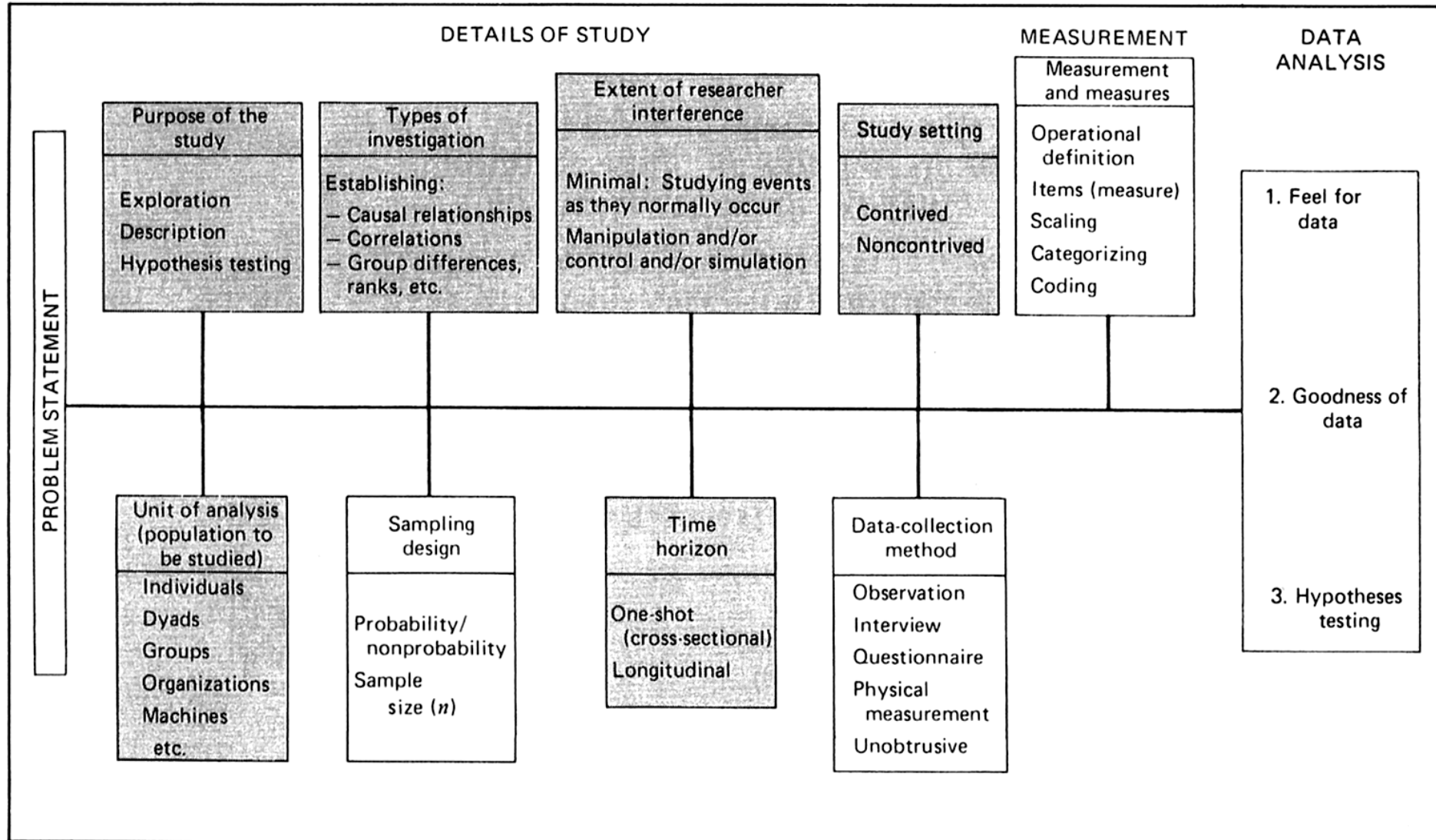


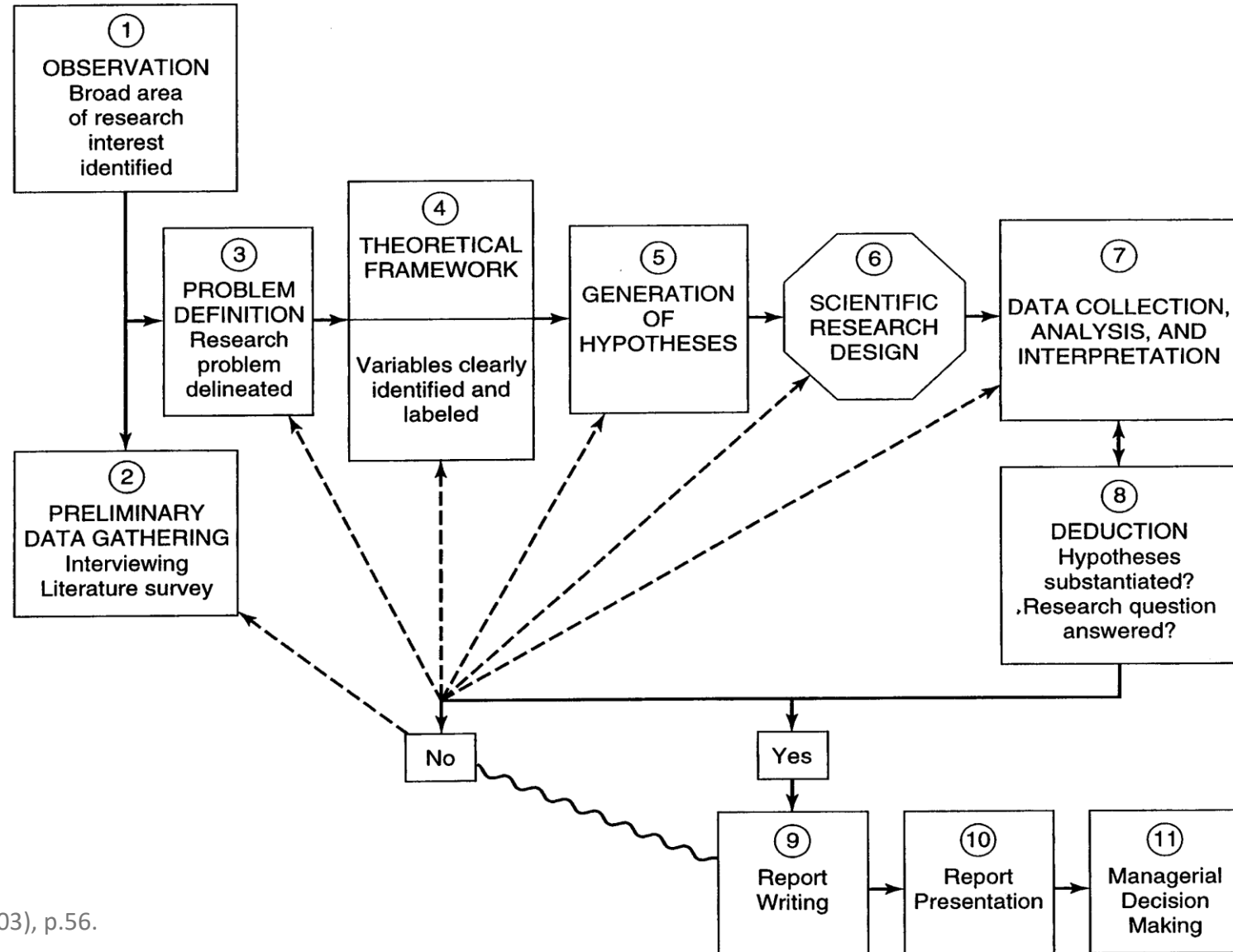
Week 1 – Research Design and Process

Dr. Helen LEE

Research Design



Steps in a Quantitative Research Process

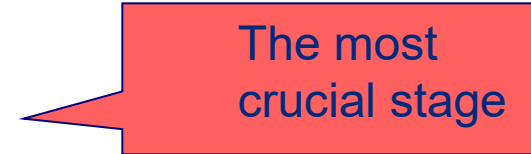


Source: Sekaran (2003), p.56.

