Human Coding & Interrater Reliability In Content Analysis

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Human Coding

We have computers, why on Earth use human coding?

1. When the meaning of the variable resides within source/receiver interpretation
   - Attributions (Lee et al., 2004)
2. When context matters
   - Socio-cognitive variables (King et al., 2011)
3. When concepts are not easily identified by particular words or phrases
   - Strategic actions (Zavyalova et al., 2012; Lamin & Zaheer, 2012)
4. To identify grounded or emergent variables

Measurement Issues

M= t + e

(measure = true score + error)

- Sources of error = Humans
  - Coder misinterpretation, poor scheme, inadequate training, inattention/fatigue, recording error, rogue coder!
- Thus, we need ***reliability*** – the extent to which a measuring procedure yields the same results on repeated trials
  - More specifically, ***interrater reliability*** – the amount of agreement or correspondence among two or more coders

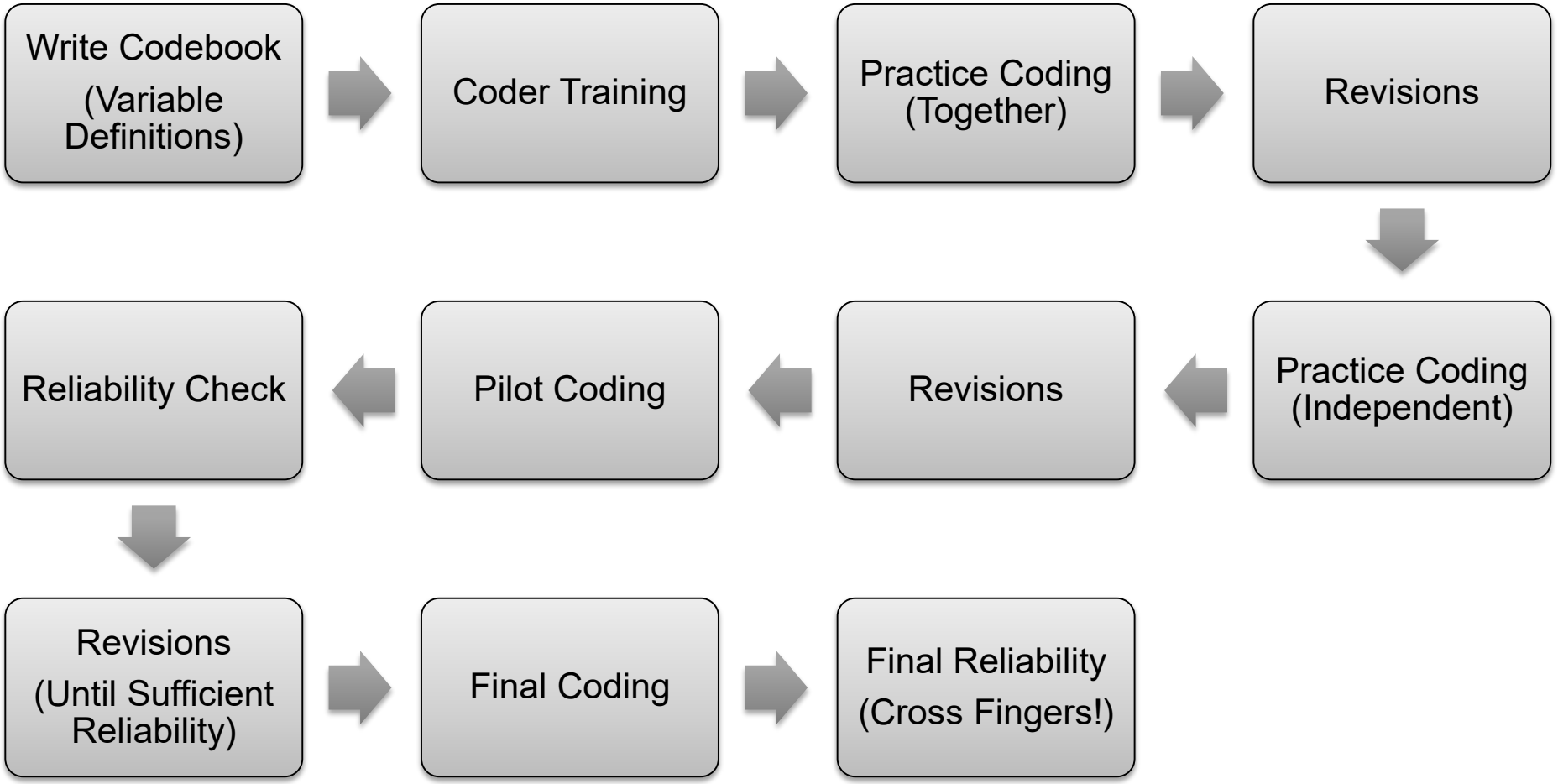
Why Reliability?

- Validity of coding scheme
  - Results are not the idiosyncratic to rater subjectivity
- Allows for the use of multiple coders
- Replication over time

Reviewers are going to ask for it!

Reliability Flowchart

(Neuendorf, 2002; Weber, 1990)



Reliability Measures

http://dfreelon.org/utils/recalfront/

Measure	Type	Best for	More than 2 coders?
Percent Agreement	Agreement	Nominal	No
Holsti's Method	Agreement	Nominal	No
Scott's Pi	Agreement (w/ chance)	Nominal	No
Cohen's Kappa	Agreement (w/ chance)	Nominal	Yes
Krippendorff's Alpha	***Agreement (w/ chance)***	***Any***	***Yes***
Spearman Rho	Covariation	Ordinal	No
Pearson Correlation	Covariation	Interval/ratio	No
Lin's Concordance	Covariation	Interval/ratio	No

Other Thoughts

- Codebook and form - make the set so complete and unambiguous as to eliminate individual coder differences
- At least **2 coders**, 10% overlap ranging between **50-300 observations** depending on sample size
- Reliability can be low when coding subjective into objective, thus cut-offs can be lower (.67-.80)
- **Blind coding is preferable**
- Consensus needed when training/building, but not in final coding
- What to do with variables that are **not reliable**?
  - Redefine variable, split variable, re-train coders , drop variable, drop coder, integrate non-content analytic data
- Need **separate reliability for each measure**
- With CATA, reliability always = 1, but validity still an issue

Tips

- Habits & Routines
  - Code daily, but avoid fatigue
- Spend time up front
  - Familiarize self with content texts and theory
  - Invest in training!

Revise early and revise often!

References

- Practical guide – Neuendorf, K. A. 2002. *The content analysis guidebook*. Sage.
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