# THE YOUTH UNEMPLOYMENT IN SRAGEN REGENCY: SAKERNAS DATA ANALYSIS

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## Abstract

*The existence of a long-term demographic transition has an impact on the young population explosion, even the population trend shows a growing pattern of the young population. It is unfortunate if the number of young age people who are not absorbed in employment will eventually become unemployed. Unemployment at a young age will have an impact on the amount of unemployment. This study will analyze the demographic factors and human capital that underlie youth unemployment in Sragen in 2021. The research employs the raw data derived from the results of the National Labor Force Survey (SAKERNAS) in Agustus 2021 from the Statistics Indonesia (BPS) of Sragen Regency. The method used is binary logistic regression analysis. The results showed that the variables of age, gender, the status of a household, marital status, training, middle school education, and high school education affect the tendency of the young workforce to become unemployed.*

*Keywords: young age; logistic regression; demography*

## INTRODUCTION

Over the past decade, Indonesia has experienced a phenomenon of demographic transition that has led to a long-term explosion in the number of young people. Changes in the age structure of the Indonesian population, due to the proportion of the productive age population (15-64 years) is far greater than the population under 15 years. It results in a decrease in the dependency ratio in Indonesia, one of which is experienced by Central Java Province, one of the highest-population provinces in Indonesia.

**Table 1.** Provinces with the Highest Population Density in 2021

| No | Name | People/Square Kilometer |
|---|---|---|
| 1 | Special Capital Region of Jakarta | 15978 |
| 2 | West Java | 1379 |
| 3 | Banten | 1248 |
| 4 | Special Region of Yogyakarta | 1185 |
| 5 | Central Java | 1120 |
| 6 | East Java | 855 |
| 7 | Bali | 755 |
| 8 | NTB | 290 |
| 9 | Lampung | 262 |
| 10 | Riau Islands | 258 |

*Source: Statistics Indonesia*

Based on the above data in Table 1., it is revealed that Central Java is one of the provinces with the largest population density in Indonesia with a rate of 1120 people/Km2. The density number shows that the population in Central Java is huge under a limited land area. The publication of Statistics Indonesia states that in 2021, the population in Central Java will reach 37.23 million people. As recorded by The Office of Population and Civil Registry (Dukcapil), there were 18.74 million men population (50.35%) and 18.49 million women population (49.65%) of 12.38 million household heads registered in the Dukcapil. While, based on age composition, most of Central Java's population is in the range of productive age.

**Table 2.** Number of Population in Central Java by Age Group 2021

| No | Age Group | Total Number People |
|---|---|---|
| 1 | Age of 0-4 Years Old | 2.563.291 |
| 2 | Age of 5-9 Years Old | 2.955.936 |
| 3 | Age of 10-14 Years Old | 2.937.184 |
| 4 | Age of 15-19 Years Old | 2.705.009 |
| 5 | Age of 20-24 Years Old | 2.935.003 |
| 6 | Age of 25-29 Years Old | 2.916.758 |
| 7 | Age of 30-34 Years Old | 2.743.568 |
| 8 | Age of 35-39 Years Old | 2.941.359 |
| 9 | Age of 40-44 Years Old | 2.808.833 |
| 10 | Age of 45-49 Years Old | 2.572.975 |
| 11 | Age of 50-54 Years Old | 2.395.071 |
| 12 | Age of 55-59 Years Old | 2.121.561 |
| 13 | Age of 60-64 Years Old | 1.749.228 |
| 14 | Age of 65-69 Years Old | 1.199.967 |
| 15 | Age of 70-74 Years Old | 749.672 |
| 16 | Age of 75 and Older | 932.189 |

*Source: Statistics Indonesia*

As illustrated in Table 2., it can be seen that as many as 25.89 million people or 69.54 percent of the population in Central Java Province are classified in the group of productive age (15-64 years). The high productive age indicates that the Province of Central Java has a huge opportunity to elevate the quality of living standards since the

population with productive age is still considered capable to perform work and earn income so that they can improve their welfare. The size of the productive age population in a certain region indicates that the region is currently enjoying the era of a demographic bonus.

Central Java, a province that covers an area of 34,337 km², consists of 29 regencies and 6 cities with separated demographic conditions. Among those cities and regencies in Central Java, Sragen Regency is one area that is currently enjoying the era of demographic bonuses. Sragen Regency is one of the areas with a relatively high population density in 2021, reaching up to 1,044.65 people/ Sragen Regency with an area of 941.6 km². The population density in Sragen Regency is higher than the national scale, which is only 142 people/km², but lower than in Central Java Province.

