

# Chapter 23

## I Pulled Up a Seat at the Table: My Journey Engaging in Critical Quantitative Inquiry



Lolita A. Tabron

**Abstract** Historically, statistical research has been used as a tool of oppression attempting to “prove” the intellectual and cultural inferiority of communities of color (i.e., bell curve, Tuskegee Syphilis Study, eugenics, IQ testing) and obscure the reality of racism. Such scientific racism is the foundation of the US education system and contextualizes many of the contemporary issues of racial and social stratification today. Consequently, there is a widely held belief that “quantitative methods are antithetical to social justice,” which situates the problem with statistical methods rather than the users of the methods (Cokley & Awad, *Journal for Social Action in Counseling and Psychology*, 5, 26–41, 2013, p. 27). In this chapter, I discuss the need for critical quantitative inquiry, where researchers disrupt and push for the re-imagining of ways to engage in more culturally inclusive and sustaining approaches to quantitative inquiry. I argue that statistics is a powerful tool that can be used to resist oppression through community-driven, justice-oriented work.

There is a great African proverb that states, “Until lions have their historians, the tales of the hunt will always glorify the hunter.” This proverb has in many ways reflected traditional academic research, where the research narratives continue to legitimate hegemonic ways of thinking and doing, especially in quantitative inquiry. Historically, statistical research has been used as a tool of oppression attempting to “prove” the intellectual and cultural inferiority of communities of color (i.e., “the bell curve,” Tuskegee Syphilis Study, eugenics, IQ testing) and obscure the reality of racism (Cokley & Awad, 2013; Gillborn, 2010). Such scientific racism is the foundation of the US education system and contextualizes many of the contemporary issues of racial and social stratification today. Too often communities of color are over-researched, exploited for capital gains, and dehumanized as a statistic

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L. A. Tabron (✉)  
University of Denver, Denver, CO, USA  
e-mail: [lolita.tabron@du.edu](mailto:lolita.tabron@du.edu)

(Leong, 2013). Further, findings from statistical studies often remain unchecked due to the perception that numbers represent objectivity, truth, and real evidence (Gillborn, 2010). Consequently, there is a widely held belief that “quantitative methods are antithetical to social justice,” which situates the problem with statistical methods rather than the users of the methods (Cokley & Awad, 2013, p. 27).

In this chapter, I share how this history and ongoing tension has shaped my journey as an African American woman and scholar toward critical quantitative inquiry. I begin by sharing two short narratives that were pivotal educational experiences and examples of how the mobilization of bias and shaping of consciousness prevalent in K-12 settings is perpetuated in higher education classrooms. I then share how the dynamics of racism experienced as a student led to my path as a faculty member teaching statistics through a critical lens and conducting critical quantitative inquiry as a researcher. I continue the conversation by discussing what I view as the strengths and challenges to critical quantitative inquiry. I end the chapter with recommendations for those currently engaged in or desire to be engaged in critical quantitative inquiry.

## **Pivotal Educational Experiences**

I know firsthand the magnitude of educational inequities and its consequences. My lived experiences as a student in both a poverty-stricken school that faced state closure and a wealthy, state award-winning school were influential in my research agenda. In my research, I study the ways that systemic racism and other forms of oppression are perpetuated, reproduced, and sustained through policy, politics, and statistical data. I became interested in this work not only because of my lived experiences but also my heightened critical consciousness of the racist narratives and tools used to not only frame the achievement gap but create it (Kendi, 2017). Such deficit narratives and approaches to inquiry are implicit forms of power that breed *epistemic injustice*, the mobilization of bias, and the shaping of consciousness. I share how these forms of power manifested in two pivotal educational experiences that led me to critical quantitative inquiry.

