

## **CHAPTER III**

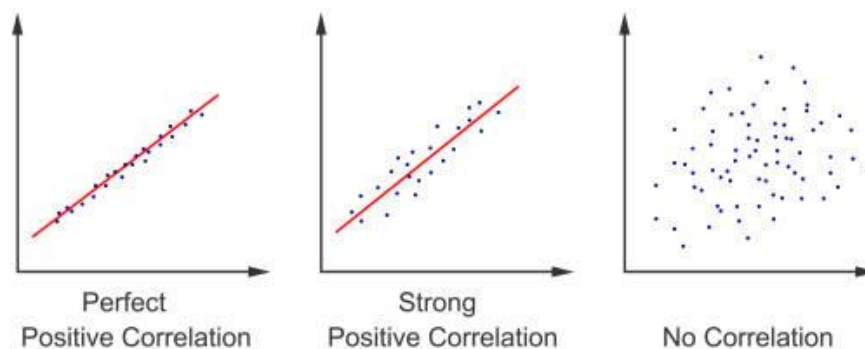
### **RESEARCH METHOD**

This chapter presents the research method used in this research. It discusses the research design, population and sample, instrument of the research, data collection and also data analysis.

#### **A. Research Design**

This study employed a quantitative research approach with a correlational design to examine the relationship among variables. According to Creswell (2019), a correlational design refers to a form of non-experimental research where the researcher examines two or more variables to determine the statistical relationship between them without altering any of the variables. In addition, Creswell (2019) highlights that this design is commonly applied when the objective is to predict outcomes or analyze relationships among variables. Fraenkel and Wallen (2019) state that correlational research involves collecting data to determine whether, and to what degree, a relationship exists between two or more variables. However, it does not establish causation. Gay et al. (2012) explain that correlational research is used to describe the statistical association between two variables, usually reported as a correlation coefficient ranging from -1 to +1.

Furthermore, this study examined the correlation between the intensity of listening to English song and speaking ability of the tenth-grade students at MAN 1 Kota Kediri. There are two variables in this research. The independent variable (X) is the intensity of listening to English song while the dependent variable (Y) is speaking ability of the tenth-grade students.



**Figures 3. 1 Correlational Design**

Moreover, Ary et al. (2010) describe variables as any characteristic that can assume different values among research participants. They highlight variables are what researcher seek to measure, manipulate, or control in a study. Correlational design is a non-experimental design, where the two variables will be analyzed for correlation based on the participants' responses from the two tests. Hence, the study aims to determine whether an association exists between these variables.

### **B. Population and Sample**

The population in research refers to a large group of individuals or objects that form the primary focus of a scientific investigation. According to Hossan et al. (2023), a population in research refers to the entire group of individuals or items that are the subject of observation. It represents the complete set from which researcher aim to draw conclusions. However, it is crucial for researcher to understand the target population to ensure the data collection process is effective and relevant. In this study, the population consists of tenth-grade students at MAN 1 Kota Kediri. There are 13 classes in the tenth grade, with approximately 31 – 36

students in each class, totaling 449 students in the population. The total number of students are as follow:

**Table 3. 1 Table of Population**

<b>No.</b>	<b>Class</b>	<b>Number of Students</b>
1.	X – A	35
2.	X – B	34
3.	X – C	34
4.	X – D	35
5.	X – E	34
6.	X – F	31
7.	X – G	36
8.	X – H	34
9.	X – I	35
10.	X – J	36
11.	X – K	34
12.	X – L	36
13.	X – M	34
	<b>Total</b>	<b>449</b>

Since studying an entire population is often impractical due to its large size, researcher selected a sample which is a smaller representative of population. Sampling involves selecting and assessing a relatively small group of individuals, items, or events to draw conclusions about the larger population from which they are drawn.

