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The Influence of Respondent Characteristics on Control Beliefs and Consumption Intentions of Processed Fish Products

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Keywords

Respondent Characteristics, Control Beliefs , Consumption Intentions, Processed Fish Products.

ABSTRACT

Fish plays a crucial role as a source of animal protein, providing various health benefits to humans, such as heart health, nerve function, and brain health. Furthermore, global aquaculture production has been on the rise, with Indonesia ranking as the world's second-largest fish producer. However, the consumption of fish remains relatively low. The diversification of processed fish products may serve as a solution to address the issue of low fish consumption, with the hope of increasing the intention to consume processed fish products. This study aims to examine the influence of respondent characteristics on control beliefs and the intention to consume processed fish products. The research employs descriptive analysis and Structural Equation Modeling-Partial Least Squares (SEM-PLS) analysis. The findings of the study reveal that respondent characteristics significantly impact control beliefs. However, respondent characteristics do not significantly influence the intention to consume. Additionally, control beliefs significantly influence the intention to consume processed fish products.

INTRODUCTION

Currently, a healthy lifestyle has garnered significant attention in modern society, where individuals recognize the importance of maintaining their health. Consequently, the public is increasingly adopting healthy consumption patterns. Fish, with its rich nutritional content, has emerged as a valuable source of essential proteins for maintaining various aspects of bodily health, including the heart, nerves, liver, and more (Chen *et al.* 2022) . In addition to being a rich source of protein, fish also contains essential amino acids that are superior when compared to eggs. These amino acids contribute to bolstering the body's immune system, and the iron content in fish can effectively help prevent anemia. (Rachmayani 2020)

In 2019 Asia contributed amounting to 72 percent of total consumption product aquatic (*Food and Agriculture Organization of the United Nation* 2022). Indonesia, located on the Asian continent, boasts a vast sovereign territory comprised of inland waters and islands covering an area of 3,110.00 km^2. Additionally, its territorial sea extends over 290,000 km^2. Furthermore, Indonesia's sovereign territory encompasses other zones, with an expansive total area of 270,000 km^2. The Exclusive Economic Zone extends to 3,000,000 km^2, while the continental shelf covers an impressive 2,800,000 km^2. Overall, Indonesia's total maritime territory spans 6,400,000 km^2, and when including its mainland, the entire area of Indonesia reaches 8,300,000 km^2, boasting an extensive coastline of 108,000 km. (TNI Navy Hydro-Oceanographic Center 2018) . This thing shows that Indonesia's territory is dominated by waters .

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The extensive water area significantly contributes to a high fish production, totaling 6.43 million tons per year(CNBC 2023) . Indonesia's extensive water resources should theoretically support a high level of fish consumption. However, in reality, fish consumption in Indonesia remains relatively low when compared to other Southeast Asian countries, as the country currently ranks sixth in this regard (*Food and Agriculture Organization of the United Nation* 2020). In 2021, the per capita fish consumption in Indonesia was recorded at 55.37 kilograms (Central Statistics Agency 2021; Bogor City Agriculture and Food Security Service 2021; KKP 2022) . However, in 2022, the national fish consumption figure dropped to 50 kilograms per capita (Pangan *News* 2023) . In addition, in 2021, the figures for fish consumption in West Java province amounted to 37.73 kilograms per capita, and in 2022, it decreased to 30 kilograms per capita. This indicates that the average fish consumption in West Java is lower compared to the national average in Indonesia. Bogor City, located in West Java, is one of the cities that still faces challenges related to stunting (Mitterer-Daltoé *et al.* 2013; Carlucci *et al.* 2015; Tomić *et al.* 2016).

Furthermore, based on UNICEF data from the National Health Survey (2018), it was revealed that teenagers in Indonesia are burdened with inadequate nutrition. More than a quarter of teenagers aged 13-15 years old (around 26 percent) experience stunted growth or stunting, and 9 percent are underweight, falling below the minimum limit for a healthy weight. Among teenagers aged 16-18 years, 27 percent experience stunting, and 8 percent have a body weight below the normal average. Additionally, data from 2013 shows that the prevalence of anemia in adolescents aged 13-18 years is approximately 12.4 percent among boys and around 22.7 percent among girls (UNICEF 2021) . Therefore, diversifying processed fish products can be a solution to alleviate the issue of inadequate nutrition in adolescents.

