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Quantitative Researchers, Critical Librarians: Potential Allies in Pursuit of a Socially Just Praxis

Selinda Adelle Berg

Critical librarianship calls for librarians to identify, expose, and disrupt social and political powers that underlie information systems.¹ This is the work that my doctoral research attempted to do through a multiple-case study analysis of the popular clinical evidence resource, UpToDate. My research investigated whose voices and what types of knowledge are privileged when authors create UpToDate. UpToDate is often cited as the most popular information source used by health and medical professionals at the point-of care.² The authors of UpToDate select evidence from the complex body of evidence on medical-related topics and conditions in order to distill and summarize the knowledge, with the goal of providing clear recommendations for physicians to follow in practice. For this research, seven medical conditions were selected, each representing one case for the multiple case study analysis. The cases represented various levels of contestation (of validity as a ‘real’ illness), certainty (of effective treatment), and medicalization (the process by which human experiences, conditions, and problems come to be defined and treated as medical conditions).³

1 Lua Gregory and Shana Higgins, “Introduction,” in *Information Literacy and Social Justice: Radical Professional Praxis*, eds. Lua Gregory and Shana Higgins (Sacramento: Library Juice Press, 2013), 3.

2 Alisa Duran-Nelson, Sophia Gladding, Jim Beattie, and L. James Nixon, “Should we Google it? Resource Use by Internal Medicine Residents for Point-of-care Clinical Decision Making,” *Academic Medicine* 88, no. 6 (2013): 790; Arjen Hoogendam, Anton FH Stalenhoef, Pieter F. de Vries Robbé, and A. John PM Overbeke, “Answers to Questions Posed During Daily Patient Care are More Likely to be Answered by UpToDate Than PubMed,” *Journal of Medical Internet Research* 10, no. 4 (2008): e29, <https://doi.org/10.2196/jmir.1012>.

3 Selinda Berg, “Expertise, Mediation, and Technological Surrogacy: A Mixed Method Critical Analysis of a Point of Care Evidence Resource” (PhD diss., University of Western Ontario, 2017), 2.

While critical textual analysis was a core method applied in my dissertation, to better understand which voices were privileged and which were missing, it was also imperative to count, calculate, and compare across the cases. To that end, the references—or evidence—cited in each case were closely examined; the professional backgrounds of the authors, class of evidence, and countries of study were identified, calculated, and compared within and across the cases. Through examination of the 418 references cited across the seven cases, stories in the numbers and numbers in the stories emerged.⁴ This analysis of UpToDate investigated the privileged positions of the voice of medical doctors over other that of other health care professionals, the disproportionate dominance of American research in a tool used across the globe, and the elevated value placed on physician expertise over patient account. While all of the social, historical, and political complexities behind the numbers cannot not be fully understood through counting alone, the numbers themselves provide a glimpse into some of the processes and powers that guided the development of this information resource. This investigation aligned with the goals of the practice of critical librarianship, which calls on librarians to recognize the “social, economic, political and corporate forces and ideologies at play in information flows.”⁵ Through empirical method, the ways in which power and privilege are reproduced in clinical information resource were revealed.

Overall, I identify as an equity-minded practitioner and scholar—a professional who aims to recognize and confront inequities and misrepresentations within the structures of my work.⁶ I sometimes stumble, but I try to ensure the values of social justice and social responsibility are at the fore of my practice. The practice of recognizing and confronting the social justice issues that emerge from the structures of power and privilege embedded within our work has been captured under the labels of progressive and (more recently) critical librarianship.^{7, 8} I seek out and engage with the research and scholarship addressing the practice of critical librarianship, and try to keep abreast of the important conversations within the

4 Arlene Fink, *Conducting Research Literature Reviews: From the Internet to Paper* (Thousand Oaks, CA: Sage Publications, 2010), 144, 147.

5 Gregory and Higgins, “Introduction,” 10.

6 Ebelia Hernández, “What is Good Research? Revealing the Pragmatic Tensions in Quantitative Criticalist Work,” *New Directions for Institutional Research* 2014, no. 163 (2015): 100.

7 For the purposes of this paper, I will use the term *critical librarianship* to refer to the work within librarianship that is concerned with social justice issues. While this work has long existed often under the title of progressive librarianship, the choice ensures brevity and alignment with the threads throughout the book.