**Table 3.** Number of Population in Sragen Regency Based on Age Group 2021of Population in Central Java by Age Group 2021

| No | Age Group | People |
|----|-----------|--------|
| 1 | Age of 0-4 Years Old | 66833 |
| 2 | Age of 5-9 Years Old | 69119 |
| 3 | Age of 10-14 Years Old | 74738 |
| 4 | Age of 15-19 Years Old | 72951 |
| 5 | Age of 20-24 Years Old | 70196 |
| 6 | Age of 25-29 Years Old | 68506 |
| 7 | Age of 30-34 Years Old | 69986 |
| 8 | Age of 35-39 Years Old | 76733 |
| 9 | Age of 40-44 Years Old | 74579 |
| 10 | Age of 45-49 Years Old | 68454 |
| 11 | Age of 50-54 Years Old | 64922 |
| 12 | Age of 55-59 Years Old | 56921 |
| 13 | Age of 60-64 Years Old | 50942 |
| 14 | Age of 65-69 Years Old | 40051 |
| 15 | Age of 70-74 Years Old | 27256 |
| 16 | Age of 75 and Older | 31454 |

*Source: Statistics Indonesia*

Based on Table 3., it can be seen that Sragen is a regency with a population of 983,641 people and 674,190 of them, or around 68.5 percent are classified in the productive age group (15-64 years). The high productive age in Sragen Regency, which indicates a large population of working age, should be able to reduce dependency rates as well as improve quality of life.

The dependency ratio is a number that states the ratio of the population of non-productive age over productive age. The higher the percentage dependency ratio, the greater the burden that must be dealt with by productive people to support the lives of unproductive people. The dependency ratio in Sragen Regency was recorded as 48.92 in 2019 and 48.93 in 2020. Later in 2021, the dependency ratio in Sragen Regency reached 47.68. It reveals that out of 100 productive age residents, there are 48 non-productive residents (under 15 years and over 64) who must be taken care of.

The constant decline in the dependency ratio will reach its lowest point between 2020 and 2030. Accordingly, a window of opportunity opens that must be utilized to actualize economic benefits, known as the demographic bonus. On the other hand, if Indonesia fails to take this

opportunity, it will suffer from disaster due to the high unemployment rate. If the government can use and utilize the existing workforce, it will give a positive impact on development acceleration. On the contrary, if the government fails to manage the existing workforce, it will give a negative impact, namely disrupting economic growth (Soleh, 2017). If there are productive employment opportunities, then a substantial labor supply will increase future per capita income.

The existence of a demographic bonus and an increase in the productive age population has accentuated the problem of the growth of the workforce to be noticeable (Elfindri & Bachtiar, 2004). Until recently, the problem of unemployment and employment is still a major concern for every country around the globe, particularly developing countries  (Soleh, 2017). The International Labor Organization (ILO) discovers that the majority of Indonesia's young population is underutilized due to limited access to productive jobs.

The number of open unemployment in Central Java Province, when viewed based on age group data, is dominated by young unemployment. Moreover, in 2021, youth unemployment reached 56.54 percent of the total unemployment in Central Java Province. Meanwhile, the number of open unemployment in Sragen Regency in 2021 reached 24,160 also dominated by young people. According to Corbanese and Rosas

(2015), generally, young people experience a three times greater chance of becoming unemployed than adults.

Based on the description of the background, the problem of youth unemployment in Indonesia, especially in Sragen Regency, is a thought-provoking topic for further study. Therefore, it can be identified that the main objective of the research is to analyze demographic factors and human capital that may generate the probability of the young workforce becoming young unemployed in Sragen Regency.

## RESEARCH METHODS

The data source used in the study preparation is derived from Statistics Indonesia, as the result of data collection of the National Labor Force Survey (Sakernas) 2021 conducted by the Statistics Indonesia of Sragen Regency. Sakernas is a survey that is specifically designed to collect data that provide the general condition of employment in Indonesia. Young age refers to research by Qayyum and Siddiqui (2008) which defined a young age in the range of 15-29 years. This study involved a 1989 young workforce as the sample.