Respondents' characteristics, often referred to as demographics, include factors such as age, gender, parental status, education level, and more. These characteristics play a significant role in shaping dietary behaviors and nutritional outcomes (Schoeppe *et al.* 2015) . Demographics social is very important For give information about description group public (Maslovskaya *et al.* 2019) . Additionally, there are factors that can either facilitate or hinder food consumption, and one such factor is "confidence control." The Theory of Planned Behavior suggests that greater confidence in control is associated with a stronger intention to purchase food. In other words, a high level of confidence in control will likely influence the intention to buy food, while low confidence in control indicates a lack of intention to make a purchase. This concept highlights the importance of perceived control in shaping food consumption behaviors (Patch *et al.* 2005). The research objectives involve analyzing the impact of demographic characteristics and control beliefs on the intention to consume processed fish products.

METHODS

This research uses a quantitative method and employs a cross-sectional approach. The research design involves measuring variables that are observed simultaneously. The study was conducted at SMPN 2 Bogor City from August 1 to August 31, 2023. The criteria for selecting respondents were students at SMPN 2 Bogor City who have studied food processing in their pre-works class. The data was collected through direct visits to the study location and by distributing online questionnaires via Google Forms. The research population consisted of 1001 people. The sample was selected using a non-probability sampling method, specifically the Slovin formula, resulting in a minimum of 286 respondents. However, this study used 290 respondents for data analysis. The collected data were analyzed using structural equation modeling-partial least squares (SEM-PLS) with the analysis tool SMART-PLS 3.

RESULTS

A. Descriptive Analysis

Descriptive analysis is employed to summarize data by illustrating the relationships between variables within a sample or population. Descriptive analysis can encompass various types of variables (nominal, ordinal, interval, and ratio), frequency measures, central tendencies, variation or spread, and positions, making it easier to evaluate a specific population (Yellapu 2018). In addition, data presentation in descriptive analysis can include tables, graphs, diagrams, pictograms, as well as the calculation of mode, median, mean, standard deviation, and percentages (Chamdani 2023).

Descriptive analysis includes the frequency, percentage, and mode of indicators such as father's education, mother's education, father's occupation, mother's occupation, pocket money, food processing methods, and the frequency of consuming processed fish products. The following provides a descriptive analysis of the characteristics of the respondents in this study.

Table 1. Characteristics respondents (Demography social)

FATHER'S EDUCATION		
	F	%
NO SCHOOL	0	0
elementary school	8	2.76
JUNIOR HIGH SCHOOL	30	10.34
SENIOR HIGH SCHOOL	**119**	**41.03**
DIPLOMA	22	7.59
S1/S2/S3	111	38.28
MOTHER'S EDUCATION		
	F	%
NO SCHOOL		
elementary school	16	5.52
JUNIOR HIGH SCHOOL	17	5.86
SENIOR HIGH SCHOOL	**123**	**42.41**
DIPLOMA	30	10.34
S1/S2/S3	104	35.86
FATHER'S OCCUPATION		
	F	%
Civil Servants _	35	12.07
Private	**105**	**36.21**
Businessman	47	16.21
TNI / Polri	11	3.79
Laborer	56	19.31
Etc	35	12.07
MOTHER'S JOB		

	F	%
Civil Servants _	22	7.59
private	34	11.72
businessman	16	5.52
laborer	5	1.72
Housewife _ ladder	**209**	**72.07**
etc	3	1.03
POCKET MONEY		
	F	%
Less than IDR 10,000	17	5.86
IDR 10,000 to IDR 20,000	**118**	**40.69**
IDR 20,000 to IDR 30,000	86	29.66
IDR 30,000 to IDR 40,000	27	9.31
IDR 40,000 to IDR 50,000	22	7.59
More from IDR 50,000	20	6.90
THE MOST FREQUENTLY USED WAY OF PROCESSING FISH		
	F	%
Fry	**237**	**81.72**
Boiled	10	3.45
Grilled / Baked	24	8.28
Smoked	1	0.34
Steamed	7	2.41
Sautéed	11	3.79
LASTLY CONSUME PROCESSED FISH PRODUCTS		
	F	%
This Week	**138**	**47.59**
Last Week	70	24.14
> 2 Weeks Ago	82	28.28

Table 1 reveals that the characteristics of the respondents are dominated by high school graduates for both fathers and mothers, with percentages of 41.03% and 42.41%, respectively. Additionally, the majority of fathers work in the private sector, accounting for 36.21%, while most mothers are homemakers, making up 72.07%. In terms of pocket money, the majority of respondents receive between IDR 10,000 to IDR 20,000 per day, totaling 40.69%. The most common method for processing fish is frying, with a percentage of 81.72%. Lastly, the consumption of processed fish is highest on Sundays, with a percentage of 47.59%.

