# CHAPTER III
METHODS AND PROCEDURES

This chapter presents the research design, research variables, operational definitions, population and sample of the study, techniques for collecting the data, and techniques for analyzing the data.

3.1   Research Design

The research method that will be utilized in this study is correlation research, which will examine the relationship between two variables, namely Personality Traits and English Mastery. The study will be conducted among students at SMA Muhammadiyah 6 Palembang. The data will be collected using a questionnaire to identify the students' personality traits, and their mastery of English will be assessed using SPSS. The relationship between the two variables will be analyzed using regression analysis through SPSS. The final interpretation of the results will be presented as the conclusion of the study.

The following is the research design :

X————————→   Y
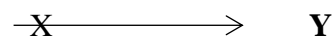
Research Design

X : Personality Traits

Y : English Mastery

3.2   Research Variables

There are two variables explain examined. They are students' personality and English mastery. Two variables consisted of one Criterion Variable (English Mastery) and one Predictor Variables (Personality traits). According to Tuckman (1978, p. 59), the criterion variable is a response variable or output. In this research, the criterion variable is English Mastery explain by one predictor variable. Meanwhile, one predictor variable in this research is the student's personality traits. Thus, the English Mastery score of the students is influenced by the student's personality traits.

3.3   Operational Definitions

About the title of this study, it is important to define the following terms operationally: *Correlation* is employed to explain the <u>linear</u> relationship between two continuous variables (e.g. height and weight). In general, correlation tends to explain used when there is no identified response variable. It measures the strength (qualitatively) and directions of the linear relationship between two or more variables. This study refers to the connection between personality traits and English Mastery.

"The Pearson correlation measures the strength of the linear association between two variables. It explains estimate the population correlation, p. When variables are correlated, correlation coefficients are produced. The decimal value of this coefficient ranges from 0.00 to +1.00. The closer the coefficient is to 1.00 or -1.00, the stronger the relationship between the variables. A positive sign indicates a positive correlation, suggesting that high scores on one variable are likely to be associated with high scores on the other. Conversely, a negative sign indicates a negative correlation, implying that high scores on one variable are likely to be associated with low scores on the other. If the coefficient is at or close to 0, it means that there is no correlation between the variables (Frankel, Wallen, and Hyun, 2012, p. 340).The meaning of a given coefficient can be seen below :

Table 3.1 Correlation Coefficient

Interval Coefficient	Level of Correlation
0.00-0.20	Very Weak
0.20-0.35	Weak
0.35-0.65	Fair
0.66-0.86	Strong
0.86-1.00	Very Strong

Source :   *Creswell (2012,*
p. 347

Creswell (2012) stated that there are two kinds of correlation studies: explanatory and prediction design. A correlational design known as an explanatory design is used when a researcher wants to explain changes in two or more variables by looking at how changes in one variable affect changes in the others. This design's characteristics include the correlation of two or more variables, the collection of data at one time, the analysis of all participants as a single group, the acquisition of at least two scores for each participant in the group, one for each variable, the reporting of the use of the correlation statistical test in the data analysis, and

the formulation of an interpretation or conclusion based on the results of the statistical test. By employing specific characteristics as predictors, the prediction design might be helpful in anticipating future behavior for which the researcher is looking for results. There is only one explanatory research design employed in this study. Also, most academics say that a sample size of at least 30 is required for a correlation study to be considered appropriate (Fraenkel et al., 2012,).

Personality Traits are the concept that explains attitude, modes of thought, feeling, impulses, strivings, actions, responses of opportunity, and modes of interacting with another person. A person's personality might be thought of as their distinctive mask. The personality qualities of the participants in this study were one or more distinct personalities that belonged to each participant. Whether the kids prefer to speak up about their experiences, come across as responsible, explain extrovert, have pleasant interactions, or have positive neuroticism. Goldberg's IPIP Big-five questionnaire, which can be obtained for free from ipip.co.org, is used by students in the eleventh grade to determine each student's personality.

