

# “Data Were Saturated . . .”

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Saturation is the most frequently touted guarantee of qualitative rigor offered by authors to reviewers and readers, yet it is the one we know least about. I was once in a discussion among seasoned researchers, and they said, “Hey Jan, you know you can never reach saturation, because there are always new examples!” Unfortunately, this statement reveals a very limited understanding of saturation, analytic processes, and goals of inquiry, for we do not saturate particular details of individual events and random incidents. Rather, we saturate *characteristics within categories* that emerge as significant in the process of analysis, and the more abstract the characteristics, the more diverse the examples may be. The characteristics are realized from our questions, the underlying theoretical frame, our focus, and intent, as data accrue in the categories. These categories contribute to our understanding of the phenomenon that we are studying and are twice enlightening. First, as data within a category build and overlap, these characteristics enlighten the researcher. Our understanding of the phenomenon becomes stronger, more evident, more consistent, and more cohesive. Second, this understanding makes the researcher smarter, learning where to look to learn more about the phenomenon and to recognize the similarities between apparently disparate examples when comparing and contrasting data. Thus, as the phenomenon become stronger, more evident, more consistent, more cohesive, and more mature, research becomes saturated, and the researcher becomes certain.

Another mistaken idea about saturation is that data become saturated when the researcher has “heard it all” (Morse, 1995). When used alone, this criterion is inadequate, as such data may provide a shallow, albeit comprehensive, understanding of the topic being studied. Qualitative researchers are not reporters covering a story, interested only in facts. Understanding the story line is not sufficient, for qualitative research is not that simple. If we only used objective data, we would only describe what was plainly evident and omit the truly complex subjective data. Both the subjective and objective data enable interpretation: to make sense of complex phenomena, to dissect and/or to synthesize, to abstract, to theorize, and to recognize how this fits into the work of others, all of which enables generalization and application.

Saturation is an important component of rigor. It is present in all qualitative research but, unfortunately, it is evident mainly by declaration (Morse, 1995). Let us

consider how we should define saturation and determine the characteristics of research in which it has been attained. Can we *recognize* saturated research when we read it?

## What Is Saturation?

Saturation is the building of rich data within the process of inquiry, by attending to scope and replication, hence, in turn, building the theoretical aspects of inquiry.

### Scope

Scope is the comprehensiveness of data, encompassing not only the area (or domain) but also the depth of the topic. This only means that all aspects of the phenomenon must be explored. Of course we may ignore things that we think are inconsequential or even irrelevant and target things that appear pertinent. But we also keep the inconsequential and less pertinent data in the periphery, should we later realize their significance and fit.

The *amount of data* is not necessarily the same as the number of participants. If using semi-structured interviews, a more limited and restricted description of the experience is obtained from each participant, than we would obtain when using open-ended interviews. A greater number of interviews are required to reach saturation.

When information is collected, it accrues in various amounts, with the common information building in the shape of a curve. But in qualitative inquiry, the data at the tails of the curve are equally important and must be deliberately collected until adequate. This we call theoretical sampling. The risk is that the data in the center of the curve will overwhelm the less common data, and we will ignore the equally significant data at the tails.

### Replication

Replication means data from several participants have essential characteristics in common. Nothing is exactly the same—Details always differ. But overall, participants,

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or sets of participants, may have the same responses, even to different experiences, when situations have some features in common. Note that the process of coding into categories removes the experience from the individual participant and is the first step in processes of conceptualization, synthesis, and abstraction.

How is saturation achieved? You must have good data, rich data, but that, in itself, is not enough. Saturation is first facilitated by sampling. Because qualitative samples are relatively small, they must be *adequate* (large enough for replication to occur and be noted) and *appropriate* (those interviewed must be experts in the phenomenon of interest).

Saturation is also connected to the theoretical aspects of inquiry. This is the researcher's skill when asking questions of the participants, the researcher's sensitivity and experience, knowledge of theory and the literature, and ability to interpret data and to see what is in these data. Excellent analysts use their theoretical frame to ask questions of the data, and they bring unanswered questions, "holes" in the analysis back to the participants in processes of theoretical sampling. Analysis spirals from participants to data analysis, back to participants, and so forth, as the researcher learns about the phenomenon and develops the theory.

## Indices of Saturation

Indices of *richness* become evident as the researcher becomes more competent about the topic. I know when students have reached saturation—they stop talking about individual cases, and, when describing their study, speak in generalities. For instance, they say, "these people are \_\_\_\_\_," "they \_\_\_\_\_," ". . . but there are those who \_\_\_\_\_," and students can readily supply examples when asked. These students *know* their data. By this point in their study, they have a reasonably large sample—over 20 interviews—of course, relative to the scope and complexity of whatever they are studying. They have conducted the interviews themselves, transcribed the interviews themselves, and coded and categorized it themselves. This "processing of data" is crucial, allowing them to, what I call, "getting inside their data."

## Without Saturation

If data are inadequate, lack of multiple examples and the scope is too circumscribed, data are obvious and, therefore, difficult to conceptualize. There are too few examples in each category to identify the characteristics of concepts, to develop concepts, and to develop theory. In sum, research results are tentative, obvious, and uninteresting. Such a study presents things already known; nothing new is discovered. Unless the research pertains to a new area, it is not publishable.

Some investigators choose to let the participants' quotations tell the story. These researchers have conducted a minimal data sort, and interpretative commentary is missing from the article. Examples are cherry picked (see Morse, 2010)—only the best quotations are used, and the lack of quotations quickly depletes the data. Interpretation and conceptualization are sparse. In fact, theoretical development is more difficult when data are sparse than when using a rich data set. The researcher lacks certainty and confidence in the discussion, and the data are poorly linked with the work of others.

## Recognizing Saturation

Returning to our original concern, how can we recognize saturation?

Saturated research is written cohesively with confidence and competence. The resulting theory is complete with comprehensive descriptions for each concept and with pertinent examples. The theory is abstract and linked to the literature; the findings are generalizable to new incidents, and the findings surprise and delight the reader. Saturation has made the article a strong contribution to the literature. Accept.

## References

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