### ***The N-word***

The first pivotal experience occurred when I was in elementary school. I was born on the southside of Chicago, in the Englewood neighborhood, and was prepared to attend schools in the Chicago public school system. Understanding the challenges with the Chicago public school system, my parents decided to move to Indiana and enrolled me in the neighborhood elementary school. My parents believed that outside of the city, I would receive a better education, especially since I entered the

school one year ahead in math and reading. This meant that I stayed with my age group for all social activities such as lunch and recess, but I joined the grade ahead for math and reading instruction. There is no question that I arrived at the school confident in myself and my academic abilities. Unfortunately, it did not take long before my spirit was broken by the consistent racism even at the elementary level. As the only Black child in the school, I was the victim of racist slurs and bullying almost daily. One day, I got into an argument with a classmate who called me the N-word, and I retaliated verbally. We were both disciplined. However, my classmate received a verbal warning and phone call home to her parents, and I was removed from advanced level math and reading courses. I never shared that incident with my parents until adulthood due to my fear of my part in the altercation and retaliation by the teachers and administrators. As an elementary student, this behavior incident shook my confidence academically. While I still performed well academically, maintaining high honor roll throughout my elementary and secondary experiences, I remember feeling like I had to work really hard in my courses to get back what was stripped from me and to prove that I was good enough.

### ***“Blacks and Latino Students Are Not Good at Math”***

Fast forward to one particular graduate school experience as a doctoral student. I remember the excitement and pride I held as a first year PhD student. Like many students, I had no clue what my dissertation would be about, but I knew it would be a study focused on equity for marginalized communities. As my colleagues and I exchanged ideas for topics, I quickly realized a methodological divide by race. Most of my Black and Latinx colleagues had already predetermined that they would use qualitative methods without even knowing their research question, and many, though not all, of my White colleagues were intrigued by quantitative inquiry. Despite this early commitment to methodological approaches by my peers, I remained open and tried to take as many quantitative classes as I could. Aside from introduction to statistics, a required course, I was often the only or one of few students of color in advanced statistical classes. One day, I attended office hours to seek clarification about a lecture in one of my advanced statistical courses. To this day, I am not sure how the conversation shifted and made room for this comment, but it is a comment that I will never forget and the culminating factor that confirmed my pursuit of critical quantitative inquiry. During that office hour appointment, that professor stated,

I don't see why we are pushing for Black and Latinos in STEM. Black and Latino students are not good at math. They are better at the arts and are good with people...[the professor goes on to say] please don't think I'm racist, that's just what the statistics show.

These external racial microaggressive experiences fueled an imposter syndrome that is not my own psychological tensions but a dominant exercise of power

working to shape consciousness and mobilize bias to affect the behavior of another. A poignant illumination of the intent and effects of this implicit form of power is reflected in an excerpt from Lukes ([1974] 2005) which states, “Is not the supreme exercise of power to get another or others to have the desires you want them to have—that is, to secure their compliance by controlling their thoughts and desires?” (as cited in Fowler, 2000, p. 35). The racial and gender segregation in advanced level statistics along with the identities of those who were teaching these courses and how they presented the content definitely displayed this dimension of power. In other words, deficit messages and fallible statistics socialize Black and Latinx students to not perceive themselves as mathematicians or future statisticians.

Occasionally these challenges resurface in my current work. Ford (2015) said it well when she stated, “too often the mind (e.g., intellectual abilities and expertise) of Black female faculty and administrators is minimized, obscured, or ignored, while the body is literally and symbolically exploited to achieve diversity-related institutional objectives”(p. 191). However, I am reminded of what Former First Lady Michelle Obama shared at the Pennsylvania Conference for women. She said, “If you are scared to use your voice, then you’ve got to get up and give it to someone who isn’t afraid to use the spot.” It is this charge and conviction that compelled me to move from being a character in someone else’s narrative to being an author who changes the narrative through critical quantitative inquiry.