The outcome of the educational process, or the student's English proficiency score, is called English Mastery. It displayed the results of the students' aptitude. The TOEFL Junior Standard test demonstrates mastery. The TOEFL evaluation shows how to determine how well middle school and lower levels of high school students have mastered academic and social English language skills typical of English-medium learning contexts.

3.4 Population and Sample of the Study

3.4.1 Population of the Study

All of the eleventh-grade students at SMA Muhammadiyah 6 Palembang make up the study's population. In SMA Muhammadiyah 6 Palembang, there are 151 students in the eleventh grade throughout all classes in the upcoming academic year. The research's target audience is then shown in the table below.

Table 3.2 The population of the study

No	Class	Number of Students		
		Male	Female	Sum
1	XI IPA-A	12	21	33
2	XI IPA-B	9	18	27
3	XI IPA-C	12	18	30

4	XI IPS-A	12	17	29
5	XI IPS-B	16	16	32
	Total	**61**	**90**	**151**

Source : SMA Muhammadiyah 6 Palembang academic year 2020/2021

3.4.2   Sample of the Study

The technique used for selecting a sample in this research was probability sampling, which ensures equal opportunities for each member of the population to be selected as a sample member. Probability sampling enables researchers to generalize their findings to the population from which the sample was drawn. There are four methods of probability sampling: simple random sampling, proportionate stratified random sampling, disproportionate random sampling, and cluster sampling. This study used proportionate stratified random sampling, which involves dividing the population into homogeneous layers (strata) and selecting several subjects randomly from each layer. The number of subjects from each layer (strata) determines the sample size for the research.

In this study, the sample is explained by 45 percent of study participants from each class. The researcher randomly selects the end of this sample by allowing each student to participate in a test to ensure that it is a sampling and not a discrimination. Each class for researchers will have 12 to 14 students. There were 66 pupils used as research samples.

Table 3.3 The sample of study

No	Classes	Number of Students	Sampling
		Sum	45%
1	XI IPA-A	33	14
2	XI IPA-B	27	12
3	XI IPA-C	30	13
4	XI IPS-A	29	13

| 5 | XI IPS-B | 32 | 14 |

3.5   Techniques for Collecting the Data

This study will employ tests and a questionnaire to gather data.

3.5.1   IPIP Big-five Questionnaire

A questionnaire is a tool used to collect data by asking participants a set of questions about a particular topic. It can take the form of an observational checklist or a series of interview questions. The purpose of a questionnaire is to obtain information about what participants know, their preferences, opinions, and thoughts on a particular subject. According to Creswell (2012), questionnaires are commonly used in research to collect data from a large number of participants efficiently.

To collect data on personality traits, the writer will use a questionnaire developed by Goldberg (1992) available at ipip.ori.org. The questionnaire consists of 50 items using a Likert scale ranging from very inaccurate to very accurate. The 50 items are categorized into five types: extraversion, agreeableness, conscientiousness, neuroticism, and openness, and each type has positive and negative statements. The students will be given 25-30 minutes to answer the questions.

The researcher used a combination of structured and unstructured questionnaires to collect data. Structured questionnaires are closed-ended, making it easy for the researcher to analyze the data and get a large number of responses. On the other hand, unstructured questionnaires are open-ended, allowing respondents to answer the questions in their own words. The researcher provided blank columns on the answer sheet to give respondents the opportunity to answer the questions freely.

In this study, there is an instrument used to measure the variable. The instrument used for data collection is the ready-made questionnaire from Sorgo et al (2015). The questionnaire consisted of 50 items. The Likert scale used is ranging from very accurate (5), moderately accurate (4), neither accurate nor inaccurate (3), moderately inaccurate (2), and very inaccurate (1). The respondents just choose the provided answer. The writer must determine what the score is to determine that a student belongs to that personality type, and the writer must determine the total score category.