Logistic regression is employed as the analytical method in this study. In this case (1) represents idle and (0) represents working. The model obtained in estimating the probability of being educated-unemployed in binary logistic regression is:

$$ln\left(\frac{P_i}{1-P_i}\right) = \hat{\beta}_0 + \hat{\beta}_1 age + \hat{\beta}_2 male + \hat{\beta}_3 married +$$
$$\hat{\beta}_4 head + \hat{\beta}_5 training + \hat{\beta}_6 smp + \hat{\beta}_7 sma + \hat{\beta}_8 pt_{ij} \,..\,(1)$$

The hypothesis of this study is revealed as follows:

It is assumed that age, gender, marital status, relationship with the head of the household, training, and education level whether junior high school, high school, or university influence the probability of youth unemployment.

**Table 4.** Research Variables

| No | Variable | Name of Variable | Category |
|---|---|---|---|
| 1. | Young_ Age | Young Workforce | 1 = Young Employment<br>0 = Young Workers |
| 2. | Age | Age | - |
| 3. | Male | Gender | 1 = Male<br>0 = Female |
| 4. | Marriage | Marital Status | 1 = Married, Divorced, Widowed<br>0 = Not Married |
| 5. | Head | Relations with the Head of the Household | 1 = Head of Household<br>0 = Not Head of Household |
| 6. | Training | Training | 1 = Training<br>0 = No Training |
| 7. | Junior High School | Junior High School Graduate | 1 = Junior High School<br>0 = Others |
| 8. | Senior High School | Senior High School Graduate | 1 = Senior High School<br>0 = Others |
| 9. | University | University | 1 = Diploma I/II/III/IV/Bachelor Degree, Magister, Doctoral Degree<br>0 = Others |

*Source: Statistics Indonesia*

The significance of the logistic regression model can be seen from the results of concurrent parameter testing. Meanwhile, to identify the significance of each independent variable, a partial test was carried out with the Wald Test statistic or by considering the appropriate p-value.

The interpretation of the coefficients in the logistic regression model is done in the form of Odd (risk comparison) or adjusted probability (Nachrowi & Usman, 2002). If the independent variable is considered a categorical variable with two categories (dichotomy), then parameter interpretation is executed by comparing the odd value of one of the values in the variable with the odd value of any other values (reference). For categorical independent variables with more than two categories (polytomies), the parameter interpretation for this variable uses dummy variables. If there are k categories, (k-1) dummy variables with one category will serve as the reference.

## RESEARCH RESULTS AND DISCUSSION

The effect of demographic characteristics on youth unemployment can be identified using the logistic regression method. By referring to the results of the logistic regression analysis that has been carried out, simultaneously a very small significance value is attained, the value is much smaller than a 1 percent alpha. It means that the variables of age, gender, marital

status, training, status in the family, and level of education, such as junior high school, senior high school, and university instantaneously or jointly affect youth unemployment. It can be noticed from the insignificance value (less than 1 percent alpha).

**Table 5.** The Estimation Result on Coefficient of Youth Unemployment Probability Model in Sragen Regency

| Variable | Coefficient | Std. Err. | Wald | Sig. | Odd Ratio |
|---|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5) | (6) |
| Age | 0,031 | 0,000 | 14849.825 | 0,000 | 1,031 |
| Male | -1,102 | 0,007 | 24085.528 | 0,000 | 0,332 |
| Marriage | -2.151 | 0,009 | 52746.680 | 0,000 | 0,116 |
| Head | -0,224 | 0,008 | 741.918 | 0,000 | 0,799 |
| Training | -0,379 | 0,011 | 1098.580 | 0,000 | 0,685 |
| Junior High School | -0,360 | 0,008 | 1901.692 | 0,000 | 1,433 |
| Senior High School | -0,032 | 0,008 | 15.695 | 0,000 | 0,968 |
| University | -1,211 | 0,014 | 7074.346 | 0,491 | 0,298 |
| _cons | 0,413 | 0,013 | 1070.566 | 0,000 | 1,512 |
| 2 Log likelihood (8 df) | | | 815765,982 | | |
| Pseudo R-Square | | | 0,211 | | |
| Probability | | | 0,0000 | | |

*\* Insignificant at the level of α = 5%*

*Source: Statistics Indonesia (Sakernas 2021 Sragen,* processed)

The Goodness of Fit (R2) is applied to determine the accuracy of the model. It is identified the value of Pseudo R-Square, which is 0.211. This value indicates that the diversity of the independent variable data in the study can explain the diversity of the dependent variable data by 21.10 percent. While the remaining 78.90 percent is explained by other independent variables, excluded from the research model.