Furthermore, Arikunto (2013) suggests that if a population exceeds 100 individuals, researchers can select a sample ranging from 10-15% up to 20-25% or more, depending on the study's needs. For this study, the sample selected using cluster random sampling technique. Creswell (2019) states that cluster sampling involves the selection of groups, rather than individuals, from the population. This method is particularly useful when the population is large and spread out over a wide area, making it more practical to sample entire groups. The cluster random

sampling technique was applied to select the sample from 449 students. Researcher divided the population into 13 classes based on their class (X-A to X-M) because every class already consist of students who have similar characteristic, for example X-A which consist of students who has interest in sports and arts, X-B interest in social science, etc. Furthermore, researcher randomly selected 3 classes and select all of the students from those classes as the sample of the study. This is also known as single-stage. As a result, three classes were randomly selected: Class X-B, Class X-C, and Class X-L. These classes represent 23% of the total population (100 from 449) and serve as the sample for this study. It should be noted that four students from the selected classes were not included in the sample because they belonged to an acceleration program rather than the regular classes. Therefore, the final sample consisted of 100 students.

**Table 3. 2 Sample of the Study**

<b>No.</b>	<b>Class</b>	<b>Number of Students</b>
1.	X – B	33
2.	X – C	33
3.	X – L	34
	<b>Total</b>	100

### **C. Research Instruments**

A research instrument refers to the tools or techniques that researchers use to collect, measure, and analyze data related to the study. In this study, there are two instruments which are questionnaire and speaking test. The questionnaire was distributed to measure the level of intensity of listening to English song, while speaking test was used to measure students' speaking ability.

## 1. Questionnaire

The listening questionnaire was used to collect data on the students' intensity of listening to Trending English songs. According to Sugiyono (2019), questionnaire is a method of gathering data from respondents' responses, typically series of written questions. The questionnaire was adapted from Dersa's (2023) study. She designed a questionnaire to measure the intensity of watching YouTube by focused on 3 sub variable or aspects including frequency, duration and attention (Dersa, 2023). The full blueprint from Dersa (2023) can be seen in *Appendix 1*.

Since the focus of this study is on the intensity of listening to trending English songs, modifications were made to ensure the questionnaire aligns with the research objectives. The 3 sub variables including frequency, duration and attention were maintained in this questionnaire because they are relevant to measure the level of intensity. However, the indicators under each sub variable were adjusted to fit the new context of intensity of listening to English songs rather than watching YouTube videos.

The first modification involved adjusting the first indicator of variable *frequency* from "*The number of times students watch English videos on YouTube in a day*" to "*The number of times students listen to trending English songs in a day*." Similarly, the second indicator was adjusted from "*The number of English videos on YouTube that the students watch in a day*" to "*The number of trending English song that students listen in a day*". Second, indicator of variable *duration* was adjusted from "*The length students provide to watch English videos on YouTube*" to "*The length students provide to listen trending English Song*". Third, indicator

of variable *attention* was adjusted from “*The student’s activity while watching English videos on YouTube*” to “*The student’s activity while listening trending English Song*”. Another adjustment was in the wording of the questionnaire items to ensure clarity and relevance to the new context.

The final questionnaire comprises 19 items distributed across the three sub-variables: frequency, duration, and attention. The complete questionnaire for intensity of listening to English songs is provided in *Appendix 2*. The blueprint of the questionnaire can be seen in Table 3.3 below.

**Table 3. 3 Blueprint of Questionnaire for Intensity of Listening  
Questionnaire adapted from Dersa (2023)**

Variable	Sub Variable	Indicator	Item Number
Intensity of Listening	Frequency	The number of times students listen to trending English song.	1,2,3,4,5
		The number of trending English song that students listen in a day.	6,7,8,9,10
	Duration	The length students provide to listen trending English Song.	11,12,13,14,15
	Attention	The student’s activity while listening trending English Song.	16,17,18,19
<b>Total</b>			<b>19</b>

Furthermore, the questions are structured using a Likert scale (1-4 scale) for the analysis (Creswell, 2019). Additionally, to facilitate understanding among respondents, the questionnaire was translated into Bahasa.

**Table 3. 4 Likert Scale Rating**

Option	Score
Always	4
Often	3
Sometimes	2
Never	1

## 2. Speaking Test

The speaking test was used to measure students' speaking ability focusing on fluency, pronunciation, grammar, vocabulary, and comprehension. According to Brown (2004), a well-structured speaking assessment should involve tasks that prompt students to produce spontaneous language while being evaluated on multiple aspects of speaking competence. The test format follows a structured speaking task where students are asked to respond to given prompts. The speaking test instruction can be seen in the Table 3.5.

