

Stats with R
Assignment sheet 0
Ahmad Usman Khattak: 7025483

1. Example of a continuous and discrete measurement variable from your interest area:

Smoking in underage children affect the growth

Variable “Birth year”: **discrete measurement variable** as the year of birth is precise and no value can come in between the birth year.

Height: **continuous measurement variable** as we cannot measure the precise height, it can be 4 feet 9 inches 89mm 23nanomemeter and so on.

Birth year = Discrete measurement variable / Interval Scale

Height = Continuous measurement variable / Ratio Scale

2. Give an example of a population and of a sample (in the context of some specific research question). Do you know (from studies you have read or heard about), how the samples are typically chosen in your field?

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1516247/pdf/califmed00057-0028.pdf>

Population: All pregnant women is population

Sample: 5659 pregnancies recorded over six years is sample

how the samples are typically chosen in your field?

Pregnant women who smoke and who don't smoke were chosen over the period of six years

3. In your example, is it really a random sample of the population or not? Why?

No because the sample does not represent the whole population, pregnant women from different continents and age factor should have been there in study.

4. Identify the independent and dependent variable in the following example and mention its scale

Comparing the time taken by three different modes of transportations namely car, bus and train

Modes of transportation: Independent Variable / Nominal Scale

Time taken: Dependent Variable/ Ratio Scale

Calculating the number of “YES” or “NO” votes of population measures for “green revolution”

Population measure: Independent Variable / Ratio Scale

Yes or No: Dependent Variable /ordinal Scale

Whether caffeine affects the appetite of a person by measuring the hunger level in a 5point Likert scale after the caffeine intake

Caffeine: Independent Variable / Ratio Scale

Hunger level: Dependent Variable / Interval Scale

5. Please find a recent research paper from an area you're interested in, which includes a study that reports statistical significance. Write down:

Multidimensional gender discrimination in workplace and depressive symptoms

a) Abstract:

Discrimination is associated with depressive symptoms and other negative health effects, but little is known about the mental health risks of workplace gender discrimination. We aimed to investigate the association of workplace gender discrimination and depressive symptoms among employed women in South Korea.

b) Population: Employed women in South Korea

c) The sample was random as it includes women from 19-64 years of age and both rural and urban areas and it was stratified multistage sampling design

d) The collection of data was not bias.

e) Design of the study was observational as the sample was questioned and then conclusion was drawn without any experiment.

f) Dependent Variable: Workplace gender discrimination

g) Independent Variable: Hiring, promotion, paid wages, work assignments, training opportunities, and firing.

h) All variables are discrete since ordinal variables are discrete

i) Measurement Scale: All variables are ordinal

j) multivariate logistic regression model

k) To measure the association of workplace gender discrimination and depressive symptoms

Reference of paper:

<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0234415>