

Module 1 – Solutions

1.1 (a)

1.2 Study is an experiment since the researcher intervened i.e. the subjects had to walk briskly on a treadmill.

Explanatory variable: time since exercise (before, immediately after and 12 hours after).

Response variable: metabolic rate.

1.3 Q1, Q2, Q5, Q6, Q7 (a) and (b), Q8, Q10, Q11, Q12, Q15 (a) and Q16 all generate category data (nominal).

The famous Olympian part of Q9 also generates category data (nominal).

The data generated by Q3 can be treated as category data (ordinal).

Q4, Q9 Q13, Q14 and Q15 (b) generate numeric data - all the data for physical measurements, time, money, and ratings on the line provided are naturally continuous though some are forced into discrete data e.g. Q13, Q14 and Q15 (b).

1.4 **Population:** All Dublin inner city residents.

Variable measured: opinion on the police service e.g. rating scale.

Sample: 300 adults living at the 300 addresses chosen (not given any information on the response rate).

Potential bias: may overestimate positive feedback on police service because a Garda is asking the questions – would be better to have someone neutral or trusted by the community to carry out the survey. Would also need information on the response rate.

1.5 (a) Stratified (b) Simple (c) Cluster (d) Quota

1.6 (i) 17 (ii) 28 (iii) 28

The median is the middle value when all the results are placed in numerical order from lowest to highest.

1.7

2		1
2		8
3		0 0 1 1 2 2 2 2 3 3 3 4 4 4
3		5 5 5 5 5 6 6
4		1 1 2
4		5 6
5		1
5		

(b) Discrete, numerical data (c) 2 (d) €35 (e) €34

1.8 (a) 15 (b) 25 (c) 33 (d) 5 mins

1.9 (a) 15.5 (b) 9 (c) 25, 16