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Exploring the Relationship Between Education Levels and Non-Food Consumption in Indonesia

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ABSTRACT

This study examines the effect of education level on non-food consumption in Indonesia using quantitative analysis with secondary data from the March 2017 National Socioeconomic Survey (SUSENAS). The sample consists of 686,274 individuals aged 19 years and older, with variables including education level (independent variable) and non-food consumption expenditure (dependent variable). Simple linear regression analysis was employed, with data processed using STATA 17. The results indicate that education level has a positive and significant effect on non-food consumption, as shown by the regression equation $Y = 322,493.7 + 800,907.8X + e$. The regression coefficient of 800,907.8 implies that a one-level increase in education results in an 800,907.8-rupiah increase in non-food consumption. The p-value of <0.05 confirms the statistical significance of this relationship. However, the coefficient of determination (R^2) of 0.0846 (8.46%) suggests that education explains only a small proportion of the variation in non-food consumption, with other factors, such as income, lifestyle, and demographics, likely playing a more dominant role. This study highlights the critical role of education in shaping consumption patterns and suggests policy implications, including improving access to quality education and addressing broader socioeconomic factors to enhance household welfare. Future research should incorporate additional variables and temporal dimensions to provide a more comprehensive understanding of the determinants of non-food consumption.

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1. INTRODUCTION

Education is not merely a matter of material expenditure but a long-term investment that has a significant impact as a determinant of a nation's progress. The concept of education as an investment to

develop quality human resources has become a central focus for nations worldwide. Moreover, development that emphasizes education invariably impacts other sectors of development (Widiyansyah, 2017). For any country, investment in education is a cornerstone for building a skilled and competent workforce, which in turn contributes to sustainable economic and social development.

Education plays a crucial role in shaping the consumption patterns of non-food goods across various countries, including Indonesia. Non-food consumption encompasses sectors such as clothing, housing, transportation, entertainment, and other goods that are not categorized as food or beverages. Higher levels of education are often associated with an increased capacity of individuals or households to access and purchase these goods, thereby enhancing overall quality of life. This relationship underscores the idea that education has a ripple effect, influencing not only individual capabilities but also broader economic activities and social dynamics (Arifin et al., 2019).

Moreover, education influences the aspirations and preferences of individuals, shaping their consumption behavior. Those with higher educational attainment are more likely to allocate resources to goods and services that contribute to long-term well-being, such as better housing, advanced healthcare, and quality transportation. This connection highlights the transformative role of education in moving consumption patterns beyond survival needs to lifestyle enhancements, reflecting a shift in societal priorities as educational levels rise (Shaw, 2024).

Education not only enhances knowledge and skills but also influences how individuals manage their resources. Individuals with higher education levels tend to have higher incomes, resulting in greater purchasing power and higher levels of consumption. According to (Becker, 2009), education can be viewed as an investment in human capital that yields returns in the form of higher income. This, in turn, enables individuals to allocate more resources toward the consumption of non-food goods, which subsequently improves their quality of life. Additionally, better-educated individuals are likely to be more informed about market choices and consumer rights, enabling them to make more efficient and rational decisions regarding their consumption.

Previous studies, such as those conducted by (Harvey, et al, 2000), found that each additional year of education for the head of the household leads to a significant increase in spending on non-food goods in developing countries. This study provides a strong theoretical foundation to explain the positive relationship between educational attainment and the economic capacity to access a wider range of consumer goods. Similarly, studies in other developing nations have highlighted how education affects spending patterns, emphasizing that education contributes to diversifying household expenditures beyond basic needs.

However, challenges related to unequal access to education in Indonesia can significantly influence consumption patterns between groups with differing levels of educational access. Disparities in educational opportunities may perpetuate income inequality and, consequently, unequal access to non-food goods that enhance quality of life (Susanti, 2011). Addressing this issue requires comprehensive policies that ensure equitable access to quality education across all regions and socioeconomic strata. Improving the quality of education nationwide is key to enhancing societal well-being, including expenditures on non-food goods.

Previous studies, such as those by (Putra et al., 2024) and (Abubakar et al., 2021), often grouped food and non-food consumption into a single category, providing a broad understanding of overall consumption patterns but missing the nuances within each category. (Putra et al., 2024) emphasized that education plays a critical role in shaping healthcare and housing expenditures, particularly in urban contexts where access and awareness are higher. Similarly, (Abubakar et al., 2021) highlighted the positive relationship between education and transportation spending in rural areas, reflecting how education enhances mobility and access to opportunities.