B. Analysis Statistics Structural Equation Modeling-Partial Least Square

a. Measurement Model (*Outer Model*)

In the analysis of measurement sub-models, the study conducted an examination of convergent validity, discriminant validity, and reliability. This analysis included latent variables

related to the characteristics of the respondents, control beliefs, and consumption intentions. The results of the measurement model analysis are presented in Figure 1.

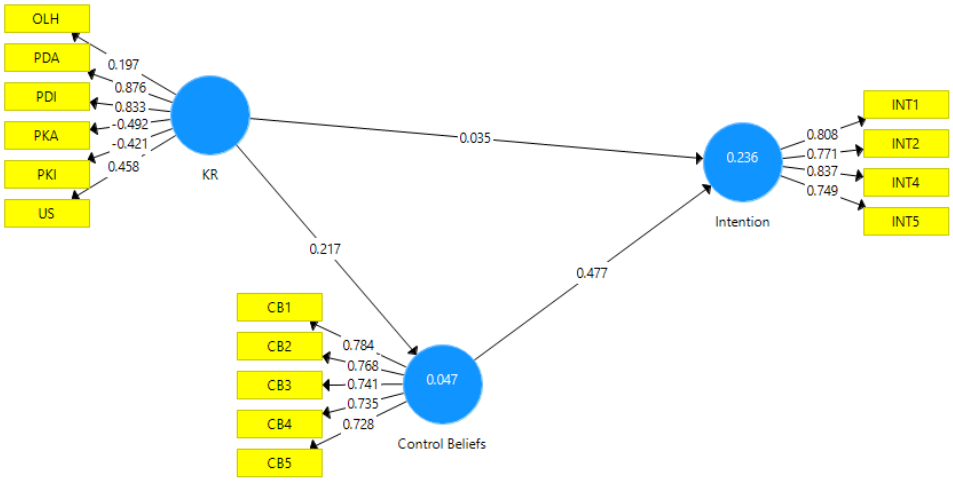

Figure 1. Outer Model Test Results before outliers

The convergent validity can be assessed through the loading factors. Loading factors are considered to meet the criteria if their values are above 0.708 because this value indicates that the construct explains more than 50 percent of the variance in the indicator, thus indicating acceptable item reliability. In the measurement, there are values that fall below 0.708, specifically in the variable criteria for respondents on indicators such as father's occupation (PKA), mother's occupation (PKI), pocket money (US), and the most common method of fish processing (OLH). However, for the variables of confidence control and consumption intention, the loading factors meet the criteria by being greater than 0.708 (Hair *et al.* 2019). To address the loading factor values that do not meet the criteria, an elimination process is conducted. The following results show the measurement of the outer model after the elimination process.

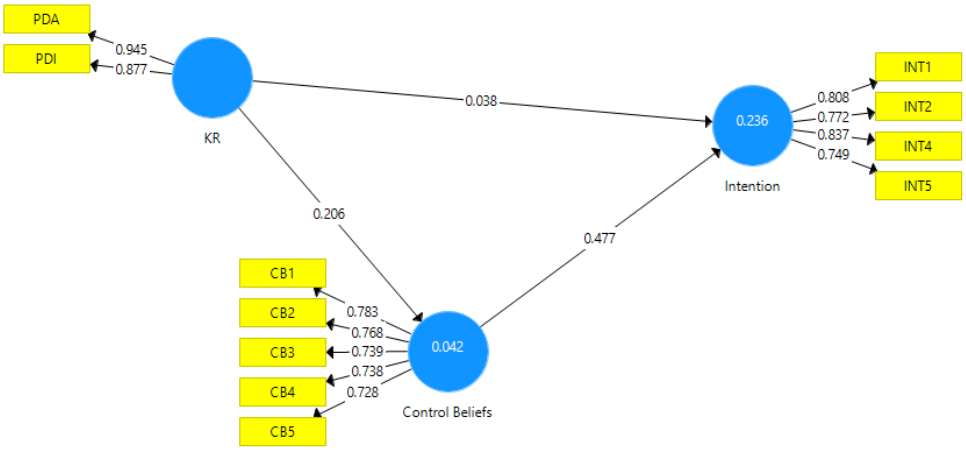

Figure 2. Outer Model Test Results after outliers

The variables for characteristics of respondents are represented by loading factors, with "Father's Education (PDA)" having a loading factor of 0.945, and "Mother's Education (PDI)" having a

