

Cs 2 descriptive statistics part i: normal curves, variability, and plotting

[Science](#), [Statistics](#)



Descriptive statistics Descriptive statistics Introduction Descriptive statistics entails a quantitative of data (Dodge, 2003). Its aim is to summarize a sample. The various measures used to describe a set of data, measures of central tendency, measures of dispersion and measures of distribution. Central tendency measurement involves mean, mode and median. Measures of dispersion include variance or standard deviation, minimum and maximum variables values, kurtosis and skewness (Trochim, 2006). Descriptive statistics produce sample summaries about observations. There are two types of summaries namely: quantitative and visual. Quantitative or summary statistics give only numbers while visual employs the use of charts or graphs. There are several graphs in use today. They include bar charts, pie charts, histograms, line graphs, pictograms, area graphs, box-plots, stem and leaf, control charts etc. (Mann, 1995)

Part 1

The blood pressure in the Table 2A is a continuous variable (Mann, 1995). The blood pressure can take any value depending on the precision of the instrument used in taking measurements. For instance, the bin, 91 to 95, has a whole range from 90.5 to 95.5. Any value falling in the range belongs to the bin. The numbers of women in each of the groups are discrete variables as they take definite values, which are whole numbers. There is no fraction of a person.

Part 2 Histograms for the blood pressures of the users and non-users ages 35-44.

The majority of the users of the pill have blood pressure higher than the normal and a significant number of non-users have blood pressure levels

lower than the normal. This indicates that the use of contraceptive pills by women within the age bracket 35-44 increases the chances of developing high blood pressure. Most of the women in the non-users group have a tendency of developing low blood pressure.

Part 3

Normal approximations of data are used to view it. With the raw data, we cannot arrive at conclusive decision, as the data itself is bulky. This is to mean it does not represent the information fully. The problem of unification of two sets of unprocessed data occurs when comparing them. Data in Table 2A, for instance, requires processing to give useful information. In order to achieve the result, the analyzer needs to organize the data, produce graphs and summarize using the statistical tools. Use of graphs is the best way of presenting the data as it shows very small variations in the plotting that gives the difference. The shapes of the two drawn graphs are the same. For the specific case of looking at percentages of women with blood pressure, the concept defines the limits (that separates women with low blood pressure from those with high). Then the proportions per group are reviewed and correct the answers to reflect the population that produced the sample. The sample statistics to be approximations because of their biasness, which can be far away from the population parameters. The made calculations usually cover central tendency, dispersion and distribution of the data. However, in short-term decision-making, we can use sample statistics.

Conclusion

Most people like using graphs in summarizing data. Graphs represent visually the data from which they make observations. The most important

thing with using graphs is that they show trends in the data. However, summary statistics are also important in giving central tendency values (Mann, 1995).

Reference

Dodge, Y. (2003). *The Oxford Dictionary of Statistical Terms*. New York, NY: OUP.

Mann, P. S. (1995). *Introductory Statistics* (2nd ed.). New York, NY: Wiley.

Trochim, W. M. K. (2004). *Descriptive Statistics. Research Methods Knowledge Base* 2nd Edition