

*Differences between the qualitative and quantitative research traditions can be used either to diminish or to enrich the practice of program evaluation.*

## The Relationship Between the Qualitative and Quantitative Research Traditions

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### **A Quantitative Study**

In 1986, Rand McNally published *Sports Places Rated: Ranking America's Best Places to Enjoy Sports* (Whittingham, 1986), which included a list of the best cities in the United States for downhill skiing (Kliewer, 1986). The number-one city on Richard Whittingham's (1986) downhill skiing list was Detroit. Also in the top ten were Akron-Canton, Buffalo, Chicago, Syracuse, Boston, and Cleveland. Of course, none of these cities is particularly well known for its skiing. In contrast, not a single city in Colorado made it onto Whittingham's top-ten list, even though Colorado enjoys a worldwide reputation for its skiing.

The reason for these surprising results is that Whittingham only ranked metropolitan areas with populations of fifty thousand or more (Kliewer, 1986). This criterion excluded all of the well-known ski resorts in Colorado. In addition, Whittingham based his rankings of metropolitan areas solely on the capacities of the ski lifts that were located within the counties that comprise the metropolitan areas. Although Denver, for example, is less than a two-hour drive from numerous ski areas, including Breckenridge, Copper Mountain, Keystone, Loveland, Winter Park, and Vail, there are no ski lifts within Denver's county boundaries, and therefore Denver was not highly ranked on the list.

In response to Whittingham's (1986) book, Kliewer (1986) interviewed Lee Morris, who is the lodge operations manager at the Riverview ski area, located a half hour from downtown Detroit. Morris reported that the ski slope at Riverview was basically an "enhanced" landfill with a 160-foot vertical rise, and that Riverview would have 2 to 12 inches of man-made snow by the following weekend. In contrast, the Keystone ski area, which is an hour and a half from downtown Denver, has a vertical rise of 2,340 feet, a ski run 3 miles long, and would have a base of 41 inches of snow that weekend. While there are four other ski areas in Detroit, all of which are larger than Riverview, John Colling of the Travel and Tourism Association of Southeast Michigan noted that "none of them are on mountains by any stretch of the imagination" (Kliewer, 1986). Colling further explained that "what we have are basically hills designed to prepare our skiers for the big slopes—the ones in the Rockies." Nonetheless, according to Whittingham's criteria, the five ski areas that lie within the Detroit metropolitan area place "it at the top of the heap," so to speak (Kliewer, 1986).

Kliewer (1986) also interviewed Whittingham, who explained that the study "couldn't take into account the quality of skiing, just the quantity." Whittingham also admitted that "they say there are lies, damn lies, and statistics. This falls into that last category, I'm afraid."

### **A Qualitative Study**

Margaret Mead's (1928) *Coming of Age in Samoa: A Psychological Study of Primitive Youth for Western Civilization* is probably her most famous work and a classic in the field of anthropology (Gardner, 1993). Mead undertook the fieldwork as part of her graduate study at Columbia University. She began her research with the hypothesis that Samoan society was sexually promiscuous and, as a result, that Samoan youth were not confronted with as many stresses and strains as found in Western society. This hypothesis was chosen because it was supported by anecdotal evidence and because, if confirmed, it would have provided support for a major theoretical stance of Mead's academic mentor. While Mead's research did confirm the hypothesis, many scholars now believe that her conclusions were wrong and that she was "the gullible victim of a playful hoax" (Gardner, 1993, p. 131).

Because she did not speak the local Samoan language well, Mead conducted her interviews with the assistance of interpreters. Her most frequent interpreters were two young women, whom Mead described as her "merry companions." As Gardner (1993, p. 132) has explained, these two assistants were "embarrassed and offended by Mead's constant questions about sex," which is a "taboo topic in Samoa." Thinking that Mead was simply a curious tourist rather than a social scientist who would write about their conversations, the two assistants decided to extract revenge for their embarrassment by lying,

a prank that was common in Samoan society. As a result, Mead was told whatever her assistants thought she wanted to hear. Yes, Mead was told, Samoan women were encouraged to sleep with as many men as possible before marriage, allowed to have sexual infidelities even after marriage, and moved “stress-free from childhood to adultery,” so to speak (Gardner, 1993, p. 132). This information was all reported in Mead’s book and generally accepted by American social scientists (not to mention American youth) for years to come.