Agenda

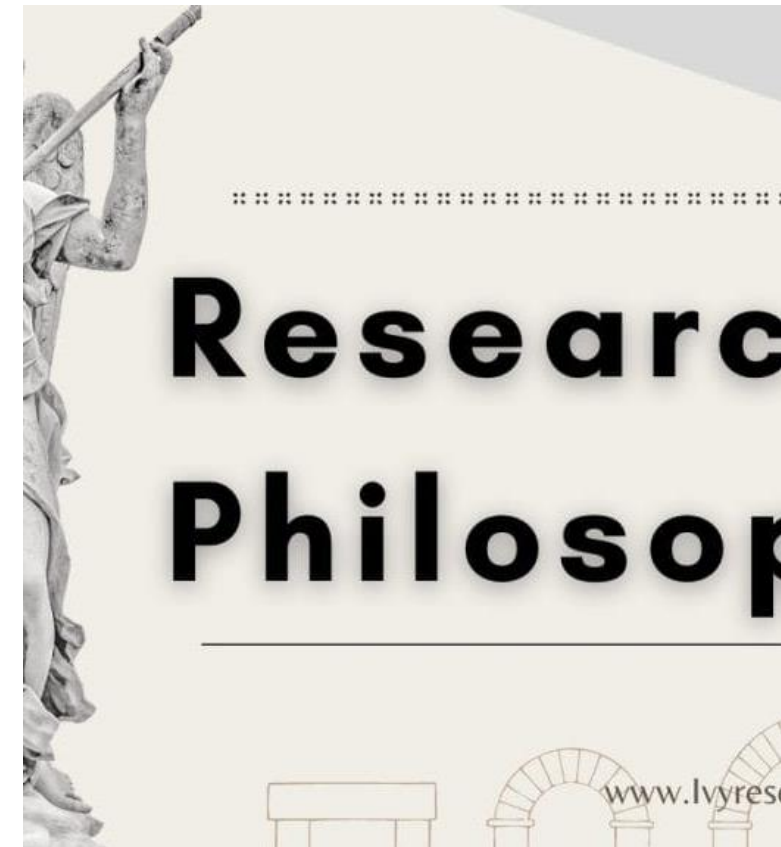
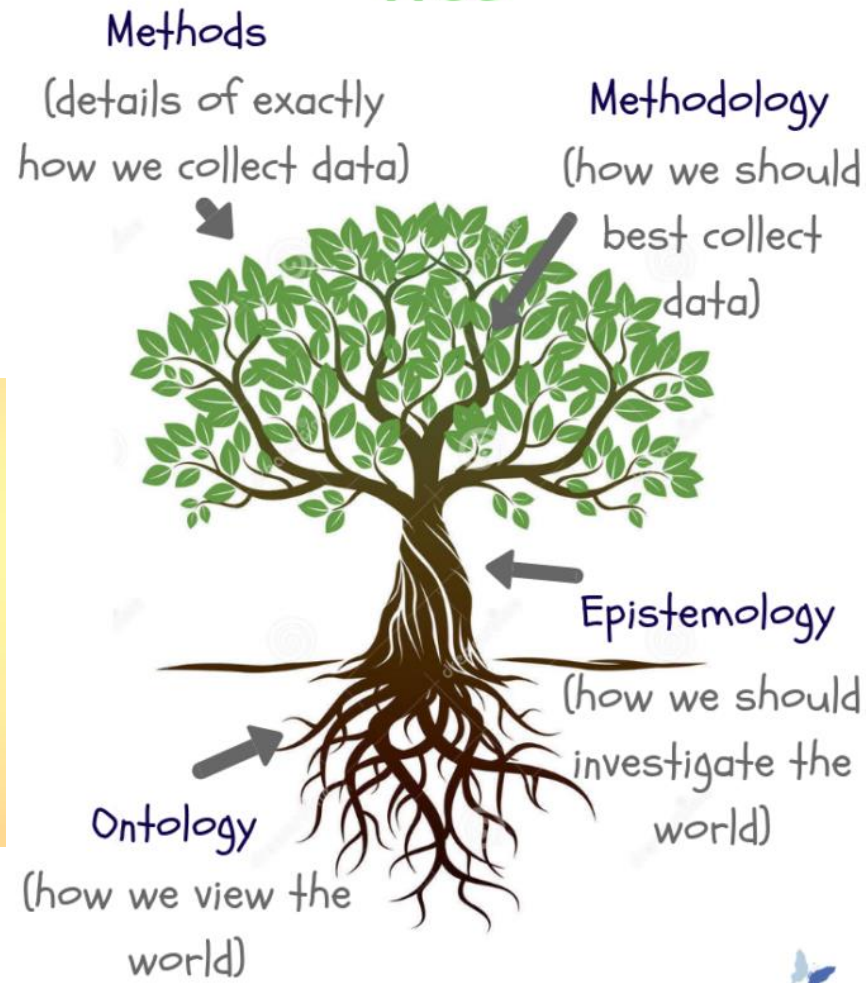
- Steps in a Research Process
- Your Research Philosophy
- Your Research Approach
- Research Design
 - Qualitative & Quantitative Research
 - Types of Investigation
 - Measurement and Measures
 - Sampling and Sample Size
 - Data Collection Methods



[illegible]

Choose your Research Philosophy

Research Methodology Tree



Qualitative & Quantitative Research

QUANTITATIVE RESEARCH

Test hypothesis that the researcher begins with.

Concepts are in the form of distinct variables.

Measures are systematically created before data collection and are standardized.

Data are in the form of numbers from precise measurement.

Theory is largely causal and is deductive.

Procedures are standard, and replication is frequent.

Analysis proceeds by using statistics, tables, or charts and discussing how what they show relates to hypotheses.

QUALITATIVE RESEARCH

Capture and discover meaning once the researcher becomes immersed in the data.

Concepts are in the form of themes, motifs, generalizations, and taxonomies.

Measures are created in an ad hoc manner and are often specific to the individual setting or researcher.

Data are in the form of words and images from documents, observations, and transcripts.

Theory can be causal or noncausal and is often inductive.

Research procedures are particular, and replication is very rare.

Analysis proceeds by extracting themes or generalizations from evidence and organizing data to present a coherent, consistent picture.



Source: Neuman (2008)



Quantitative Research

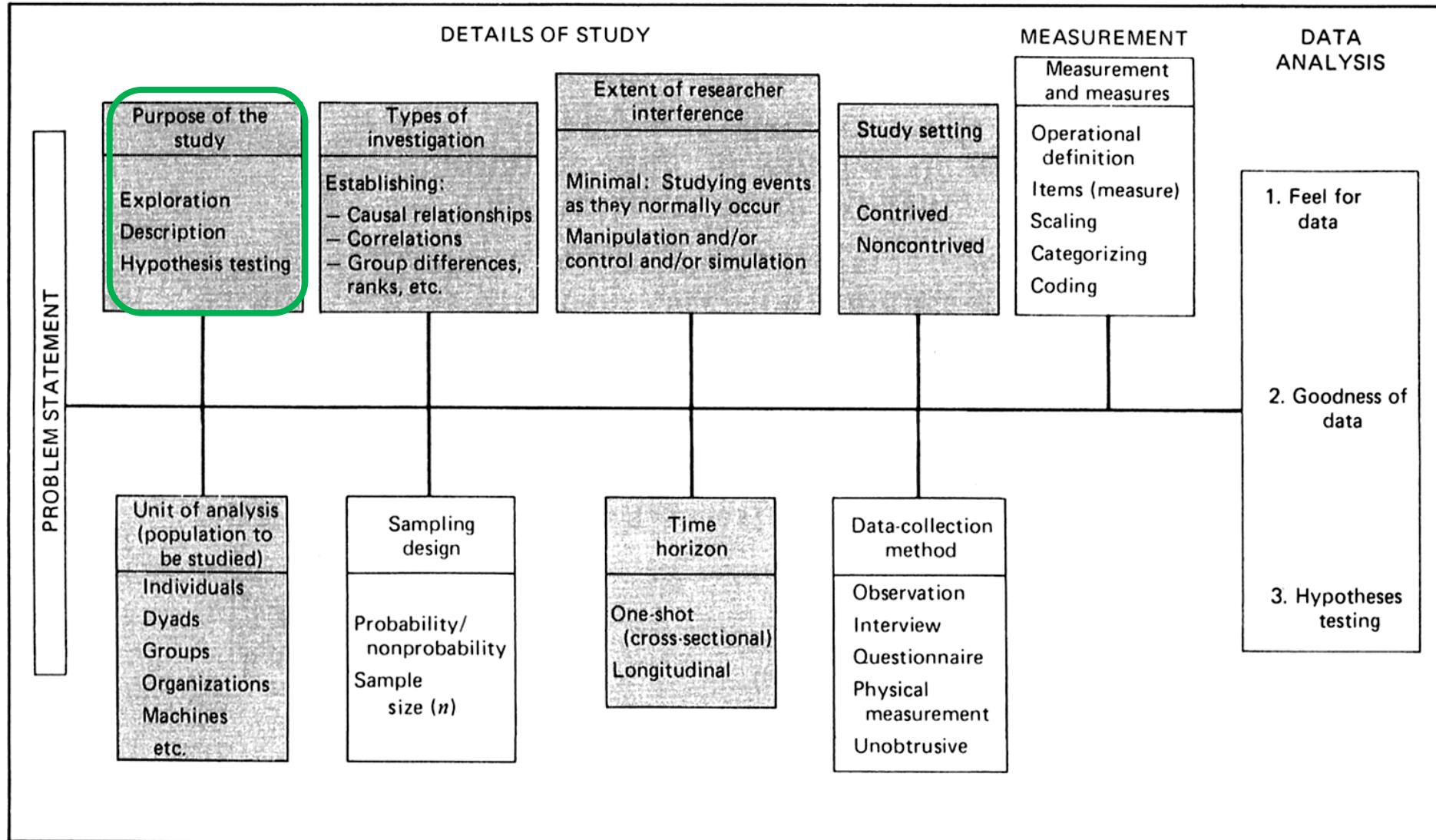
- Strengths:
 - Enables the research and description of social structures and processes that are not directly observable
 - Well-suited for quantitative description, comparisons between groups, areas etc.
 - Description of change, e.g. econometric analysis
 - Analysis and explanation of (causal) dependencies between social phenomena
 - Testing and validating already constructed theories about how and why phenomena occur
 - Data analysis is relatively less time consuming



