



Mixed Methods Approaches in Early Childhood Education Research

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What is Mixed Methods Research?

Mixed Methods Research is the intentional integration of quantitative and qualitative research approaches to best address a research problem



Mixed Methods Research Process

- Conceptualization stage: Research purpose and questions that will guide the study are developed
- Methods or experiential stage: Study is implemented and the data are collected and analyzed
- Inferential stage: Inferences from the quantitative and qualitative results or the integrated study conclusions are developed

RATIONALES FOR CONDUCTING MIXED METHODS RESEARCH

Offsetting Strengths/Weaknesses

 An argument for using mixed methods to obtain more rigorous conclusions by using the two methods such that the strengths of the one method offset the weaknesses of the other.



Triangulation

 An argument for using mixed methods to obtain more valid conclusions about a phenomenon by directly comparing the results obtained from quantitative methods to those obtained from qualitative methods for convergence and divergence.



Complementarity

 An argument for using mixed methods to obtain more complete conclusions by using quantitative and qualitative methods to get complementary results about different facets of a phenomenon.



Development

 An argument for using mixed methods to develop more effective and refined conclusions by using the results from one method to inform or shape the use of the other method.



Social Justice

 An argument for using mixed methods to uncover and challenge oppression in society by using quantitative and qualitative methods to best conduct research guided by a social justice perspective.



KEY DECISIONS IN MIXED METHODS RESEARCH



Timing

- The temporal relationship between the quantitative and qualitative methods of data collection and analysis
- Concurrent timing: collect and analyze both quantitative and qualitative data at the same time or *independent* from each other.
- Sequential timing: collect and analyze
 quantitative and qualitative data in sequence—
 one following or dependent on the other.

Integration

- An explicit interrelating of the quantitative and qualitative methods
- Combining: joint interpretation of results at the completion of respective data collection and analysis
 - Indicates concurrent timing
- Connecting: results from the first phase are used to inform the design and data collection of the subsequent phase
 - Indicates sequential timing

Priority

- The relative importance of the quantitative and qualitative methods
 - Quantitative priority
 - Qualitative priority
 - Equal priority
- A subjective classification



Inferences

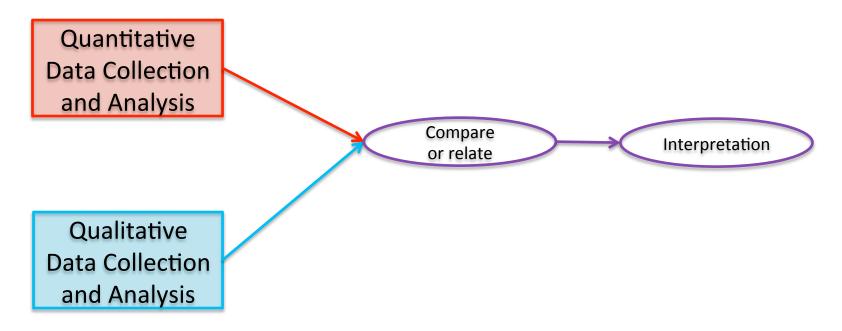
- The integrated study conclusions that are developed based on the interpretation of the quantitative and qualitative results
- Critically review the results from the quantitative and qualitative data analyses in terms of how they jointly provide the answers to the study's research questions
- Examining the relevance and quality of the collected data

BASIC MIXED METHODS DESIGNS



Convergent Designs

(triangulation, concurrent)



Use when you need...

- a more complete understanding of a topic
- to validate or corroborate quantitative scales
- to illustrate quan results with qual stories



Household and family characteristics of street children in Aracaju, Brazil

Quantitative
Data Collection
and Analysis

- Parents of 58 street children
- Cross-sectional Semistructured survey interview
- Descriptive analysis

Qualitative
Data Collection
and Analysis

- Parents of 58 index street children
- Qualitative focus group discussions
- General thematic analysis

Purpose: To describe the family and household characteristics of street children and explore the perceptions of parents that could explain gender discrepancies.

Compare or relate

- Corroborate urgent need for social support
- peers' influence decision to leave home or get involved in drugs and alcohol.

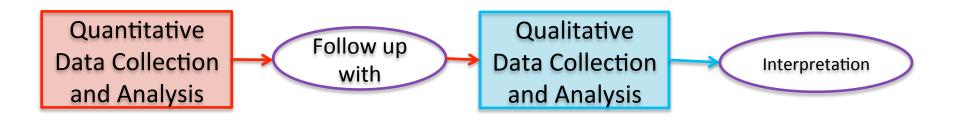
Interpretation

 Creative gendersensitive strategies are needed to strengthen street children's links with their families



Abdelgalil, et al., 2004

Explanatory Designs



Use when you need...