loading factor of 0.877. On the other hand, variables for confidence control are reflected by a number of indicators: CB1 (power to buy), CB2 (parent's expertise in cooking), CB3 (knowledge about the content and benefits of fish), CB4 (habits of consuming processed fish products), and CB5 (experience in consuming processed fish products). The variable for intention to consume is composed of INT1 (interest in consuming), INT2 (desire to consume in the near future), INT4 (request to have processed fish products cooked), and INT5 (desire to consume in the following week). The loading values vary, with "Father's Education (PDA)" having the highest loading value at 0.945, and the lowest loading value at CB5 (experience in consuming processed fish products) with 0.728.

The analysis also includes construct reliability and validity, which are presented in the following table showing Cronbach's Alpha, Composite Reliability, and Average Variance Extracted (AVE).

Table 2. Construct reliability and validity test results

	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Control Beliefs	0.808	0.866	0.565
Intention	0.802	0.870	0.627
NOK	0.803	0.907	0.830

The AVE values meet the necessary condition of being greater than 0.50 (Hair *et al.* 2019). Based on the results of convergent validity measurement, it can be concluded that all variables have AVE values that exceed 0.50, Cronbach's alpha values greater than 0.60, and composite reliability values above 0.70. This indicates that the instruments used in the research are reliable, consistent, stable, and accurate.

In hypothesis testing, there are specific criteria that must be met, including p-values being less than 0.05 with a significance level of 5%. Additionally, for the t-table value at a 5% significance level, which is 1.96, the statistical t-value must be greater than this t-table value (Nasution *et al.* 2020). Based on the results of testing validity and reliability, the values fall into the "Good" category because they meet the required standards.

b. Structural Model (*Inner Model*)

To measure the structural model, we examine the connections between both exogenous and latent endogenous variables. In this research, we performed an in-depth R-squared test to assess the extent of influence between the exogenous latent variables and the endogenous latent variables. Complete R square value can seen in Table 2. Cohen (1988) r-square value is divided become three that is low with value 0.02, moderate with value of 0.13 and high with The r-square value is 0.26. Apart from that , there are other categorizing references mark *r-square* that is low of 0.02, medium of 0.15 and high of 0.35 (Hair *et al* . 2014)

Tabel 3. Nilai R Square

	R Square	R Square Adjusted
Control Beliefs	0.042	0.039
Intention	0.236	0.231

In Table 2 the R square value for variable confidence control of 0.042. This thing show that variable independent can give influence amounted to 4.2% while 95.8% was influenced by other outside variables variables used in research . Temporary That variable intention consumption own The R square value is 0.236. This thing show that variable independent can influence to intention consumption amounted to 23.6%, while 76.4% was influenced by other variables outside the research model .

Based on reference mark *r-square* mentioned in the variable confidence control show that magnitude its influence going to moderate while in variables intention consumption mark *r-square* indicated magnitude connection variable in category going to high .

In addition , in research This done testing hypothesis . Following This is table 2 shows mark *path coefficients* .

Table 4. Path Coefficients Values

	Original Sample (O)	T Statistics (|O/STDEV|)	P Values
Control Beliefs -> Intention	0.477	9.313	0.000
KR -> Control Beliefs	0.206	3.778	0.000
KR -> Intention	0.038	0.698	0.485

In table the path coefficients values consist on mark *original sample* , t-statistics, and p-values. If the original sample value is positive, it indicates a positive connection between the variables, and vice versa. If the original sample value is negative, it means the connection between the variables is negative. Additionally, the t-statistical values and p-values reveal whether the connection between the related variables is significantly influential or not. The connection is significantly influential if the t-statistical value is greater than the t-table value (1.96) and the p-values are less than 0.005.

Based on the data in Table 3, it shows that the influence of confidence control on intention consumption has a t-statistical value greater than 9.313, well above the t-table, and a p-value of 0.000. The positive original sample value indicates a positive and significant influence of confidence control on the intention to consume processed fish products. In this research, it reflects that as confidence control increases, the intention to consume also increases, and vice versa. If confidence control is low, the intention to consume is also low. Based on this, the first hypothesis is accepted. These research results are consistent with previous studies related to the intention to consume healthy food using the theory of planned behavior. These studies suggest that perceived behavioral control, as a measure of control, has a significant relationship with the intention to consume healthy food (Close, *et al* . 2018). Still there is difference results study previously mentioned that confidence control No own influence to intention (Patch *et al.* 2005)

