

# Nursing Research Series

## Essentials of Science: Methods, Appraisal and Utilization



**Nursing Research Series**

*Essentials of Science:  
Methods, Appraisal and Utilization*



©Kaiser Permanente Northern and Southern California Nursing Research

---

---

---

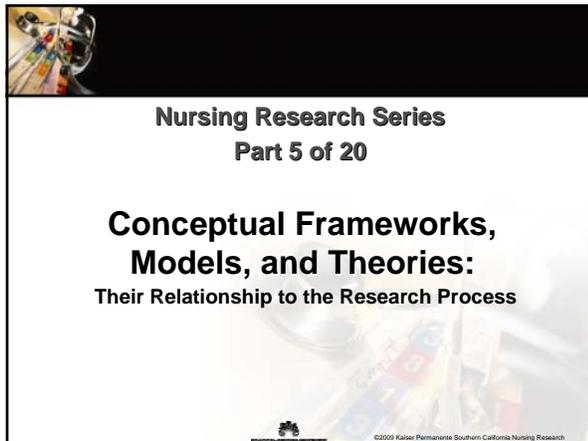
---

---

---

---

---



**Nursing Research Series**  
Part 5 of 20

**Conceptual Frameworks,  
Models, and Theories:**  
Their Relationship to the Research Process



©2009 Kaiser Permanente Southern California Nursing Research

---

---

---

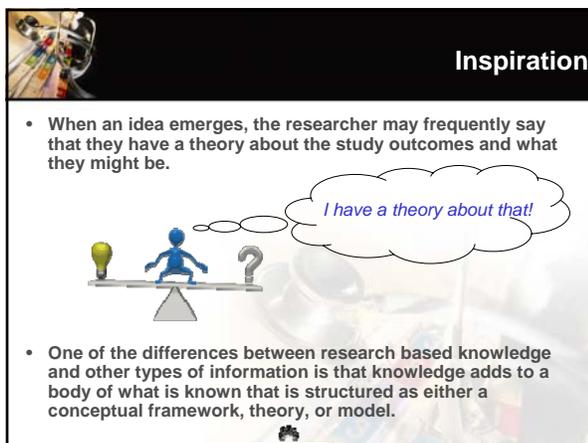
---

---

---

---

---



**Inspiration**

- When an idea emerges, the researcher may frequently say that they have a theory about the study outcomes and what they might be.



- One of the differences between research based knowledge and other types of information is that knowledge adds to a body of what is known that is structured as either a conceptual framework, theory, or model.

©Kaiser Permanente Northern and Southern California Nursing Research

---

---

---

---

---

---

---

---

# Nursing Research Series

## Essentials of Science: Methods, Appraisal and Utilization



### Objectives

- To describe the difference in structure and function of conceptual frameworks, theories, and models.
- To identify the relationship between research and conceptual models, theory, and models.
- To determine how a conceptual model, theory, or model is integrated into the research process.

---

---

---

---

---

---

---

---



### Conceptual Frameworks

- Represent ways of thinking about a problem or ways of representing how complex things work the way that they do.
- Different Frameworks will emphasize different variables and outcomes and their inter-relatedness.

Bordage, 2009

---

---

---

---

---

---

---

---



### Conceptual Frameworks are like:

- Lighthouses
  - Lighthouses illuminate certain parts of the ocean at any given time, other parts are left in the dark.
  - Each framework highlights or emphasizes different aspects of a problem or research question.
  - Any one conceptual framework presents only a partial view of reality.



---

---

---

---

---

---

---

---

# Nursing Research Series

## Essentials of Science: Methods, Appraisal and Utilization



### Conceptual Frameworks for Chronic Disease

- Medical Care
  - Care based on meeting present, acute and urgent needs or problems.
- Chronic Care
  - Care that is structured to manage an ongoing health need or problem over time
- Disease Management
  - A comprehensive, integrated programmatic approach to a care of individuals who are part of a population with a health care need or problem.

Krumholz, Currie, Riegel, etal, 2006.

---

---

---

---

---

---

---

---



### Conceptual Frameworks are like:

- Magnifying Glass
  - Focuses attention on and amplify certain elements of a problem



---

---

---

---

---

---

---

---



### Why Does a Researcher Need a Conceptual Framework

- Operating without a conceptual framework, or jumping quickly into one, leaves you short-changed in a world of possibilities.
  - Other ways of explaining might result in a different or more comprehensive light on the problem at hand.
- Assumptions, implicit or explicit, about the way things are or how they work remain unchallenged.
- Research is not research unless it is attached to a body of knowledge.

---

---

---

---

---

---

---

---

# Nursing Research Series

## Essentials of Science: Methods, Appraisal and Utilization



**Adherence to Antiretroviral Medication in Older Adults Living with HIV/AIDS**

- This study examined two ART adherence conceptual frameworks to determine whether these models generalize to HIV-seropositive older adults.
- Analyses revealed that neuropsychological functioning was not associated with adherence. Fit indices supported a stress and coping model, with negative affect mediating the effects of social support and maladaptive coping on ART adherence.
- Results were consistent with stress and coping models and suggest that interventions intending to increase adherence to ART in HIV-infected older adults may be more effective if they address negative affect and enhance adaptive coping and social support.