Quantitative Research

- Weaknesses:
 - Simplifies and “compresses” the complex reality: abstract and constrained perspective
 - Only applicable for measurable (quantifiable) phenomena
 - Difficult to study processes or “dynamic” phenomena: produces static view of the reality (cross-sectional vs longitudinal)
 - The researcher might miss out on phenomena occurring because of the focus on theory or hypothesis testing rather than on theory or hypothesis generation (called the *confirmation bias*)
 - Knowledge produced might be too abstract and general for direct application to specific local situations, contexts and individuals

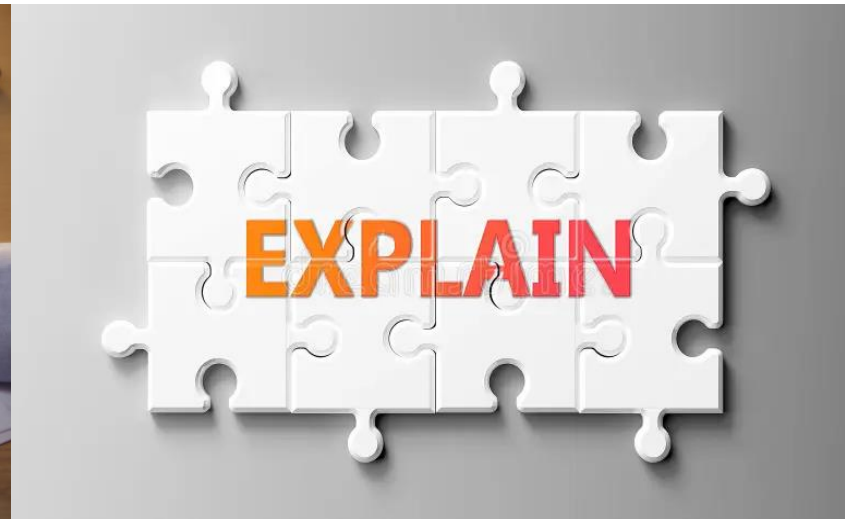
Research Design



Three Types of Research

Given the purpose of a study:

- **Exploratory**– exploring a new issue or topic
- **Descriptive** – finding out, describing what is
- **Explanatory** (or hypothesis testing) – explaining *how* or *why* things are as they are (and using this to predict)





Exploratory Research

- Use when your research objectives are vague or general rather than specific
 - Use it to explore an issue or topic
 - To identify a problem
 - To clarify the nature of a problem
 - To define the issues involved
 - To reach a better understanding
 - *Qualitative design is useful and necessary for a exploratory study*
-



Descriptive Research

- Because the social world is constantly changing, descriptive research is continuously needed
 - e.g. tourist flows, leisure participation
 - Descriptive research needed for:
 - market profiles
 - needs assessment, etc.
 - Use when you have clearly defined research objectives
 - Use it to describe, to build a picture
 - Who?/ What?/ How?/ How many?/ When?/ Where?
-

Explanatory Research

- Use when you need to *explain* relationships or *predict* outcomes
- Use it to:
 - Rule out alternative explanations
 - Develop causal explanations (hypothesis testing)
 - Involves: why and how?
- *Quantitative design is often employed in a explanatory study*
- *“Methodological rigor increases as we move progressively from an exploratory study to a explanatory [hypothesis-testing] study” (Sekaran,2003).*

Three Types of Research

All three purposes can be integrated into one research process

Exploratory

- Become familiar with the basic facts, setting, and concerns.
- Create a general mental picture of conditions.
- Formulate and focus questions for future research.
- Generate new ideas, conjectures, or hypotheses.
- Determine the feasibility of conducting research.
- Develop techniques for measuring and locating future data.

Descriptive

- Provide a detailed, highly accurate picture.
- Locate new data that contradict past data.
- Create a set of categories or classify types.
- Clarify a sequence of steps or stages.
- Document a causal process or mechanism.
- Report on the background or context of a situation.

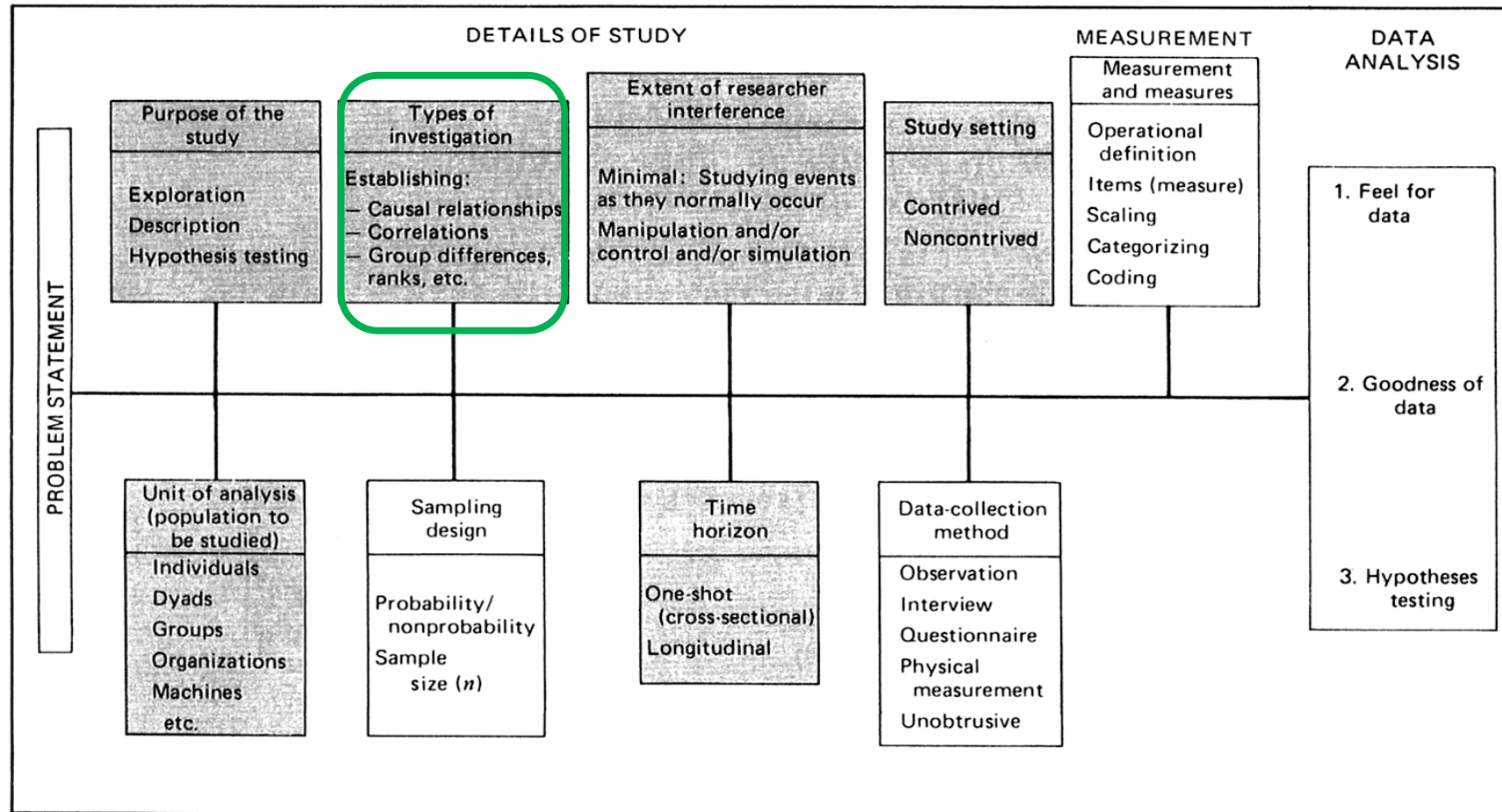
Explanatory

- Test a theory's predictions or principle.
- Elaborate and enrich a theory's explanation.
- Extend a theory to new issues or topics.
- Support or refute an explanation or prediction.
- Link issues or topics with a general principle.
- Determine which of several explanations is best.

Source: Neuman (2008)

Feature 	Exploratory Research	Explanatory Research
Primary Goal	To explore an under-researched topic and define the problem.	To explain the "why" and "how" of a well-defined phenomenon.
Research Stage	Initial/early stages of a project.	Later stages, after the problem is established.
Typical Questions	"What" or "Which".	"Why" or "How".
Hypothesis	Generates hypotheses for future testing.	Tests formal hypotheses to confirm theories.
Structure	Highly flexible and unstructured.	Highly structured and systematic.
Data Type	Predominantly qualitative (interviews, focus groups).	Predominantly quantitative (experiments, surveys).