**Age**

The significance value of the age variable is very small, which is 0.000 (smaller than 1 percent alpha). It means that with an alpha of 1 percent, in general, the age variable has a significant positive effect on the probability of unemployment in the young workforce. By considering the coefficient value, the age variable has a positive coefficient value of 0.031, which means that the older the age, the younger workforce has a greater risk of becoming young unemployed compared to the younger workforce.

The age variable has a tendency/Odd Ratio of 1.031 which indicates that the tendency of the older youth workforce (15-29 years) to become young unemployment is 1.031 times higher than that of the younger youth workforce (15-29 years) if other variables are constant. It means that among the youth workforce, the older ones have a greater tendency to become young unemployment.

Companies tend to hire younger workers because their wages are cheaper compared to older workers. Older age workers are assumed to have more work experience and will demand higher pay. In addition, companies recruit without-experience new graduates with the intention to find new seeds and nurture them in the stages of the company's career path. This phenomenon is

justified by the results of binary logistic regression with positive parameter coefficients.

**Gender**

The gender variable (male) has a significant negative influence on the probability of unemployment in the young workforce. The gender variable (male) has a negative coefficient value of -1.102. It means that the male youth workforce (15-29 years) has a lower risk of becoming young unemployment, compared to the female youth workforce (15-29 years).

The gender variable (male) has a tendency ratio value/Odd Ratio of 0.332. It demonstrates that the tendency of the young workforce (15-29 years) who are male to become young unemployed is 0.332 times lower than the female young workforce (15-29 years) if other variables are considered constant. It means that among the young workforce, men have a smaller tendency to become young unemployment. The results of this study are consistent with the findings from Tasci and Tansel (2004), Pasay and Indrayanti (2012), and Khan and Yousaf (2013), who suggested that men have higher opportunities for work participation than women.

One of the factors that make men have higher work participation opportunities than women is the existence of statistical discrimination in the labor market and the conditions of the neighboring community.

People in Central Java, especially Sragen Regency, still think that men are generally positioned as the main breadwinner in the household. In addition, there is still a high level of negligence of the woman's existence in the social sphere and the placement of women as second-class residents whose job is to deal with domestic categorical household chores without pay. This is in line with the statement that women are not obligated to earn a living so young unemployed women are more dominant than men. In addition, this statement is also in accordance with gender theory which states that the existence of sociocultural construction will provide different roles and labels between men and women. These differences make women always be left behind and deserted in their contributions, including their right to obtain a decent job.

**Marital Status**

The variable of marital status variable (married, widowed, divorced) has a significant negative effect on the probability of unemployment in the young workforce. The marital status variable (married, widowed, divorced) has a negative coefficient value of -2.151. It means that the young workforce (15-29 years) who are married, divorced, or widowed have a lower risk of becoming youth unemployment compared to the young workforce (15-29 years) who have never been married.

The marital status variable (married, widowed, divorced) has a propensity ratio value/Odd Ratio of 0.116. It means that the tendency of the young workforce (15-29 years) who are married, divorced, or widowed to become young unemployment is 0.116 times lower than the young workforce (15-29 years) who are single if other variables are considered constant. This result is aligned with the findings of Qayyum and Siddiqui (2008), Yuliatin, et al (2011), Pasay and Indrayanti (2012), and Nganwa, et al (2015) Wardana et., al (2019) which explained that individuals with not-married status do not have a responsibility to work on income, but individuals with a married status will do anything to earn income and meet their needs.

The opportunity for young workers (15-29 years) who are married, divorced, or widowed to become young unemployment is low since they are considered to have a big responsibility to support their families. It is different from the young, unmarried workforce who do not yet have family responsibilities. This was also revealed by Harfina (2009) in research, who suggested that an unmarried person tends to be unemployed since that individual has no responsibilities toward the family.

**Status in Household**

The status variable in the household (head) has a significant negative effect on the probability of unemployment in the young workforce. This variable has a negative coefficient value of -0.224. It means that the young workforce (15-29 years) whose status is the head of the household has a lower risk of becoming young unemployment than the young workforce whose status is other than the head of the household.

