Chapter Seven:
Research Questions and Hypotheses

RESEARCH DESIGN
Qualitative, Quantitative, and Mixed Methods Approaches
Third Edition
John W. Creswell
Chapter Outline

- Qualitative Research Questions
- Quantitative Research Questions and Hypotheses
  - A Model for Descriptive and Inferential Questions and Hypotheses
- Mixed Methods Research Questions and Hypotheses
Qualitative Research Questions

- Qualitative researchers pose research questions
  - Not objectives
  - Not hypotheses

- Two types of qualitative research questions to focus a study's purpose:
  - Central question
    - broad question that asks for exploration of the central phenomenon
  - Subquestions
    - Questions that narrow the focus of the study
Writing Qualitative Research Questions

- Ask 1-2 central questions and no more than 5-7 subquestions

- These questions should:
  - Relate the central question to the strategy of inquiry
  - Begin with "what" or "how"
  - Focus on a single phenomenon or concept
  - Use exploratory verbs like discover or describe
  - Avoid directional words such as "affect" or "impact"
  - Evolve during the study
  - Be open-ended without reference to the literature
  - Specify the participants and research site (unless stated previously)
A Script for Writing a Qualitative Central Question

- (How or What) is the (“story for” for narrative research; “meaning of” the phenomenon for phenomenology; “theory that explains the process of” for grounded theory; “culture-sharing pattern” for ethnography; “issue” in the “case” for case study) of (central phenomenon) for (participants) at (research site).
Quantitative Research Questions and Hypotheses

- Quantitative researchers pose research questions or hypotheses to focus the study's purpose.

- Quantitative research questions:
  - Questions about the relationships among variables that the investigator seeks to know.

- Quantitative hypotheses:
  - Predictions that the researcher makes about the expected relationships among variables.
  - Predictions about the population values that the researcher will estimate based on data from a sample.

- Quantitative objectives:
  - Indicate a study's goals.
  - Used frequently in proposals for funding.
Writing Quantitative Research Questions and Hypotheses

- Write questions or hypotheses, not both
- Consider 3 approaches to the variables for a question or hypothesis:
  - Compare groups
  - Relate variables
  - Describe responses
- Specify questions and hypotheses based on theory if possible
- Measure the independent and dependent variables separately
- Generally use demographic information as intervening variables
- Use consistent words and ordering for independent and dependent variables
Scripts for Writing Quantitative Research Questions and Hypotheses

- Does *(name the theory)* explain the relationship between *(independent variable)* and *(dependent variable)*, controlling for the effects of *(control variable)*?

- There is no significant difference between *(the control and experimental groups)* on *(dependent variable)*.
Forms for Writing Quantitative Research Questions and Hypotheses

- If writing hypotheses, use a consistent form:
  - Null hypotheses (predict no difference or no relationship)
  - Directional hypotheses (predict direction of difference or relationship)
  - Nondirectional hypotheses (predict a difference or relationship, but not its direction)

- If writing research questions:
  - First, specify descriptive questions for each important variable
  - Next, state inferential questions that relate variables or compare groups
  - Finally, add questions in which variables are controlled
Mixed Methods Research Questions and Hypotheses

- Advance both qualitative and quantitative research questions (or hypotheses)
  - Use guidelines for writing good qualitative and quantitative questions and hypotheses
  - Order questions to match the mixed methods design
    - In a two-phase design, order to match the phases
    - In a one-phase design, order according to the method given the most weight

- Include a mixed methods research question that
  - Directly addresses the mixing of the two strands
  - Is written to convey the procedures or the content of the study
Different Ways to Write Questions and Hypotheses into a Mixed Methods Study

- Write separate qualitative questions and quantitative questions or hypotheses:
  - At the beginning or as they emerge in phases
  - This places emphasis on the two approaches

- Write separate questions or hypotheses followed by a mixed methods question:
  - This highlights the two approaches as well as their combined strength

- Write only a mixed methods question:
  - This emphasizes the integration and not the individual parts
Chapter Seven: Research Questions and Hypotheses

RESEARCH DESIGN
Qualitative, Quantitative, and Mixed Methods Approaches
Third Edition
John W. Creswell