Unfortunately, other researchers found life in Samoa to be dramatically different. Rather than a society of free love, Samoa was in fact quite constrained sexually. For example, “Female virginity was so highly prized that brides were tested for virginity before they were allowed to marry” (Gardner, 1993, p. 133). And it was also found that Samoan youth experienced the same types of difficulties in growing up as experienced by Western youth.

### How Each Research Tradition Views the Other

Historically, there have been two distinguishable research traditions—the qualitative and the quantitative—in evaluation, as well as in other substantive fields such as sociology and psychology. Whittingham’s (1986) study falls within the quantitative tradition, while Margaret Mead’s (1928) study falls within the qualitative tradition. Adherents of each tradition often hold unflattering views of work within the other tradition. Whittingham’s and Mead’s studies can be used to illustrate the nature of these stereotypes.

**Qualitative Critique of Quantitative Research.** Whittingham’s ranking of cities with ski facilities largely misses the point. It is possible that some individuals would like to know which U.S. metropolitan areas have ski lifts within their city limits. And it is certainly interesting (and, at least to us, surprising) to learn that Detroit, Akron-Canton, and the other cities on Whittingham’s list have ski facilities within their county limits, even if these ski lifts are located on landfills rather than mountains. But knowing which major cities (or small resorts) are located near high-quality, mountain skiing is probably of far more interest to the typical ski buff. Certainly, Whittingham’s list is irrelevant to anyone planning either a vacation or a relocation to take up skiing seriously. Yet, are not vacations or relocations the most likely reasons that people would have for buying a book that ranks America’s best places to enjoy sports?

The same kind of criticism, especially by qualitative researchers, is often applied to quantitative evaluations. That is, qualitative researchers often criticize quantitative studies for their irrelevance. A researcher can carefully and reliably measure the number of ski lifts within a city’s limits or a child’s performance on a standardized test, but neither may be of much help either in locating high-quality skiing or in discovering what is actually being learned in an educational program. In *The Little Prince*, Antoine de Saint Exupéry (1943, pp. 16–17) voices the same concern (if quantitative researchers are scripted

into the role of the grown-ups and qualitative researchers are scripted as the speaker): "Grown-ups love figures. When you tell them that you have made a new friend, they never ask you any questions about essential matters. They never say to you, 'What does his voice sound like? What games does he love best? Does he collect butterflies?' Instead, they demand: 'How old is he? How many brothers has he? How much does he weigh? How much money does his father make?' Only from these figures do they think they have learned anything about him." This criticism has also been attributed to Hilaire Belloc, using a somewhat less diplomatic metaphor: "Statistics are the triumph of the quantitative method, and the quantitative method is the victory of sterility and death."

Quantitative researchers might defend their work by noting that while quantitative research certainly has limitations, Whittingham's (1986) study is of unusually poor quality and should not be held up as an exemplar of the quantitative approach. Certainly, his study was not meant to be a scholarly treatise, and even he recognized its obvious shortcomings. But while conceding these particular shortcomings, qualitative researchers might be inclined to argue that the study nonetheless well characterizes the fundamental flaws of the quantitative approach, which, by their account, emphasizes numbers that misrepresent socially relevant reality.

**Quantitative Critique of Qualitative Research.** Margaret Mead was hoodwinked, at least partly, because her procedures lacked even the most rudimentary safeguards to protect the validity of her research. For example, in an interview with one of her interpreters years later, it was discovered that "had Mead ever pressed her two merry friends for verification of their lies, . . . they would have at once confessed, but Mead never challenged anything. She just scribbled it all down avidly in her notebooks" (Gardner, 1993, p. 134). As a result, Mead was able to confirm her preconceived notions about Samoan society without being burdened by reliable evidence. "Seek, with enough conviction aforethought, and ye shall find" (Gould, 1980, p. 164).