---

---

---

---

---

---

---

---



**Conceptual Frameworks: Nature and Use**

Bordage, 2009

- Allow researchers to build upon one another's work; thereby building a body of knowledge
- Programmatic, conceptually based research helps accumulate deeper understanding over time and this moves a discipline (such as nursing) forward.

---

---

---

---

---

---

---

---



**Conceptual Frameworks keep research on track by:**

- Providing clear links from the literature to the research goals and questions
- Informing the research design
- Providing reference points for discussion of the methodology and analysis of the data.
- Contributing to the trustworthiness of the study.

---

---

---

---

---

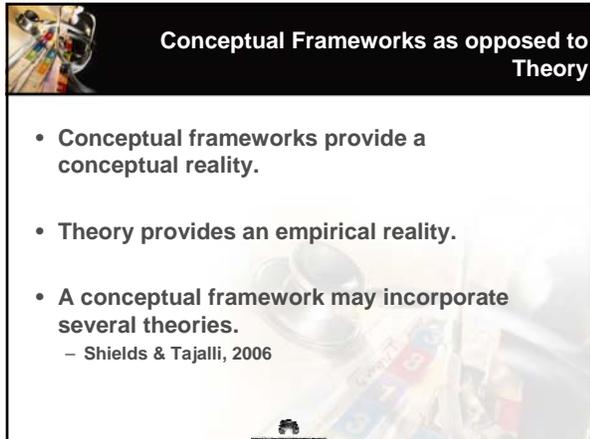
---

---

---

# Nursing Research Series

## Essentials of Science: Methods, Appraisal and Utilization



**Conceptual Frameworks as opposed to Theory**

- Conceptual frameworks provide a conceptual reality.
- Theory provides an empirical reality.
- A conceptual framework may incorporate several theories.
  - Shields & Tajalli, 2006

---

---

---

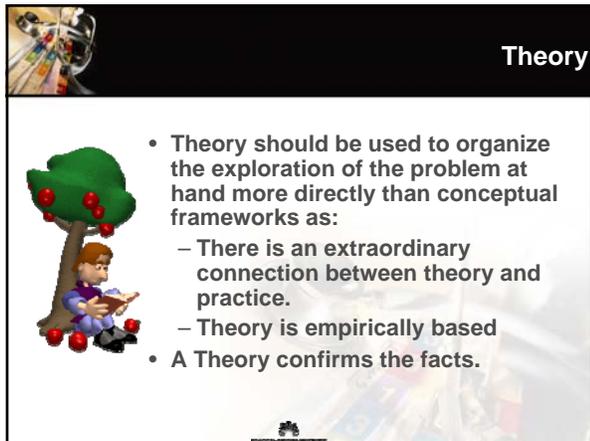
---

---

---

---

---



**Theory**



- Theory should be used to organize the exploration of the problem at hand more directly than conceptual frameworks as:
  - There is an extraordinary connection between theory and practice.
  - Theory is empirically based
- A Theory confirms the facts.

---

---

---

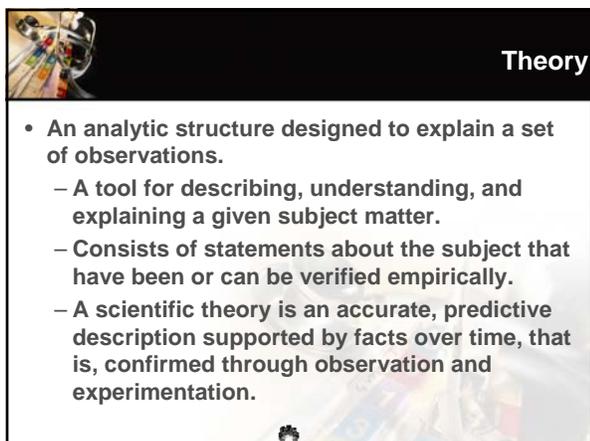
---

---

---

---

---



**Theory**

- An analytic structure designed to explain a set of observations.
  - A tool for describing, understanding, and explaining a given subject matter.
  - Consists of statements about the subject that have been or can be verified empirically.
  - A scientific theory is an accurate, predictive description supported by facts over time, that is, confirmed through observation and experimentation.

---

---

---

---

---

---

---

---

# Nursing Research Series

## Essentials of Science: Methods, Appraisal and Utilization



### Relationship Between Theory and Research

- Direct and Positive
- The choice of a research design depends on the question asked and the current state of theory development.
- Theory and its associated research design may be
  - Descriptive
  - Correlational
  - Experimental

\_\_\_\_\_, 1986

---

---

---

---

---

---

---

---



### Descriptive Theory & Research

- Descriptive theories describe or classify specific dimensions or characteristics by summarizing commonalities found in discrete observations.
- Categories of Descriptive Theory
  - Naming
    - Description of the dimensions or characteristics
  - Classification
    - Includes with the description how the phenomenon is structurally inter-related.
- Descriptive Research
  - Answer “What is” questions

---

---

---

---

---

---

---

---



### Relational Theory & Correlational Research

- Relational theories specify relations between dimension or groups
  - They explain how parts are related to each other
  - Developed only after descriptive theories have been developed and validated.
- Correlational Research
  - Seek to determine to what extent two or more characteristics tend to occur together.
  - What is the relationship between (or among).....

