Book of Abstracts

"Mixed Methods Research and Causal Inference" Workshop

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Contents

Triangulation, Incommensurability and conditionalization

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According to Methodological Triangulation there is an epistemic value in using several methods to establish the same scientific claim. Hessen et al. (2016) presented three formal results that can be viewed as expressing two different senses for the term "epistemic value" in the above characterization. The first sense is that of independent reliability: when several reliable methods support the same claim independently, the overall (objective) probability of the claim to be true increases with the number of methods. The second sense is that of reliability likelihood: when at least two methods, with unknown levels of reliability, agree, the probability that some of these methods are reliable increases with the number of methods.

After discussing some limitations of these two senses, we suggest a third one that applies to cases in which different methods rely on partly incommensurable theories, that - nevertheless – give predictions regarding the same phenomena. We model such cases using different probability distributions that are defined over partly overlapping algebras. We assume that although all theories assign a probability value to some hypothesis, H, none of the theories assign a probability value to the claim that one of the other theories predicts H with a given probability. We argue that this nicely captures the situation in a wide range of interdisciplinary scientific discussions. We also argue that at least in many such cases, it is natural to demand that after learning that a method, associated with a given theory, supports H to a given degree, a rational agent should not change her conditional credence in the reliability of other methods, that are associated with other theories, given H. We show that this last assumption amounts to a commitment to using Jeffrey's conditionalization as an updating method and that when all methods are reliable, rational credence in H increases with the number of methods used. We also provide a general formula for computing this credence and show that the order of using different methods does not matter.

We then demonstrate how our account can be applied to the case of using different methods to gain knowledge about causal mechanisms. We do that by exploring the example of the research regarding gendered pathways to women's incarceration. The relevant scientific literature identifies three different pathways to women's incarceration. However, some of the measures (e.g., substance use) used in the research regarding each one of these pathways are endogenous to the pathways. Thus, it is not always possible to assess the exogenous effect of one pathway given another one. We argue that this should be understood as a type of partial incommensurability between the theories that describe each one of the pathways and so our account can capture this case. Specifically, we argue that even though no statistical evidence regarding the effect of one pathway given another is available, the fact that a given woman follow more than one pathway should increase one's confidence in her future incarceration. We point to some implications to rehabilitation policy.

Using Mixed Methods Research to Resolve the Tension between Global and Local Psychiatric Approaches

Elena Popa (FLAME University, India)

Global initiatives in psychiatry, such as those by WHO, have typically been in tension with local conceptualizations of mental illness and interventions. Particular criticism targets the excessive focus on biomedical approaches and employment of quantitative methods, leading up to the marginalization of local approaches. This is visible in WHO documents, where recommended interventions are meant to be both evidence-based and culturally appropriate (WHO 2008). Still, while evidence-based interventions are typically tested through quantitative methods, the effectiveness of local approaches are typically studied by medical anthropologists, using methods such as qualitative interviews or ethnography. This paper aims to take a step towards solving this tension by expanding the scope of evidence and causality such as to include local psychiatric knowledge. I will argue that mixed methods research can provide a way of establishing causal claims involving local psychiatric approaches, which can then be employed alongside other causal claims in psychiatry.

I will argue that mixed methods research can bring together qualitative research with quantitative causal claims about mental illness or treatments. For illustration, I will use a case study on local psychiatric approaches in South India, where both local and biomedical approaches were shown to work (Halliburton 2004; 2009; 2020). I will explore how causal claims within these local approaches can be spelled out in terms of interventionist and mechanistic approaches to causation. Both have been discussed in the context of psychiatry, but not in relation to local knowledge (Kendler & Campbell 2009; Kendler et al. 2011). While interventionism has the advantage of supplying the kind of evidence used for RCTs and being neutral between conflicting theoretical tenets, it does not handle ethnographic evidence well (Kowalenko 2017). Mechanisms, however, can provide more detailed information about how and why certain local treatments work. I will also argue that mechanisms can incorporate qualitative information, for instance looking at particular circumstances and actions of an individual and the experience of illness and recovery. This is in line with discussions of mixed methods research and causality such as Johnson et al. (2019). Finally, mechanisms can address shortcomings of evidence-based policy as well (Shan & Williamson 2021), which is particularly relevant for policies with global scope.

In addition to supporting evidential pluralism through linking causality to both interventions and mechanisms, I will expand the case for pluralism made by Johnson et al. (2017). Looking at psychiatry in a cross-cultural context involves bringing together different epistemologies and ontologies. These have been brought together under a partially overlapping ontologies model (Ludwig & Weiskopf 2019), also discussed in the context of psychiatry (Popa 2020). I will explain how a multitude of causal relations and types of evidence can also be present in various knowledge systems. Causal claims cutting across these different ontologies are indicative of such overlaps. Spelling such connections out can further help formulate causal hypotheses to be tested in cultural psychiatry, helping integrate local psychiatric knowledge with current approaches.

Evidential Variety and Mixed Methods Research

Jaakko Kuorikoski and Caterina Marchionni (University of Helsinki, Finland)

Mixed-methods research - the combination of qualitative and quantitative data within the same research design to strengthen causal inference - is gaining prominence in the social sciences, but its benefits are contested. Social scientists and philosophers have sought to cash out the epistemic rationale of mixed-methods research but none of the available accounts adequately captures the epistemic gains of mixing methods within a single research design.

We argue that what matters is variety of evidence, not data, and that there are distinct epistemic principles grounding the added value of variety of evidence for causal inference.

Philosophical and Methodological Innovations in Mixed Methods Research

Burke Johnson (University of South Alabama, USA)

In this talk, I will discuss dialectical pluralism, Mixed Methods designs, within and between methods mixing, causation, and mixed methods-grounded theory.

