Four Types of Measure Scales in Research

Name

School or Institution Name (University at Place or Town, State)

**Four Types of Measure Scales in Research**

 When researchers are working on a project, they are basically collecting some data and performing different mathematical operations on the collected data to deduce the results. During the research projects, the researcher may be dealing with qualitative variables or quantitative variables. Deduction of results from the qualitative or quantitative variables identified during the research is possible due to the measuring and scaling techniques. There are mainly four types of measuring scales in qualitative or quantitative research namely nominal scale, ordinal scale, interval scale, and the ratio scale.

**Nominal Scale:**

Nominal scale is the simplest form of measuring scale in research usually deployed in qualitative studies. In the nominal scale, the recorded variables are labeled with names instead of numerical values. Nominal measuring scales are also referred to as categorical scales because the variables have no arithmetical properties and only represent the categories. For example, in a qualitative research study, the researcher has to ask about the gender of the participants (Malec, 2018). The researcher can scale the problem with two gender options such as male and female. The respondents will only select one option, and the scale will be nominal scale because no arithmetic is involved in doing so. Another example of a nominal scale in the research study will be the use of yes / no scale which will also be a nominal scale. Nominal scale having only two categories, like in the example, is known as dichotomous.

**Ordinal Scale:**

In ordinal scale, the order of the value and it's significant are the scaling characteristics of the research variables. Variables are scaled on the basis of having more or less of the characteristics against which they are being scaled. Ordinal scale allows the measurement of the degree of difference based on the logical, ordered relationships. For example, a researcher may ask the participants to rate an item on a scale of one to five given that one is excellent and five is worse. Another example of ordinal scale in research is that a research activity in which the respondents have to choose an option from a scale of happiness. Such as the question may be how do you feel today and the respondent will select one option from the scale value.

**Interval Scale:**

Interval scales are numerical scales representing not only the order of the variable but the difference between them as well. Interval scales are helpful in measuring central tendency by methods of mode, median, and mean. All of these statistical operations can be performed in interval scales (Ary, Jacobs, Irvine, & Walker, 2018). The values are scaled with an equal difference, and the difference is known to exact values. For example, the Celsius scale of temperature divides the temperature levels with an equal difference and in order. The difference between 60 degrees and 50 degrees is exactly the same 10 degree and equally subdivided intervals of one degree. Another example is that having no value against the variable does not mean that the data is not available. Such as in Celsius scale there is no absolute zero.

**Ratio Scale:**

A ratio scale is a significant and sophisticated scale for statistical measurements. It provides the possibility of meaningfully adding, subtracting, and dividing variables on numerical basis. All of the statistical arithmetic operations such as calculations of central tendency, median, mean, and mode can be performed in ratio scales. Ratio scales provide information about the order, an exact value between the units, and have absolute zero as well (Nardi, 2018). Two proper examples of ratio scales can be height and weight measurements. If an object is having a height of 10 meters, then multiple values can be added, subtracted, and divided. Having zero height will also be meaningful, and the same things are true for the weight scaling as well.

**References**

Ary, D., Jacobs, L. C., Irvine, C. K. S., & Walker, D. (2018). *Introduction to research in education*. Cengage Learning.

Nardi, P. M. (2018). *Doing survey research: A guide to quantitative methods*. Routledge.

Malec, M. (2018). *Essential statistics for social research*. Routledge.