## Critical Quantitative Inquiry

Critical quantitative inquiry requires that we, as producers and consumers of research, disrupt and push for the re-imagining of ways to engage in more culturally inclusive approaches to quantitative inquiry that will drive us all to critically interrogate and self-appraise our beliefs, probe our research designs, humanize the data, and approach understanding the story behind the data with curiosity and humility. Distinct from traditional quantitative inquiry, researchers engaged in critical quantitative work are called to

Use data to represent educational processes and outcomes on a large scale to reveal inequities and to identify social or institutional perpetuation of systemic inequities in such processes and outcomes.....[and to] question the models, measures, and analytic practices of quantitative research in order to offer competing models, measures, and analytic practices that better describe experiences of those who have not been adequately represented. (Stage, 2007, p. 10)

Critical quantitative inquiry is about the “judicious and socially conscious use of quantitative methods in our research” (Cokley & Awad, 2013, p. 37). Researchers engaged in critical quantitative work are concerned about research questions asked and decolonizing research designs and interpretations that reproduce oppression and maintain the status quo (Stage, 2007; Stage & Wells, 2013).

## *Challenges to Critical Quantitative Inquiry*

While there is great opportunity for equity with critical quantitative inquiry, there are also challenges. One challenge is that method courses in educational programs are often the breeding grounds for epistemic injustice. Those underrepresented in the academy, particularly scholars of color, might have experiences similar to my own where the educational process and content objectified me and my cultural community. The narratives shared about my cultural community were often ill-understandings of our marginalized experiences. Worse is the weighted responsibility and urge to correct these narratives only to have these counter-narratives denied as legitimate knowledge sources, while the false interpretations and misleading arguments propagated through statistical research is seen as factual and remain unchecked (Gillborn, 2010). Santoro and Kumar (2014) refer to this as testimonial injustice, where

prejudice causes the hearer to give a deflated level of credibility to a speaker's word... This is not only a denial of the claim of a resource as a valid knowledge, but it also undermines the community's claim to knowledge. It is an injustice done to an individual by virtue of them being part of that community. This likely leads to a feeling of inferiority in the student, as well as a lack of confidence in one's own ability to learn. (pp. 4–5)

This injustice is perpetuated when diverse experiences, histories, and contexts of diverse groups are not represented in the curricula. Their participation in pedagogical activities are controlled by a hegemonic narrative, and they are denied equal participation in the knowledge process. Another manifestation of this is when methodological instructors serve as epistemic gatekeepers by discouraging or criticizing students from studying certain populations or using methodological approaches in a way that is incongruent with hegemonic ways of knowing and doing (Yee, Carey, & Gamble, 2015). Gillborn (2010) spoke to this when he wrote, “Statistical work will be automatically privileged above qualitative research unless it dares to name racism, in which case it will be subject to the same dismissive attacks as any other anti-racist scholarship” (p. 260). He goes on to argue that anti-racist quantitative research is often criticized and scrutinized unless there is an abundance of control variables to explain inequity in a way that points to the individual and their families instead of racism and systemic inequity.

Another challenge in critical quantitative inquiry is the missing and erased narratives of marginalized groups, such as Indigenous communities, because of small sample sizes. Students may be encouraged to become complacent with this explanation of why the narratives of Indigenous communities are often missing in quantitative analysis. However, this should not be the message communicated in methods classes. We, as researchers, must commit ourselves to findings solutions to challenge the systemic exclusion of Indigenous communities in research instead of being complicit in the erasure of Indigenous groups from the narrative.

We must be committed to making our data and interpretations accessible to broad audiences, especially understanding the prevalence of the shaping of consciousness and mobilization of bias that keeps marginalized communities and other “non-

statisticians intimidated by the numbers. They don't have the confidence or expertise to challenge the conclusions or the methods that generated them" (Gillborn, 2010, p. 267). This means we have to act to ensure our work is inclusive, accessible, and relevant.