---

---

---

---

---

---

---

---

# Nursing Research Series

## Essentials of Science: Methods, Appraisal and Utilization



### Explanatory Theory and Experimental Research

- Explanatory Theory
  - Move beyond understanding to prediction of precise causes between dimensions or characteristics.
- Experimental Research
  - These studies ask the questions: What will happen if...?
  - Is Treatment A different from Treatment B.

---

---

---

---

---

---

---

---



### As a result of scientific research, theories may be

- Reduced
  - A new theory may be better at explaining and predicting reality than an old theory. So the old theory is reduced to the new one.
- Eliminated
  - When concepts are replaced completely by a new explanation of the reality.
- Under-determined
  - If two different and inconsistent theories can be supported by the evidence.

---

---

---

---

---

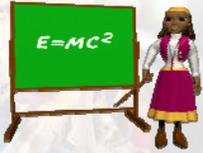
---

---

---



### Model

- A pattern, plan or representation (especially in miniature) or description designed to show the main object or workings of an object, system, or concept.
- Models may be
  - Graphic or representational 
  - Mathematical or Logical 

---

---

---

---

---

---

---

---

# Nursing Research Series

## Essentials of Science: Methods, Appraisal and Utilization

**Model**

- Models may be generated:
  - Inductively from the physical or cognitive worlds

Deductively from theories.



---

---

---

---

---

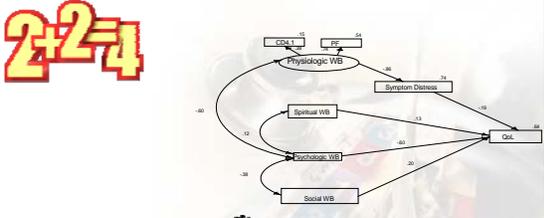
---

---

---

**Model**

- Mathematical models have become increasingly important in research in order to describe or explain complex phenomenon.



---

---

---

---

---

---

---

---

**Take Home Message**

- Knowledge is organized by one of these structures .
- All research is based on a conceptual framework, theory, or model.
  - Which of these conceptual formations will depend on the previous state of the knowledge or prior research.
- If a study poorly expresses its conceptual basis, it can be argued that is not a scientific study.
- An organized body of knowledge is fundamental to a professional discipline.

---

---

---

---

---

---

---

---

# Nursing Research Series

## Essentials of Science: Methods, Appraisal and Utilization



### References

- \_\_\_\_\_. The Relationship Between Theory and Research . An excerpt from Fawcett, J. & Downs, F. *The Relationship of Theory and Research*. Norwalk CT: Appleton-Century-Crofts. 1986. Downloaded on May 20, 2009 at [Bhttp://www.indiana.edu/~educy520/readings/fawcett86.pdf](http://www.indiana.edu/~educy520/readings/fawcett86.pdf)
- Bordage, G. Conceptual frameworks to illuminate and magnify. *Medical Education*. 2009;43:312-319.
- Johnson, C., Heckman, T., Hansen, N., Kochman, A., Sikkemka, K. Adherence to antiretroviral medication in older adults living with HIV/AIDS. *AIDS Care*. 2009;21(5):541-551.
- Krumholz, H., Currie, P.M., Riegel, B., Philips, C., Peterson, E., Smith, R., Yancy, C., Faxon, D. A taxonomy for disease management: A scientific statement from the American Heart Association Disease Management Taxonomy Writing Group. *Circulation*. 2006;114:1432-1445.
- Shields, R., & Tajalli, H. Intermediate theory: The missing link to successful student scholarship. Faculty Publication-Political Science, Texas State University – San Marcos. 2006.
- Smith, R. Exploring the usefulness of a conceptual framework as a research tool: A researcher's reflection. *Issues in Educational Research*. 2004;14;Downloaded on May 20, 2009 at <http://www.ier.org.au/ier14/smyth.html>.

---

---

---

---

---

---

---

---



### References to Consider

- Burns, N. & Grove, S.K (2007). *Understanding Nursing Research, building an Evidence-Based Practice 4<sup>th</sup> Edition*. St. Louis, Missouri: Saunders.
- Harris, M. & Taylor, G. (2008). *Medical Statistics Made Easy, 2<sup>nd</sup> Edition*. Oxfordshire: Scion Publishing



For more information please contact:  
[Nursing.Research@kp.org](mailto:Nursing.Research@kp.org)  
<http://nursingpathways.kp.org/scal/research/index.html>

©2009 Kaiser Permanente Northern and Southern California Nursing Research

---

---

---

---

---

---

---

---