**Table 3. 5 Speaking Test Instructions**

<b>Instruction</b>	: Please prepare yourself to present a short speech, you can describe the song, the lyrics, or you can tell the reason why you like that song.
<b>Topic</b>	: "My favorite English songs"
<b>Prompt</b>	: Present a speech about "My favorite English songs" and please do it with a clear voice.
<b>Duration</b>	: 10 minutes
<b>Note</b>	: After the presentation, your speech will be evaluated by the raters based on 5 (Five) components of speaking assessment including pronunciation, grammar, vocabulary, fluency, and organization of ideas.

In the speaking test, students were asked to describe their favorite English song. This topic was intentionally selected to encourage students to speak more naturally and confidently, as familiar and personally meaningful topics tend to reduce anxiety and allow learners to express their ideas more freely. According to Brown (2004), effective speaking tasks should provide learners with opportunities to produce language naturally so that their speaking ability can be observed in authentic communicative situations.

Although the topic refers to English songs, the assessment did not aim to measure students' musical preferences or their knowledge about songs. Instead, the task was designed to evaluate students' speaking performance based on linguistic and communicative aspects such as pronunciation, fluency, grammar, vocabulary, and organization of ideas. Students were free to describe any English song they were familiar with, including its meaning, message, or the reason they liked it. This flexibility ensured that students could rely on their own knowledge and experiences when expressing their ideas.

Therefore, the choice of topic was not intended to advantage students who frequently listen to English songs, but rather to provide an accessible and engaging prompt that enables all students to demonstrate their speaking ability. By allowing students to talk about a familiar topic, the task reduces topic-related difficulty and allows the assessment to focus more accurately on their actual speaking proficiency.

Furthermore, in adapting Brown's (2004) speaking assessment rubric, several modifications were made to suit the specific context of this study. A key modification in this study is the replacement of the "*Comprehension*" category with "*Organization of Ideas*." In Brown's (2004) original rubric, comprehension is designed to assess a speaker's ability to understand and respond to prompts, which is most relevant in interactive, question-and-answer speaking tasks. However, since the speaking task in this study is monologic rather than dialogic, comprehension is not directly observable. What becomes more important in this context is how clearly and logically students express their ideas. The ability to produce coherent and connected spoken discourse has long been recognized as a valid construct of

speaking proficiency (Bachman & Palmer, 1996; Luoma, 2004; Fan & Yan, 2020). As Fulcher (2014) notes, coherence and cohesion are central to communicative competence, particularly in extended speech where the speaker must maintain clarity without interlocutor support. The speaking rubric can be seen in the table below.

**Table 3. 6 Speaking Assessment Rubric Adapted from Brown (2004)**

<b>Aspect</b>	<b>Score</b>	<b>Note</b>
<b>Fluency</b>	5	Speaks smoothly with natural pacing; little or no hesitation.
	4	Generally fluent with minor hesitation that does not interfere with communication.
	3	Some hesitation or repetition, occasionally disrupts fluency.
	2	Frequent hesitation, repetition, or pauses that hinder communication.
	1	Speech is mostly halting, communication is impeded.
<b>Pronunciation</b>	5	Clear and natural pronunciation, accurate stress and intonation.
	4	Mostly clear pronunciation with few minor errors.
	3	Pronunciation errors sometimes affect understanding.
	2	Frequent pronunciation problems that make understanding difficult.
	1	Pronunciation severely impairs intelligibility.
<b>Grammar</b>	5	Uses a wide range of grammatical structures accurately and appropriately.
	4	Minor grammatical errors, but meaning is clear.
	3	Some grammatical errors that occasionally obscure meaning.
	2	Frequent errors that interfere with understanding.
	1	Little or no control of grammar; meaning is unclear.
<b>Vocabulary</b>	5	Uses a rich and appropriate range of vocabulary with precision.
	4	Adequate vocabulary range with minor word choice errors.
	3	Limited vocabulary; occasional repetition or incorrect word choices.
	2	Very limited vocabulary; frequent incorrect or inappropriate word usage.
	1	Extremely limited vocabulary; impedes communication.
<b>Organization of ideas</b> <i>(Modified)</i>	5	Ideas are logically sequenced and well connected; clear structure enhances understanding.
	4	Generally clear organization with minor lapses in coherence.