Quantitative researchers often suspect that qualitative research in evaluation is similarly unreliable. The unreliability may be the result of conscious lying, as in the Samoan study, or simply the result of respondents' unconscious bias and self-interest. That is, respondents can be telling the truth as they see it and still be quite wrong about what is really going on. Quantitative researchers also suspect that qualitative evaluators often are merely confirming preconceived notions and are blind to plausible alternative explanations.

In anthropological fieldwork, getting so caught up in the culture under study that the researcher loses his or her perspective or shifts his or her focus from research to other matters is called "going native." For example, Margaret Mead is thought to have had a sexual affair with a Samoan, which, among other things, made her assistants less hesitant in conducting their hoax (Gardner, 1993). In evaluation, perhaps the equivalent of going native in anthropological fieldwork is becoming an advocate for the positions espoused by the respondents with whom one feels most sympathy. This advocacy is also a common criticism of qualitative research in evaluation.

In their defense, qualitative researchers might note that while qualitative research does have limitations, Margaret Mead's study was unusually problematic and that much has been done to improve the use of qualitative methods since the 1920s. For example, qualitative researchers are well aware of the potential influence of preconceived ideas and have spent considerable energy developing safeguards to ensure the integrity of their research (Kirk and Miller, 1986; Lincoln and Guba, 1986). But quantitative researchers might be inclined to respond that the fundamental flaws of qualitative research are no less real simply because they were exaggerated in Margaret Mead's study.

**Where Does This Leave Us?** Given these characterizations that researchers within each tradition offer about the other, it is not surprising that suspicions and antagonisms rage between the two camps. Each tradition views the other negatively, perhaps even as fatally flawed. In turn, each tradition feels unfairly criticized by the other. In other words, each tradition believes that its criticisms of the other are accurate and that the criticisms by the other are overblown. The resulting animosity has developed into a long-running feud.

But though the animosity may be understandable, the way in which this conflict between the two traditions continues to be played out is not particularly healthy or beneficial for anyone, except perhaps the opponents of program evaluation. We need to find ways to improve the relationship between the two traditions so that we are enriched by our diversity more and diminished by it less.

### **Recognizing One's Own Weaknesses**

A critique of one's work by another can be of great value. This is because it is often not easy to recognize one's own flaws and limitations. For example, one is often less aware of the limitations of one's own actions than is another person such as a spouse, a psychotherapist, a member of the loyal opposition in politics, an opponent in sports, or a manuscript reviewer in publishing. The qualitative and quantitative research traditions can provide, for each other, the alternative perspective needed to recognize and appreciate one's own weaknesses.

Of course, in helping each other recognize weaknesses, our insights and critiques will be most useful if offered in a constructive fashion. To have the flaws in one's work pointed out in an arrogant, belittling, and vicious manner, as is often done in the debates between qualitative and quantitative researchers, is infuriating, especially when the person criticizing is far from flawless.

In addition, the antagonistic critiques of each camp by the other suffer from stereotypes of two different kinds. First, each tradition tends to exaggerate the flaws in the other tradition, just as Whittingham's and Mead's studies are exaggerations. In fact, quantitative studies typically are not focused on irrelevant topics, and qualitative studies typically are not unreliable. Being a quantitative researcher does not mean that one is heartless, and being a qualitative researcher does not mean that one is soft-headed (Sechrest, 1992).

Second, each tradition tends to underestimate its own flaws. Indeed, each tradition often suffers from much the same flaws that it finds in the other tradition. For example, while they may smirk at the lies told to Margaret Mead by her informants, quantitative researchers need to be concerned that their own respondents do not lie on questionnaires and tests. Moreover, although Mead's preconceptions led her to find what she was looking for, fishing through data also allows plenty of room for preconceived notions to operate in quantitative research. Conversely, qualitative researchers criticize quantitative researchers for their lack of relevance, yet they often fail to focus their own studies on indicators of program effects other than those based on the perceptions of the participants. For example, a qualitative study is irrelevant to the extent that it ignores the effects that laetrile actually has on cancer and focuses only on the effects that consumers believe it has. Neither tradition has found the holy grail of research methods, which makes a "holier-than-thou" attitude unjustified.