Furthermore, the connection between the characteristics of the respondents and confidence control is positive and significant. This is evident in Table 3, where the original sample value is positive (0.206), the t-statistic is well above 3.778, greater than the critical value of 1.96, and the p-

value is significantly less than 0.05. This indicates that both father's and mother's education are strong predictors that influence confidence control. The research results demonstrate that higher levels of education for both fathers and mothers (characteristics of the respondents) lead to increased confidence control, and conversely, lower levels of parental education lead to lower confidence control. This aligns with previous studies indicating that parental education is a predictor of children's behavior and the quality of family interactions (Dubow *et al.* 2009). In *the theory of planned behavior* behavior individual based on existence control consisting behavior from confidence control and power control (Ajzen 1991).

Then in table 3 there are results testing hypothesis on relationships criteria respondents to intention consumption product processed fish. On *the original sample* own mark of 0.038 which shows direction positive relationship . Additionally , t - statistics own mark of 0.698, value This more low compared to 1.96 and *p-value* on the relationship variables This of 0.485. So that can concluded that connection between criteria respondents consisting of from father's education and education Mother to intention consumption product processed fish has positive relationship but No significant. Research results This have similarity with study previously mentioned that characteristics demographics (type gender , age , education , occupation , income , style live , group references , and influencing culture society) towards intention For buy snacks traditional own relationship that is not significant Because based on results calculation whole indicator show low average value (Khairullah dan Yogyakarta 2020). Apart from that , other research states that characteristics respondents No give significant influence to intention For buy product (Abdillah *et al.* 2022) .

CONCLUSION

Based on the research results outlined earlier, several key findings can be concluded to address the research objectives. First, confidence control behavior, which encompasses the ability to make a purchase, parental cooking skills, knowledge of nutritional content and benefits of fish, habits related to consuming processed fish products, as well as prior experience with such products, exerts a positive and significant influence on the intention to consume processed fish products. Therefore, confidence control can be considered a strong predictor in measuring the intention to consume. This suggests that individuals who have a high level of confidence in their ability to control their consumption of processed fish products are more likely to have a strong desire to consume them. Second, the characteristics of the respondents, particularly the education levels of fathers and mothers, have a positive and significant influence on confidence control. This indicates that parental education significantly affects the measurement of confidence control. Higher levels of parental education have a substantial impact on an individual's confidence in controlling their consumption of processed fish products. In other words, individuals feel that they have control over their actions, decisions, or related situations concerning their desire to consume processed fish products. Third, although indicators related to the education of fathers and mothers have a positive influence, this relationship is not significant in predicting the intention to consume processed fish products. This implies that even when fathers and mothers have high levels of education, their influence on the intention to consume processed fish products is weak. Additionally, the education of fathers has a greater influence on the intention to consume compared to the education of mothers.

REFERENCES

[BPS] Badan Pusat Statistik. 2021. *Pengeluaran untuk Konsumsi Penduduk Indonesia*. Badan Pusat Statistik.

[FAO] Food and Agriculture Organization of the United Nation. 2020. Determinants of demand and consumption.

[FAO] Food and Agriculture Organization of the United Nation. 2022. THE STATE OF WORLD FISHERIES AND AQUACULTURE 2022.

[KKP] KK dan perikanan. 2022. Jumlah AKI (Angka Konsumsi Indonesia).

Abdillah A, Rindang Matoati, Siti Muslikhah. 2022. Pengaruh Karakteristik Responden terhadap Minat Beli dengan Sustainable Fashion sebagai Variabel Pemediasi (Studi Kasus Pengikut Instagram Pijak Bumi). *J. Sinar Manaj.* 9(2):232–240.doi:10.56338/jsm.v9i2.2611.

Ajzen I. 1991. The theory of planned behavior. *Organ. Behav. Hum. Decis. Process.*:179–211.doi:https://doi.org/10.1016/0749-5978(91)90020-T.

Carlucci D, Nocella G, De Devitiis B, Viscecchia R, Bimbo F, Nardone G. 2015. Consumer purchasing behaviour towards fish and seafood products. Patterns and insights from a sample of international studies. *Appetite*. 84:212–227.doi:10.1016/j.appet.2014.10.008.

Chamdani MN. 2023. Statistika Deskriptif : Bilangan Rangkuman. *J. Stat.*(January).

Chen J, Jayachandran M, Bai W, Xu B. 2022. A critical review on the health benefits of fish consumption and its bioactive constituents. *Food Chem.* 369(March 2021):130874.doi:10.1016/j.foodchem.2021.130874.