The head status in the household has a propensity ratio value/Odd Ratio of 0.799. It shows that the tendency of the young workforce (15-29 years), as the head of the family (head), to become young unemployment is 0.799 times lower than the young workforce (15-29 years) who are not heads of households, if other variables are considered constant. This condition is aligned with the findings from Ahmad and Azim (2010) and Yuliatin, et al (2011) which explained that the head of the household is an individual who has a greater responsibility to support his family, so he is required to work hard to meet his needs.

A person who is the head of the household has the responsibility for meeting the economic needs of his family members. These conditions will encourage them to accept all kinds of work to earn income. Since the status of the head of the household refers to the backbone of the family, so in this case the head of the household needs to work and earn a living. In contrast to the young workforce whose status is not the head of the household, they are not obligated to support the household, so they still have high bargaining power in accepting jobs.

**Training**

The training variable has a significant negative effect on the probability of unemployment in the young workforce. This variable has a negative coefficient value of -0.379. This means that the young workforce (15-29 years) who have attended training have a lower risk of becoming young unemployment compared to the young workforce who have never attended training.

If observed further, the training variable has a ratio value of the propensity/Odd Ratio of 0.685. It shows that the tendency of the young workforce (15-29 years) who have attended training to become youth unemployed is 0.685 times lower than the youth workforce (15-29 years) who have never attended the training. These results are aligned with Human Capital Theory which has extended into increasing the flexibility of the workforce to match labor market requirements and the ability to upgrade skills through additional investment in training schemes and educational services (Lundvall, 1992). In addition to training, development-based skills are also required for qualified human resources to broaden employment opportunities.

The results of this study are also consistent with the findings of Pasay and Indrayanti (2012) and Khan and Yousaf (2013). According to Pasay and Indrayanti (2012), the workforce that has attended job training will have a higher probability of job participation compared to people who have never attended job training. Meanwhile, Khan and Yousaf (2013) argued that a person or young workforce has attended any training or program to improve skills, so he or she is likely to experience a relatively shorter duration of unemployment.

**Education Level of Junior, Senior High School, and University**

The young workforce (15-29 years) who complete junior high school will increase the tendency to be unemployed by 1.433 times. While the young workforce (15-29 years) who have completed senior high school/equivalent education will increase their chances of being unemployed by 0.968 times. Meanwhile, the young workforce (15-29 years) who complete their education at university will have a lesser risk, compared to the workforce who did not graduate from university. The young workforce who complete their education up to university will increase the tendency to be unemployed by 0.298 times.

The young workforce who have graduated from university have greater employment opportunities than workers with lower levels of education since the access to jobs for university graduates is greater than others. These results are in line with Human Capital Theory, which stated that education is a long-term future investment for a better future. The higher the level of education, the better jobs are expected to be obtained with relatively high wages. A higher level of

education indicates an increased value in self-esteem and great productivity abilities. Better education encourages people to be more productive in building their own quality (Suhar, et al. 2010).

According to Lam, et. al (2008), there is a very strong correlation between the level of education and chances of being employed especially in the early years after graduation. Because the level of education has a major influence on the ability to succeed in the labor market, particularly in the direct transition from school to work. Individuals who graduate with a bachelor's degree or higher are about four to five times more likely to find a job than those with a high school certificate or less. It is clear that the benefits of educational investments or employability opportunities will vary to the level of investment and skills acquired through employment prospects.

The reason for the high risk of youth unemployment among senior high school graduates/equivalent or below is due to the incompatibility of the curriculum with the realm of work. According to Dalimunthe (2015) and Ahmad and Azim (2010), the learning methods and curriculum provided in schools are theoretical but are not balanced with the provision of skills relevant to the world of work such as entrepreneurship. So that a fairly high youth unemployment rate emerged from the senior high school/equivalent group and below, as a result

of skill mismatch between the education and labor market. It is aligned with the opinion of Ningrum (2013) who stated that the low quality and curriculum relevancy as well as the number of schools that are unable to meet the competencies needed by the job market, makes the workforce incapable to compete in the world of work.

## CONCLUSIONS

Based on the National Labor Force Survey (Sakernas) of Sragen Regency in 2021, unemployment is high at a young age. This study succeeded in showing that age, gender, marital status, status in the household, training, junior high school, high school, and university have an effect on youth unemployment in Sragen Regency.

The young workforce with the most risk of becoming unemployed is the young workforce with a junior high school level of education and the workforce that is classified in the older age group. Therefore, these groups need special attention due to the potential unemployment risk that may arise. By paying attention to this group, it is expected that unemployment can be reduced.

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