independent variable (x) is obtained and the output results using SPSS 26.0 . The coefficient values of each obtained are the initial binary logistic regression models that have been substituted with the logit model are:

$$\pi(x) = \frac{\exp(0,815 - 1,472 - 0,355 - 1,773 - 1,043 - 1,553 - 1,033 + 0,432 - 1,760 + 1,081 - 3,119 + 19,785)}{1 + \exp((0,815 - 1,472 - 0,355 - 1,773 - 1,043 - 1,553 - 1,033 + 0,432 - 1,760 + 1,081 - 3,119 + 19,785))}$$

4. CONCLUSIONS

The level of education of adolescents in fishermen's families is still low, this can be seen from the results of the binary logistic regression test, two factors significantly influence the results using the Wald test, namely the age of the head of the family and interest in education. Other test factors influence simultaneously by 74% and the other 26% are influenced by other factors that are not explained in this study. Relevant types of alternative education are needed following the economic conditions and the needs of the coastal community in Blanakan Village, Subang Regency to support life in the future.

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