8 Kenny Garcia, “Keeping up with ... Critical librarianship,” *Association of College & Research Libraries*, June 2015, http://www.ala.org/acrl/publications/keeping_up_with/critlib.

field—because I share the same values. As a researcher, I engage in research across a spectrum of methodological and theoretical approaches, including quantitative methodologies. But in turn, I often feel apologetic for being an empirical researcher, in particular, a quantitative researcher, because this type of research is rarely associated with the practice of critical librarianship. In response, this short essay explores some of the ways that the various strands of identify of an equity-minded professional and empirical researcher may diverge and converge. As such, the commentary within this essay is twofold. First, it is a call for empirical scholars to consider the ways in which their research can contribute to the conversations within critical librarianship. Second, it is an appeal to practitioners and scholars directing the communities and conversations addressing social inequities in and around our profession to not dismiss empirical researchers—including quantitative researchers—from these important dialogues. I believe that many librarians engaging in quantitative research share the same concerns and may pose complementary questions to the work of critical librarianship. In the end, I suggest that quantitative research has the potential to make important contributions towards the goals of critical librarianship.

Divergences and Convergences

Empirical research is the recording of direct observations or experiences that can be analyzed quantitatively or qualitatively.⁹ When John Paley discusses the complexities of the term empiricism, he asserts “the central claim of empiricism is that experience is the foundation of knowledge, and that the project of gaining access to a reality other than experience is problematic.”¹⁰ When empirical research is considered in this context, there is greater acceptance of qualitative research because of its focus on the stories and narratives of lived experience. Quantitative research is often conspicuously absent from the general tenor of conversations within the scholarship of critical librarianship.

Often the methods and theoretical frameworks that dominate the conversation of critical librarianship have roots in the humanities; however, there are also many LIS scholars who identify as both critical scholars and empirical researchers who use/employ methods grounded in the social sciences and sciences. Applications of critical perspectives to empirical methods, including quantitative methods, is common across the scholarship in

9 Himika Bhattacharya, “Empirical Research,” in *The SAGE Encyclopedia of Qualitative Research Methods*, ed. Lisa M. Given (Thousand Oaks, CA: SAGE Publications, 2008), 255.

10 John Paley, “Empiricism,” in *The SAGE Encyclopedia of Qualitative Research Methods*, ed. Lisa M. Given (Thousand Oaks, CA: SAGE Publications, Inc., 2008), 256.

many fields, including nursing,¹¹ information and technology studies,¹² higher education studies,¹³ and the study of medicine as a profession (see the exemplary work of Dr. Trisha Greenhalgh). From my own experiences in LIS and librarianship, my scholarly development has been influenced by LIS scholars Roma Harris and Nadine Wathen, each of whom holds and balances the roles of critical scholars and quantitative researchers with incredible expertise and refinement.

Assumptions of transformation, critique, and emancipation underlie critical research. Critics of quantitative approaches within LIS describe quantitative research as formulaic and reductive, and have suggested that quantitative research has the potential to dehumanize the profession of librarianship.¹⁴ These criticisms are often validated by the strong association of quantitative methods with the positivist paradigm. The positivist approach assumes that knowledge can be objective, researchers act independent of the research, and that through experimentation facts are attainable, and as such does not align with critical librarianship's recognition that knowledge is neither objective nor neutral.¹⁵ These criticisms of quantitative methods are rooted in valid experiences and should be shared with the goal of engaging in conversation — not silencing voices — to find ways librarians across the methodological approaches can contribute to a more socially just world.

Clearly, to approach quantitative research with a critical lens is challenging and takes proficiency, care, commitment, and introspection. However, researchers do have the potential to also ask critical questions through quantitative approaches recognized in other disciplines. Specifically, quantitative research that is explicit that the data provides one perspective, that the data is situated in a wider context, and that social, political, and cultural complexities lies within the data. In turn, it is conceivable that quantitative methods can be deliberately and consciously developed in ways to complement the practice of critical librarianship. For this to be achieved, first and foremost, the motivation of researchers

11 Helene Berman, Marilyn Ford-Gilboe, and Jacquelyn C. Campbell, "Combining Stories and Numbers: A Methodologic Approach for a Critical Nursing Science," *Advances in Science* 21, no. 1 (1998): 1.

