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Section C

Methodological Challenges
Methodological Requirements

- Life course perspective demanding of research methodology
  - Longitudinal data
  - Detailed measures from multiple levels
  - Sophisticated analytic methods

- Standard research tools may not be appropriate

- Institutional and practical barriers
Research Design

- RCT or experiment rarely possible when exposures are social
  - Can randomize interventions
  - Use natural experiments

- Rely on observational data
  - Probability samples
  - Convenience samples

- Inherent problems establishing causation
Longitudinal Study Designs

- Panel study: sample of individuals followed over time
  - Health and Retirement Study (U.S.)
  - Add Health (U.S.)

- Cohort study: group of individuals experiencing an event followed over time
Barriers

- Limited panel and cohort studies available
  - Don’t always have measures needed

- Doing new studies is costly; researcher must wait for outcomes to occur
  - More of a problem for adulthood or aging

- In many settings, any data are scarce
Solutions

- Add retrospective data to existing study
- Link data sources, e.g., a survey with administrative data
Solutions

- Use data collected for other purposes or long ago
- Creativity
Measurement

- Need to define and measure both outcomes and determinants as precisely as possible
  - Not just what is health at each stage, but how to measure (operationalize) it
Measurement

- Problems arise when researchers are out of their specialty area
  - Epidemiologists measuring SES, “region”
  - Social scientists ignore disease process
Measurement

- Need for cross-disciplinary teams, but there are institutional and practical barriers
Analytic Approaches

- Standard regression-style statistical methods may not be appropriate for longitudinal data

- Many innovations in statistical methods for longitudinal data
  - Latent growth curves
  - Hierarchical linear models
  - Structural equation models
A Role for Qualitative Research

- Sometimes complicated processes can’t be distilled into quantitative terms
- Problem for generalizability and face validity to funders