The Likert scale level of the positive and negative keyed items on the inventory are shown in the following table. The results for each survey item are displayed in table 4 below.

Table 3.4 The Personality Questionnaire Items Scoring

Very Inaccurate	Moderately Inaccurate	Neither Accurate Nor Inaccurate	Moderately Accurate	Very Accurate
(+) 1	2	3	4	5
(-) 5	4	3	2	1

Source : www.ipip.ori.org

The questionnaire will be translated into Bahasa Indonesia. This is explained to avoid the possibility of different perception in understanding the statement. Therefore, using Bahasa Indonesia in the statement will be useful for students to understand and answer the question. From the table above, the question number of personality questionnaire could be seem in the Table 3.5 below:

Table 3.5 The Question Number of Personality Questionnaire

Personality Type	Question Number (Positive)	Question Number (Negative)
Extraversion	1,3,6,10,13	2,5,11,14,16
Agreeableness	4,7,15,19,22	8,20,23,25,27
Conscientiousness	21,24,31,33,37	26,36,38,40,43
Emotional Stability	9,12,18,30,41	17,29,44,46,50
Openness	28,32,45,48,49	34,35,39,42,47

3.5.2 English Test

TOEFL Junior describes how to assess pupils' command of English in this study. Another instrument is an objective test in the form of multiple choices that include the three skills of English: listening, speaking, and reading. There are 126 questions on the test. **first,** a listening assessment. You'll hear a teacher or other member of the faculty conversing with students. One question follows each talk. Choose the best response to each question, then write the letter that corresponds to it on your answer sheet. It consisted of 42 questions. **Second,** language form & meaning. Answer the 42 questions that are contained in the seven texts. Each text contains boxes with four different options to end a sentence. Choose the word or words from each box to finish each statement correctly. On your answer sheet, write the letter representing the right response. **Third,** reading tests. You will have to read seven texts and

respond to 42 inquiries. Choose the appropriate response to each question, then write the letter of that response on your answer sheet.

The first part is the listening section. Such as understanding inference or listening for the measure. Time, comparison, opinion. Etc. Such as identifying correct sounds. Predicting the topic. They used these themes and skills to organize the listening section. Then the manual uses TOEFL - type questions to give students practice in these skills and themes.

The second part is language form & meaning, This is somewhat imbalanced, considering the score for this section is worth much less than the other sections of the computer-based TOEFL. The structure of this section is similar to the listening section. The students are given a short explanation of a grammar rule and a practical question that is answered and explained. then 10 to 15 practice TOEFL questions which specifically test that grammar rule in a very analytical way. My opinion that studying this section may improve students' ability to answer questions in Section two of the TOEFL but beyond that, it provides little benefit to students' language learning in other contexts of communication. Many students have developed an ability to identify the correct answer or error (depending on what the case explains) without even reading the questions.

The last part is the Reading Comprehension Section. The manual provides a series of TOEFL-type readings and practice questions. Some advice is given on how to answer specific types of questions that explain the TOEFL. There is some focus on developing vocabulary in this section but only by getting students to identify synonyms from a multiple-choice list. The reliability coefficient and the standard error of measurement are two statistics that are frequently used to describe the reliability of test takers' scores. The dependability coefficient is a calculation of the correlation between test results on various formats. In the group of all test takers, the dependability coefficient of the four TOEFL Junior standard scores explains to be as follows:

Table 3.6 TOEFL Junior Reliability

Reliability Estimates of the TOEFL Junior Standard Test Scores	
Listening Section	.87
Language Form & Meaning Section	.87
Reading Section	.89

Total	.95

Table 3.7 Standard Error of Measurement for each of the TOEFL Junior Standard Test Scores

Standard Error of Measurement for each of the TOEFL Junior Standard Test Scores	
Listening Section	9.8
Language Form & Meaning Section	9.0
Reading Section	10.0
Total	16.7

3.6 Techniques for Analyzing the Data

The analysis technique used by the writer is correlation analysis, which aims to examine the statistical relationship between two variables. Specifically, the writer utilized the Pearson Product Moment Correlation Coefficient to determine the correlation between personality traits and mastery of English. The writer also calculated the scores of the students based on their responses to the questionnaire to determine their personality traits. The scores were then compared to the median score of the questionnaire, where scores equal to or higher than the median were considered high characteristics. The analysis results were presented in terms of frequency and percentage.

