

Section 1: Research Methods

Chapter 1: Research Methods

1. [20 marks]

(2014:S3:1)

A psychologist was interested in studying the characteristics of young people who do volunteer work.

- (a) Name **two** non-experimental (descriptive) research methods that the psychologist could use. (2 marks)

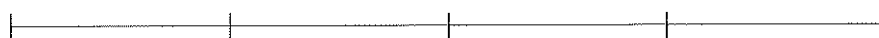
Correlational study
Case study

- (b) Name **two** qualitative methods that the psychologist could use. (2 marks)

Survey
Archival research

- (c) The psychologist designs a subjective quantitative measure to collect information about the personality characteristics of volunteers, using a Likert scale.

- (i) Name each of the five points on the line below to show a Likert scale. (1 mark)



STRONGLY DISAGREE DISAGREE DON'T KNOW AGREE STRONGLY AGREE

- (ii) Describe **one** advantage of using a Likert scale compared with a checklist. (2 marks)

A Likert scale gives more detailed information, such as the strength of an attitude rather than simply whether they agree or disagree. A checklist simply gives a yes or no answer.

The psychologist was interested to find out whether there is a relationship between the number of hours spent volunteering and self-esteem in young people.

- (d) Is this an experimental or correlational study? Explain the reason for your response. (2 marks)

This is a correlational study, there are no manipulated variable, it is simply looking at a relationship between two already occurring variables.

The psychologist collected data on the self-esteem of ten young people who were currently involved in volunteer work in their community, using the Likert scale.

The Likert scale produced scores for each person ranging from 10 to 50. Higher scores indicated higher levels of self-esteem.

The self-esteem scores for the 10 young people were:

30, 32, 38, 40, 45, 43, 46, 38, 45, 46

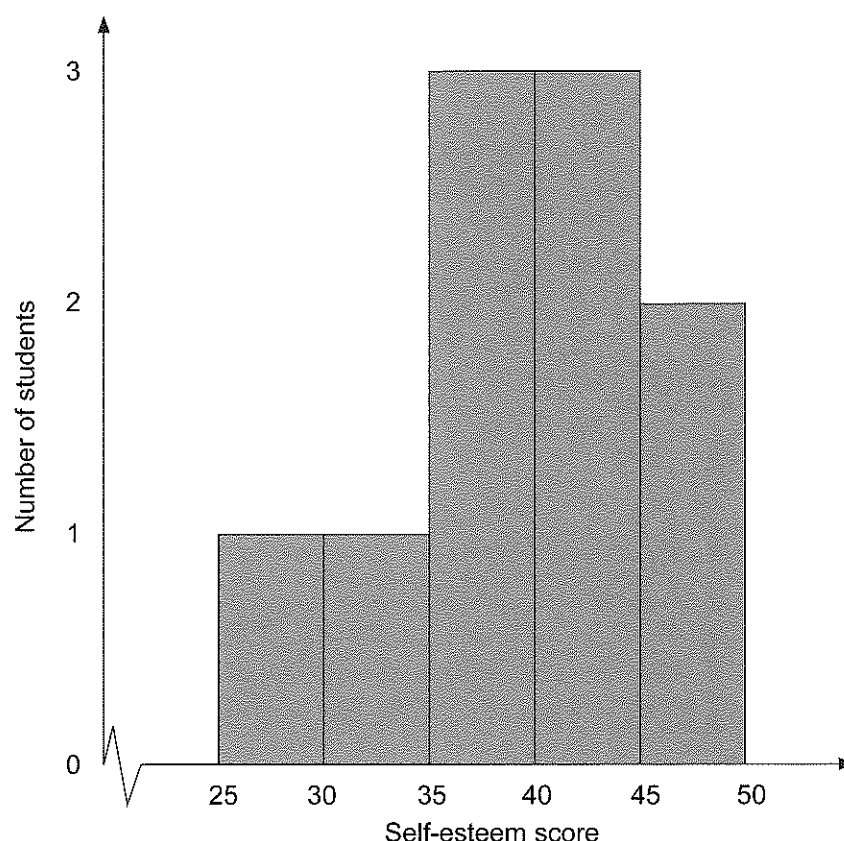
- (e) (i) Complete the frequency table below. (1 mark)

Self-Esteem Score	Number of People
11–15	0
16–20	0
21–25	0
26–30	1
31–35	1
36–40	3
41–45	3
46–50	2
Total	10

- (ii) The psychologist is writing a report on the results of the research and needs to include a graph of the frequency of self-esteem scores. Graph the results from the frequency table in part 1 (e) (i) on the axes below. (6 marks)

Frequency of self-esteem scores in volunteers

Frequency of self-esteem scores in volunteers



The psychologist then collected data from a sample of ten young people who had never done any volunteer work. The psychologist calculated the mean self-esteem score for the volunteer group and the non-volunteer group.

	Mean Self-esteem Score
Volunteer Group	40.3
Non-volunteer Group	38.5

- (f) A statistical test of the difference between the two means showed $p > 0.05$.
- State whether the difference between the two means was statistically significant. (1 mark)
No, it is not statistically significant.
 - Describe the meaning of 'statistically significant'. (2 marks)
Whether the results are due to chance factors or a real difference.
 - Outline the conclusion that the researcher should draw from the statistical results. (1 mark)
As there is no statistical significance between the two sets of scores, the researcher can conclude that there is no real difference in levels of self-esteem in people who volunteer compared to those who don't.

2. [14 marks]

(2014:S3:2)

Professor Zheng of Smart University wanted to test whether a vitamin supplement helped to improve students' grades. To test her idea, she told her class she was giving them all a supplement that would make them smarter. She told them they all had to participate. Professor Zheng divided the class into two equal groups. Group A received the vitamin supplement and Group B received an inactive substance (sugar pill). Over the two week trial, Professor Zheng spent a lot of time with the students gathering data. She was excited to find that the results showed that all the students' grades had improved. She concluded that the vitamin supplement had worked.

- (a) (i) Name **three** rights that people have as participants in research. (3 marks)
Voluntary participation
Withdrawal rights
Confidentiality
- (ii) Outline **two** pieces of information about a research study that a researcher must provide to participants so that they can give informed consent. (2 marks)