

Overview of the Research Process

NUR 350




Types of research

- ▶ There are two main types of research – quantitative and qualitative
 - Quantitative – uses numbers, data to answer a question
 - Qualitative– uses thoughts and experiences to explore a topic
- ▶ We'll discuss each in more detail in a few weeks but for now we'll review the overall steps involved in each

Steps in the quantitative research process

- ▶ Number of steps can differ but:
 - Research always proceeds in an orderly fashion
 - Research always starts with the identification of the problem and ends with the utilization of the findings

Steps

- ▶ Identify the problem/determine purpose of study
 - ▶ Review of the literature/develop framework
 - ▶ Formulate hypothesis/research question
 - ▶ Define study variables/terms
 - ▶ Select research design
 - ▶ Identify the population
 - ▶ Select the sample
 - ▶ Collect data
 - ▶ Analyze the results
 - ▶ Interpret and communicate the findings
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What is the most important step?

- ▶ ????????

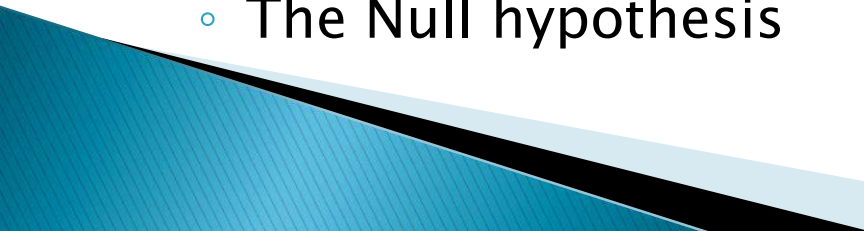
Identify the problem/purpose

- ▶ Start with broad topic area
- ▶ Narrow to specific problem statement
- ▶ Get study problem from
 - Personal experiences
 - Literature sources
 - Prior research
 - Theory testing
- ▶ State problem as a question
- ▶ Include population and variables
- ▶ Determine the Purpose
 - Difference between purpose and problem
 - Problem tells what is studied
 - Purpose tells *why* study is done
- ▶ Studies may have one or both

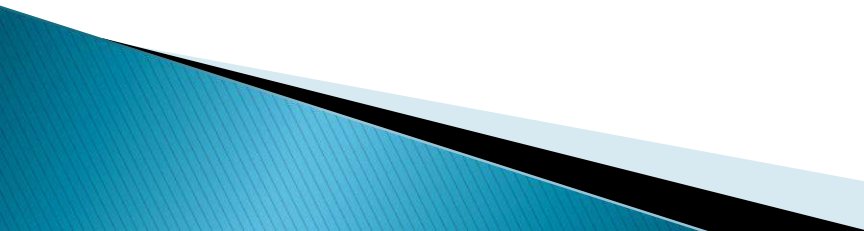
Review the Literature/Develop Theoretical Framework

- ▶ Finds out what exists on the topic
- ▶ Helps look at theory/framework
- ▶ Helps address the study methods
- ▶ Search a variety of sources
 - Indexes
 - Abstracts
 - Dissertations
 - Computer searches
- ▶ Continue until time to collect data
- ▶ Develop a Theoretical/Conceptual Framework
 - Research helps test, develop, refine theories
 - Process assists in selection of study variables
 - Directs the hypothesis and interprets findings
 - Answers the “so what” question(s)
 - Adds to our nursing body of knowledge

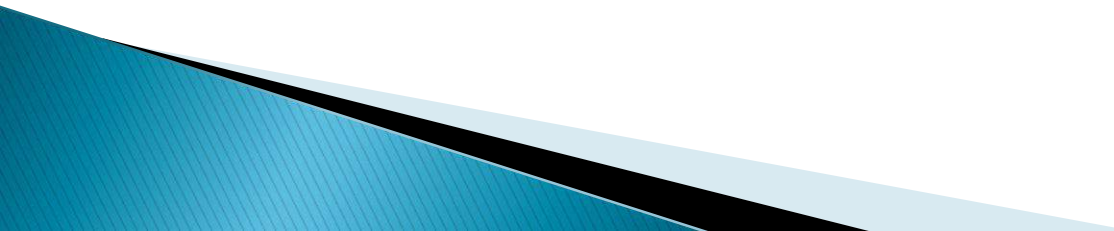
Formulate Hypothesis or Research Question

