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Knowing about Probability Samples

STUDENT HANDOUT

This worksheet helps you to recognize, analyse and apply probability sampling methods in research. In probability samples, all people within the study population have a specifiable chance of being selected. These types of sample are used if the researcher wishes to explain, predict or generalize to the whole research population. Since the sample serves as a model for the whole research population, it must be an accurate representation of this population.

There are several probability sampling methods that are used in research and examples of these are given below. Work through these examples and, for each one:

- name the sampling technique;
- highlight possible strengths and weaknesses;

- give another example of a research project that could utilize this particular sampling technique.

Example 1

A researcher wants to find out how many children are absent from school in a given month. It is important to ensure that every school in the country has an equal chance of being chosen so that generalizations can be made. He obtains a list of every school, assigns each a number and, using an online random number generator, creates a list of schools to which he can send his questionnaire.

Example 2

A researcher wants to understand more about the coping strategies of nurses working in busy hospitals at night. It is not possible, financially or practically, to visit every hospital in the country. However, precision is important as the researcher wants to be able to give an explanation of coping strategies and make predictions about how nurses will cope in a given situation. The researcher decides to choose several specific geographical locations and then obtain a list of all hospitals within each location. Each hospital is assigned a number and a list of hospitals, within each geographical location, is chosen using an online random number generator.

Example 3

A researcher wants to find out about the lunchtime eating habits of workers in a particular car factory. She obtains a list of all employees, chooses a starting number, chooses an interval number and then works though the list, developing her sample list from the employees that appear at the correct interval on the list.

Example 4

A researcher wants to find out about participation in sport among undergraduate students from different subject areas studying at a particular university. It is important to the researcher that he is able to interview students from all subject

areas as he wants to find out whether there is a connection between subject studied and participation in sport. He decides to arrange his sample by undergraduate subject and then, within each subject, choose students on a random basis.

Example 5

The researcher described in Example 4 finds that there are many more arts students than science students. So he decides to increase the sample size of his science students to make sure that his data are meaningful.

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