

Homework assignment 4

Case 1:

A University conducted a survey of its recent graduates to collect demographic and health information for future planning purposes. The survey revealed that a substantial proportion of students were not engaging in regular exercise. Based on the table below, is there an association between gender and frequency of exercise?

Gender	No regular exercise	Sporadic exercise	Regular exercise	Total
Male	103	342	56	501
Female	151	296	43	490
Total	254	638	99	991

Case 2:

The table below presents the results from a study on obesity and diabetes in 3 857 residents of Plovdiv. Based on these data, is there an association between obesity and diabetes?

BMI	Number of people with diabetes	Number of people without diabetes	Total
Underweight	12	536	548
Normal weight	36	1 423	1 459
Overweight	136	856	992
Obese	256	602	858
Total	440	3 417	3 857

Theory 1:

What is the difference between the 1-sample, 2-sample and paired t-tests?

Theory 2:

What is the difference between kurtosis and skewness?

Theory 3:

What is the main difference between parametric and non-parametric tests?