- to explain the quantitative results in more depth with qualitative data
- to identify appropriate participants to study in more depth qualitatively



Mixed Methods Analysis of Participant **Attrition in the Nurse-Family Partnership**

Quantitative **Data Collection** and Analysis

- Attrition data was used Participants: apx. 10,000 participants visited by apx. 800 nurses across 66 sites
- Measures: demographic, social and psychological characteristics, and health and mental health histories **Analysis:** descriptives and mixed model multivariate regression analyses

Follow up with

to purposively select 6 high and 6 low attrition sites for qualitative study

Qualitative **Data Collection** and Analysis

- Participants: 2 4 nurse home visitors and 1 nurse supervisor at each site
- Measures: semistructured interview protocol
- Analysis: preliminary codes clustered into broad categories and ultimately into themes

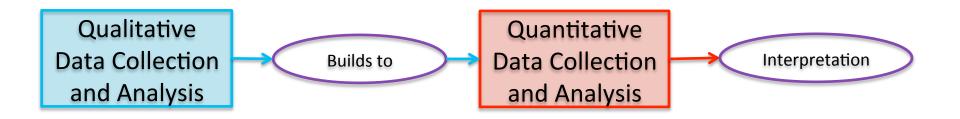
Interpretation

Qualitative data elucidated possible origins of variable attrition rates. Nurses in high-attrition sites put more responsibility for engagement on mothers

Purpose: To understand participant attrition in a prenatal and infancy home visitation program for low income pregnant women and parents of young children.



Exploratory Designs



Use when you need...

- qualitative results to develop or inform quantitative methods
- to develop an instrument
- to identify the most important variables to study
- to develop and test a classification or typology



A Mixed Methods Study of Parental Vaccine Decision Making and Parent-Provider Trust

Qualitative Data Collection and Analysis

Builds to

Quantitative
Data Collection
and Analysis

Interpretation

- Participants: 13
 parents who refused
 vaccinations (4
 groups); 11 parents
 who delayed
 vaccinations (3 groups)
- Measures: semistructured focus group discussion
- Analysis: grounded theory

- Qual analysis informed revision of previous survey instrument
- pilot test on sample of parents (n=10) to assess the readability and clarity of survey questions
- Participants: 47
 vaccine refusers, 136
 vaccine delayers, and
 260 vaccine acceptors;
 sampled from
 electronic medical
 records
- Measures: demographic, revised vaccine survey
- Analysis: descriptives, chi-square and multivariable polytomous logistic regression

- Qualitative analysis identified new factors that influence vaccine decisions
- Quantitative analysis showed that parents who delay or refuse childhood vaccination tend to constantly reevaluate their decisions

Purpose: To understand the vaccine decision making process and parent-provider trust in order to tailor interventions to address the concerns of parents with a wide range of vaccine beliefs.



How Mixed Methods Can Improve Instrument Validity

- Determine whether ideas that underlie the construct make sense to respondents
- Understand its meaning for individuals
- Understand its complexity as it naturally occurs in people's lives
- Consider the multiple external forces that shape and are shaped by this phenomenon
- Reveal the natural, everyday language that people use to talk about a concept

Participatory Culture-Specific Intervention Model

- To develop acceptable, sustainable, and culturally grounded interventions in partnership with key stakeholders
 - Existing theory, research, practice, policy
 - Learning the culture
 - Forming partnerships
 - Goal/problem identification
 - Formative research
 - Culture-specific (local) theory
 - Culture-specific program design
 - Context-specific program adaptation
 - Context-specific implementation & evaluation
 - Capacity building & translation



CONDUCTING RIGOROUS MIXED METHODS RESEARCH



Indicators of MM Design Quality

- Design suitability or appropriateness for answering the research questions
- Design fidelity or adequacy of all study procedures
- Within-design consistency of all components and study strands
- Analytic adequacy of data analysis procedures for answering the study's research questions

Indicators of MM Interpretive Rigor

- Interpretive consistency of meta-inferences that are produced as overall study outcomes
- Theoretical consistency with findings, theory, and previous research
- Interpretative agreement with the research purpose
- Interpretative distinctiveness of credible conclusions
- Integrative efficacy with inferences from each study strand
- Interpretive correspondence with other possible interpretations by scholars and study participants



Thank You



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