Close, Michael Andrew; Lytle, Leslie A; Chen, Ding-Geng; Viera AJ. 2018. Using the Theory of Planned Behavior to Explain Intention to Eat a Healthful Diet Among Southeastern United States Office Workers. *Nutr. &Food Sci.*.doi:https:// doi.org/10.1108/NFS-06-2017-0123.

CNBC. 2023. Ironi Negara Maritim: Produksi Ikan Melimpah, Konsumsi Rendah.

Cohen J. 1988. *Statistical Power Analysis for the Behavioral Sciences*. 2nd Editio. Routledge.

Dinas Ketahanan Pangan dan Pertanian Kota Bogor [DKPP]. 2021. Laporan Kinerja Instansi Pemerintah (LKIP). Bogor.

Dubow EF, Boxer P, Huesmann LR. 2009. Long-term effects of parents' education on children's educational and occupational success. *Merrill. Palmer. Q.* 55(3):224–249.doi:10.1353/mpq.0.0030.Long-term.

Hair, Joseph F; Jr, Hult, G.T.M., Ringe, C., & Sarstedt M. 2014. *A primer on partial least squares structural equation modeling (PLS-SEM)*. SAGE Publications.

Hair JF, Risher JJ, Sarstedt M, Ringle CM. 2019. When to use and how to report the results of PLS-SEM. *Eur. Bus. Rev.* 31(1):2–24.doi:When to use and how to report the results of PLS-SEM.

Khairullah M, Yogyakarta S. 2020. Analisis Pengaruh Variabel Demografis Terhadap Minat Beli Jajanan Tradisional di Kecamatan Kraton Yogyakarta. *IJIEB Indones. J. Islam. Econ. Bus.* 5(1):15–31.

Maslovskaya O, Durrant GB, Smith PWF, Hanson T, Villar A. 2019. What are the Characteristics of Respondents using Different Devices in Mixed-device Online Surveys? Evidence from Six UK Surveys. *Int. Stat. Rev.* 87(2):326–346.doi:10.1111/insr.12311.

Mitterer-Daltoé ML, Carrillo E, Queiroz MI, Fiszman S, Varela P. 2013. Structural equation modelling and word association as tools for a better understanding of low fish consumption. *Food Res. Int.* 52(1):56–63.doi:10.1016/j.foodres.2013.02.048.

Nasution MI, Fahmi M, Jufrizen, Muslih, Prayogi MA. 2020. The Quality of Small and Medium Enterprises Performance Using the Structural Equation Model-Part Least Square (SEM-PLS). *J. Phys. Conf. Ser.* 1477(5).doi:10.1088/1742-6596/1477/5/052052.

Pangan NJ. 2023 Apr. Tingkatkan Konsumsi di Masyarakat, Kota Bogor Gencarkan Safari Gerakan Makan Ikan. *Pangan News*.

Patch CS, Tapsell LC, Williams PG. 2005. Attitudes and intentions toward purchasing novel foods enriched with omega-3 fatty acids. *J. Nutr. Educ. Behav.* 37(5):235–241.doi:10.1016/S1499-4046(06)60277-7.

Pusat Hidro-Oseanografi TNI Angkatan Laut. 2018. DATA KELAUTAN YANG MENJADI RUJUKAN NASIONAL

DILUNCURKAN.

Rachmayani. 2020. Peer Tutoring on Fish and Vegetables-Based Diets Education to Prevent Anemia and Hypoalbuminemia in Adolescents. *Indones. J. Hum. Nutr.* 7(2):139–152.

Schoeppe S, Duncan MJ, Badland HM, Alley S, Williams S, Rebar AL, Vandelanotte C. 2015. Socio-demographic factors and neighbourhood social cohesion influence adults' willingness to grant children greater independent mobility: A cross-sectional study. *BMC Public Health*. 15(1):1–8.doi:10.1186/s12889-015-2053-2.

Tomić M, Matulić D, Jelić M. 2016. What determines fresh fish consumption in Croatia? *Appetite*. 106:13–22.doi:10.1016/j.appet.2015.12.019.

UNICEF. 2021. Strategi Komunikasi Perubahan Sosial dan Perilaku: Meningkatkan Gizi Remaja di Indonesia. *Unicef*.:1–66.

Yellapu V. 2018. Descriptive statistics. *Int. J. Acad. Med.* 4(1):60–63.doi:10.4103/IJAM.IJAM.