

## TYPES OF VARIABLE DATA (DISCREET VARIABLE AND CONTINUOUS VARIABLE)

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### **Abstract**

This article aims to offer students and researchers to recognize types of data of variable. This is important because the appropriate formula in analyzing the data related closely to the types of data. The article explains clearly the types of variables based the data owned; 1) Discreet variable 2) Continuous variable. Discreet variable consists of nominal data and integers. Continuous variable consists of ordinal data, interval data, and ratio data.

**Keywords:** *types of variable, types of data, discreet variable, continuous variable, nominal data*

In a research for thesis, students are usually confused about the types of data used. Whereas in order to know the appropriate formula that will be used to quantitative research, either for determining the formula of analyzing validity and reliability of instrument, or for the data analysis such as hypothesis testing, it is related much to the types of variable data. Therefore, the students or researchers should be able to recognize what types of data owned as measurement scale.

Below is types of variables which are often used in terms of types of data. What they are? They are discreet variable and continuous variable. Both of them are quantitative data.

### **1. Discreet Variable**

Discreet variable is type of variable where the data is for categorizing (category data), or distinguishing or grouping. This data is also mentioned as nominal data or dichotomous data. In instance, dichotomous data: 1 is for category 'true', and 0 is for category 'false'. Dichotomous data is often used by the students, teachers or researchers to categorize 'true' and 'false' answers of test result of objective test such as Multiple Choice Question (MCQ). Another instance, symbol 1 is for men and symbol 2 for women. The

numbers 1 0 or 1 2 are only labels to mark categories. So, it does not mean 2 are more than 1 or 0. The data is constant, equivalent and surely can not be used in arithmetic operation.

Moreover, the data included discreet variable is integer. Integer is numbers which are not in fraction or decimal. For instance, the number of car sales in 2016 is 300 cars. In term of research data, the integers can not be in fractional number. So, there is no data 2.5 cars. Another instance is numbers of people. It is never to find a statement "the numbers of people in Jl. G. Obos XVI is 101.6".

## **2. Continuous Variable**

It is different with the discreet variable where the data only function as label; continuous variable consists of data which can be used in arithmetic operation. Continuous data is gotten from the calculation or measurement, so the data can be only in integers and also in fraction or decimal, such as 2.5.

Continuous data also can be in integers, but the data allows variations in fraction form. For instance, the numbers of true or false answers of a test, score, ranking, height, weight, length, distance, etc. The data is fickle or vary.

Bellows are types of data included continuous variable:

### **a. Ordinal Data**

Ordinal data consists of numbers which function as ranking. For instance, rank 1, rank 2, and rank 3. The numbers have meaning, more than only labels like in nominal data. Rank 1 is more diligent than rank 2 and so on.

### **b. Interval Data**

Interval data is types of data in form of numbers which has interval and already can be used in arithmetic operation. Moreover, interval data has fixed interval among the numbers.

For instance, if Subject I has value 1 credit given 50 minutes teaching, Subject II has value 2 credits given 100 minutes teaching, and Subject III has value 3 credits given 150 minutes teaching, simply written 50 – 100 – 150, so it can be seen that the data has interval 50.

Another instance, how many times do you go to your village in a

year? A. 1 time, b. 2 times, c. 3 times, d. 4 times. The numbers use interval 1.

### c. Ratio Data

Ratio data is types of data which is very complex and definitely can be used in arithmetic operation. Numbers in ratio data are real numbers, not only as symbols or labels. 0 (zero) in ratio data is absolute.

The ratio data resulted from calculation/ measurement of weight, length, and time. For instance, data of weight: weight of A is 45 kilos, B is 90 kilos. If analyzed by ratio scale, the weight of A is a half of the weight of B.

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