Differentiating between various types of non-food consumption—such as housing, healthcare, education, entertainment, transportation, durable goods, and ceremonial expenses—offers a more detailed perspective on how education influences specific expenditure patterns. For instance, (Zimmerman & Woolf, 2014) found that higher educational attainment is associated with increased spending on healthcare and transportation due to better awareness and accessibility, while cultural factors, could lead to a more nuanced impact on ceremonial expenses.

Despite the potential for such insights, research explicitly analyzing the relationship between education and these distinct non-food expenditure types remains limited. This gap highlights an opportunity for further exploration, particularly in identifying how education levels shape preferences and priorities for each category. For instance, studies by (Putra et al., 2024) and (Abubakar et al., 2021) indicate that education significantly influences healthcare and transportation expenditures, suggesting that more educated individuals tend to allocate a higher proportion of their income to these categories due to increased awareness and accessibility.

In the context of Indonesia, a country characterized by diverse socio-cultural and economic conditions, these dynamics are especially pronounced. Regional disparities in educational attainment and

access to non-food goods and services add complexity to understanding how education drives consumption (Solikaturun & Masrurroh, 2014). Studies have shown that disparities in education levels across urban and rural regions significantly affect spending patterns on non-food goods and services (Suci & Sarpini, 2024). Furthermore, research by (Djadjuli, 2018) highlights the role of regional economic development in shaping consumption behavior, with urban regions benefiting from better access to education and diverse consumer markets. Addressing these gaps could provide valuable insights into policy formulation aimed at reducing consumption inequality and promoting balanced economic development.

Research by (Putra et al., 2024) emphasized the importance of education in influencing healthcare and housing expenditure in urban settings, while findings by (Abubakar et al., 2021) showed a positive correlation between education and transportation spending in rural areas. Moreover, a study by (Solikaturun & Masrurroh, 2014) indicated that non-food consumption patterns are also shaped by regional economic disparities, suggesting the interplay between education and geographical context. Building on these studies, future research could explore how education intersects with urbanization and regional characteristics to shape non-food consumption patterns in Indonesia.

Consumption expenditure is carried out to maintain living standards. At lower income levels, consumption expenditures are generally directed toward meeting basic needs to sustain physical well-being. Food consumption becomes the most critical factor as food is essential for survival (Saragih dkk, 2022). Conversely, at higher income levels, individual consumption expenditures increase for non-food goods, as these are not essential for survival. This indicates that the level of non-food consumption reflects individual welfare. Non-food expenditure can thus serve as a proxy for measuring improvements in societal prosperity and the overall effectiveness of educational policies in bridging economic gaps. Furthermore, research by (Vorhach, 2020) emphasizes that rising non-food expenditure is closely associated with economic development and an educated workforce, as education enhances earning potential and broadens consumption choices.

This study aims to fill the knowledge gap by analyzing data from SUSENAS 2017 to explore how education levels influence the consumption patterns of non-food goods in Indonesia. By doing so, it seeks to contribute to the broader understanding of the socio-economic impacts of education and provide empirical evidence to support the development of targeted policies that promote equitable economic growth and enhanced quality of life for all citizens.

2. RESEARCH METHOD

This study uses a quantitative research approach with secondary data from the National Socio-Economic Survey (SUSENAS) of March 2017. The data includes information on the education levels of each individual and head of household, as well as household expenditures on non-food items in Indonesia.

The data was obtained from Statistics Indonesia (BPS, 2017). SUSENAS is a periodic survey conducted to collect socio-economic data on households across Indonesia. The SUSENAS sample provides information on both individual and household social and economic factors.

The sample used in this study is limited to individuals aged 19 and above, as respondents of this age group are considered more relevant to the research. After validating the data to exclude missing values, a total sample of 686,274 respondents was obtained.

The research variables consist of:

- a. **Independent Variable:** Education level, which in the SUSENAS 2017 data is obtained from the VSEN17.KOR module, coded R515. This variable is measured based on the highest level of education that the individual is currently attending or has completed. The education levels are categorized into four groups: (1) Elementary School or equivalent, (2) Junior High School or equivalent, (3) Senior High School or equivalent, (4) D1 and above.
- b. **Dependent Variable:** Household expenditure on non-food items, which in the SUSENAS data is sourced from the VSEN17.KP Block IV.2 module. This includes expenditures on (1) Housing and household facilities, (2) Miscellaneous goods and services, medical/curative expenses, pharmaceutical costs, preventive health services, school/course fees, transportation, accommodation, and services, (3) Clothing and related expenses, (4) Durable goods, (5) Mandatory fees, such as taxes and insurance, (6) Expenses for events such as feasts and other ceremonies.

