

Data types and why we care | written assignment |

[Science](#)



Data Types and Why We Care| Written Assignment| | | Kayla| 1/30/2013| | Kayla Coleman Wednesday, January 30, 2013 Principles of Testing and Measurements Data Types and Why We Care There are a million different types of data in the world. Some types we have learned through years of education and others have yet to be discovered. One question about data types that is asked frequently is “ Why do we care? ” Though there is no text book answer; I believe we care because without these various types of data we will not be able to answer even the simplest of questions.

When I think of the definition a simple question I think of a question that can be answered in a few words. A simple question that I would like answered is “ What Is Your Favorite Color? ” I have picked this question because it is simple to answer and understand. My method of measurement for this question would be by ranking. For example blue would be ranked the highest because most students liked blue. I have picked basic rating because it is the best way to find the answer that I need without added confusing when it comes to understanding the results.

There are many different levels of measurement. All levels have different ways numbers can be used. One level is the nominal level. At this level Numbers can be used for tags or labels like Barcodes and social security numbers. When using nominal variables measurement means is classified as classifying cases in groups. These groups “ must cover all cases” and can not belong to several groups (“ Levels of measurement,”). Ordinal Level is another level of measure. With this kind of measure Numbers are mostly used to order just like in popularity.

You have the jerks, the cheerleaders and the Nerds but we all know what order there is. The groups for ordinal variables are ordered but the distance between two adjacent categories may vary. Interval or Ratio Level is the third level of measurement. With Interval or Ratio Levels numbers are used to express quantities like the amount of money you pay for shoes in this case numbers are not just all-inclusive, mutually exclusive or ordered ("Levels of measurement,"). There are a lot more ways of measuring than we acknowledge like central tendency.

Central tendency tells us where the middle of a bunch of data lies. The most common measures of central tendency are the mean, median, and mode. The Mean is the sum of the numbers divided by the number of numbers in a set of data. The Median is the number in the middle or the mean of two numbers in the middle when arranged in ascending or descending order. The mode is the most frequent number in the set (Saccuzzo & Kaplan, 2010). Standard deviation and the Z score are two more types of measure that can be used.

The Standard Deviation measures the spread out of numbers. A measure of the more spread apart the higher the deviation. Standard deviation can be calculated as the root of variance, which is the average of from the Mean. The Z score explains if a score is equal to, below or above the mean of a group of scores. Basically, it compares scores. The normal Z score is between -2 and +2. Anything other than this are considered "less typical" of scores (Saccuzzo & Kaplan, 2010). Survey research is one way of measurement.

Survey research is great when answering of respondents. It can be a paper-and-pencil form or a one-on-one in-depth interview. Scaling is another way of measurement; it deals with the construction of an instrument that relates to qualitative and quantitative metric units. The purpose of qualitative research is to gain more exposure to an area (Trochim, 2006). Qualitative research is good for obtaining very detailed information that allows you to examine the area of interest in great detail.

However too much detail does make it difficult to determine what the generalized theme is. An indirect measure is an unobtrusive measure that allows researchers to collect data without doing a formal procedure (Trochim, 2006). I believe that a questionnaire would give me the most valid answers to this question. Overall, the large amount of data and measures of data is very overwhelming if you do not know what to look for especially if two methods measure the same thing.

However that is a large amount of information out there that can help us clear up the confusing methods of measures this way we can have a valid more efficient research outcome. Reference Levels of measurement. (n. d.). Retrieved from <http://weber.ucsd.edu/~aronatas/levmeas.html> Saccuzzo, D. , & Kaplan, R. (2010). Psychological testing: Principles, applications, and issues. New York, NY: Trochim, W. (2006, October 20). Research methods - knowledge based. Retrieved from <http://www.socialresearchmethods.net/kb/unobtrus.php>