

## Where does description start? Emphasizing measurement

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Protests surrounding the Citizenship Amendment Act (CAA) expanded throughout India in December 2019 following its passage in parliament. The highly publicized, politicized, and contested provision to grant citizenship for non-Muslim individuals in Afghanistan, Bangladesh, and Pakistan was widely seen as a government sponsored religious citizenship test.

By coincidence, I was conducting fieldwork in Delhi at the time. I had worked on several projects describing Indian protests and riots over time and across states using datasets from police and media sources, trying to understand how and why they differed. Based on this work, I visited protest sites in Delhi and sought to compare what I saw on the ground to the police reports (called First Information Reports), television and newspaper data, and social media traffic that I knew would later be used by social scientists as data to describe and analyze the size and scope of the protests. This experience reiterated an unsurprising conclusion --- the measurement strategy used can determine the resulting description --- but it did so with the rare benefit of seeing the event as it unfolded in person and unfiltered.

This memo stems from observations made during the CAA protests and from the analysis of other Indian protest and riot data. I identify three key characteristics of rigorous descriptive research that emphasize how concepts are measured. First, rigorous descriptive research describes the data generating process in detail with particular attention paid to assumptions made during the process. All research makes assumptions, but many of these assumptions, especially

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those about how concepts are measured, are implicit. Second, rigorous descriptive research considers several approaches to measuring concepts of interest. Narratives describing different approaches, their pros and cons, and their applicability to the research question are especially beneficial. Finally, rigorous descriptive research approaches measurement with an eye toward replicability. Replicable measurement approaches provide enough information about each step of the data generating process so that other researchers can consider whether and how a measurement approach fits into existing approaches and research results.

### Evaluating Data Generating Process Assumptions

Description in a quantitative project often means descriptive statistics. Without context about the data generating process, it is unclear what descriptive statistics are describing. Indian riots have conventionally been measured using a dataset from Varshney and Wilkinson (1996) that relies on news stories published in the *Times of India*, the largest English language circulation newspaper in India (and the world). While Varshney and Wilkinson go into some detail describing the data generating process in their original discussion of the dataset, most of this detail has been lost by subsequent researchers who use the dataset as the ground-truth “Indian riots dataset” presumably because no major alternatives exist.

In using newspaper-based riot data, researchers assume, among other things, that all riots of a given size are equally likely to be written up as news stories, that the *Times of India* has equally good coverage throughout all of India, and that the definition of a riot is unambiguous. On this last point, Varshney and Wilkinson claim only to measure Hindu-Muslim (or communal) riots, so researchers using the dataset to measure general riot behavior assume that communal riots happen with the same frequency as other riot types. Yet, newspapers are selective (Earl et

al. 2004; Myers and Schaefer Caniglia 2004), the *Times of India* does not have equal reach (Mody 2015; Sonwalkar 2004; Wilkinson 2008, 279), and the existence of a riot --- particularly a communal one --- is subjective (Bhavnani and Lacina 2015, 771).

Instead of using newspaper data, researchers could rely on riot FIRs from local police. Police reports also bring inherent assumptions (Iyer 2002; Rao 2016). Descriptive research cannot discern whether a riot occurred on a given day in a certain location or not unless the researcher is at the event. But, descriptive research can add much by describing assumptions inherent in the data generating process. Researchers who choose to use the *Times of India* data can still claim that it provides the best measure of riot events available if they also walk through how the data were generated and the assumptions they must make to conclude that riot-based newspaper reports reflect actual riot events.

Explicitly stating and assessing assumptions in the data generating process should occur each time data are analyzed. The quantity of interest changes with the research question, so relying on existing descriptive work is often insufficient. For example, a researcher relies more heavily on the assumption that the *Times of India* has good coverage in small towns when examining overall riot trends than when researching government responses to such trends, which are likely more influenced by riots in major cities. Description can show these data and provide space to evaluate major assumptions, thereby clarifying the data generating process and helping future scholars (and potential meta-analysts) fit research results together in a meaningful way.

### Considering Several Approaches

Descriptive research that considers several approaches to measuring a quantity of interest allows readers to understand the thought process behind choosing a particular approach and to consider

whether the quantity being described might differ were a different approach used. Considering several approaches is a natural extension of describing assumptions in the data generating process because particularly large or inadequately justified assumptions may present an opportunity to introduce a new measurement approach. The riot measurement example described above illustrates this point, as fully describing the assumptions inherent in using newspaper-based riot data led to discussing police data as a potential alternative.