Research Design



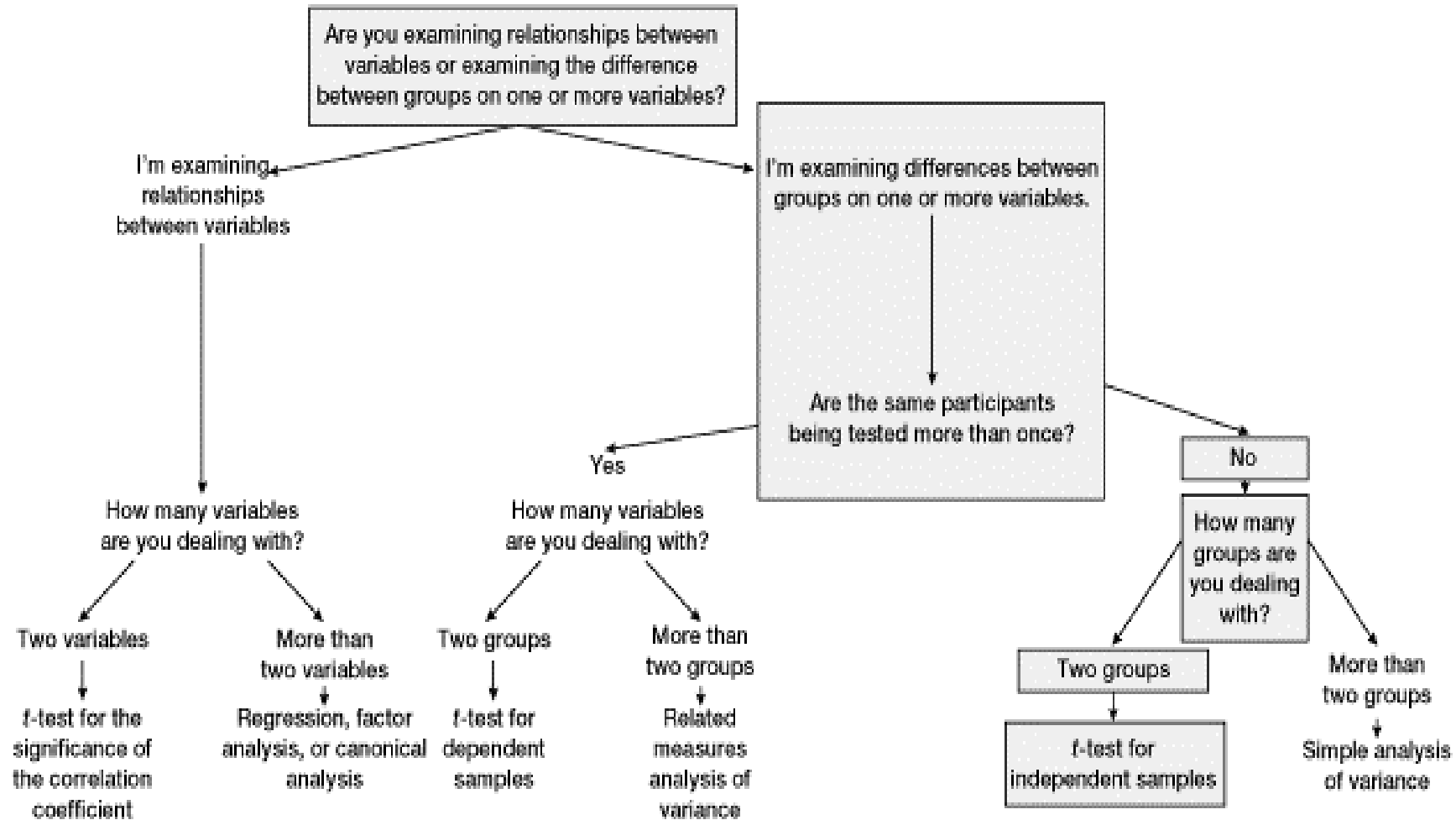
Source: Sekaran (2003), p.118.

Types of Investigation

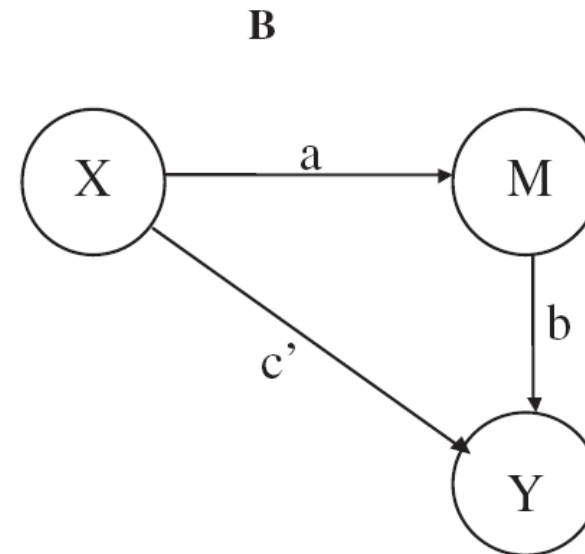
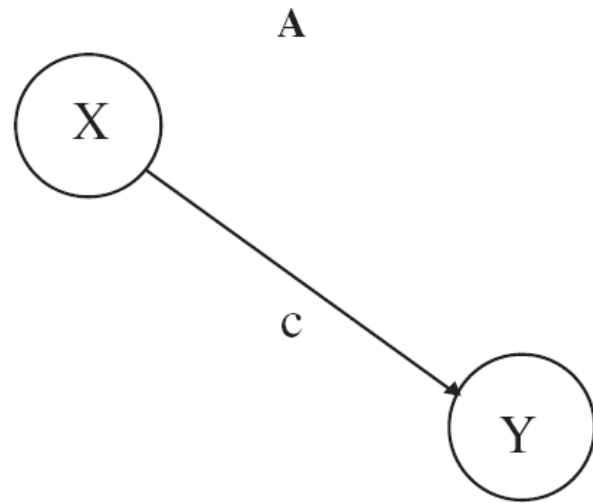
- Determines the use of statistical tools for hypothesis testing
 - Causal relationships: linear regression, logistic regression, SEM
 - Correlations: Pearson & Spearman correlation
 - Group differences: t-test, ANOVA, MANOVA, cluster analysis
 - Dimensions/structure of variables: factor analysis (EFA & CFA)
- Appropriate use of statistical tools affects robustness of findings

Types of Investigation:

Relationship vs differences



Direct and Mediated Relationships



Culture heritage buildings revitalization: Place attachment and culture identity Model