Personality Traits questionnaire consisted of 50 items with a score value of 1 (very inaccurate) to 5 (very accurate). Since there were 50 items altogether, the researcher calculated each student's score and compared it to the median score on the questionnaire while analyzing the questionnaire data to determine the personality traits of the students. Students had high characteristics if their trait score was greater than the median or equal to it. The outcome was then divided into instances after frequency and percentage analysis.

The student's overall share in the English test explains by calculating the correct answer. Correct responses receive a 1 while incorrect ones receive a 0. Each segment contains 42 items, making 126 questions total for the section. From the highest score, there are 100. The number of right answers divided by the total number of tests multiplied by 100 provides

an explanation of the student's English proficiency. Once the TOEFL score Junior test results are explained to the students of SMA Muhammadiyah 6 Palembang, the percentage range and qualifications are given as the interval value. In scoring the general test, the writer used the formula, like the following:

$$\text{English Mastery Test} : \frac{\text{The total number of correct answer}}{\text{The total number of test item}}$$

Furthermore, the category of English can be seen in the table below:

Table 3.8 The Category of English

KKM Education Unit	Interval	A (Very Good)	B (Good)	C (Sufficient)	D (Poor)
75	25/3 = 8.3	Above 92	83 to 92	75 to 85	Below 75

Achyar (2014) describes three key considerations when using the Pearson product-moment correlation coefficient. First, the variables being analyzed should be measured at the interval or ratio level of measurement. Second, the data should have a normal distribution. Lastly, the sample size should be at least 50 participants. In this study, two instruments were used to measure the variables of interest: a questionnaire to measure personality traits and the Test of English as a Foreign Language (TOEFL) to measure English mastery, both of which are in the form of ordinal data. In order to convert ordinal data to nominal data, SPSS (Statistical Program for Social and Science) was used.

Furthermore, the categories of personality traits are shown in Table 3.8 below:

Table 3.9 The Categories of Personality Traits

Scoring Range	Category
201-250	High
200-151	Moderate
150-50	Low

Source: Sorgo et al (2015)

3.6.1 Test For Normality

In this study, the Big Five and TOEFL Junior were examined through a normality test of the IPIP data that was collected. The normality test was conducted using the Kolmogorov-Smirnov I-sample to determine whether the research data is normally distributed. If the significance value (Sig.) is greater than 0.05, then the research data is considered normally distributed. Conversely, if the significance value (Sig.) is less than 0.05, the research data is considered not normally distributed.

3.6.2 Linearity Test

By utilizing a one-way Anova, the linearity test was utilized to determine if the data from testing was linear or not. If p-output is more than 0.05, the outcome provides explanation.

3.6.3 Homogeneity Test

In the test of homogeneity, I will select random samples from each subgroup or population separately and collect data on a single categorical variable. The null hypothesis says that the distribution of the categorical variable is the same for each subgroup or population.

To determine the relationship between students' personality characteristics and their command of English, the researcher utilized the SPSS (Statistical Program for Social and Science) computer program's Pearson - Product Moment Correlation Coefficient. It was determined whether the correlation existed if the r-obtained value exceeded the r-table and the p-value (sig2-tailed) was less than 0.05. Simple regression analysis (stepwise approach) using SPSS explains the study to determine the impact of personality factors on English proficiency. The analysis provides context by calculating the pupils' personality attribute and English proficiency scores.