

METHODOLOGICAL NOTES FROM RMP WORKSHOPS

Workshop on Sequences Analysis, University of Essex, 15 February 2007

Workshop on Behaviour Coding, University of Essex, 16 February 2007

Link to programmes and presentations: <http://www.iser.essex.ac.uk/ulsc/events/20070215/>

Sequence Analysis Workshop

Sequence analysis is a data reduction technique whereby patterns and forms are identified in any temporal or spatial sequence of elements. Typical examples include the steps to a dance, the sequence of basal pairs in DNA, the sequence of stages in the development of an embryo, the stages of development of a romantic relationship, or the chord progression in a symphony. Once patterns are identified using one of several matching algorithms, data can be classified through clustering techniques into groups representing similarities in sequential patterns. It is important to note that this technique does not allow any researcher to draw conclusions about any causal relationships between the elements of a temporal sequence, but instead only allows for the identification of patterns in such sequences.

The workshop was specifically applied with hands-on demonstrations of how to perform Sequence Analysis in STATA and in Sequence Viewer following a short presentation outlining what Sequence Analysis actually is and what types of data are suitable for this type of analysis.

An interesting discussion followed the hands-on session. Aside from specifics of how to conduct a Sequence Analysis in STATA and Sequence Viewer, discussion for the day focused mainly on a single issue. That is, sequence analysis is largely a descriptive tool and is a means of accomplishing a highly systematic reduction of complex data. The fact that sequences analysis does not allow for the identification of causal relationships in a sequence of temporally ordered events was seen as its main flaw. However, it was pointed out that time series analysis or event history analysis was more suitable for this sort of research question and that interested users of this technique should adhere to research problems the technique was designed to answer.

Behaviour Coding Workshop

Behaviour Coding is a technique of observing, classifying and recording verbal or non-verbal action into discrete taxonomies. The purpose is to reduce observable behaviour for systematic analysis. Although the action of non-humans can be observed, recorded and thereby reduced into discrete forms using these techniques, behaviour coding is largely applied to the study of human action. The term “behaviour coding” was coined in the late 1960s to describe a technique for evaluating survey questions as administered in field. This latter application was the focus of this workshop.

Several important issues were identified. First, what level of action should be coded? That is, what is the unit of analysis to which the behaviour code is to be assigned and how does one decide what unit to which the code should be applied? The general response was that this depended on the research question, highlighting the fact that coding procedures are project specific.

A second issue relates to the development of code frames themselves. How should behaviour be classified, specifically. This, again, depends on the research question. Clear criteria and procedures for developing code frames should be outlined with the research question in mind.

Finally, issues regarding the potential of behaviour coding to analyse data quality were discussed. Specifically, the issue was knowing how the survey item might be in error and what can be done about it. Debate among the attendees focused on the balance between information gained from the use of behaviour coding for evaluating survey items and the survey process as compared to other methods of conducting survey item evaluation such as cognitive interviewing and expert evaluation. It was remarked that behaviour coding is a labour intensive activity that provides a certain level of information that could be ascertained by simpler methods. However, it was remarked that certain research questions cannot always be answered by consulting experts or conducting cognitive interviews. Specifically, if the interaction between interviewers and respondents is at issue, cognitive interviews or expert evaluation are unlikely to identify the problem. Cognitive interviews and expert evaluation often focus on problems for respondents, but not necessarily problems for interviewers and so behaviour coding may be useful for this specifically. Behaviour coding is also a means of monitoring interviewer quality in field which neither cognitive interviewing nor expert evaluation are designed to address. Insofar as a rudimentary measure of resulting data quality is required, behaviour coding of survey interaction can provide insight into the nature and structure of survey error that other evaluative methods might not provide.