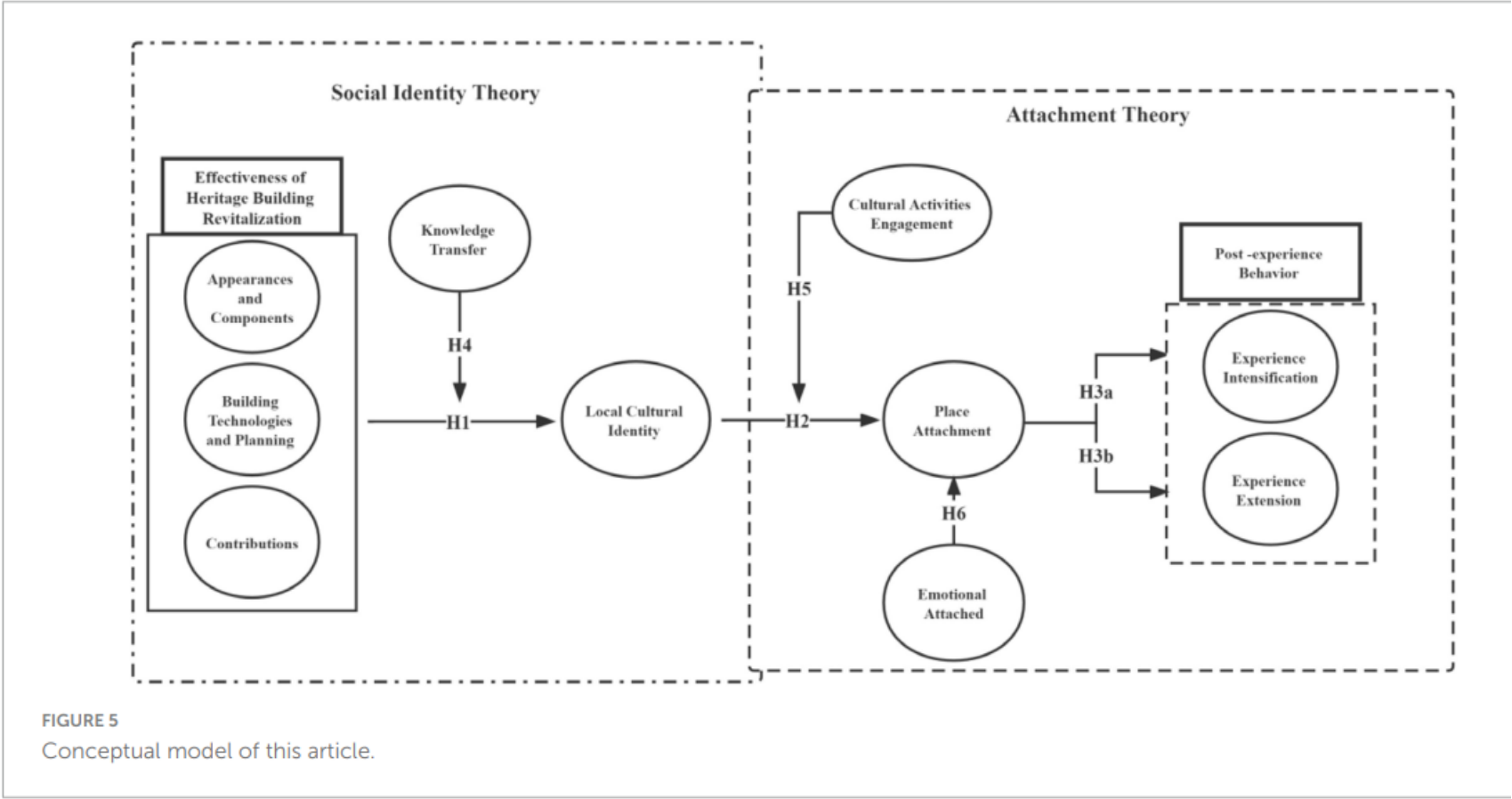
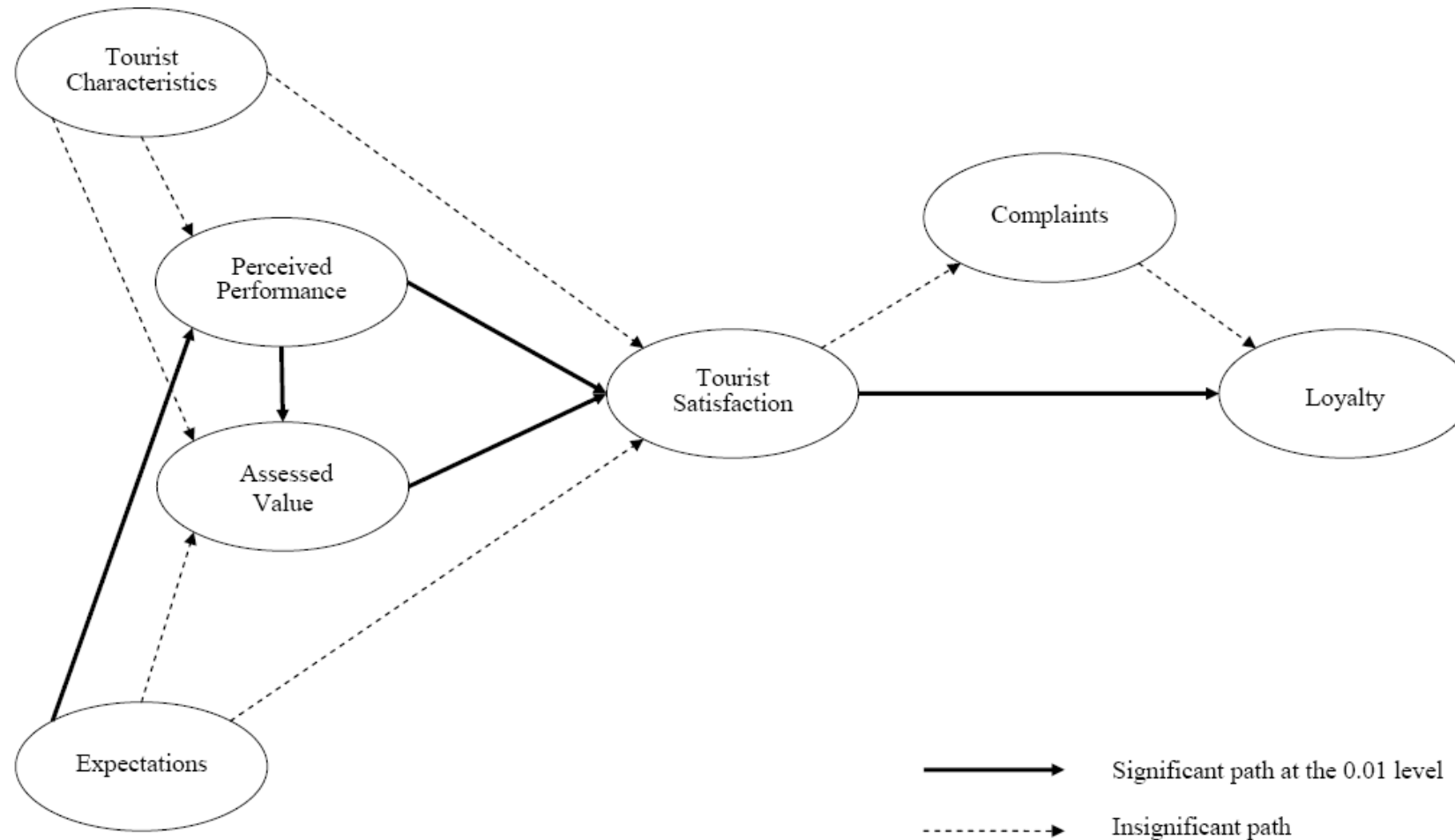


FIGURE 5
Conceptual model of this article.

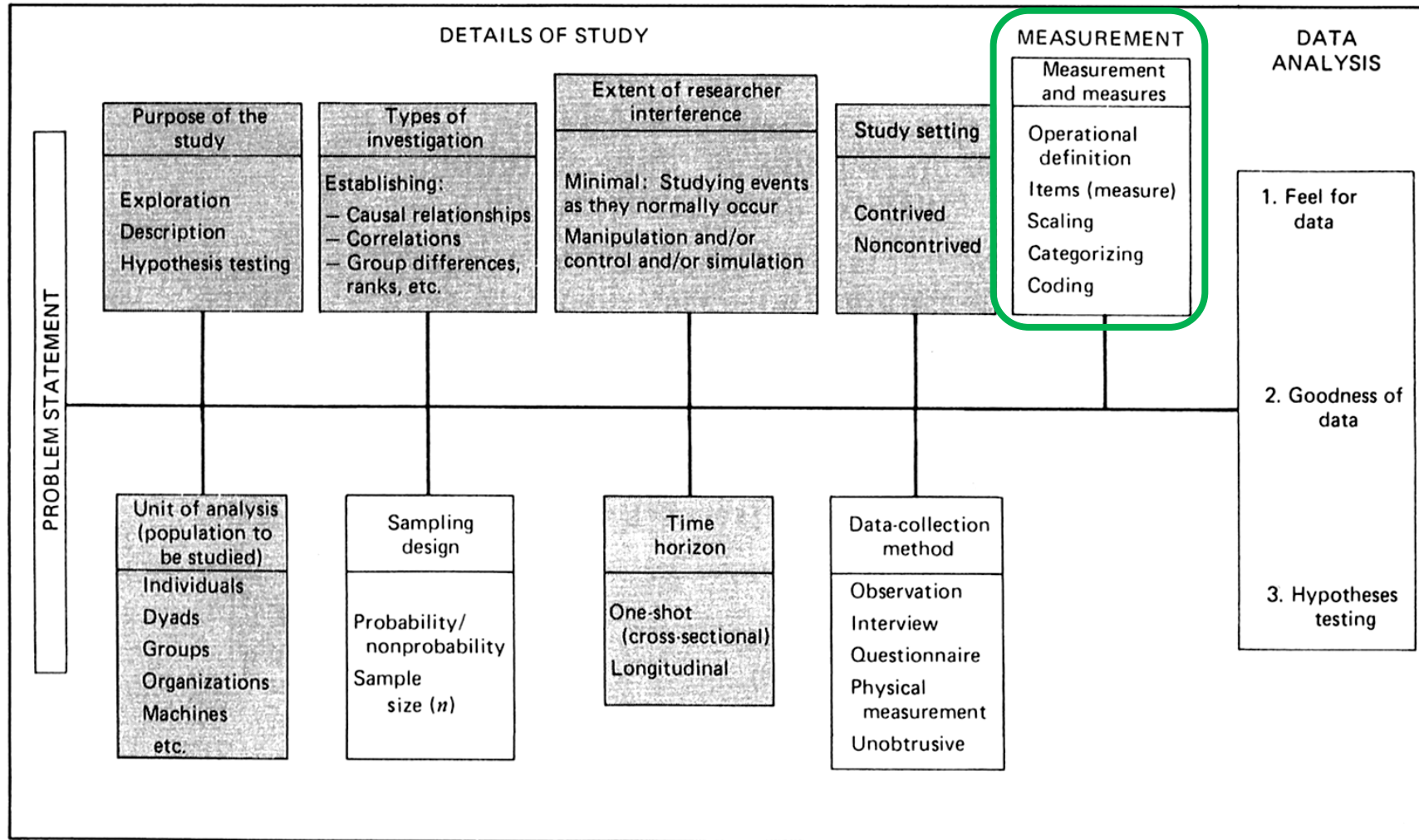
Source : Chan, et al., (2024)

Tourist Satisfaction Index Model



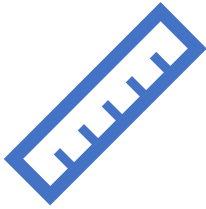
Adapted from Song et al. (2009)

Research Design



Source: Sekaran (2003), p.118.