12 Bernd Carsten Stahl, "The Ethical Nature of Critical Research in Information Systems," *Information Systems Journal* 18, no. 2 (2008): 143.

13 Frances K. Stage and Ryan S. Wells, "Critical Quantitative Inquiry in Context," *New Directions for Institutional Research* 2013, no. 158 (2014): 1.

14 This sentiment is most often subtly or not so subtly articulated through Twitter conversations, casual remarks, or calls for papers. While people are expressing very valid concerns, these comments distance quantitative researchers from engaging in the conversations of moving the profession towards greater recognition of our role in advocacy and social justice.

15 Gregory and Higgins, "Introduction," 10.

engaging in critical research must be driven by the intent to change social realities and to address social inequities from the outset.¹⁶

The goal of critical research is to create social criticisms. To clarify their understanding of the purpose of critical research, Joe Kincheloe, Peter McLaren, and Shirley Steinberg provide the following definition:

Critical research can be understood best in the context of the empowerment of individuals. Inquiry that aspires to the name ‘critical’ must be connected to an attempt to confront the injustice of a particular society or public sphere within the society. Research becomes a transformative endeavor unembarrassed by the label ‘political’ and unafraid to consummate a relationship with emancipatory consciousness. Whereas traditional researchers cling to the guardrail of neutrality, critical researchers frequently announce their partisanship in the struggle for a better world.¹⁷

Working towards this goal, education policy researchers, Frances Stage and Ryan Wells argue for the existence of *quantitative criticalists*, researchers who apply quantitative methods to answer critical questions.¹⁸ Critical quantitative inquiry uses data to uncover inequities, discover ways that systematic inequalities are perpetuated within our systems, and question “models, measures, and analytic practices of quantitative research in order to offer competing models... that better describe the experiences of those who have not been adequately represented.”¹⁹ The concept, as well as the term, is not without challenges;²⁰ however, the work of these scholars points librarians to new ways of envisioning quantitative scholarship in librarianship.

While there are multiple examples of librarians who have engaged in research that intersects the critical and quantitative paradigms, the following recent articles demonstrate the ways in which quantitative approaches can be used to identify and confront social inequities. Clayton Hayes and Heidi Kelly’s 2017 article, “Who’s Talking about Scholarly Communication? An Examination of Gender and Behavior on the SCHOLCOMM Listserv,” empirically evaluated the postulation that male voices were overrepresented on a librarian listserv. Examination of the gender breakdown of posts on the

16 Stahl, “The Ethical Nature of Critical Research,” 140.

17 Joe L. Kincheloe, Peter McLaren, and Shirley R. Steinberg, “Critical Pedagogy and Qualitative Research,” in *The SAGE Handbook of Qualitative Research* 2011, eds. Norman K. Denzin and Yvonna S. Lincoln (Thousand Oaks, CA: SAGE Publications, 2011) 164.

18 Frances K. Stage, “Answering Critical Questions Using Quantitative Data,” *New Directions for Institutional Research* 2007, no. 133 (2007): 5.

19 Frances K. Stage and Ryan S. Wells, “Critical Quantitative Inquiry in Context,” *New Directions for Institutional Research* 2013, no. 158 (2014): 2–3.

20 Hernández, “What is Good Research?,” 96.

list confirmed that there was a gender imbalance, especially in relation to replies. While the authors recognize that they do not understand all the complexities that are at play, they were able to “count the number of emails sent to the list” in order to reveal gender disparity in the conversations.²¹ Hayes and Kelly revealed an important inequity of voice within a professional conversation. Likewise, in her 2015 article, “Racial Microaggressions in Academic Libraries: Results of a Survey of Minority and Non-minority Librarians,” Jaena Alabi’s analysis of the quantitative data from her study examining the experiences of minority and non-minority librarians revealed significant differences between the two groups’ recognition and experience of racial microaggressions.²² Both studies understand that further historical, social and political complexities lie beneath their data, but both used quantitative data to underscore the existence of social inequities.