One Size Doesn't Fit All: Concepts of Causality in Mixed Methods and Multimethod Approaches

Virginia Ghiara (Early Intervention Foundation, UK)

Mixed methods researchers often discuss what ontological and epistemological assumptions are required to adequately combine quantitative and qualitative research in causal studies. On the one hand some scholars have argued that mixed methods studies imply a plurality of causal concepts (Johnson, Russo & Schoonenboom, 2017; Ghiara 2019), on the other hand, when MMR authors present their approach, they sometimes refer to a 'dominant' paradigm, to which is attached a single notion of causation.

In my presentation, I will argue that this conflicting situation is due to the fact that mixed methods research is now used as an umbrella term, which refers both to real combinations of methods and analyses, and to multimethod approaches. I will show that there are key procedural considerations that can help researcher to make a distinction between such cases, including the 'weighting decision' about the relative weighting of the two approaches in the study, and the 'mixing decision' about how the quantitative and qualitative data and findings will be mixed. To support my argument, I will analyse some mixed methods studies, such as the study of parental values by Pagano, Hirsch, Deutsch, and McAdams (2002), and Wood's (2003) study aimed at understanding why peasants in El Salvador decided to join rebel movements.

Limits to Evidential Pluralism: Multi-Method Large-N Qualitative Analysis and the Primacy of Mechanistic Studies

Rosa Runhardt (Radboud University Nijmegen, Netherlands)

Evidential pluralists, like Federica Russo and Jon Williamson, argue that causal claims should be corroborated by establishing both the existence of a suitable correlation and a suitable mechanism complex. At first glance, this fits well with mixed method research in the social sciences, which often involves a pluralist combination of statistical and mechanistic evidence. However, statistical evidence concerns a population of cases, while mechanistic evidence is found in individual case studies. How should social scientists combine such general statistical evidence and specific mechanistic evidence? In this talk, I present and

discuss a very recent answer to this question, 'multi-method large-N qualitative analysis' or multi-method LNQA, popular in political science and international relations studies of rare events like democratic transitions. Multi-method LNQA combines a comprehensive study of all (or most) relevant event cases with statistical analysis, in an attempt to solve the issues of generalization faced by other types of qualitative research, such as selection bias and lack of representativeness. I will argue that the kind of general causal claim that multi-method LNQA is after, however, is crucially different from the average treatment effect found in statistical analysis, and can in fact only be supported with mechanistic evidence. I conclude from this that mixed method research, and thereby evidential pluralism, may be inappropriate in this context.

Why Mixed Methods Provide Better Causal Evidence: A New Argument and Example from Social Policy

Ben Baumberg Geiger (University of Kent, UK)

Most arguments for mixed methods invoke either triangulation (that we are more confident if we see the same phenomenon from different perspectives) or complementarity (that different methods can answer different questions). In this presentation I make a different argument: that reliance on a single method for causal inference increases the risk of wishful thinking. I argue (following Helen Longino) that "background assumptions are the means by which…values and ideology are incorporated into scientific enquiry", and that we require methodological diversity to make these assumptions visible. This does not happen through 'triangulation' where methods agree, but rather through 'collisions' that call into question each individual method's causal claims. I illustrate this argument with reference to three types of causal evidence on the effectiveness of harsh vs. generous social security policies on labour market outcomes.

Mixed Methods Research in Political Science: Methodological, Evidential, and Causal Pluralisms

Sharon Crasnow (Norco College, USA)

Methodological debates in political science have focused primarily on the question of which methods provide the best evidence for causal claims. King, Keohane, and Verba Designing Social Inquiry: Scientific Inference in Qualitative Research (1994) kicked off these debates with their claim that there is one logic of inference -- that reasoning from qualitative evidence should follow the same principles of reasoning followed by statistical quantitative evidence. Responses to KKV included a variety of defenses of how qualitative methods, either alone or in conjunction with quantitative methods (mixed or multi-method research) produces evidence in support of causal claims (Collier, Brady, and Seawright 2010; Goertz and Mahoney 2012). These arguments include the intuitively appealing ideas that using more than one method allows for diversity of evidence—the more evidence the better – and that the weaknesses of one method might be compensated for by the strengths of other methods.

These seemingly intuitive philosophical defenses need to be cashed out in more detail. Evidential pluralism as argued for by Russo & Williamson (2007) appears to offer one path to do so. The thesis prescribes that establishing and assessing causal claims requires both evidence of correlation and evidence of mechanism. While originally proposed for the biomedical sciences, its applicability in the social sciences has recently been explored (Beach 2021; Runhardt 2021; Shan and Williamson 2021). When combined with the idea that evidence of correlation and evidence of mechanism require different methods, evidential pluralism appears to offer a rationale for mixed method research.

In this talk, I argue that while evidential pluralism captures some aspects of mixed methods research, it does so in part because it manifests one aspect of a more expansive rationale for mixed methods encompassed by methodological pluralism. The form of methodological pluralism I advocate does not confine the role of method to causal inference but treats it as one element among many that contribute to knowledge production. I argue that focusing on causal inference as a core aim of social science research presupposes that the primary goal of research is to establish causal claims that that can be detached from the evidence, background knowledge, and aims of the knowledge project in which such claims are sought. I call this "the detachment ideal". A more expansive understanding of knowledge production shifts attention away from establishing causal claims and emphasizes the context in which such claims are produced. I use examples from political science research that illustrate the limits of evidential pluralism to aid in making this point. In addition, I argue that methodological pluralism calls for a causal pluralism of the sort advocated by Cartwright (1999, 2007) and consistent with her recent emphasis on reliability rather than truth (Cartwright et al., forthcoming). While I focus on research in political science, the arguments should apply to the social sciences more broadly.