

RESEARCH DESIGN AND METHODS

The Basics



Presented by: Sharon Owens
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Outline

Financial Relationships

All individuals involved in the planning and delivery of this activity have no relevant financial relationship(s) with ineligible companies.

Commercial Support

This educational activity has not received any form of commercial support.

Off-Label or Investigational Use

This presentation will not discuss the off-label or investigational use of a drug, biological product, or medical device name.

Outline

- Conducting Research
- What is research design?
- Common methods for conducting research



What is Research?

An inquiry to understand and describe or explain relationships, attitudes, beliefs, correlation of variables, or make predictions.



Conducting Research

- The research question guides your design and methods
- Design-**The plan** to answer your question
- Method-**The strategy** to answer your plan



RESEARCH DESIGN

Quantitative

- Descriptive
- Correlational
- Causal/Comparative/Quasi-experimental
- Experimental
- Diagnostic
- Explanatory



RESEARCH DESIGN

Qualitative

- Historical
- Phenomenology
- Grounded Theory
- Ethnography
- Case Study



RESEARCH METHODS

- Observational
- Survey
- Interviews
- Focus Groups
- Experimental
- Secondary Analysis
- Mixed Methods



RESEARCH METHODS

Quantitative

- Systematic process to obtain numerical data
 - Data is numerical (age, AM-PAC scores) or may be assigned a number (ex. yes/no)
 - Observational to describe relationships
 - Variables associated with Patient Falls
 - Process measures associated with CLABSI prevention
 - Causal/Comparative/Quasi-experimental
 - Experimental to control the variables



RESEARCH METHODS

Qualitative

- Gathering and analyzing non numerical data to achieve an in-depth understanding of phenomenon
- Describe a point of view or problem from the perspective of those experiencing it
- Focus groups, in depth interviews with individuals
 - Patient focus groups-patient experience
 - Nurse focus groups-what was their experience in their first year of nursing



MIXED METHODS RESEARCH

<https://catalyst.harvard.edu/about>

BASIC MIXED METHODS RESEARCH DESIGNS

Convergent Parallel Design



Explanatory Sequential Design



Exploratory Sequential Design



MIXED RESEARCH METHODS

Convergent Parallel

- Data collection is simultaneous but analyzed separately and the results are merged or integrated. The goal is create separate data sets.
 - Tomasi J., Warren C., Kolodzey L., Pinkney S., Guerguerian A-M., Roxanne Kirsch, Hubbert J., Sperling C., Sutton P., Laussen P., Trbovich P. (2018). Convergent parallel mixed-methods study to understand information exchange in pediatric critical care and inform the development of safety enhancing interventions: a protocol study; *BMJ Open*. 8(8): e023691; doi:10.1136/bmjopen-2018-023691
 - Surveys, semi structured interviews, quality metrics

MIXED RESEARCH METHODS

Explanatory Sequential

- Starts with quantitative data collection and analysis and then follow with qualitative data collection and analysis. The goal is to further explain the quantitative data
 - Ghods AA., Ebadi A., Nia H.S., Allen KA., Ali-Abadi T. (2022). Academic burnout in nursing students: An explanatory sequential design. *Nursing Open*:18 August 2022; doi: 10.1002/nop2.1319
 - First Phase- Maslach Burnout Inventory Student Survey
 - Second Phase- Individual interviews

MIXED RESEARCH METHODS

Exploratory Sequential

- Starts with qualitative data collection and analysis and then follows with quantitative data collection and analysis. The goal is to explore a topic before collecting quantitative data.
 - Azizi T.H., Nayeri N.D., Jackson A.C., Bahramnezhad F. (2023). Mixed-methods study protocol for exploring the perception of nurses' resilience the COVID-19 pandemic: Designing, implementing and evaluation of intervention. *Nurse Open*; Jun; 10(6):4111-4119. doi: 10.1002/nop2.1627
 - Three Phases- Semi Structured Interviews, Intervention using interviews and literature review, Pre/Post Test for interview and control groups

QUESTIONS