3	Organization is somewhat clear but lacks cohesion or logical progression.
2	Poorly organized; ideas are disjointed or hard to follow.
1	No clear organization; ideas are confusing or disconnected.

Considering those expert ideas, “organization of ideas” was introduced to evaluate how effectively students sequence, connect, and present their thoughts in a structured and coherent manner. This shift aligns with current perspectives in speaking assessment, which emphasize discourse-level performance and the ability to sustain monologic speech (Ahmadi & Sadeghi, 2016; Fan & Yan, 2020).

From the **Table 3.6** above, it can be seen that the assessment criteria include fluency, pronunciation, grammar, vocabulary, and organization of ideas. Additionally, another adjustment involved the task design, which centers on describing a favorite English song. This topic was intentionally chosen to be more engaging and personally relevant for senior high school students, thereby encouraging more authentic and confident language production.

**Table 3. 7 Descriptive Performance Scale**

Score	Description
5	Excellent
4	Good
3	Fair
2	Poor
1	Very Poor

Moreover, the descriptors for each criterion were simplified and clarified to enhance usability and understanding for both students and raters. This modification ensures that the assessment process remains transparent and fair, particularly for learners with limited English proficiency.

## D. Validity and Reliability

### 1. Validity

Validity refers to the extent to which an instrument accurately measures what it is intended to measure (Creswell, 2019). For the questionnaire, researcher did try out. The questionnaire has been given to 30 students who are in the same level as the sample in this research. The results then processed using Pearson Product-Moment formula where Researcher uses the help of IBM SPSS 27 software for windows. Representation of validity based on the results of the  $r_{\text{count}}$  and  $r_{\text{table}}$  tests, if  $r_{\text{count}} > r_{\text{table}}$ , the item is valid. But if  $r_{\text{count}} < r_{\text{table}}$ , the item is invalid.

**Table 3. 8 The Result of Validity Test**

No.	r Count	r Table	Info	No.	r Count	r Table	Info
Q1	0.731	0.361	valid	Q11	0.580	0.361	valid
Q2	0.828	0.361	valid	Q12	0.829	0.361	valid
Q3	0.736	0.361	valid	Q13	0.767	0.361	valid
Q4	0.645	0.361	valid	Q14	0.622	0.361	valid
Q5	0.744	0.361	valid	Q15	0.801	0.361	valid
Q6	0.766	0.361	valid	Q16	0.509	0.361	valid
Q7	0.867	0.361	valid	Q17	0.259	0.361	invalid
Q8	0.697	0.361	valid	Q18	0.428	0.361	valid
Q9	0.657	0.361	valid	Q19	0.546	0.361	valid
Q10	0.795	0.361	valid	Q20	0.544	0.361	valid

Based on the result of calculation, there are 19 items obtained as valid, including item number 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, and 20. The item that is invalid is item number 17 which have been excluded and eliminated. The data tabulation of the try out result can be seen in *Appendix 4*.

Furthermore, content validity applied to ensure that the speaking test align with the research objectives. Content validity established by expert judgment, where language education specialists review the speaking test instruction to confirm

their relevance and appropriateness (Fraenkel & Wallen, 2019). After review, the speaking test confirmed as valid by the English teacher at MAN 1 Kota Kediri.

Moreover, face validity applied to strengthen the validity of speaking test instrument. According to Brown (2004), face validity refers to the degree to which a test looks right, and appears to measure the knowledge or abilities it claims to measure, based on subjective judgment. To establish the face validity, researcher asked the English teacher where the research conducted and also the students in the same population. The English teacher confirmed that overall instruction is clear, suitable and relatable to assess students' speaking ability at MAN 1 Kota Kediri. Aligned with this, students also said that the instructions are clear and the topic chosen is relatable for them. The validity test ensures that the instrument effectively captures the intensity of listening and speaking ability as intended.

## **2. Reliability**

Reliability refers to the consistency of an instrument in producing stable and repeatable results (Ary et al., 2010). Reliability test ensure that the instrument produce consistent result over repeated application. If an instrument is reliable, it means that it would yield the same results if administered multiple times under the same conditions. In This study, researcher employed Cronbach's Alpha to assess the internal consistency of the questionnaire. The researcher used reliability test in IBM SPSS 27 for Windows.

