

CHAPTER III

RESEARCH METHODOLOGY

This chapter discusses the methodology employed in the present study as a guidance in answering the formulated research question. Research design, research participants, data collection, data presentation, and data analysis are included in the discussion.

3.1. Research Design

The present study aims to elucidate a phenomenon found in the acquisition of binding principles by individuals with Down syndrome in naturalistic data. Therefore, this study is conducted primarily under the framework of qualitative research method. The qualitative research method is expected to describe and discuss the findings of the present study. However, the present study also employs some quantification in form of percentage to ease data reading.

3.2. Formulation of the Problems

The present study is aimed to elucidate the binding phenomena found in individuals with DS. Therefore, this present study is intended to discover the existence of DPBE in the individuals with DS. A research question is formulated as follows:

- How do individuals with DS observe the Binding Principles?

3.3. Participants of the Study

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Since the present study focuses on how individuals with Down syndrome observe the Binding Principles, the present study involves six participants which consists of three individuals with Down syndrome (DS) and three typically developing children (TDC). The DS participants involve those whose age is between age 20-30 year old. TD is the oldest DS participants whose age is 30 year old. AR is 23 year old and IA is 20 year old. All DS participants are students of one SLB-C in Bandung. The DS participants in the present study are confirmed to meet the criteria of being mild to moderate mental retardation by the school principal through learning processes.

The present study involves three typically developing children as well. These participants are expected as a control group. The age of the TDC participants, LAD, IHA, and NEN, are 10 years old respectively. This age is believed to be around the mental age of the DS participants, which is 11 years old.

3.4. Research Instruments

In this section, some research instruments used to undergo the present study are presented and discussed. The present study uses a set of pictures as the main instrument to collect the data. Two cards, blue and red, are used as signs to signify the answers: blue card is for the right answer and the red card is for the wrong one. A standard video recorder is also required in the present study to record the experiments. An answer sheet is also used to decode the participants' answer in each experiment.

The present study adapts the truth-value judgment task from Chien & Wexler (1998). Truth-value judgment task involves a set of pictures depicting a set of action done by the characters in the picture. Unlike in Chien & Wexler's (1998), the present study uses real photographs depicting real people. This is done by considering the lack of ability of individuals with Down syndrome of recognizing abstract pictures. Abstract pictures mean that the characters depicted in the pictures are abstract, i.e. talking animals. Chien & Wexler (1998) used this

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abstract characters. Thereafter, many studies use abstract characters in truth-value judgment task. Therefore, the present study modifies the instrument. A sample of the picture is shown in Figure 3.1.

Figure 3. 1. Sample Picture of the Instrument



In those pictures, four action verbs, i.e. *menyentuh* (to touch), *menunjuk* (to point), *menyubit* (to pinch), *menjewer* (to tweak one's ear) are depicted by the characters. Each picture represents a sentence involving one of those action words. For instance, the sentence “*Abang menunjuk dia*” (Abang is pointing [at] her) is depicted in Figure 3.1. Therefore, those action verbs are formulated into sentences as follows.

a. *menunjuk* (to point)

Name-pronoun:

Abang menunjuk dia.

Abang is pointing [at] her.

Name-reflexive:

Abang menunjuk dirinya.

Abang is pointing [at] her.

Quantifier-pronoun:

Semua orang menunjuk dia.

Everyone is pointing [at] her.

Quantifier-reflexive:

Semua orang menunjuk dirinya.

Everyone is pointing [at] herself.

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b. *menyentuh* (to touch)

Name-pronoun:

Anggi menyentuh dia.

Anggi is touching him.

Quantifier-pronoun:

Semua orang menyentuh dia.

Everyone is touching him.

Name-reflexive:

Anggi menyentuh dirinya.

Anggi is touching herself.

Quantifier-reflexive:

Semua orang menyentuh dirinya.

Everyone is touching themselves.

c. *menjewer* (to tweak one's ear)

Name-pronoun:

Idan menjewer dia.

Idan is tweaking his [ear].

Name-reflexive:

Idan menjewer dirinya.

Idan is tweaking her [ear].

Quantifier-pronoun:

Semua orang menjewer dia.

Everyone is tweaking his ear.

Quantifier-reflexive:

Semua orang menjewer dirinya.

Everyone is tweaking their ear.

d. *mencubit* (to pinch)

Name-pronoun:

Anggi mencubit dia.

Anggi is pinching him.

Name-reflexive:

Anggi mencubit dirinya.

Anggi is pinching herself.

Quantifier-pronoun:

Semua orang mencubit dia.

Everyone is pinching him.

Quantifier-reflexive:

Semua orang mencubit dirinya.

Everyone is pinching themselves.

The total sentences above is 16 sentences. Each sentence is represented within a picture. Therefore, the present study uses 16 pictures. However, four

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additional pictures are used in training session. In addition, pictures containing the depiction of fruits are also used in the training session. The use these additional pictures is to ensure that the participants understand the experiments.

There are also experiments condition involved in the experiments, namely match and mismatch condition. Match condition is where a sentence spoken is the same with the action represented in the picture. For instance, in Figure 3.1. the action verb is *to point*. The main character, Abang, is pointing at her. Therefore, the sentence should be “*Abang menunjuk dia*” (Abang is pointing at her). Whereas mismatch condition occurs when the sentence is “*Abang menunjuk dirinya*” (Abang is pointing at himself) for the same picture (Figure 3.1).

In responding to the questions (statements), the participants are required to choose the cards according to their answer. In other words, if they believe the statement is true, they need to choose blue card, and vice versa. This technique is used in order not to impose any bias or choice that will influence the participants’ answers.

3.5. Data Collection

To collect the data, the present study exploits the instruments designed for the present study. The data collection procedure is divided into two sessions, namely training session and experiments session.

Before the sessions was begun, the participants were given an explanation regarding what they are doing and what they should do. Moreover, the participants were familiarized with the research instruments, specifically the pictures and cards.

In training session, the participants were shown the pictures containing the depiction of fruits and a statement for each picture was stated. The statement “*Ini apel*” (This is an apple) was stated for a picture of apple depiction. If the participants understand how to use the cards and they think it is indeed an apple,

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they would choose a blue card. This training is meant to ensure that the participants understand how to use the cards.

In addition, in the training session, the participants were also shown the pictures that were similar to the pictures to be used in the experiments. However, the participants' wrong answers were corrected in this training session in order to make the participants more aware of the concept of Binding Principles. In addition, this training is also conducted in order to make the participants more aware of how the experiments would be and more familiar with the instruments.

In the experiments session, the participants were shown all pictures and statements. This experiment was video recorded. There are two steps conducted in the experiment session. First, the participants are shown a picture and an introductory sentence was spoken to them. For instance, Figure 3.1 is shown to a participant. The introductory sentence would be "*Ini Anggi, ini Abang*" (This is Anggi and this is Abang). The action verb depicted in the picture was also told to the participants. Second, the match condition sentence was spoken and the participants responded to the sentence by choosing blue or red card. After the match condition, the mismatch condition of the picture was then spoken.

3.6. Data Analysis

The data collected from the video recording are decoded into answer sheet. The correct answers of each participant in each experiment condition are calculated and its percentage is made. After the data has been in number and percentage form, the data of each participants are compared in term of reflexive and pronoun and also in terms of group participants: DS and TDC participants. The data comparison is presented in form of tables.

By comparing the data, it is expected that some pattern or salient finding could be seen. The pattern or findings found in the data comparison are elaborated

and discussed with related explanation or theory. The findings are also compared with the previous studies' findings.