Data analysis is conducted using simple linear regression to examine the relationship between the education level (independent variable) and household expenditures on non-food items (dependent variable) (Hadi, 2004). The simple linear regression test is performed using the STATA 17 application. The regression equation is formulated as:

$$Y = a + bX + e$$

Where:

- Y = Expenditure on non-food items
a = Constant

- b = Coefficient
 X = Education level
 e = Error term

To assess the effect of an individual's education level on the consumption of non-food items, a hypothesis test is conducted. The results are as follows:

1. **t-test:** This test is performed to determine the strength of the influence of the independent variable on the dependent variable (Setiawan, 2019). The model for the test is:
 - **H₀:** There is no significant partial effect between the education level and consumption of non-food items. The null hypothesis is accepted if $t\text{-hit} < t\text{-table}$ or $t\text{-sig} > 0.050$.
2. **Coefficient of Determination (R²):** This test measures the extent to which the independent variable (education level) influences the dependent variable (non-food consumption) (Stock dkk, 2015). The value of R² ranges from 0 to 1, with higher values approaching 1 indicating that the independent variable (education level) provides most of the information required to predict the dependent variable (non-food consumption) (Richard, 2006).

3. RESULTS AND DISCUSSION

The Effect of Education Level on Non-Food Consumption

Table 1. Statistical Analysis Results Using STATA 17

Non-Food Consumption	Coefficient	T	P > t
Education Level	800907.8	251.80	0.000
Constant	322493.7	42.34	0.000
R-Square	0.0846		

Source: Processed Data, 2024

To examine the influence of education level on non-food consumption, the regression equation derived using STATA 17 is as follows:

$$Y = 322.493,7 + 800.907,8 X + e$$

From this regression equation, the constant value of 322,493.7 represents the baseline level of non-food consumption in Indonesia before being influenced by the education level of individuals. The regression coefficient for education level is 800,907.8, indicating a positive relationship between education level and non-food consumption in Indonesia. In other words, if an individual's education level increases by one level or stratum, their non-food consumption is expected to increase by 800,907.8 rupiahs.

t-Test

From Table 1, the calculated t-value (t-hit) is 251.80, which exceeds the critical t-table value of 1.96 at a 5% significance level ($p = 0.05$). Furthermore, the p-value of 0.000 is less than 0.05, indicating that the null hypothesis can be rejected. This means that education level has a significant positive impact on non-food consumption in Indonesia.

These findings suggest that an increase in education level leads to a corresponding increase in non-food consumption. This aligns with the consumption theory proposed by (Kotler et al., 2015), which states that individuals with higher education levels tend to possess greater knowledge and skills, enhancing their purchasing power and diversifying their consumption patterns. Similarly, the study by (Handayani et al, 2023) confirms that education significantly influences consumption behavior.

Coefficient of Determination (R²)

From Table 1, the coefficient of determination (R²) is 0.0846, or 8.46%. This indicates that education level accounts for 8.46% of the variation in non-food consumption, while the remaining 91.54% is influenced by other factors not included in this study.

Although the R² value is relatively low, it highlights the presence of multiple factors influencing non-food consumption beyond education level. For instance, (Utami & Ayu, 2017) emphasize that variables such as income, occupation, residential location, and family structure also play significant roles in shaping consumption patterns, including non-food consumption.

Income is one of the primary determinants in consumer behavior theory, as explained by Engel's Law (Ritchie & Roser, 2024). Engel stated that as income increases, the proportion of spending on basic needs, such as food, tends to decrease, while expenditure on non-food items, such as education, health, and recreation, tends to rise. In this context, education levels can increase individual income by enhancing skills

and work productivity, which in turn allows for greater spending on non-food needs. Therefore, education has an indirect effect on non-food consumption through the income pathway.

Job type and residential location also significantly influence consumption patterns. For instance, salaried jobs in urban areas tend to provide greater access to non-food goods and services compared to informal jobs in rural areas. Furthermore, Bronfenbrenner's Human Ecology Theory, emphasizes that physical and social environments, such as access to healthcare, transportation, and education facilities, shape consumption behavior. Urban areas often have better infrastructure, enabling their residents to allocate a larger portion of their expenditures to non-food items compared to those living in rural regions (Rosa & Tudge, 2013).

Family structure, such as the number of family members and household life cycles, also affects spending patterns. Modigliani and Brumberg's Life-Cycle Hypothesis, posits that household consumption patterns are influenced by the individual's life cycle. For example, young families with children tend to have different consumption priorities than older households, with more allocation toward education and children's needs (Martini & Spataro, 2022).