Measurement and Measures: *Reliability and Validity*



Reliability = A feature of measures – the method of measuring is dependable and consistent



Two ways to estimate reliability:

Test/retest: correlation between two tests for the same subject

Internal consistency: Cronbach's alpha



To improve reliability:

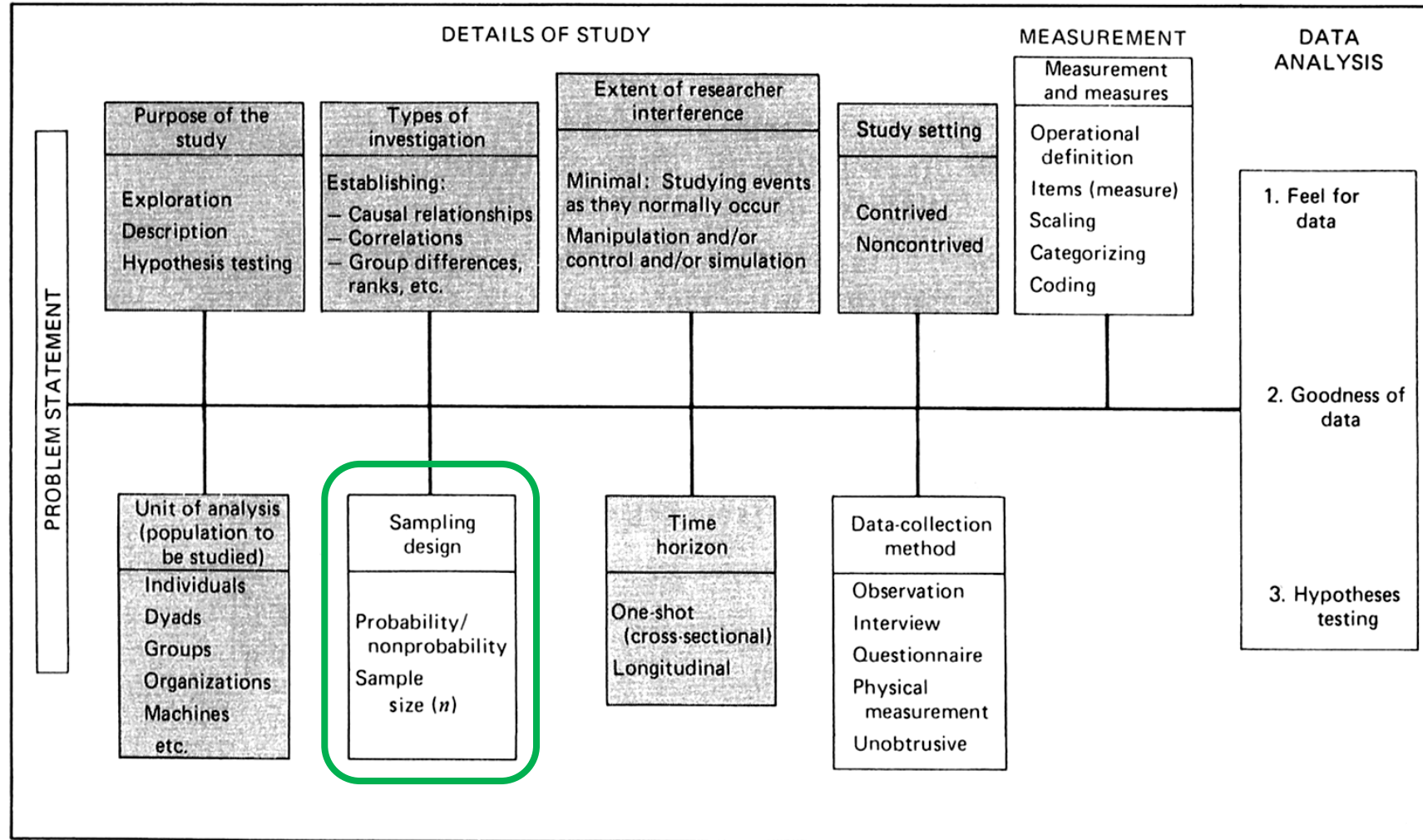
Clearly conceptualize
Increase the level of measurement
Use multiple indicators
Use pilot studies and replication

Measurement and Measures:

Reliability and Validity

- **Validity** = A feature of measures; the concept of interest closely matches the method used to measure it
 - Measurement validity is the fit between conceptual and operational definitions
 - Validity is more difficult to achieve than reliability
- **Three types of measurement validity**
 - Face Validity: in the judgment of others
 - Content Validity: captures the entire meaning
 - Criterion Validity: agrees with an external source
- **Threats to validity**
 - Inappropriate selection of constructs or measures
 - Measurement done with too few measurement variables or in too few contexts (e.g. destination attributes)
 - Complex/confusing interaction across constructs
 - Operation of experiment/pilot not rigorous

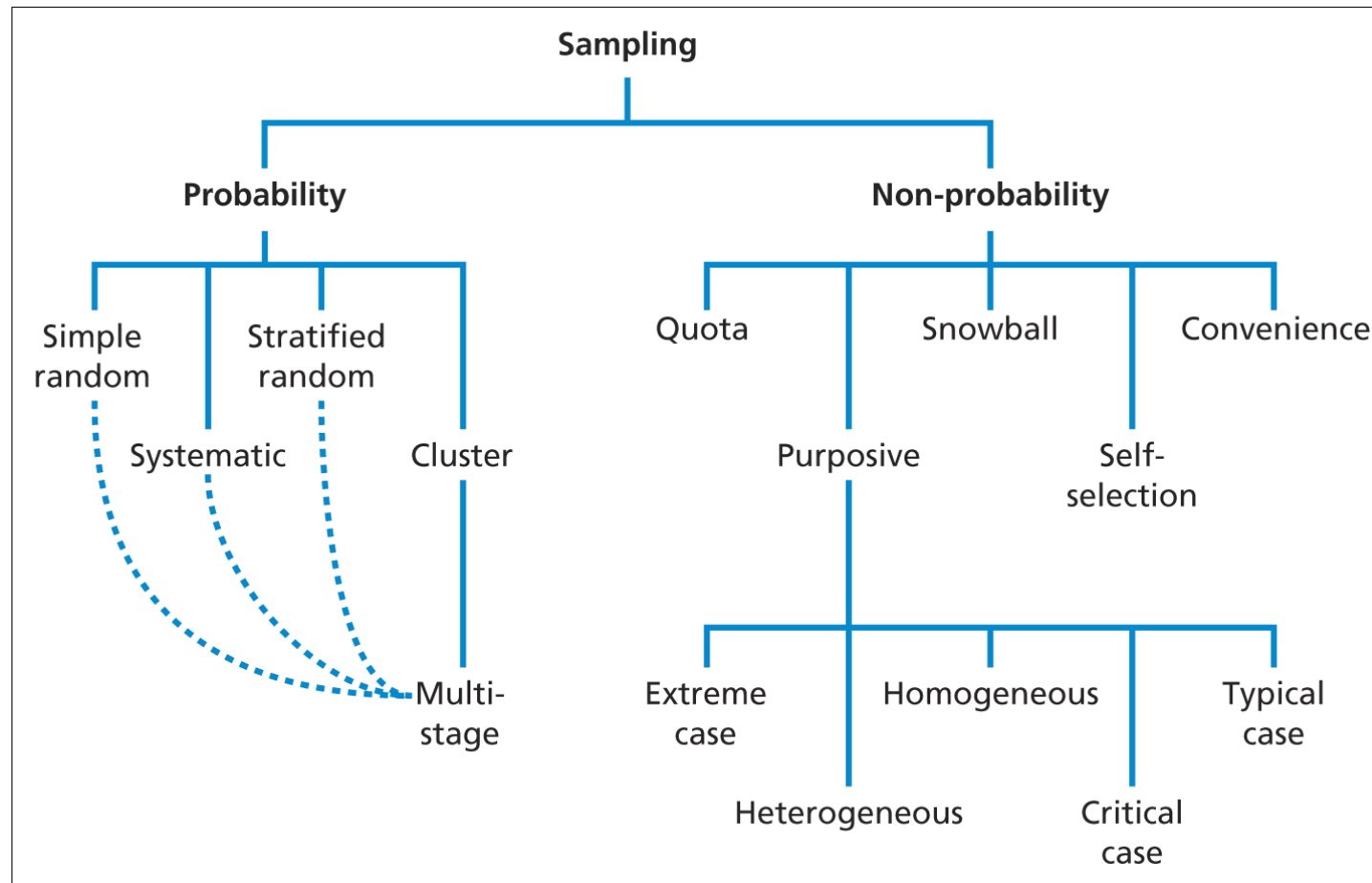
Research Design



Source: Sekaran (2003), p.118.

Sampling and Sample Size

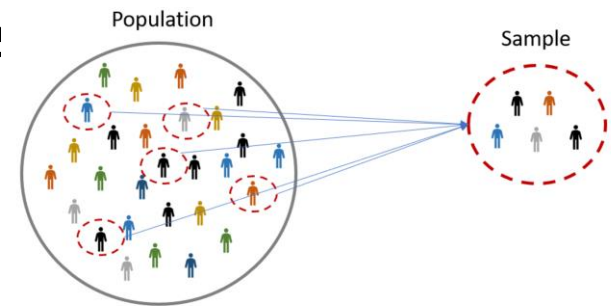
Sampling techniques



Source: Saunders et al. (2009)

Population, Sampling and Sample Size

- The goal is to select a representative sample
 - Larger samples are *usually* more representative
 - But larger samples are also more expensive
- Reducing sampling error is the goal of any sampling technique
 - Sampling error = difference between sample and population characteristics
 - As sample size increases, sampling error decrease
- Generally, larger samples are needed when:
 - Variability within each group is great
 - Differences between groups are smaller