These two examples demonstrate the ways in which quantitative researchers in LIS can use quantitative methods to start to reveal and confront social injustices. With care and focus, quantitative researchers can effectively contribute to identifying inequities and meeting the social justice goals that are embedded in the practice of critical librarianship. Both the nature of the core questions asked by research and the source of motivation can help to align research with the goals of critical librarianship.

Moving Positivist Quantitative Research towards a More Critical Quantitative

Unquestionably, researchers engaging in critical quantitative research will face challenges. There is no bookshelf of standardized texts on how to apply quantitative approaches to address inequities within and around our work. However, asking different questions and being explicit and unambiguous about the purpose of such research are two small steps toward beginning discussions into the intersection of these two styles, attitudes, and approaches, and to begin to shift some quantitative research efforts towards a more critical quantitative approach—an approach where researchers reject “the labels of positivist and postpositivist, and [turn] their quantitative skills toward work on equity goals and outcomes.”²³

21 Clayton Hayes and Heidi Elaine Kelly, “Who’s Talking about Scholarly Communication? An Examination of Gender and Behavior on the SCHOLCOMM Listserv,” *Journal of Librarianship and Scholarly Communication* 5, no. 1 (2017): 5.

22 Microaggressions are defined as “brief, everyday exchanges that send denigrating messages to people of color because they belong to a racial minority group.” Derald Wing Sue, Christina M. Capodilupo, Gina C. Torino, Jennifer M. Bucceri, Aisha M. B. Holder, Kevin L. Nadal, and Marta Esquilin, “Racial Microaggressions in Everyday Life: Implications for Clinical Practice,” *American Psychologist* 62, no. 4 (2007): 273.

23 Stage and Wells, “Critical Quantitative Inquiry in Context,” 3.

Asking New Questions

Being critical is driven by the questions you ask, not the methods you use to answer those questions. As Emily Drabinski and Scott Walter emphasize in their 2016 editorial, “Asking Questions that Matter,” librarians should do “the hard work of identifying critical questions that matter for the future of our work and its contributions to the campus, higher education, or society more broadly.”²⁴ Consequently, librarians can start by asking new questions. Questions asked by research should demonstrate significance and have purpose, independent of method. To align with a more critical approach, quantitative studies can establish significance when questions reveal inequities and challenge models, measures, and practices. Quantitative questions like those explored by Clayton Hayes and Heidi Elaine Kelly, and Jaena Alabi purposively seek to challenge prevailing models and practices of the profession that are inequitable.

Examine the Outliers

In addition to asking new questions, shifting our focus in our analysis can also bring attention to injustices. Critical approaches to quantitative research “challenges normative assumptions and research practices.”²⁵ For example, the focus of our attention and the aim behind the questions we pose of quantitative research does not have to be only on the *majority*, but rather can be to investigate the statistical minorities, the outliers, and the underrepresented. While statistical practices grounded in positivistic epistemology focus on a majority rather than minority, we can do much to shift that focus. Not all quantitative researchers may be interested in reaffirming the position of norms by examining the majority; they may choose instead to bring attention to understanding the outliers and the underrepresented.

Descriptive statistics frequently focus on the qualities of the majority and report the *average* responses. We can understand more holistically the populations libraries support and serve by delving into and trying to understand those outside of the majority, because the outliers are no less important despite their smaller numbers. In fact, increasing our understanding of the commonalities, qualities, and needs of the outliers will facilitate our abilities to better reach those who are often overlooked, underserved, and disregarded. For example, study into the use of electronic textbooks

24 Emily Drabinski and Scott Walter, “Asking Questions That Matter,” *College & Research Libraries* 77, no. 93 (2016): 265.

25 Hernández, “What is Good Research?” 95.

may indicate that the majority of users are very satisfied. However, if not investigated thoroughly, it may not be revealed that all of those reporting dissatisfaction lack access to a personal or mobile computer, and in turn, rely on public computers. The reported high satisfaction of the majority of students would conceal inequities and perpetuate social determinants, however minor or significant, for disadvantaged students. If researchers make the decision to closely investigate into those beyond the majority, they also have the ability to underline how research can perpetuate inequities and misrepresentations of minoritized populations or dismiss their issues and perspectives as merely anecdotal or insignificant.

