

Assignment example

Sociology



Topic: Statistical test
 Statistical test a) Is there a statistically significant difference in average years of education by gender?

The male gender has a higher has the tendency of advancing higher in the education field compare to the female. The male gender has an average education years of 13. 4 which is higher compared to the female gender whose average education years is 11. 5. In this case, men have a higher probability of advancing higher in education when compared to women due to the difference in the average education years.

b) Is there a statistically significant relationship between gender and whether or not the respondent was a victim of robbery?

The respondent is likely to have come from the female gender as he takes much interest in the male gender in which she has little information thus tend to put much research effort in gaining more knowledge. In this case there is a high probability that she might be a victim of robbery in the past one year the ratio of robbery in male to female is 3: 4.

Male= yes: 4 No: 8 Female= Yes: 2 No: 6

Therefore Yes: No ratio of Female = 4: 8/2: 8

= 3/4 thus ratio is 3: 4

c) Estimate the average years of education for the entire population.

Total sample years of education= 269years

Total sample student population= 20

Estimate the average years of education= 269/20

= 13. 5years

d) If Canadians currently average 11. 9 years of education, is this sample representative of the general population? No. the sample average has a big error margin of 1. 6 thus it is above the acceptable error mark of +1 or -1.

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(Moore et. al, 2012)

e) Do years of education vary by region of residence? Yes

Area

Total sample years of education

Estimate the average years of education

1. Maritimes

59

11. 8

2. Quebec

66

13. 2

3. Ontario

82

16. 4

4. West

62

12. 4

2. A researcher investigating sex role stereotypes and occupational aspirations drew a random sample of 125 female university students. She discovered that 55 plan to go on to graduate school.

Construct the 90% confidence interval for the true proportion of women seeking higher education.

Confidence level: 90%= Z_c of 1. 645

$p = 55/125$ which is 0. 44

$n = 125$

Therefore $E = 0. 44 \pm 1. 645 (0. 44 * 0. 56) / 125$

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$E = 0.073$

Between 51.3% and 36.7% students plan to go on to graduate school.

Therefore with a margin of error of 0.073, 44% students plan to go on to graduate school (Moore et. al, 2012).

3. The mean interview time for a standard questionnaire of 31.3 minutes was considered to be excessive so the schedule was revised, yielding a mean interview time for a sample of 40 subjects of 21.3 minutes, with a standard deviation of 1.5 minutes. Have the researchers significantly reduced the interview times?

$31.3 - 21.3 = 10 = 4.17$ the researcher has significantly reduced the time by 4.17 minutes.

$1.5 / 40 = 0.24$

4. Is there an association between ethnic background and interest in sports in the population? Yes

Can you say anything else about this relationship?

Europeans have the highest percentage of sport interest as many sporting activities historically originated from Europe. They also invest heavily in sport thus giving Europe a high percentage of people interested in sports. Asia has the lowest percentage of people interested in sports due to their high engagement in religious and cultural practices rather than sports. In Asia more investment is on traditional culture and technology thus more people are not interested in sports compared to the number of interested persons.

Africa has slowly developed in sports. The number of people interested in sports is higher compared to those who are not interested. This is because many regions in Africa are advancing from ancient sporting activities to the <https://assignbuster.com/assignment-example-essay-samples-28/>

modern sports. This creates interest and diversity to the African people.

In other places in the world such as America and south America, the percentage of people interested in sports is slightly higher than those who do not have interest in sporting activities as unlike Europe sports has not been prioritized among the major economic activities but a co-curricular as well as an entertainment field. In this case, the number of people interested in sport is close to that of people not interested in a 50/50 format.

References

Moore D, S., McCabe G, P & Craig BA. (2012). Introduction to the Basic Practice of Statistics, 5th Ed: New York: W. H. Freeman & Co