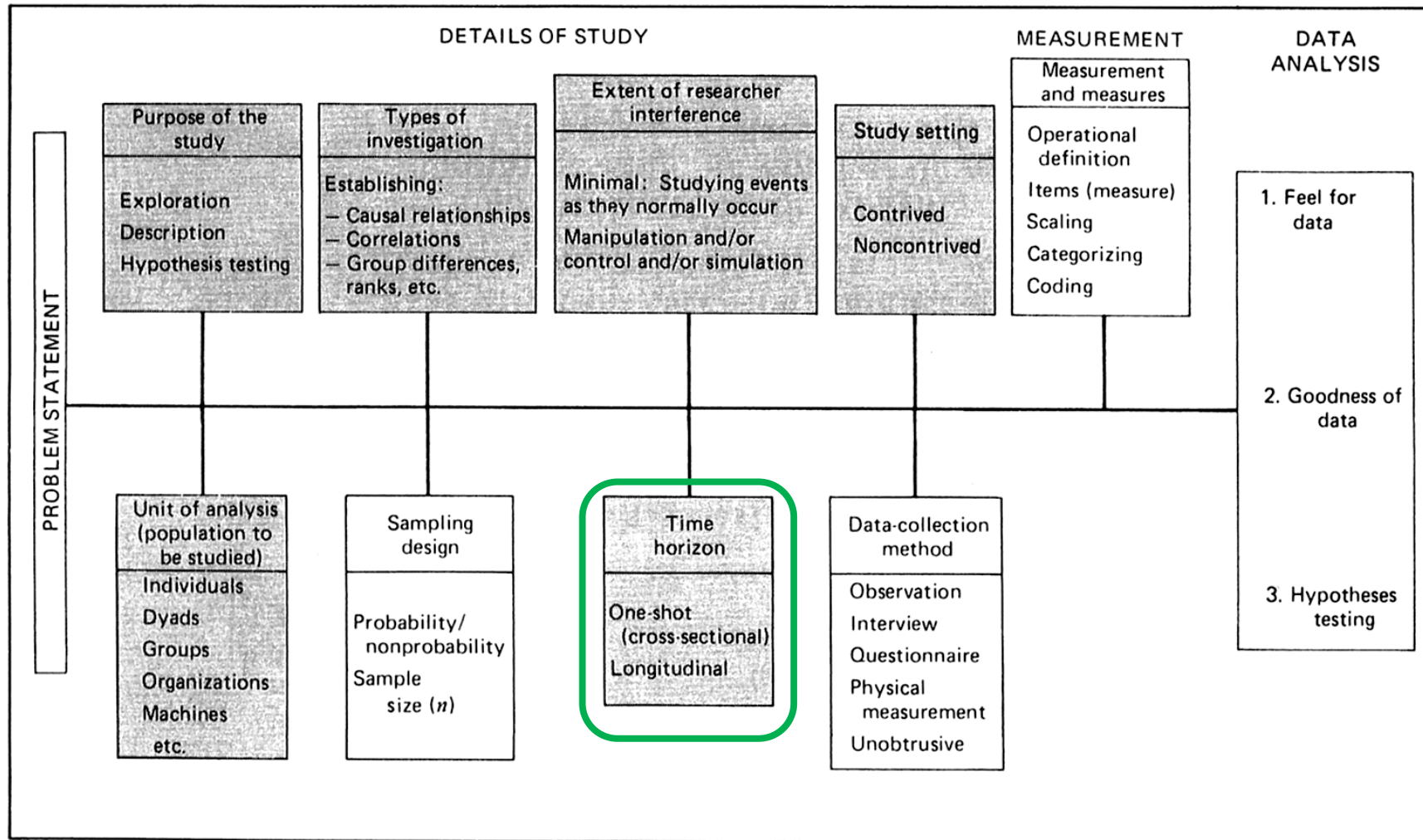
Sampling and Sample Size

- Rules of thumb for determining sample size (Roscoe, 1975)
 - Sample sizes larger than 30 and less than 500 are appropriate for most research
 - Where samples are to be broken into sub-samples, *a minimum sample size of 30 for each category is necessary*
 - *In multivariate research, the sample size should be several times (preferably 10 times or more) as large as the number of variables in the study*

Sampling and Sample Size

- Also consider:
 - Purpose of the study:
 - *Testing causal relationship or numerical evaluation of an effect*
 - Time and financial constraints
 - Avoid using formulas to calculate minimum sample size
 - *May require unknown SD of the population*
 - Avoid all potential errors:
 - *Potential errors of a study=sampling errors + nonsampling errors*

Research Design

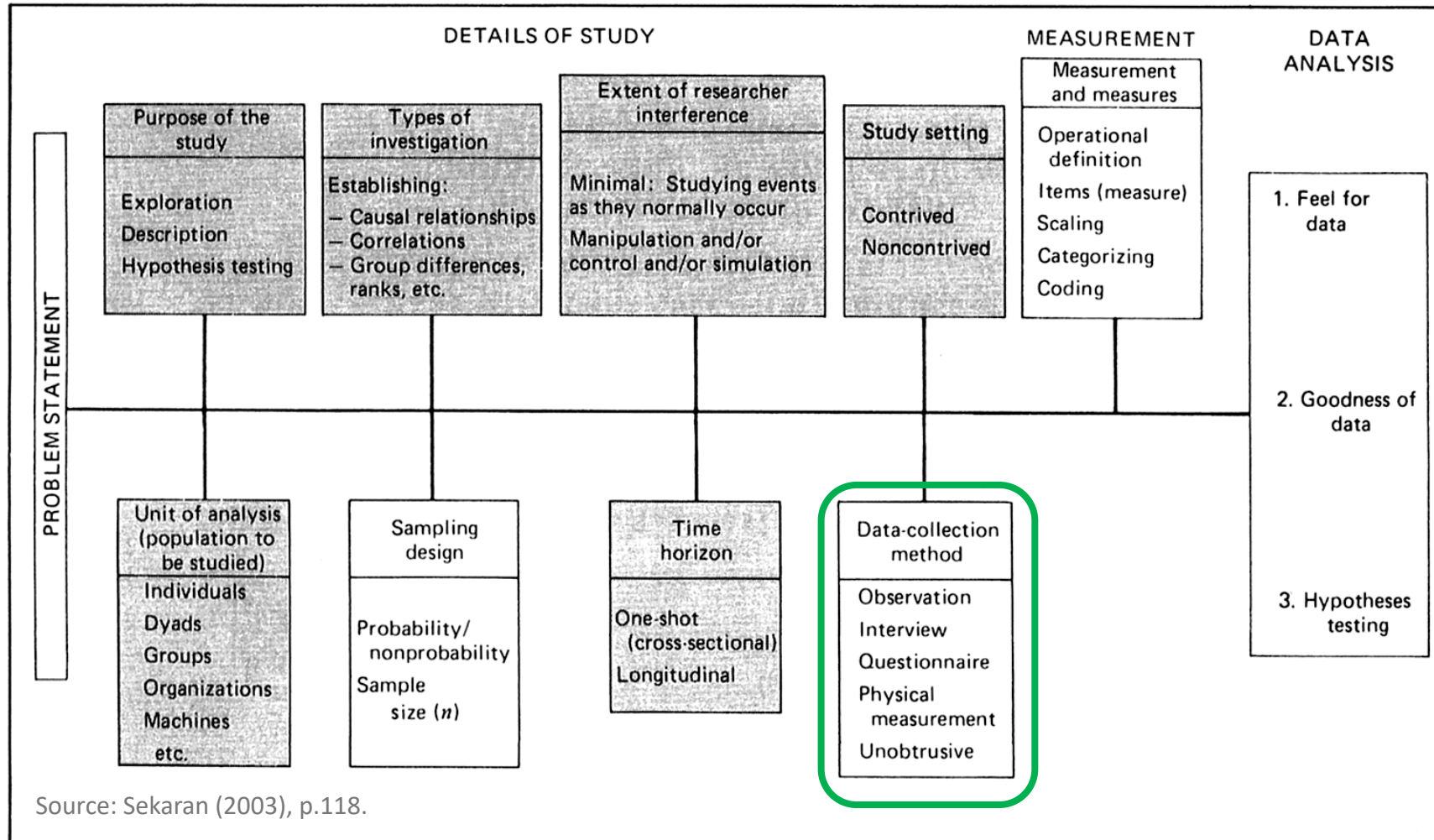


Source: Sekaran (2003), p.118.

Time Horizon

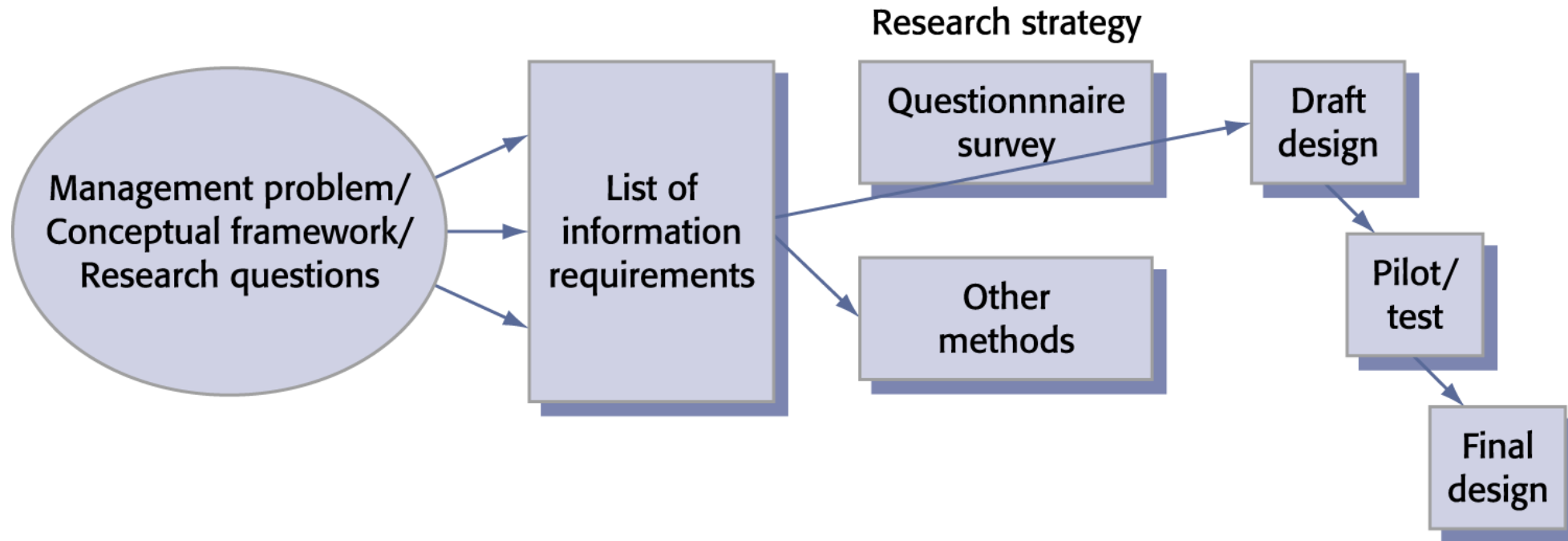
- One-shot
 - Most doctoral studies are one-shot
 - Static view of the research question
 - Ignore the development issues
- Longitudinal
 - A dynamic view
 - Constraints of time and resources
 - *Longitudinal analysis is still rare in tourism and hospitality research*