Be Explicit About the Approach Taken

In order to counter the assumption that a positivistic and non-critical approach to quantitative research is being applied, researchers should be explicit about the critical questions they are asking and the social inequities that are being explored and challenged. In turn, quantitative researchers must promote their ability to identify and highlight social inequities through numerical data. For example, quantitative analysis has been crucial in identifying the gender imbalances and racial inequities in academia. Here, the data of quantitative researchers has signaled that relationships exist between two factors and determines the need for thorough investigation and exploration of the complexities lying beneath these results. Additionally, when inconsistencies, contradictions, and outliers emerge in research, they should not be hidden, but rather investigated and highlighted as points of interest.

Researchers should also be sure to provide a full context of what motivates their decisions. While quantitative research is often described as reductive, the tools and mechanisms used often entail difficult decisions. Further, the authors' motivations for their research decisions not only highlights that the author recognizes the limitations of the numbers and results, but also points to ways in which the numbers are intended to be used and applied. To foreground the cases or questions not explained by the numbers, again, can help to ensure that the data is not misused.

In conversations with librarians engaging in quantitative research, there is recognition that there are complexities underlying any data point; however, such complexities are often not made explicit. In critical quantitative research, the complex questions that emerge from the data should be stressed. The scope of quantitative research rarely includes an understanding of the experiences of the individual, nor the sometimes fraught and contested contextual meanings behind the data.

Beyond well-articulated strengths and weaknesses of the research, researchers engaging in critical quantitative research will be required to position themselves in the research.²⁶ They will need to acknowledge the values they bring to the research and the change that they hope to realize through the research, as change and emancipation is key to critical research. They will also have to acknowledge that data is not something that stands alone or is produced in a vacuum. Knowledge is value laden, and is influenced by historical, social, political, and economic factors. As such, researchers should situate their research by providing the context within which the research was conducted. When they accept and acknowledge these basic assumptions about knowledge, researchers move away from the positivistic paradigm, towards a more critical approach.²⁷ Ensuring that as researchers we are explicit about this understanding within our conversations, presentations, and publications will strengthen empirical researchers' engagement and collaboration with the critical librarianship community.

This is not to suggest that all quantitative researchers will or should take a critical stance, but when we do, we should be explicit so we can grow and learn from one another. Critical quantitative approaches will require in-depth and diverse knowledge. Researchers engaging in critical quantitative research will be required to have expertise in the practice of critical librarianship, as well as quantitative methods.²⁸ In order to challenge or defy the positivist approach of the quantitative approach, to meaningfully challenge mainstream quantitative methods and rules, critical quantivists must possess a deep understanding of quantitative research.²⁹

In the end, it is possible that quantitative research can assist in identifying and addressing social inequalities, whether it be by asking critical questions, investigating the outliers, or even acknowledging that complex issues lie beneath the numbers. But even more than particular skills and socially relevant questions, critical research requires sincerity and commitment by the researcher.

26 Benjamin Baez, "Thinking Critically about the 'Critical': Quantitative Research as Social Critique," *New Directions for Institutional Research* 2007, no. 163 (2007): 22; Ryan Wells and Frances K. Stage, "Past, Present, and Future of Critical Quantitative Research in Higher Education," *New Directions for Institutional Research* 2014, no. 163 (2015): 109.

27 Baez, "Thinking Critically," 20.

28 Hernández, "What is Good Research?," 98.

29 Baez, "Thinking Critically," 26.

Conclusion: Allies not Foes

In this article, I attempt to underline the ways in which quantitative researchers may be able to contribute to the practice of critical librarianship, and the ways that LIS researchers or practitioner-researchers may benefit from engaging in a more critical approach to quantitative methods. I suggest that with conscious efforts and inspired motivation quantitative researchers can choose to complement the work of critical librarianship. This article is also an request for future conversations: in addition to calling upon quantitative researchers to consider how they may adopt more critical approaches to their research, I appeal to those librarians engaged in critical librarianship—activists and scholars—to work in partnership with those quantitative researchers as committed allies working towards greater social justice. Librarians across the profession ought to consider how research and scholarship can contribute to a more socially just and responsible world. There is still a great deal of learning and evolution that is needed in this area, however, the recognition of librarians' roles to address social inequities should be a call to action for all scholars of libraries, independent of method, to consider how we can contribute to a more socially just and responsible world.

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