6. Validity, Reliability, Sampling and Ethics in Research

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Agenda

- Reliability and Validity
- Ethical issues in conducting research

Validity and Reliability

- The validity and reliability of the data you collect depend on the design of the instrument (e.g. questionnaire) and the words that you use.

- The validity is the extent to which the data accurately measures what they were intended to measure.
  - Defn. 2: Validity refers to how well a test measures what it is purported to measure.

- The reliability is the extent to which the data collection method will yield consistent findings if replicated by others.
  - Defn. 2: Reliability is the degree to which an assessment tool produces stable and consistent results.

Size and Sampling

- In a positivistic study, when seeking the views of a group of fifty or less, Henry (1990) argues against any form of sampling. He argues that you should distribute questionnaires and collect data to the entire population, if possible.

- To elicit the views of larger groups, some form of sampling is usually necessary to attempt to gather opinions that are likely to be representative of the whole group.

- Sampling strategies are divided into two main groups: probability and non-probability sampling.

Probability Sampling:	Non-Probability Sampling:
Where the researcher has a significant measure of control over who is selected and on the selection methods for choosing them. Sampling methods allow for representative cross-sections, or particular groups to be identified or targeted.	Where the researcher has little initial control over the choice of who is presented for selection, or where controlled selection of participants is not a critical factor.
Main Methods:	Main Methods:
Simple Random Sampling: (selection at random by the researchers from a choice of subjects) Systematic Sampling: (selecting by the researchers at numbered intervals, e.g. every one person in five in the target group)	Convenience Sampling: (sampling those most convenient; those immediately available) Voluntary Sampling: (the sample is self-selecting; they come forward voluntarily in response to an appeal)

Probability Sampling:	Non-Probability Sampling:
Main Methods (Cont.):	Main Methods (Cont.):
Stratified Sampling: (sampling within particular sections of the target groups, e.g. you target a specific number of people based on the percentage of the total group that share the same characteristics. So, for example, in a study of an organisation that had 50 supervisors & 800 labourers, a 10% representative sample of this population would target 5 supervisors & 80 labourers to interview. Cluster Sampling: (surveying a particular cluster of the subject group)	Purposive Sampling: (enables you to use your judgment to choose people that are presented or are available that best meet your objectives or your target groups). 'Snowball' Sampling: (building up a sample through informants. You start with one person – who then suggests another & so on) Event Sampling (using the opportunity presented by a particular event, e.g. a conference, to make contacts) Time Sampling (recognising that different times or days of the week or year may be significant and sampling at these times or days).

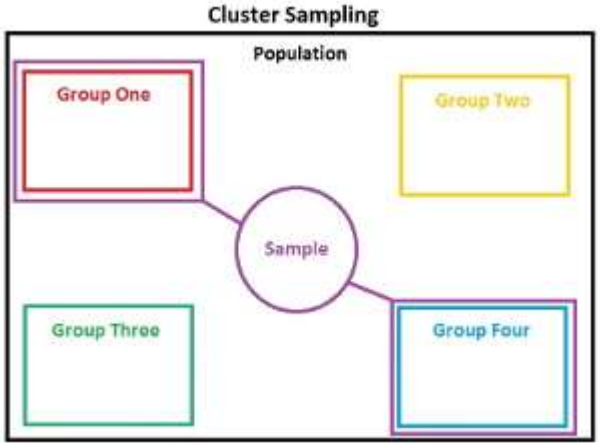
Examples of Probability Sampling

Random	Systematic	Cluster
OOOOO	0000**X**	00000
OO**X**O	O0000**X**	00000
000000	0000**X**	00000
X00000	0000**X**	**XXXXX**
00000**X**	0000**X**	**XXXXX**
000000	0000**X**	**XXXXX**
00**XX**00	0000**X**	00000
000000	0000**X**	00000
0000**X**0	0000**X**	00000

Stratified

00**X**00
0**X**000
000**X**0

00000
X0000
XX000
000**X**0



Exercise

- *In 2017 there was a study of the personal characteristics of the top 40 under forty women. The 40 were contacted through the chairpersons of woman's business networks across Kenya. The names of potential respondents were passed to the researchers, who wrote to the women concerned and invited them to participate in the survey, which included the completion of a questionnaire and interview with the researcher.*
- What sampling strategy do you think was used in this study?

Response Rates

- As a general rule, a response rate of 30 per cent or greater for a postal/externally sent questionnaire is generally regarded as reasonable.
- However, a goal of 50 per cent or more responses should be attempted in any questionnaire that involved face-to-face interviews.
- There are techniques that can help improve response rates to postal or electronic questionnaires:

1. Follow-up calls (especially telephone reminders and special delivery letters)
2. Pre-contact with respondents (telling them about the questionnaire)

Response Rates (Cont.)

3. Type of postage (special delivery is superior to ordinary mail; there is also some evidence that hand-written white envelopes are more likely to be opened than brown/typed!)
4. Rewards: prizes, or better still, cash incentives.
5. Personalizing the questionnaire: writing to the person by name, e.g. 'Dear John/Mary' etc.
6. Emphasising Confidentiality: ensuring that all views to be published remain anonymous, if appropriate
7. Appeals to the respondent: based on the social, personal or other benefits that might flow from the participation of a respondent

Response Rates (Cont.)

- Postal questionnaires should always include a stamped return envelope and have a covering letter explaining the purpose of the questionnaire and the use intended for the findings in the future.

- The researcher should include full contact details and the offer to discuss the questionnaire with any respondent who has doubts or queries about it.

- The researcher should always offer to share the research findings with any participant, if requested, and this offer is best made in the covering letter.

Ethical Considerations in Research

- Ethical concerns may emerge at all stages of research.
- Saunders, Lewis and Thornhill (2003, p. 131) summarize the main issues to consider, although the ethical issues surrounding these items are not always clear-cut:

1. The rights of privacy of individuals
2. Voluntary nature of participation – and the rights of individuals to withdraw partially or completely from the process
3. Consent and possible deception of participants
4. Maintenance of the confidentiality of data provided by individuals or identifiable participants and their anonymity
5. Reactions of participants to the ways in which researchers seek to collect data
6. Effects on participants of the way in which data is analysed and reported
7. Behaviour and objectivity of the researcher

Ethical Considerations in Research: Example

Misleading People:

Roy Wallis, a sociologist, wanted to investigate a controversial religious organisation, but he knew the leaders of the movement were unlikely to agree. He covertly joined the movement and participated in an introductory course. As part of this introductory course he had to sign a pledge that he would not disclose to others details of it. He signed this – but went on to publish his view of this course.

- Was his behaviour ethical? He argued that it was in the interest of society that he published details of what went on inside secretive organisations.

- What do you think?

Checklist for Ethical Research

1. Will the research process harm participants or those whom information is gathered?
2. Are the findings likely to cause harm to others not involved in the research?
3. Are you violating accepted research practice in conducting the research and data analysis, and drawing conclusions?
4. Are you violating community or professional standards of conduct?

(Kervin, 1992, p. 38)

Summary of Chapter 3 Structure

3.1 Introduction
3.2 *Phase 1 of* System Development Methodology
3.3 *Phase 2 of* System Development Methodology
3.n *Phase n of* System Development Methodology
3.w System Development Tools
3.x Project Milestones/Schedule
3.y Project Deliverables
3.z Ethical Considerations

Demonstration

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- RHInnO

End

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