The following table is the classification of reliability according to Cohen et al. (2007).

**Table 3. 9 Table of Cronbach Alpha (Cohen et al., 2007)**

No.	Cronbach Alpha	Internal Consistency
1	> 0.90	Very Highly Reliable
2	0.80 – 0.89	Highly Reliable
3	0.70 – 0.79	Reliable
4	0.60 – 0.69	Minimal Reliable
5	< 0.60	Unacceptable

Based on the result of calculation, the reliability coefficient of Intensity of listening questionnaire was 0.939 which can be concluded that the items were very highly reliable. The result of reliability test can be seen in *Appendix 5*.

**Table 3. 10 Table of Reliability Statistics**

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.939	0.939	19

For the speaking test, inter-rater reliability was examined to ensure consistency and fairness in scoring. Two independent raters are involved in this research. Rater 1 is the researcher and Rater 2 is the tenth-grade English teacher at MAN 1 Kota Kediri. The raters evaluated the students' speaking performances using the same rubric. Their scores were then analyzed to determine the extent of agreement between raters.

In this study, the Intraclass Correlation Coefficient (ICC) was selected rather than Pearson's product-moment correlation. Pearson's  $r$  only measures the linear association between two raters' scores, meaning that the raters could be strongly correlated but still systematically differ in the actual scores they assign (e.g., one consistently rates higher than the other). By contrast, ICC evaluates both the consistency and absolute agreement of scores, making it the more appropriate

statistic for inter-rater reliability in performance-based assessments such as speaking and writing tests (McGraw & Wong, 1996; Hallgren, 2012; Koo & Li, 2016).

The analysis used a two-way mixed-effects model with a consistency definition, assuming the raters were fixed and the students were random. In the two-way mixed-effects ICC model, the raters are treated as fixed because they are the only raters of interest in this study (the researcher and the English teacher). Meanwhile, the students are treated as random effects, meaning they are considered a sample drawn from a larger population of students (Koo & Li, 2016; Hallgren, 2012). In other words, the reliability estimate is intended to generalize beyond just these 100 students (Hallgren, 2012).

**Table 3. 11 Inter-rater Reliability Result**

	Intraclass Correlation	95% Confidence Interval		F Test with True Value 0			
		Lower Bound	Upper Bound	Value	df1	df2	Sig
<b>Single Measures</b>	.983	.975	.989	117.457	99	99	.000
<b>Average Measures</b>	.991	.987	.994	117.457	99	99	.000

The results showed a Single Measures ICC of .983, 95% CI (.975, .989), and an Average Measures ICC of .991, 95% CI (.987, .994). The F statistic associated with the ICC was significant,  $F(99, 99) = 117.457$ ,  $p < .001$ , indicating that the variance between students' speaking scores was substantially greater than the variance attributable to differences between raters (Shrout & Fleiss, 1979; Koo & Li, 2016). This result confirms that the observed inter-rater agreement was highly unlikely to have occurred by chance.

For interpretation, this study focused on the Average Measures ICC, as the final speaking score for each student was based on the mean of the two raters' evaluations rather than individual scores. According to Koo and Li (2016), the Average Measures ICC should be reported when reliability is assessed on mean ratings, since it provides a more stable estimate of reliability across multiple raters.

**Table 3. 12 Table of ICC Level (Koo & Li, 2016)**

<b>No.</b>	<b>Intraclass Correlation</b>	<b>Reliability</b>
1	> 0.90	Excellent
2	0.75 – 0.90	Good
3	0.50 – 0.75	Moderate
4	< 0.50	Poor

As shown in Table 3.12, ICC values above .90 indicate excellent reliability. Therefore, the Average Measures ICC of .991 demonstrates that the two raters achieved excellent inter-rater reliability, confirming that the speaking scores used as the dependent variable in this study are consistent and trustworthy.

#### **E. Data Collection**

Data collection involved two phases to ensure comprehensive data gathering. The first step was administering the questionnaire to the selected sample in the class session with detailed instructions provided to ensure clarity. To increase response accuracy, students were assured of the confidentiality of their answers. Once the questionnaires were collected, the speaking tests were scheduled.

