Kumar: Research Methodology Chapter 4

Formulating a Research Problem

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Topics covered

Formulating a research problem in quantitative research

- Importance of formulating a research problem
- Sources of formulating a research problem
- Considerations in selecting a research problem
- Steps in formulating a research problem
- How to formulate research objectives
- The study population
- Operational definitions

Formulating a research problem in qualitative research

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Importance of formulating a research problem

- First and most important step
- Quality and relevance of the research relies on it
- Key to formulating the idea of what needs to be investigated
- Determines the methodology and design of the project:
  - Descriptive and qualitative
  - Correlational and quantitative
- The clearer the research question, the easier the next steps

Sources of research problems

- Look closely in your academic field or discipline
- Use four Ps:
  - People
  - Problems
  - Programmes
  - Phenomena
- Apply to qualitative and quantitative research

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Table 4.1 Aspects of the research problem

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Aspects of a study	Information about	Study of	Importance to the study
Study population	People	Individuals, organisations, groups, communities	They provide you with the required information or you collect information from or about them
Subject area	Problem	Issues and problems facing a group of people; description of situations, associations, needs, attitudes; population profiles; service delivery process etc.	Information that you need to collect to find answers to your service research questions
	Programme	Contents, services provided, administrative structure, services outcomes, consumer satisfaction, profile of consumers, profile of service providers, effectiveness, cost benefit, etc.	
	Phenomenon	Cause and effect, relationships, the study of a phenomenon itself, etc.	

Considerations in selecting a research problem

- Interest
- Magnitude
- Measurement of concepts
- Level of expertise
- Relevance
- Availability of data
- Ethical issues

Steps in formulating a research problem

Step 1: Identify the main subject area

Step 2: Dissect into sub-areas

Step 3: Select sub-areas of most interest

Step 4: Raise research questions

Step 5: Formulate objectives

Step 6: Assess objectives

Step 7: Double-check

Figure 4.1 Dissecting the subject area of domestic violence into sub- areas
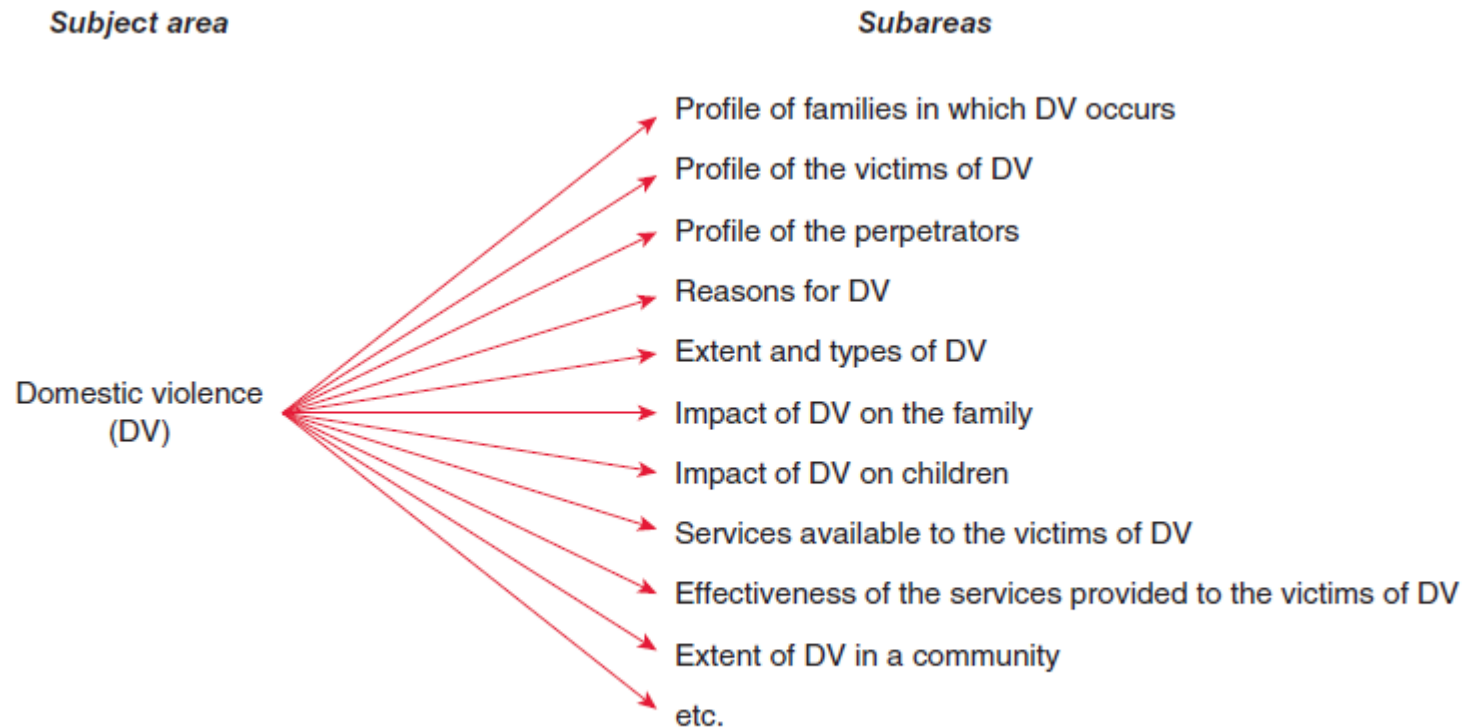
Subject area