Theoretically, these findings reinforce the idea that non-food consumption results from the complex interaction of individual factors (such as education level), economic factors (income and occupation), and structural factors (residential location and access to services). (Kotler et al., 2015) further assert that better-educated individuals not only have greater purchasing power but also make wiser consumption decisions, focusing on goods that enhance their quality of life.

From a practical perspective, the low R^2 value implies that efforts to improve education must be accompanied by strategies addressing other factors influencing consumption. For instance, income redistribution programs, infrastructure development in remote areas, and family economic empowerment initiatives can complement the positive impact of education on non-food consumption.

By expanding this perspective, future research can employ a multivariate approach to integrate various factors influencing non-food consumption. Such an approach would provide a more comprehensive understanding of the relationship between education, income, occupation, and residential location on the consumption patterns of Indonesian households.

The findings of this study have several policy implications that can be considered by the government to improve public welfare through education:

1. **Enhancing Access and Quality of Education**
Improving access to and the quality of education can have a direct impact on promoting more productive and diversified consumption patterns, including non-food items. Higher education levels can equip individuals with better skills and knowledge, enabling them to make more informed consumption decisions and contribute to overall economic growth.
2. **Strengthening Financial Education Programs**
The government can implement financial education programs to encourage wiser spending habits. This can lead to more efficient allocation of household expenditures, promoting economic stability and supporting sustainable growth in consumer markets.
3. **Targeting Broader Influential Factors**
While education plays a vital role, policymakers should also address other significant determinants of consumption. Initiatives such as income support programs, equitable urban planning, and employment opportunities can help reduce disparities and further enhance non-food consumption.

Suggestions for Future Research

Future researchers are encouraged to employ multivariate analysis by incorporating additional variables that may influence non-food consumption. Given the R^2 value of 8.46%, this study highlights the need to explore other contributing factors, such as income, family structure, geographic location, and cultural preferences, to provide a more comprehensive understanding of consumption behavior.

Study Limitations

1. **Exclusion of Other Variables**
The model did not include other important variables, such as income, household size, geographic location, and cultural preferences, which are known to significantly influence consumption patterns. Including these factors in future analyses could enhance the explanatory power of the model.
2. **Data Limitations**
This study relied on data from SUSENAS 2017, which reflects conditions specific to that year. Changes in consumption trends that have occurred since then may not be fully captured, limiting the generalizability of the findings to more recent contexts.
3. **Lack of Temporal Analysis**

The study employed a cross-sectional approach, which does not account for temporal dynamics or changes in consumption behavior over time. A longitudinal analysis could provide deeper insights into the evolving relationship between education and non-food consumption.

Expanded Discussion of Recommendations

To address the limitations and enrich future studies, a more holistic approach is needed. For instance, integrating a longitudinal design would allow researchers to observe trends and changes in consumption over time. Moreover, adding variables such as income elasticity, employment type, and regional economic disparities could help identify indirect pathways through which education influences consumption.

On the policy side, educational reforms should be complemented by broader socio-economic initiatives, such as income redistribution policies, rural-urban infrastructure development, and cultural education campaigns. These efforts can create an environment where higher education levels translate into meaningful improvements in consumption behavior, ultimately enhancing overall societal welfare.

By addressing these limitations and incorporating additional variables, future research and policy interventions can more effectively address the complexities of household consumption and its relationship with education.

4. CONCLUSION

The findings of this study provide valuable insights into the relationship between education levels and non-food consumption patterns in Indonesia. The results of the simple linear regression analysis reveal that education has a positive and significant effect on non-food consumption. Specifically, an increase of one level or stratum in education corresponds to an average increase of 800,907.8 rupiahs in non-food consumption. This emphasizes the role of education in shaping consumption behavior, as higher education levels are associated with a greater capacity for non-food expenditures, reflecting improved living standards and diversified consumption priorities. The coefficient of determination (R^2) indicates that education level accounts for 8.46% of the variation in non-food consumption. This suggests that while education is a significant factor, other variables, such as income, lifestyle, demographic characteristics, and regional disparities, also play substantial roles in influencing consumption patterns. These findings highlight the complexity of consumption behavior and the need to consider multiple interacting factors when analyzing expenditure trends. Overall, this study underscores the importance of education as a key driver of economic well-being and consumption diversification. However, it also points to the necessity of addressing other influential factors through comprehensive policies to achieve equitable and sustainable development.

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