## Concluding Thoughts

Finally, there is a need for more members of historically underrepresented groups, particularly students of color, to engage in critical quantitative inquiry. Social justice is not only difficult without members of these communities, but it is incomplete without our voice, our perspective, and our work. My advice for members of marginalized communities engaged in this work is to remember that we are not tokens, and our excellence is not aberrant behavior of our cultural groups and lineage. Let your excellence be a form of protest. For those reading this in a methods course and questioning yourself—we are not imposters. I know that being in these spaces is not always easy, but being authentically you is necessary and important in social justice work. We are our ancestors' wildest dreams. We have a duty not only to take the opportunity to sit at the tables where our ancestors were previously denied, but we must do so with the conviction of course correcting the injustices that still remain. It is impossible to break down a structure when you do not understand what gives that structure its fortitude. Quantitative analysis is one of the most powerful engines of the system. Statistics is a powerful tool that can be used to resist oppression through community-driven, justice-oriented work. Pull up a seat. Let's prepare to reverse engineer. We need to have a seat at the table.

## Suggested Readings

Bonilla-Silva, E. (2015). More than prejudice: Restatement, reflections, and new directions in critical race theory. *Sociology of Race and Ethnicity*, 1(1), 73–87. <https://doi.org/10.1177/2332649214557042>.

In this article, Bonilla-Silva critiqued framing racism as a matter of individual private prejudice. He pushed readers to understand that race still matters because racism is systemic, evolving, and firmly rooted in power differentials based on socially constructed categories of race.

Cokley, K., & Awad, G. H. (2013). In defense of quantitative methods: Using the "master's tools" to promote social justice. *Journal for Social Action in Counseling and Psychology*, 5(2), 26–41.

In this article, Cokley and Awad challenged the notion that quantitative methods are antithetical to social justice. They argued that the reproduction of oppression through quantitative analyses should be situated with quantitative users and their misuse rather than the methods themselves.

Fendler, L. (2014). Bell curve. In D. C. Phillips (Ed.), *Encyclopedia of educational theory and philosophy* (Vol. 1, pp. 83–86). New York, NY: SAGE Publications.

In this encyclopedia entry, Fendler discussed the history of the bell curve and its intended use to display binomial probability density in the hard sciences, specifically astronomy. Fendler poignantly illustrated the misinterpretations and the erroneous application of the bell curve since its crossover in the social sciences.

Gillborn, D. (2010). The colour of numbers: Surveys, statistics and deficit-thinking about race and class. *Journal of Education Policy*, 25(2), 253–276. <https://doi.org/10.1080.02680930903460740>

In this article, Gillborn illustrated through narrative how traditional approaches to quantitative inquiry can obscure the reality of racism, which sustains and reproduces hegemonic assumptions.

Stage, F.K. (2007). Answering critical questions using quantitative data. *New Directions for Institutional Research*, 133, 5–16. <https://doi.org/10.1002/ir.200>

In this special issue, Stage described the evolution of critical quantitative inquiry, addresses early critics, and discusses the need for more quantitative criticalists.

Stage, F. K., & Wells, R. S. (2013). Critical quantitative inquiry in context. *New Directions for Institutional Research*, 158, 1–7. <https://doi.org/10.1002/ir.20041>

In this special issue, Stage and Wells provided an overview of the development and evolution of critical quantitative inquiry, with an introduction to researchers currently engaged in this work.

Zuberi, T. (2001). *Thicker than blood: How racial statistics lie*. Minneapolis, MN: University of Minnesota Press.

In this book, Zuberi discussed how statistics has been used to promote racists narratives and ideologies. This dangerous use of racial statistics must be understood and challenged to ensure social and racial justice for all.

Zuberi, T., & Bonilla-Silva, E. (Eds.). (2008). *White logic, white methods: Racism and methodology*. New York, NY: Rowman & Littlefield Publishers.

In this edited book, Zuberi and Bonilla-Silva challenge the perceived objectivity, color-blindness, and infallibility of statistics. They further argue that the color-blind treatment and understanding of race as static and a social constant rather than a social construct that sustains power differentials in statistics is undergirded by logic and methods grounded in white supremacy used to justify racial stratification, which further perpetuates racism.

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