The speaking test was conducted in a controlled environment, where each student was allotted 10 minutes to complete individual tasks. The sessions were

recorded with high-quality audio equipment to facilitate detailed analysis. The recordings enable multiple reviews, ensuring the scoring is precise and consistent.

The recordings then were analyzed by the raters. Rater 1 is the researcher and Rater 2 is the tenth-grade English teacher at MAN 1 Kota Kediri. To ensure the reliability among the raters, intraclass correlation coefficient was conducted once the process of scoring had been done. The test result showing an Average Measures ICC of .991 demonstrates that the two raters achieved excellent inter-rater reliability.

## F. Data Analysis

### 1. Questionnaire

After the researcher calculated the score of the Likert scale questionnaire, the researcher used IBM SPSS 27 to determine the level of students' intensity of listening to English songs. The researcher analyzed the minimum and maximum scores, the mean, and standard deviation. To find the score of the questionnaire, researcher used the formula as follow:

$$\frac{\text{The raw score}}{76} \times 100\% = \text{Intensity of Listening score}$$

After calculating the students' total score of the questionnaire, researcher graded them into 5 categorize according to Suyahman (2018) as follow:

**Table 3. 13 Classification of Listening Intensity Levels (Suyahman, 2018)**

No.	Total Score	Level
1	85 – 100	Very High
2	70 – 84	High
3	55 – 69	Fair
4	40 – 54	Low

5	25 – 39	Very Low
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## 2. Speaking Test

In analyzing the speaking test, the researcher used a scoring rubric. If the student's speaking performance was good, they received a higher score, while weaker performance results in a lower score. The scoring conducted by two raters: an English teacher and the researcher. The total score calculated with the formula:

$$\frac{\text{The raw score}}{25} \times 100\% = \text{Speaking Ability score}$$

After calculating the students' speaking ability score, researcher graded them into 5 categorize according to Mustakim and Ismail (2018) as follow:

**Table 3. 14 Classification of Students' Speaking Ability Score**

No.	Total Score	Level
1	86 – 100	Excellent
2	71 – 85	Good
3	56 – 70	Fair
4	41 – 55	Poor
5	≤ 40	Very Poor

## 3. Assumption Test

Before conducted correlation analysis, the researcher had performed several assumption tests. The normality test was conducted using the Kolmogorov-Smirnov test or Shapiro-Wilk test to determine if the data follows a normal distribution. If the significance value (p) is greater than 0.05, the data is considered normally distributed; otherwise, it is not.

Next, the linearity test used to assess whether the relationship between the independent and dependent variables is linear. If the p-value is less than 0.05, the

relationship is considered linear. Ensuring linearity is essential because Pearson correlation assumes a straight-line relationship between the two variables. If linearity is not met, a different analytical approach, such as Spearman Rank Correlation, will be used.

#### 4. Correlational Analysis

To examine the relationship between students' intensity in listening to English songs and their speaking ability, this study employed a correlational analysis. Pearson's product-moment correlation coefficient (Pearson  $r$ ) was chosen if the assumption of normality was met, as this test is appropriate for measuring the strength and direction of a linear relationship between two continuous variables (Field, 2024). However, if the normality assumption was violated, the analysis would rely on Spearman's rank-order correlation ( $\rho$ ), which is a non-parametric alternative that does not require normally distributed data (Pallant, 2020).

The decision regarding the significance of the correlation was based on the following criteria:

- 1) The alternative hypothesis ( $H_a$ ) is accepted if  $p$  (sig. 2-tailed)  $< .05$ , indicating that a significant correlation exists between the two variables.
- 2) The null hypothesis ( $H_0$ ) is accepted if  $p$  (sig. 2-tailed)  $> .05$ , indicating that no significant correlation exists between the two variables.

Furthermore, the strength of the correlation coefficient ( $r$ ) was interpreted using the guideline proposed by Sugiyono (2019), as shown in Table below.

**Table 3. 15 Interpretation of Correlation Coefficient ( $r$ )**

No.	Correlation Coefficient ( $r$ )	Interpretation
1	0.00 – 0.199	Very Low

2	0.20 – 0.399	Low
3	0.40 – 0.599	Moderate
4	0.60 – 0.799	Strong
5	0.80 – 1.000	Very Strong