Glossary

1. **Arbitrarily**

   Decisions based on or subject to individual judgment or preference.

2. **Bivariate distribution**

   A bivariate distribution is one that involves two random variables, not necessarily independent of one another.

3. **Correlation coefficient**

   The strength of the linear relationship between the two variables in the regression equation is the correlation coefficient, r, and is always a value between -1 and 1, inclusive.

4. **Dependent variable**

   A dependent variable is what you measure in the experiment and what is affected during the experiment. The dependent variable responds to the independent variable. It is called dependent because it "depends" on the independent variable.

5. **Geometric mean**

   The geometric mean, in mathematics, is a type of mean or average, which indicates the central tendency or typical value of a set of numbers. A geometric mean is often used when comparing different items- finding a single figure of merit for these items- when each item has multiple properties that have different numeric ranges.

6. **Independent variable**

   An independent variable is the variable you have control over, what you can choose and manipulate. It is usually what you think will affect the dependent variable.

7. **Mean**

   For a data set, the arithmetic mean is equal to the sum of the values divided by the number of values. The arithmetic mean of a set of numbers x_1, x_2, ..., x_n is typically denoted by $\bar{x}$, pronounced "x bar". If the data set were based on a series of observations obtained by sampling from a statistical population, the arithmetic mean is termed the sample mean ($\bar{x}$) to distinguish it from the population mean (μ or $\mu_{x)}$.

8. **Product moment correlation coefficient**

   Pearson product-moment correlation coefficient (sometimes referred to as the PPMCC or PCC, or Pearson's r, and is typically denoted by r) is a measure of the correlation (linear dependence) between two variables X and Y, giving a value between +1 and –1

inclusive. The product moment correlation coefficient can be used to tell us how strong the correlation between two variables is.

9. Regression

Regression is a statistical measure that attempts to determine the strength of the relationship between one dependent variable (usually denoted by Y) and a series of other changing variables (known as independent variables).

10. Regression coefficient

The regression coefficient is the slope of the line of the regression equation. When the regression line is linear ($y = ax + b$) the regression coefficient is the constant (a) that represents the rate of change of one variable (y) as a function of changes in the other (x)

11. Standard deviation

Standard deviation (represented by the symbol sigma, σ) shows how much variation or dispersion exists from the average (mean, or expected value). A low standard deviation indicates that the data points tend to be very close to the mean, whereas high standard deviation indicates that the data points are spread out over a large range of values.

12. Substitution

The replacement of a term of an equation by another that is known to have the same value in order to simplify the equation. Substitution of variables (also called variable substitution or coordinate transformation) refers to the substitution of certain variables with other variables.

13. Summation

Summation is the operation of adding a sequence of numbers; the result is their sum or total.

14. Survey

Survey is a method of collecting quantitative information about items in a population.

15. Tabulated data

The process of placing classified data into tabular form is known as tabulation. A table is a symmetric arrangement of statistical data in rows and columns. Rows are horizontal arrangements whereas columns are vertical arrangements. It may be simple, double or complex depending upon the type of on classification.