Research Design



Data Collection Methods: Questionnaire Survey

Should be the culmination of a process



Data Collection Methods:

Questionnaire Survey

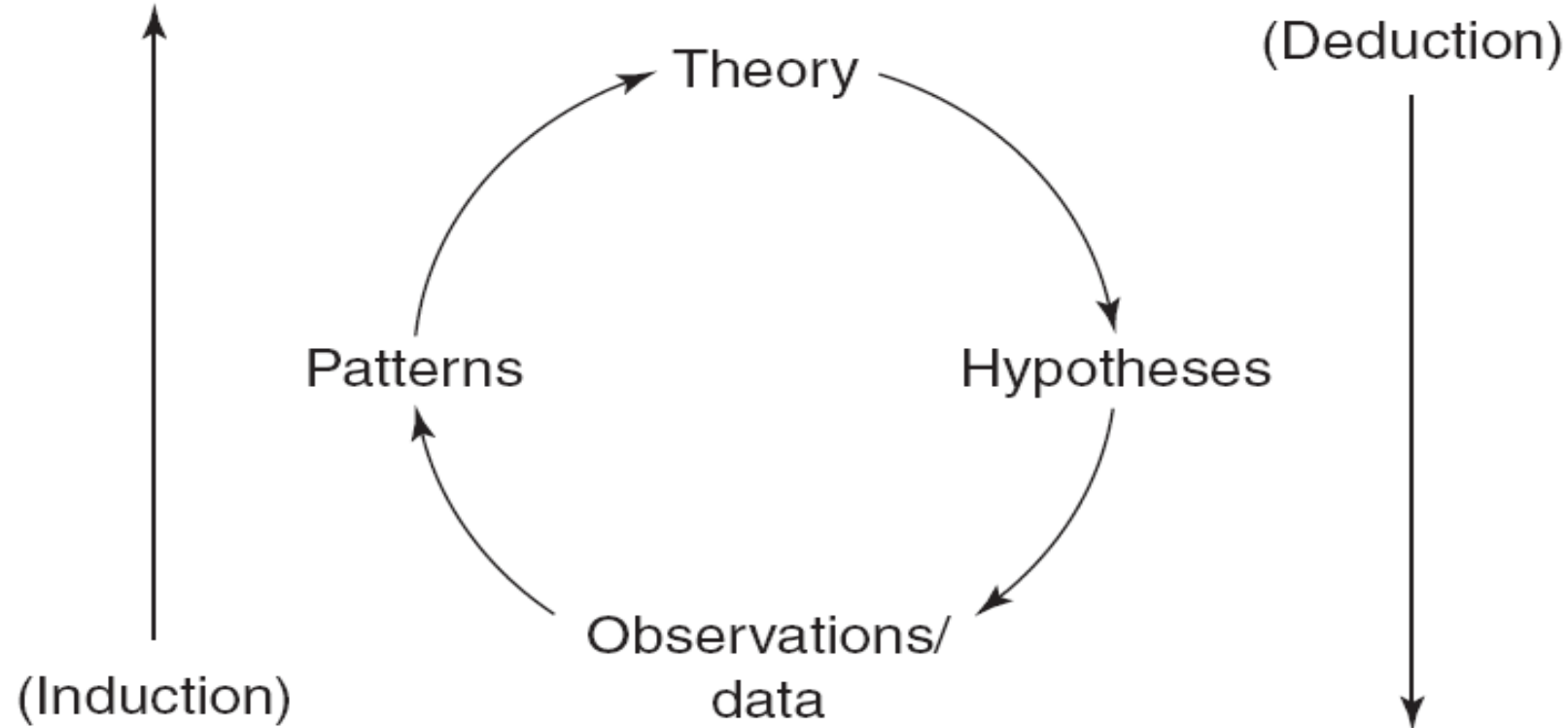
Effective Questionnaire Design Tips:

- Length of questionnaire
- Question order or sequence
 - How to reduce “question order effects”
 - How to control context effects
 - Sensitive questions come later
- Pitfalls in survey question writing
 - Jargon, slang, abbreviations
 - Issues beyond respondent capabilities
 - False premises
 - Distant future intentions
 - Double negatives

Combining Research Methods: *A Mixed Method Approach*

- Qualitative and quantitative approaches are not substitutionary, but complementary
 - *“Qualitative research is usually to provide information for developing further quantitative research”* (Lewis, et al. 1995: 171)
- Exploratory, descriptive and explanatory research purposes can be integrated into one research process
- Inductive research and deductive research are in the same research wheel

Inductive and Deductive Research



The Research Wheel

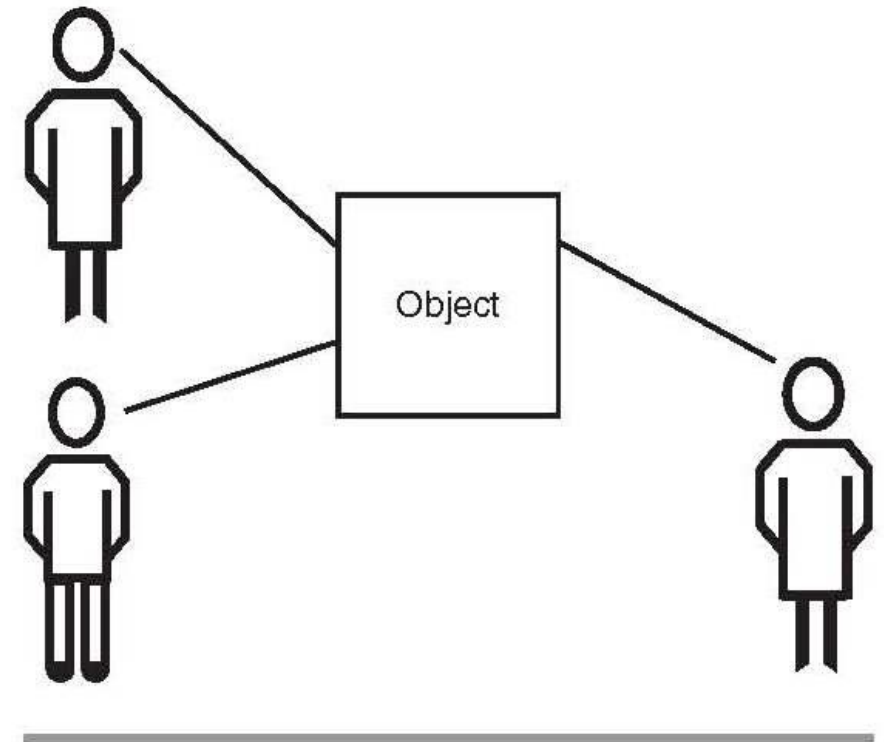


Combining Research Methods: *A Mixed Method Approach*

- Rationales for a mixed method approach
 - Triangulation: convergence and corroboration
 - Complementarity: elaboration, enhancement, illustration, clarification
 - Development: using one to inform the other method
 - Initiation: discovering paradoxes and contradictions that lead to a reframing of the research question
 - Expansion: expanding the breadth and range of inquiry (*Johnson, et al. 2007*)

Triangulation

- Using two (or more) methods.
- Four forms of triangulation:
 - analysing data in more than one way
 - using more than one sampling strategy
 - using different interviewers/observers/analysts in one study
 - using more than one methodology to gather data
- It should be clear why the particular methods are being used – i.e. what method is designed to achieve what outcome



Triangulation: observing the object from different viewpoints

Combining Research Methods: *A Mixed method Approach*

Strategies for the mixed method approach

- Sequential procedures:
 - (a) To start with qualitative method for *exploratory* purpose, followed by quantitative method for *generalising* results to a population
 - (b) To begin with a quantitative method in which theories or concepts are tested, followed by a qualitative method involving detailed *exploration* with a few cases or individuals
- Concurrent/Simultaneous procedures:
 - The researcher converges quantitative and qualitative data in order to provide a comprehensive analysis of the research problem
 - There is *limited interaction* between the two sources of data during the data collection stage, but the findings complement one another at the data interpretation stage

Key References

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