### **Overcoming One's Own Weaknesses**

To the extent their limitations differ, two methods can be better than one. This advantage was demonstrated in a collaborative study by Goldring and Rallis (1993). Based on Rallis's qualitative case studies from an evaluation of school change, an image of a new type of school emerged, one that successfully embraced change programs. While the descriptions of the schools were rich in detail, Rallis's qualitative studies had no way of demonstrating that this kind of school existed in appreciable numbers. Was the phenomenon widespread or was this the full extent? This question could be answered because Goldring had conducted several analyses of the massive data set in *High School and Beyond: Administration and Teacher Survey* (U.S. Department of Education, 1984) and had discovered that the pattern was indeed widespread. By combining the results from their separate studies, they were able to present a richer and more useful conceptualization of a "dynamic school" (Goldring and Rallis, 1993).

The qualitative and quantitative research traditions can also inform each other in ways that go beyond the combination of research methods. For example, a voluminous and fascinating literature on social cognition has been produced within the quantitative tradition (Gilovich, 1991). The insights that this research offers on how people cope with uncertainty and the conditions under which they consistently miscomprehend reality might well be relevant to qualitative researchers interested in understanding a participant's construction of a social program. Conversely, the narrative style of the qualitative tradition, which is usually more readable and comprehensible than the technical reports of the quantitative tradition, can reveal ways to make the work of quantitative researchers more interesting and influential.

## Conclusion

The qualitative and quantitative research traditions differ. Qualitative researchers usually seek to explicate the meaning of social reality from the participants' perspectives, while quantitative researchers usually seek to understand relationships, often of a causal nature, without particular emphasis on the participants' perspectives. Nonetheless, at the most global level, the two traditions have a common goal: to understand and improve the human condition.

A defensible understanding of reality can withstand scrutiny from different perspectives and methodologies. Indeed, given its complexities and multiple facets, a complete understanding of human nature is likely to require more than one perspective and methodology. The qualitative and quantitative traditions can provide a binocular vision with which to deepen our understandings. That the qualitative and quantitative perspectives remain partly adversarial in their relationship does not preclude cooperation in working together toward their shared goal. In fact, just the opposite is true. By working together, the two traditions can enhance the practice and utilization of research and evaluation.

## References

- Gardner, M. "The Great Samoan Hoax." *Skeptical Inquirer*, 1993, 17 (2), 131–135.
- Gilovich, T. *How We Know What Isn't So: The Fallibility of Human Reason in Everyday Life*. New York: Free Press, 1991.
- Goldring, E. B., and Rallis, S. F. *Principals of Dynamic Schools*. Newbury Park, Calif.: Sage, 1993.
- Gould, S. J. *The Panda's Thumb: More Reflections in Natural History*. New York: Norton, 1980.
- Kirk, J., and Miller, M. L. *Reliability and Validity in Qualitative Research*. Newbury Park, Calif.: Sage, 1986.
- Kliewer, T. D. "America's Top Skiing Mecca? Why, Detroit!" *Denver Post*, Dec. 12, 1986, p. 1A.
- Lincoln, Y. S., and Guba, E. G. "But Is It Rigorous? Trustworthiness and Authenticity in Naturalistic Evaluation." In D. D. Williams (ed.), *Naturalistic Evaluation*. *New Directions for Program Evaluation*, no. 30. San Francisco: Jossey-Bass, 1986.
- Mead, M. *Coming of Age in Samoa: A Psychological Study of Primitive Youth for Western Civilization*. New York: Morrow, 1928.
- Saint Exupéry, A. de. *The Little Prince*. (K. Woods, trans.) Orlando, Fla.: Harcourt Brace Jovanovich, 1943.
- Sechrest, L. "Roots: Back to Our First Generations." *Evaluation Practice*, 1992, 13 (1), 1–7.
- U.S. Department of Education. *High School and Beyond: Administration and Teacher Survey*. Washington, D.C.: Government Printing Office, 1984.
- Whittingham, R. *Sports Places Rated: Ranking America's Best Places to Enjoy Sports*. Skokie, Ill.: Rand McNally, 1986.

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