Descriptive researchers can consider multiple approaches to measurement in different ways. One way is to try to “validate” an approach using a second approach, perhaps by seeing how well the two approaches correlate. While correlating approaches potentially provides useful information, I suggest that a narrative assessment of different approaches, their assumptions, and the pros and cons of each approach for the intended application is more beneficial. Narrative assessments offer opportunities for further description, both of the data and of the researcher’s rationale behind choosing a particular approach.

### Providing Replicable Description

As with riots, the CAA protests generated police reports, newspaper data, and social media data.<sup>2</sup> One of the first aspects of the protests that scholars sought to describe was their size. Protest size is politically important, but notoriously difficult to measure (Biggs 2018). Many approaches --- from stationing researchers at strategic points during a protest (McPhail and McCarthy 2004) to using automated analysis of images posted on Twitter (Steinert-Threlkeld 2019) --- have been proposed, each with their own challenges (O’Brochta 2021). Researchers should make an

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<sup>2</sup> The latter were not available during Varshney and Wilkinson’s time period of interest.

informed choice about the best approach given what they are interested in describing.

Replicability should be a significant factor in this decision.

Replicability in descriptive research has three components: sufficient detail about the data generating process, clearly justified coding and methodological decisions, and adequate description of the quantity of interest. Sufficient detail about the data generating process means that researchers' detail how they arrived at the data that they are describing. For McPhail and McCarthy's crowd size method, this involves discussing how locations were chosen and how researchers were trained to count participants. It is less clear how to describe the process by which an image of a protest is posted on Twitter given the numerous potential reasons that such an image may have been posted or a potential image was intentionally not posted.

Clearly justifying coding and methodological decisions focuses on how the researcher approached the process of description. Were all Twitter images of protests weighted equally or did the researcher try to put multiple images together to form a "map" of the protest event? If automated analysis methods were used, what assumptions were inherent in these methods and what decisions were made as part of executing the method? In some cases, a sensitivity analysis may be warranted to better justify decisions made as part of an automated method.

Finally, adequate description of the quantity of interest suggests that researchers should present readers with a comprehensive examination of the data as part of the analysis instead of leaving this as a task for the reader to complete using provided replication data. Not only does such an analysis provide a backstop in case replication data is ambiguous, but it also allows the reader to immediately evaluate the conclusions that the researcher draws based on the description provided.

## References

- Bhavnani, Rikhil R., and Bethany Lacina. 2015. "The Effects of Weather-Induced Migration on Sons of the Soil Riots in India." *World Politics* 67(4): 760–94.
- Biggs, Michael. 2018. "Size Matters: Quantifying Protest by Counting Participants." *Sociological Methods & Research* 47(3): 351–83.
- Earl, Jennifer, Andrew Martin, John D. McCarthy, and Sarah A. Soule. 2004. "The Use of Newspaper Data in the Study of Collective Action." *Annual Review of Sociology* 30(1): 65–80.
- Iyer, VR Krishna. 2002. 1 *Crime against Humanity: An Inquiry into the Carnage in Gujarat, Findings and Recommendations*. Mumbai: Citizens for Justice and Peace.
- McPhail, Clark, and John McCarthy. 2004. "Who Counts and How: Estimating the Size of Protests." *Contexts* 3(3): 12–18.
- Mody, Bella. 2015. "How Well Do India's Multiple Language Dailies Provide Political Knowledge to Citizens of This Electoral Democracy?" *Journalism Studies* 16(5): 734–49.
- Myers, Daniel J., and Beth Schaefer Caniglia. 2004. "All the Rioting That's Fit to Print: Selection Effects in National Newspaper Coverage of Civil Disorders, 1968-1969." *American Sociological Review* 69(4): 519–43.
- O'Brochta, William. 2021. "Technology and Collective Action Event Size: Lessons for India." *Studies in Indian Politics* 9(1): 118–23.

Rao, UNB. 2016. *A Study on Non-Registration of Crimes: Problems and Solutions*. Mumbai: Bureau of Police Research and Development, Ministry of Home Affairs.

Sonwalkar, Prasun. 2004. "Mediating Otherness: India's English-Language Press and the Northeast." *Contemporary South Asia* 13(4): 389–402.

Steinert-Threlkeld, Zachary C. 2019. "The Future of Event Data Is Images." *Sociological Methodology* 49(1): 68–75.

Varshney, Ashutosh, and Steven Wilkinson. 1996. *Hindu-Muslim Riots 1960-93: New Findings, Possible Remedies*. New Delhi: Rajiv Gandhi Institute for Contemporary Studies.

Wilkinson, Steven. 2008. "Which Group Identities Lead to Most Violence? Evidence from India." In *Order, Conflict, and Violence*, Cambridge: Cambridge University Press.