

# Systematic Mixed Methods Research Workshop June 15<sup>th</sup> 2010, University of Manchester

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## **1. Process tracing and QCA - how we can compare complex social interventions in order to find what works when and where**

**By Prof. David Byrne, University of Durham, Dept. of Sociology**

Randomized controlled trials do not work in relation to complex social interventions. Claims to the contrary usually assert that if only the practitioners involved in a complex social intervention would stick to a rigid experimental protocol all would be well. This is ontological and methodological nonsense. However, if we combine the logic of process tracing with systematic comparison across multiple cases then we can start to explore causation in relation to objectives for complex social

interventions. The presentation will draw on recent work by Blackman, Wistow and Byrne exploring Spearhead area interventions in relation to health inequalities.

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## **2. A new approach to Mixed Methods Research**

**By Dr. Wendy Olsen, University of Manchester**

I will comment on the methodological themes of retroduction, induction, deduction, and abduction. These are just small-scale modes of logic rather than broad methodologies. They can also be contrasted with methods, which are procedures for doing things. A relatively standardized set of methods is sometimes called a protocol. One can engage in a particular small-scale mode of logic within a protocol without necessarily agreeing with the typical methodological assumptions made by others who use this protocol.

I describe open systems and how they organically change. The need for systems thinking is implied both the patterns found in closed systems, and by the patterns that are more roughly discovered to be accessible in open systems. Social systems are open systems.

The researcher's involvement with the scene is one factor making the social system an open system, tending to force us to move away from positivism. The qualitative-quantitative methods integration is proposed as a solution to the supposed "schism" found mentioned in the mixed methods literature. The schism can be created by its own detractors.

I describe a qualitative-qualitative integration protocol when systematic approaches are used - often involving NVIVO or other qualitative software – which is becoming more easy with every year. However, qualitative analysis is now rather daunting if it is meant to be both systematic and thorough.

Then I describe a quantitative-quantitative integration protocol when mixed methods are being used - see Flick (1992) – arguing that verification of a prior hypothesis would miss the point. There is usually an absence of confirmatory urges in the SMMR researcher. The value of exploratory statistical methods is that small chunks of learning by doing can be embedded in a project which also has more tradition components. In statistics, the more traditional components are confirmatory factor analysis (or similar) and hypothesis testing. Regression is very dominantly considered as hypothesis testing. I show how the Duhem-Quine paradox makes the findings of regression rather unstable. I urge the protocol to be seen as a reflexive project with recursive movement backward and forward along the 'steps' of the protocol, citing Danermark (2001) and Byrne (various) in support.

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### **3. Analysing the Productive and Protective Dimensions of Welfare: Looking Beyond the OECD**

**By Stefan Kuehner and John Hudson, University of York**

Several theorists have argued that social policy in East Asia can be seen as representing a distinctive welfare ideal type based around 'productive welfare'. However, we have contested such claims in earlier work (Hudson and Kühner, 2009) and, in common with theorists such as Castells, have suggested that some of the OECD welfare states have a distinct bias towards the 'productive' rather than 'protective' dimensions of welfare. In this paper, we build on our earlier work, utilising fuzzy set ideal type analysis to explore the balance between 'productive' and 'protective' dimensions of welfare state activity. Here we extended our analysis beyond the OECD, incorporating a range of nations on the 'fringe' of the OECD from Latin America, East Asia and the non-EU parts of Europe. In so doing, we contest simple notions of welfare regimes aligning with regional blocks and highlight the advantages of the 'diversity orientated' approach to data analysis that fuzzy set methods facilitate in comparison with standard quantitative techniques such as cluster analysis.

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### **4. The Qualitative Comparative Analysis of the Certification of International Footwear Companies: A Methodological Exploration**

**By Dr. Axel Marx, University of Antwerp Management School**

Qualitative Comparative Analysis (QCA) is a comparative case-oriented research approach and technique which was developed by Charles C. Ragin in the 1980's and 1990's. In the 1980's a crisp set approach was developed which uses dichotomous variables. QCA has been applied in more than a 100 studies in sociology, political science, policy analysis, organizational studies and other fields and has proved to generate interesting additional insights to existing streams of research and helped to refine existing theories (for some interesting applications see Wickam-Crowley, Visser, Boswell). As noted by John Gerring QCA is one of the few genuine methodological innovations of the last few decades.

Recently, QCA – mainly the crisp approach - has been criticized concerning the validity of the models it generates. On the one hand, Lieberman has hypothesized that QCA is unable to distinguish real from random models and challenges QCA users to show he is wrong. On the other hand, Seawright has added to this by claiming that QCA makes very strong assumptions about omitted variables. He

basically argues that QCA assumes that no relevant variables are omitted from the model developed via QCA and this assumption is a too strong assumption to be made in a world of countless variables. Both criticisms meet in their claim that QCA is unable to distinguish real from random data and generates valid explanatory models at all times.

This paper addresses this controversy by comparing – as suggested by Lieberson - a real QCA application with a methodological experiment which consists of 20 randomized trials. As will be argued below the QCA-application presented here and which is used as a starting point for the randomized trials is an interesting case because it constitutes an extreme case for confirming Lieberson's hypothesis. The application has an unequal distribution on the dependent variable which reduces the chances of contradictions (increases the chances of inductively finding a 'valid' model on the basis of random data). If the trials (random data) result in contradictions this would mean that a QCA-analysis is able to distinguish real from random data.

