

It is all about rigor!

- Rigorous research leads to valid study findings.
- In turn, valid study findings lead to improved health practices and policy.
- In turn, improved practice, policy and institutions leads to improved public health outcomes.

Rigor is a 9-step process

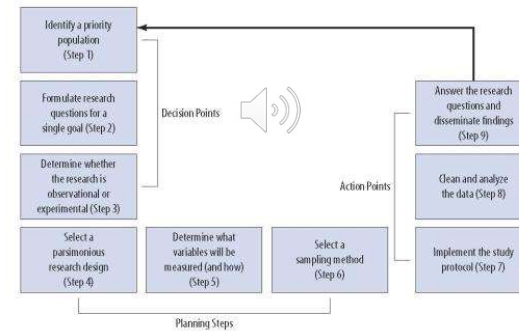


Figure 1.5 Schematic Illustration of the Nine-Step Research Process

Step 1: What population? *Choosing your destination*

National priorities (based on sound epidemiology studies) should guide your selection of the target population for your research question.

It is imperative that your study is squarely aimed at those people who can benefit the most from the findings of your work – please select carefully.

Step 2: Develop the research question *Mapping your route*

One rigorous study involving one simple research is far superior to conducting a less rigorous study with several research questions.

A good research question neatly fits into the chain of evidence defined by the peer-reviewed literature.

- Must first have a complete understanding of all the literature that relates to your proposed research.

Step 3: Observational or Experimental? *Choosing your ride*

- Not all research is created equal!
- Observational studies are far more amenable to completion in a shorter time frame
- Experimental studies are the only way to establish a cause-and-effect relationship
- Beware:
 - Unless you are an experienced researcher, we caution you against attempting experimental studies.

Step 4: What research design is best? *Which lane to drive in*

Your task at Step 4 is to select the one option that is the most efficient for your research question.

Simplicity is best, so do not select a design that has features you do not need.

Research Designs

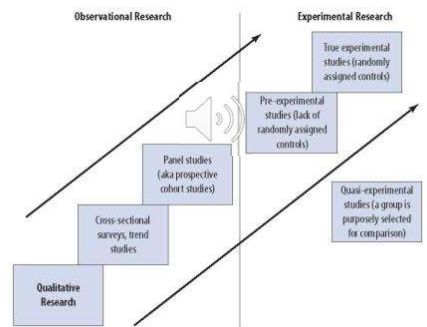


Figure 1.4 Research in Health Promotion: Resource Requirements

Step 5: Pick your variables carefully! *Stopping for snacks*

- Measurement is everything!
- Decide what is needed in your final analysis and “work backwards” from there.
- Correlates, predictors, outcomes, dependent variables, mediators, and moderators must be identified *a priori* – advance planning is paramount.

Step 6: Decide on a sampling technique

Do you take the bypass?

- Rigor is largely dependent on the quality of the sample you select.
- Sample quality is a function of your research question and your sampling technique.
- Alignment of your sampling technique with your research question will ensure optimal rigor.

Step 7: Implement with fidelity! *Should you use autopilot?*

Even the best plans can and will go wrong in the absence of careful supervision and quality assurance procedures.

A good researcher is obsessive with daily oversight of all procedures that collectively define the study.

You are as much of a “manager” as you are a researcher – managing daily tasks may seem mundane but rigor depends on this!

Step 8: Analyze the data! *Arriving at destination*

This is often the favorite part of the process!

Follow your analytic plan with great precision.

Report all findings, regardless of whether they support your hypotheses.

Do not hesitate to enlist the aid of a qualified statistician!

Step 9: Disseminate the findings *Prepare the trip slideshow*

Transform results of data analyses into study findings

Context (previous related research) is key to interpreting the findings and their contribution

Dissemination can take the form of professional presentations, publication in journals, media releases, and even broadcast and social media.

Be sure that your disseminated conclusions do not “over-reach” your data!