MATCHING METHODS TO QUESTIONS

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This sheet summarizes considerations for matching research methods to research questions. Before discussing when to use a specific research method, however, let's review the differences between quantitative, qualitative and mixed methods research:

- ☐ **Quantitative research**: This type of research relies on numbers. In social science research, variables are often measured through standardized surveys with constrained response options, resulting in numeric data for each unit of observation. Quantitative data are typically analyzed using various forms of statistical analyses.
- ☐ **Qualitative research**: This type of research uses words and images. Data is often generated through informal or semi-structured interviews, focus groups, observations, photographs, or drawings. Qualitative data are often analyzed through thick description, narrative analysis, and the application of codes to units of data.
- ☐ **Mixed method research**: Using both quantitative and qualitative research methods, mixed methods research allows for triangulation, or the examination of data from various perspectives.

Determining what type of methods are appropriate depends on the research questions and associated goals. In designing a research study, it is useful to consider: 'What am I trying to understand, and for what purpose?'

- ☐ **Exploratory**: Are you interested in learning more about a phenomenon about which relatively little has been written or researched? Are you interested in exploring or generating theory or hypotheses to be tested in future research?
  - Methods best suited to this approach: *Qualitative and mixed methods*.
  - This can include rapid assessments during quick response research.
    - Example 1 (qualitative, exploratory): Nepal 2015 Earthquake: A Rapid Assessment of Cultural, Psychological, and Social Factors with Implications for Recovery and Disaster Preparedness.
    - Example 2 (qualitative, exploratory): Dimensions of Vulnerability, Resilience, and Social Justice in a Low-Income Hispanic Neighborhood during Disaster Recovery.
- ☐ **Descriptive**: Are you interested in describing 'what happened' after an event or the characteristics of an individual, community, institution, or phenomenon, without needing to address the question of 'why' or 'how' something occurs?
  - Methods best suited to this approach: *Qualitative, quantitative, and mixed methods*.
  - Descriptive approaches may include soliciting feedback from focus group participants and/or attempting to understand baseline prevalence rates using standardized measures.
    - Example 1 (descriptive, mixed methods): Daily Stressors, Trauma Exposure, and Mental Health among Stateless Rohingya Refugees in Bangladesh.
    - Example 2 (descriptive, qualitative): Community Resilience and Public Libraries: Post-Crisis Information and Connectivity.
- ☐ **Hypothesis testing (causal inference)**: Are you interested in addressing the question of 'why' or 'how' something occurs and/or testing whether a particular intervention works?

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- Methods best suited to this approach: *Quantitative*, specifically, experimental designs, such as randomized controlled trials (RCTs), are useful for making causal inferences. RCTs involve random assignment to an intervention and a control comparison condition. Other means of establishing a counterfactual (no intervention comparison) include a wide variety of quasi-experimental designs, using design-related and statistical means of controlling for alternative explanations for results (confounds).
  * Example 1 (experimental, causal inference for intervention testing): Integrating Mental Health and Disaster Preparedness in Intervention: A Randomized Controlled Trial with Earthquake and Flood-Affected Communities in Haiti.
  * Example 2 (quasi-experimental, causal inference for intervention testing): An Integrated Approach to Mental Health and Disaster Preparedness: A Cluster Comparison with Earthquake Affected Communities in Nepal.
  * Example 3 (experimental, and quasi-experimental, including computational models for causal inference): The Economic Impacts of Natural Disasters: A Review of Models and Empirical Studies.

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Wouter Botzen, W.J., Deschenes, O., & Sanders, M. (2019). The Economic Impacts of Natural Disasters: A Review of Models and Empirical Studies. *Review of Environmental Economics and Policy*, 13(2), 167–188. https://doi.org/10.1093/reep/rez004

ADDITIONAL RESOURCES:

Creswell, J. W., & Creswell, J.D. (2018). *Research Design: Quantitative, Qualitative, and Mixed Methods Approaches* (5th Ed.). SAGE. Thousand Oaks. USA.

Graff, J.C. (2014). Mixed Methods Research. In H. R. Hall & L. A. Rousell (Eds.), *Evidence-Based Practice: An Integrative Approach to Research, Administration, and Practice* (pp. 45-64). Burlington, MA: Jones and Bartlett Learning.

Patton, M.Q. (2014). *Qualitative Research & Evaluation Methods Integrating Theory and Practice* (4th ed.). Thousand Oaks, CA: Sage Publications.

Quasi-Experimental Study Design Series (2017). *Journal of Clinical Epidemiology*. https://www.jclinepi.com/content/jce-quasi-experimental-study-designs-series.

Vogt, W.P., Gardner, D.C., & Haeffele, L.M. (2012). *When to Use What Research Design*. New York: Guilford Press.

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