Subareas

Domestic violence (DV)

- Profile of families in which DV occurs
- Profile of the victims of DV
- Profile of the perpetrators
- Reasons for DV
- Extent and types of DV
- Impact of DV on the family
- Impact of DV on children
- Services available to the victims of DV
- Effectiveness of the services provided to the victims of DV
- Extent of DV in a community
- etc.

Figure 4.1 Dissecting the subject area of domestic violence into subareas

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How to formulate research objectives

- Goals that inform what will be achieved
- Main objective – overall statement
  - Describing the main focus
- Sub-objectives – specific aspects
  - Clear and unambiguous wording
  - Numerically listed
  - Each contains one aspect
  - Starts with action word: 'to find out', 'to explore'

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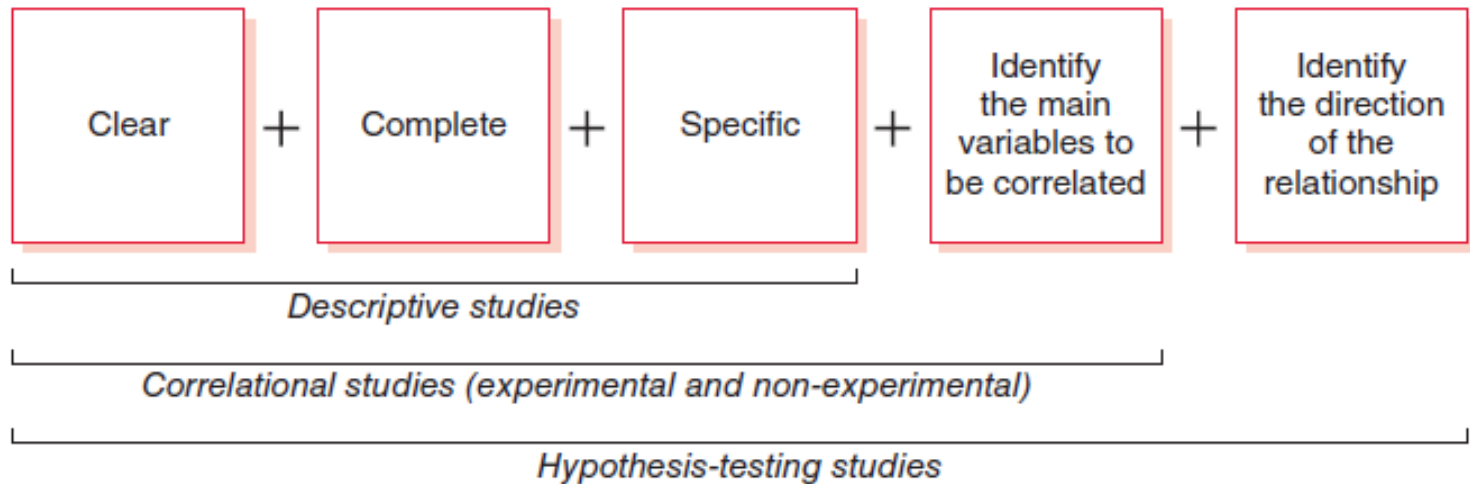
Figure 4.5 Characteristics of objectives

Figure 4.5   Characteristics of objectives

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Figure 4.2 Steps in formulating a research problem - alcoholism

