Data Collection Methods in Medical Anthropology

Free Listing & Pile Sorting

What is a Cultural Domain?

- **Definition:** A set of concepts cognitively organized according to similarity
- **Examples:** Types of illnesses, healing methods, health beliefs, vaccination attitudes
- **Key point:** Domains reflect how people in a culture think about and categorize concepts
- **Analysis:** We use structured methods to reveal these mental models

Free Listing: Principles

- **Method:** Ask informants to list all items in a domain without prompting
- **Example question:** "What do you think about when you hear vaccination?"
- **What we measure:** Frequency (how often mentioned) & rank (order mentioned)
- **Salience:** Items mentioned first or frequently are more cognitively important

Pile Sorting: Principles

- **Method:** Informants sort items into groups based on perceived similarity
- **Task:** "Group these items in ways that make sense to you"
- **What we measure:** Which items group together (co-occurrence patterns)
- **Result:** Reveals cultural categories and classification systems

Case Study: Vaccination Attitudes

Dataset: 50 respondents completed free listing and pile sorting about vaccination

- Free listing: What comes to mind about vaccination?
- Pile sorting: Group items into meaningful categories
- Metadata: Age, education, vaccination status, trust level

Free Listing: Salience Index

Formula: Salience = (Frequency ÷ Respondents) ÷ Mean Rank

- **High frequency:** Many people mentioned the item
- **Low mean rank:** People mentioned it early (more salient)
- **Top items:** Protection from disease, immunity, health, prevention
- **Interpretation:** Health benefits are most cognitively salient

Five Cultural Domains Identified

1. Medical-Scientific

Protection, immunity, health, scientific progress

2. Risk-Concerned

Side effects, dangers, long-term risks, unknown

3. Liberty-Rights

State control, mandates, coercion, authoritarianism

Five Cultural Domains (Continued)

4. Economic-Critical

Pharma profits, monopoly, financial interests, corruption

5. Natural-Alternative

Natural immunity, nature, traditional medicine, alternative

Pile Sorting: Co-Occurrence Analysis

- **Similarity matrix:** Shows how often item pairs sorted together
- **High co-occurrence:** Items frequently grouped = semantically related
- **Example:** "Protection" and "Immunity" sorted together by 45/50 respondents
- **Network visualization:** Creates maps of conceptual relationships

Demographic Variation

- **High trust group:** Emphasize medical-scientific domain (80%)
- **Low trust group:** Emphasize risks & political control (65%)
- **Age differences:** Older respondents mention side effects more
- **Education effect:** Graduate degree holders cite scientific progress more

Practical Implications

- **One-size-fits-all messaging fails:** Different groups have different concerns
- **Tailor communication:** Address specific cultural models of your audience
- **Public health:** Understanding cultural domains improves health outcomes
- **Policy design:** Effective interventions acknowledge multiple worldviews

Strengths of Free Listing & Pile Sorting

- **Structured yet open-ended:** Combines rigor with cultural sensitivity
- **Quantifiable:** Statistical analysis + qualitative insight
- **Cross-cultural comparison:** Can use same method across different cultures
- **Ethical:** Low burden on respondents, no deception needed

Analysis Pipeline

- **Transcribe:** Record all items from free listing
- **Code:** Normalize terminology, create item inventory
- **Calculate salience:** Frequency + rank analysis
- **Build matrices:** Co-occurrence from pile sorting data
- **Visualize:** MDS plots, network graphs, heatmaps

Tools for Analysis

- **Python/R:** Data analysis & visualization (our approach)
- **ANTHROPAC:** Specialized CDA software
- **UCINET:** Network analysis & visualization
- **Dedoose:** Qualitative data management platform

Your Research Questions

- What cultural domains exist in your domain of interest?
- How do domains vary by demographic group?
- What are core vs. peripheral concepts?
- How do cultural models change over time?
- How do findings relate to behavior/attitudes?

Ethical Considerations

- **Informed consent:** Explain study purpose & methods clearly
- **Confidentiality:** Anonymize responses, protect identities
- **Respect:** Acknowledge local knowledge as valid
- **Reciprocity:** Benefit communities through research findings

Key Takeaways

- **Cultural domains are mental maps:** How people organize knowledge
- **Free listing + pile sorting reveal these maps:** Complementary methods
- **Demographics matter:** Different groups have different worldviews
- **Applicable everywhere:** Health, education, policy, marketing