- ▶ Hypothesis predicts relationships between variables
 - ▶ Hypothesis provides predicted answer to question
 - ▶ Hypothesis contains two types of variables
 - Independent variable
 - Dependent variable
 - ▶ Hypothesis is testable empirically
 - ▶ Types of hypothesis vary
 - ▶ Hypothesis mostly in quantitative studies
 - Directional
 - Non-directional
 - The Null hypothesis
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Define Study Variables/Terms

- ▶ They must be clear to the researcher and reader
 - ▶ The definitions may be
 - Dictionary
 - Theoretical
 - Operational
 - ▶ The operational definition helps with study replication
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Select the Research Design

- ▶ Helps determine how study is planned
 - ▶ Varies with the type of study conducted
 - Quantitative vs. Qualitative
 - Experimental vs. Non-experimental
 - Experimental may be divided
 - ▶ True experimental
 - ▶ Quasi-experimental
 - ▶ Pre-experimental
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Identify the Population and Sample

Population

- Target
- Accessible
- ▶ Generalization

Select the Sample

- ▶ A subgroup of the population
- ▶ It represents the population
- ▶ It helps with generalization

Types of samples

- Probability Samples
- Non-probability Samples

Voluntary aspect of participation

Permission secured and rights protected

Collect and organize the data

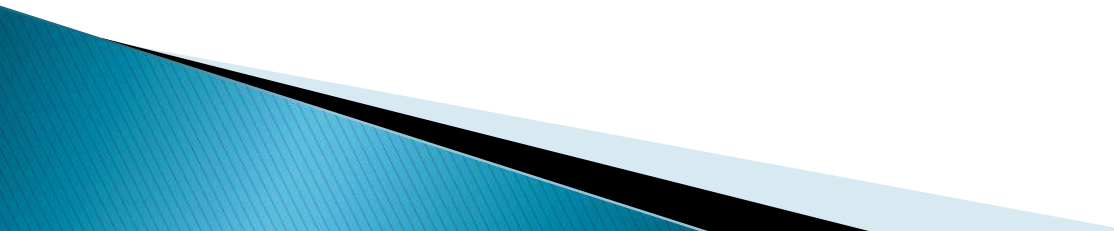
Data

- ▶ Pieces of information or facts
- ▶ Data collection procedures are followed
- ▶ Questions asked are
 - What data?
 - How is it collected?
 - Who collects the data?
 - Where is it collected?
 - When will it be collected?

Organize the Data for Analysis

- ▶ This step is planned from the beginning
- ▶ It uses the help of a statistician
- ▶ Decisions are made about missing data

Analyze the data

- ▶ The process is easier now
 - ▶ Data is placed into computerized statistical packages
 - ▶ Results are analyzed instantaneously
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Interpret/Communicate and Utilize the findings

Interpret the Findings

- ▶ Do the data support the research hypothesis?
- ▶ Do the data not support the research hypothesis?
- ▶ Problems encountered are discussed
- ▶ Limitations of the study are presented
- ▶ Results are compared with other studies
- ▶ Implications are identified
- ▶ Recommendations are proposed

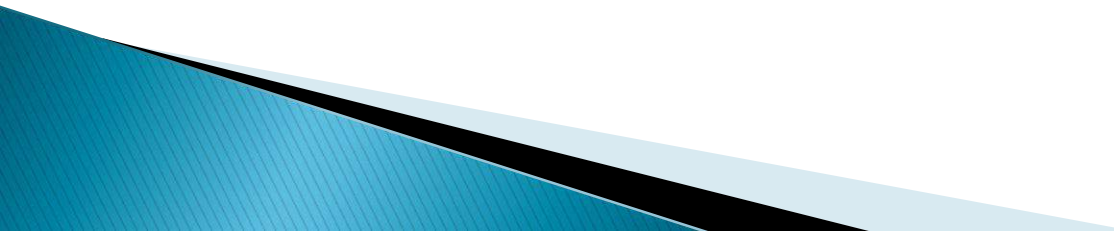
Communicate the Findings

- ▶ A very critical component of the process
- ▶ A variety of ways are used
 - Journals
 - Presentations
 - Posters

