

## A Statistical Rationale for Qualitative Research?

Prepared for the NSF Workshop on Interdisciplinary  
Standards for Systematic Qualitative Research<sup>1</sup>

In the spirit of Clifford Geertz's (1983: chap. 1) idea of "blurred genres," this document raises what might appear to be the paradoxical idea of a statistical rationale for qualitative research. More broadly, it considers the potential contribution of statistical theory—understood as a set of tools for reasoning about evidence and inference—to refining qualitative methods.<sup>2</sup> The document follows closely the outline provided for the NSF Workshop.

This focus may be quite remote from the concerns of many workshop participants. Yet I am convinced that if we really are concerned with "interdisciplinary standards for systematic qualitative research," this is one of a number of promising avenues to pursue.

### 1. Identifying Standards of Rigor in Political Science.

Political science is an incessant importer of methodologies, and it can easily be argued that political science methodology is sufficiently fractured as to make it misleading to speak of widely held standards of rigor. For present purposes, however, it is useful to comment on three potential sources of such standards.

**Option 1. The Quantitative Template.** This template is proposed in *Designing Social Inquiry* by King, Keohane, and Verba (1994),<sup>3</sup> who map the norms of large-N regression analysis onto qualitative research, seeking to provide standards and thereby offering the basis for "Scientific Inference in Qualitative Research," as they put it in the subtitle of their book.

By contrast, in *Rethinking Social Inquiry: Diverse Tools, Shared Standards*, Brady and Collier (2004) and collaborators strongly dissent from this view, providing a comprehensive critique of the idea that the regression framework provides a general set of standards for guiding research. Regression analysis is unquestionably an indispensable analytic tool in the social sciences. Yet it is essential to not overestimate either the overall power of inference provided by regression-based research, or the power of inference contributed by specific tools and methodological injunctions associated with regression analysis and related quantitative techniques—for example, ideas about degrees of freedom, the traditional injunction concerning post-hoc hypothesis reformulation, and what can readily be seen as the careless extension of the idea of statistical significance.

**Option 2. The Mainstream Framework of Qualitative Research.** This well-established tradition in political science includes research techniques identified by such standard and quite familiar labels as the comparative method, comparative-historical method, qualitative-comparative analysis (QCA), concept-analysis as a branch of methodology, the case-study

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<sup>1</sup> The general framework for this discussion draws on Brady and Collier, eds. (2004), including five chapters co-authored with Jason Seawright. I take responsibility for the particular formulation of this framework presented here.

<sup>2</sup> "Statistical theory" is thus seen as very different from conventional quantitative methods or the "quantitative template." For a discussion of four dimensions in terms of which it is useful to understand the quantitative-qualitative distinction (level of measurement, size of the N, whether statistical tests are employed, and thick versus thin analysis), see Collier, Brady, and Seawright (2004: 245-250).

<sup>3</sup> See also the summary of King, Keohane, and Verba's argument in Collier, Seawright, and Munck (2004).

tradition, process tracing, pattern matching, typological theory, interpretivism, constructivism, and various traditions of field research—including, but not restricted to, ethnography.

An extensive body of methodological work focused on these traditions strives for refinements, improvements, and greater rigor.<sup>4</sup>

**Option 3. A Statistical Rationale for Qualitative Research.** Perhaps paradoxically, “statistical theory,” understood (as noted above) as a broad set of tools for evaluating evidence and inference, can provide a strong rationale for pursuing qualitative rather than quantitative research, and/or for combining the two traditions.<sup>5</sup> More than a few statisticians are skeptical about much of the regression/econometric tradition in the social sciences,<sup>6</sup> and some are convinced that fine-grained evidence about causal processes is an indispensable supplement to inferences based on regression estimation.<sup>7</sup> For some scholars, rather than a supplement, such evidence should be seen as an essential point of departure.

Further, basic tools of statistical theory—for example, tools of probability theory and Bayesian inference—have provided valuable insights into how scholars can most effectively make inferences from qualitative data.<sup>8</sup>

## **2. Applying these Standards in Other Disciplines.**

These standards appear highly relevant for other disciplines in which scholars either: (a) seek new criteria and standards for systematizing qualitative tools, which is indeed the theme of this NSF workshop; and/or (b) agree with the need to supplement regression techniques with other sources of evidence.

## **3. Most Promising Substantive Topics for Qualitative Methods.**

One view might be that qualitative methods (which are often more inductive) are particularly well suited for domains for which large, standardized data sets are not available, or about which there is little prior knowledge, or in which change is so rapid that, in effect, prior knowledge is limited. Alternatively, in areas of research where large standardized data sets are available and which are not necessarily subject to rapid change, scholars may give a high priority to introducing qualitative tools because either (a) the application of the quantitative template in these domains yields inferences that need to be supported, supplemented, and possibly corrected by inferences based on qualitative analysis, or (b) quantitative research has focused on substantively narrow lines of analysis that need to be supplemented, broadened, and possibly superseded by qualitative approaches.

## **4. A Promising Avenue of Research on Qualitative Methods.**

Along the lines of Option 3 above (and the accompanying footnote), the introduction of tools such as probability theory and Bayesian inference in the refinement of qualitative methods is a highly promising avenue for refining these methods, and for resolving disputes about qualitative

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<sup>4</sup> Examples of studies that seek to systematize these approaches include Adcock and Collier (2001), Collier (1993; but see also Hall 2004), Collier (unpublished manuscript), Collier and Adcock (1999), Collier and Levitsky (1997), Collier and Mahon (1993), Elman (2005), Finnemore and Sikkink (1999), George and Bennett (2005), Gerring (2001, 2004, 2005), Gerring and Barresi (2003), Gerring and Seawright (2005), Gerring and Thomas (2005), O’Brien (forthcoming), Mahoney and Rueschmeyer (2003), Ragin (1987, 2000) and Wedeen (2002, 2004).

<sup>5</sup> Collier, Brady, and Seawright (2004).

<sup>6</sup> For a strong critique, from a statistical point of view, of many quantitative studies in the social sciences, see Freedman (2005: passim, e.g., Chapter 8, Section 8.11).

<sup>7</sup> Goldthorpe (2001).

<sup>8</sup> For example, Dion (1998); Ragin (2000: passim); Goertz and Starr (2001: passim); Seawright (2002a) and the accompanying symposium with contributions by Clarke (2002), Braumoeller and Goertz (2002), and a response by Seawright (2002b); and the forthcoming symposium in *Studies in Comparative International Development*, with contributions by Seawright, Achen, and Ragin, and a response by Seawright.

approaches. To cite again some of the relevant studies, these tools have proved to be highly relevant in advancing debates on case selection in small-N qualitative research.<sup>9</sup> Relatedly, these tools have proved valuable in discussing the strengths and weaknesses of Qualitative Comparative Analysis (QCA), regression analysis, and traditional case studies.<sup>10</sup>

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<sup>9</sup> Dion (1998), Ragin (2000), Seawright (2003), and Goertz and Starr (2003).

<sup>10</sup> See Seawright (forthcoming), Achen (forthcoming), and Seawright (forthcoming, response).

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