Example 1: Suppose you want to conduct a study in the area of alcoholism. In formulating your research problem take the following steps.
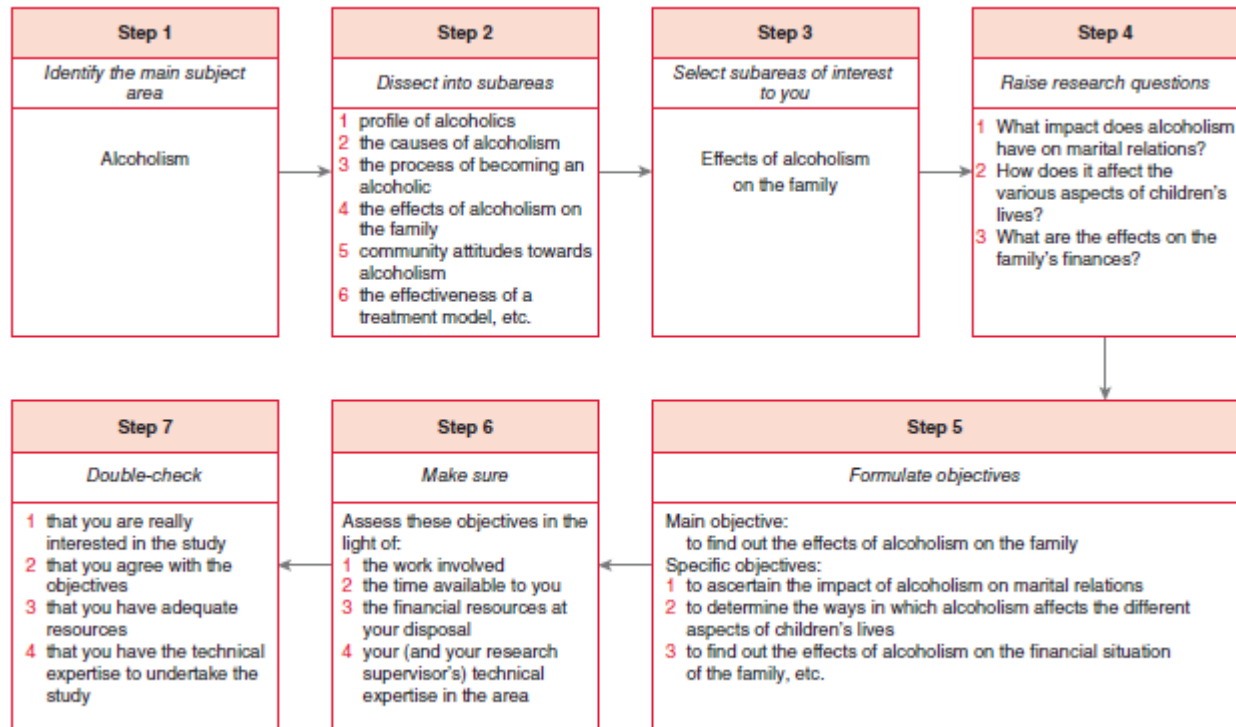
Step 1	Step 2	Step 3	Step 4
Identify the main subject area	*Dissect into subareas*	*Select subareas of interest to you*	*Raise research questions*
Alcoholism	1 profile of alcoholics 2 the causes of alcoholism 3 the process of becoming an alcoholic 4 the effects of alcoholism on the family 5 community attitudes towards alcoholism 6 the effectiveness of a treatment model, etc.	Effects of alcoholism on the family	1 What impact does alcoholism have on marital relations? 2 How does it affect the various aspects of children's lives? 3 What are the effects on the family's finances?

Step 7	Step 6	Step 5
Double-check	*Make sure*	*Formulate objectives*
1 that you are really interested in the study 2 that you agree with the objectives 3 that you have adequate resources 4 that you have the technical expertise to undertake the study	Assess these objectives in the light of: 1 the work involved 2 the time available to you 3 the financial resources at your disposal 4 your (and your research supervisor's) technical expertise in the area	Main objective: to find out the effects of alcoholism on the family Specific objectives: 1 to ascertain the impact of alcoholism on marital relations 2 to determine the ways in which alcoholism affects the different aspects of children's lives 3 to find out the effects of alcoholism on the financial situation of the family, etc.

Figure 4.2   Steps in formulating a research problem – alcoholism

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The study population

- Second important aspect to the research
- Who constitutes the study population?
- Select appropriate participants from the study population
- Definition may need to be narrowed down
- Be as specific as possible

Establishing operational definitions

- Explain working definitions specific to study
- Define specific terms, meanings to concepts used
- These may differ to dictionary or legal definitions
- Avoids ambiguity and confusion
- Develops a framework for the study

Formulating a research problem in qualitative research

Different to quantitative research which is specific, narrow and the framework confines the research (tests hypotheses)

Qualitative research is flexible, open, freedom to include new ideas at a later stage:

- Research problem can be reformulated

- Inductive reasoning

- Flexible conceptual framework to increase depth and richness of data