The first part of the paper introduces QCA. The second part applies a QCA analysis to real data. The paper will only focus on the crisp approach and is applied to a research question which is relevant in the context of institutional theory and the analysis of the effectiveness of institutions. More specifically the application focuses on the question of why some international companies are certified by international institutions while others are not. For a more substantial discussion of the issue the reader is referred to Marx (2008). The third part, focuses on the controversy concerning the development of models and conducts a methodological experiment which consists of 20 trials. The final part offers a discussion of the results and QCA in general.

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## **5. Latent Factor Models in a Mixed-Methods Context**

**By Dr. Wendy Olsen, University of Manchester**

This paper surveys recent changes in factor analysis as they relate to using smaller and medium sized samples. First the issue of testing a factor model is clarified. Secondly the use of ordinal variables is argued to be superior to requiring each variable to be continuously, cardinally measured. Thirdly the underlying qualitative research is argued to be extremely useful for interpreting the factors. Fourthly an example is worked on to show that the results vary considerably depending on how these first three issues are dealt with, i.e. what methodological and empirical assumptions are made. Data from either employment and gender, or the general human capabilities model of well-being, are used to illustrate the points. Fifthly we conclude.

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## **6. Student Perceptions of Economics: Systematic mixed methods study**

**By Dr. Andrew Mearman, University of West England Bristol**

Abstract: This paper presents the methods and findings from a systematic mixed methods study of student perceptions of Economics. It combines data from an online international survey with UK based focus groups. The survey was analysed using cluster analysis and ordered logit regression modelling. The focus group design was affected by the analysis of the survey responses. Subsequent rounds of survey analysis were then also informed by analysis of the focus groups. Overall there was an iterative research design. The analysis finds that students are generally positively disposed to the discipline of economics, but that their perception is strongly affected by three factors: by their perception of mathematics; by realisticness and their attitudes to politics; and by their need to feel their education was valuable.

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## **7. Combining qualitative methods with Hierarchical Linear Modelling to develop theory in Organisational Research: A comparison of Research Designs**

**By Andy Milward, Milward Research & Consulting Organization Development**

This chapter will evaluate alternative research designs that combine Hierarchical Linear Modelling (HLM) (Bryk and Raudenbush 2002; Goldstein 2003) with qualitative methods in order to develop theory in the Social Psychology of organizations.

Organisations are complex social psychological systems characterised by interaction between thinking, feeling human beings. These interactions give rise to phenomena that operate at multiple levels of analysis (Doise 1982; Ickes and Gonzalez 1996; Kozlowski and Klein 2000). Higher level phenomena such as organisational culture, climate and effectiveness is emergent from the interaction of elements at lower levels such as individuals, teams and groups. Such higher-level phenomena may also provide a context that influences, facilitates or constrains processes at lower levels of analysis, as where the motivation and performance of individuals is

enhanced by their membership of a highly motivated and high-performing group (Kozlowski and Klein 2000).

Social and Organisational Psychology has attracted much criticism in the literature for not adequately addressing the complexity inherent in social interaction, a failing attributable to Social Cognition, the dominant theoretical paradigm in Social Psychology (e.g. Smith, Harre et al. 1995; Smith, Harre et al. 1995; Nye and Brower 1996; Barone, Maddux et al. 1997; Augoustinos, Walker et al. 2006).

Grounded in the Cognitive turn in psychological theorising, Social Cognition is characterised by an emphasis on intra-individual phenomena, the information processing metaphor, and the predominant use of experimental approaches using quantitative methods (Augoustinos, Walker et al. 2006). Although Social Psychology concerns the interaction between people and groups, the emphasis of Social Cognition (and its corresponding methods) is on the response of the individual to a stimulus which happens to be 'social' in nature. This limited perspective therefore neglects the "inter-subjective" and "reciprocal" nature of human interaction (Ickes and Gonzalez 1996 p. 288-299).

Researchers have gone some way towards recognising the complex nature of organisations in their adaptation of an array of statistical techniques, such as, Hierarchical Linear Modelling, to address interdependent multilevel phenomena (e.g. Hofmann, Griffin et al. 2000; Bliese 2002). However, by focussing on intra-individual cognitive process, Social Cognition still fails to take proper account of the meaning, context and content of cognition (Ickes and Gonzalez 1996; Augoustinos, Walker et al. 2006). This has limited the development of theory in organisational psychology and has led a growing number of researchers to call for a more 'pragmatic' Social Psychology, in the sense originally intended by Mead (Mead 1934) that properly captures the complexity of social interaction (e.g. Blumer 1969; Ickes and Gonzalez 1996; Nye and Brower 1996; Barone, Maddux et al. 1997).

Using contemporary Group Efficacy research as an example (e.g. Bandura 1986; Bandura 1997; Goddard, Hoy et al. 2004; Gibson and Earley 2007), the chapter will

discuss the strengths and limitations of a conventional use of Hierarchical Linear Modelling in organisational research.

The chapter will then illustrate how these limitations may be ameliorated by combining Hierarchical Linear Modelling with appropriate qualitative methods.

Several mixed-methods designs will be considered including sequential exploratory, sequential explanatory, concurrent embedded and concurrent triangulation (Creswell 2009).

Finally, the chapter will conclude by commenting on some of the epistemological challenges inherent in a move towards a pluralist social psychology of organisations.

### **One-hour breakout sessions**

**The facilitators of the one-hour breakout sessions are tentatively:**

- Demonstration on handling mixed methods research data using NVIVO. By Jean David with Badru Bukenya
- Medical and health applications of Systematic mixed methods research. By Prof. David Byrne
- Computer practical in running fsQCA software. By Dr. Wendy Olsen,
- Discussion of qualitative comparative analysis in practice. By Dr. Stefan Kuehner and Dr. John Hudson
- Fuzzy set comparative analysis in practice. By Axel Marx

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