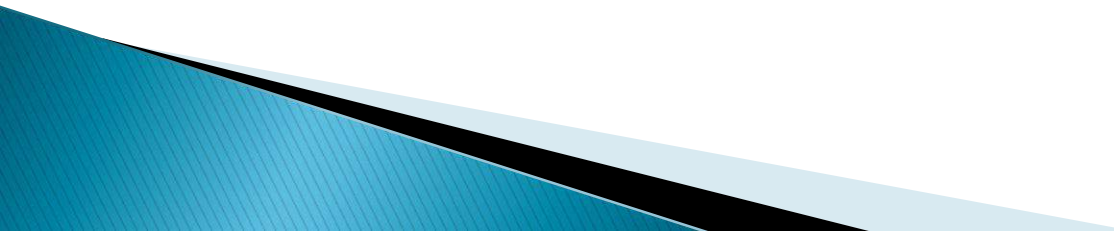
Utilize the Findings

- ▶ Recommendations need considerations
- ▶ Integration into practice are critical components
- ▶ Researcher may act as a consultant for using findings
- ▶ Researcher must disseminate findings in many ways

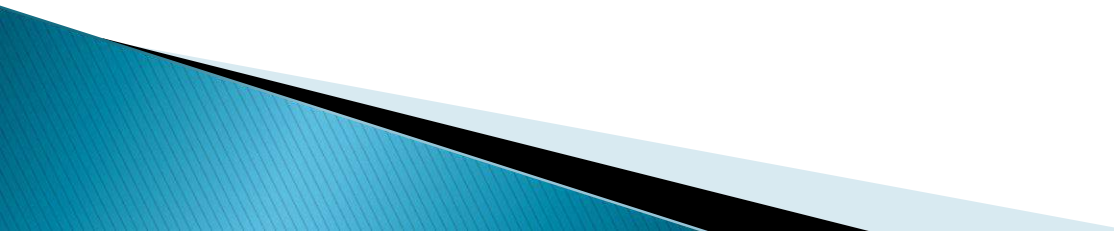
Qualitative Research

- ▶ Inductive or open to new ideas and theories
 - ▶ Concerned with in-depth descriptions of people or events
 - ▶ 4 common approaches
 - Phenomenology
 - Grounded theory
 - Ethnography
 - Historical
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Steps in Qualitative Research

- ▶ Identify the phenomenon to study
 - ▶ Select the research design
 - ▶ Review the literature
 - ▶ Select the sample
 - ▶ Collect the data
 - ▶ Analyze the data
 - ▶ Communicate the study results
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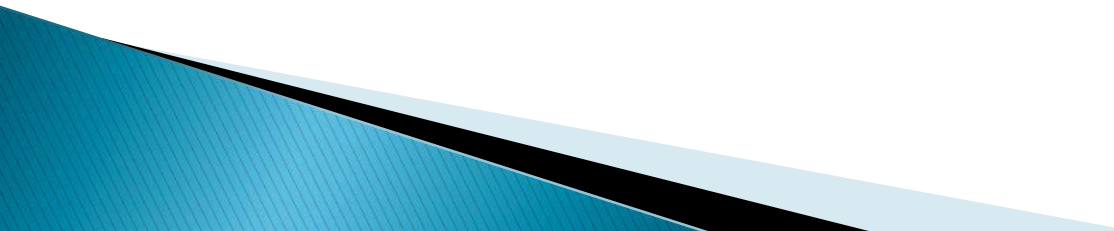
Identify the problem

- ▶ General to more focused
 - ▶ Broad statements
 - ▶ Purpose statement
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Select the design

- ▶ Depends on the phenomenon being studied

Review the literature

- ▶ Debate on when to do this
 - ▶ May bias the study results
 - ▶ Preferred at the end of the study
 - ▶ Tells how results fit with the body of knowledge
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Select the sample

- ▶ Smaller in size
- ▶ No set rules
- ▶ Saturation is more important

Also need to gain entry to the research site

- IRB approval
- Key informants

Data analysis

- ▶ Begins when the data is collected
 - ▶ Content analysis procedures (software programs)
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