

Mapping Black Scholarship in Engineering Education: Publication Venues and Barriers to Dissemination (Work in Progress)

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Pro-Black Engineering Education Scholarship and Recognition through Mapping Publication Outlets (Work in Progress)

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Abstract

This work-in-progress paper examines the intellectual visibility and dissemination patterns of Black scholars in engineering education. Scholars were identified through a two-step process: (1) community-based outreach via personal networks and the Racial Revolutionary Inclusive Guidance in Health Throughout STEM (R-RIGHTS) website, and (2) a systematic EBSCOhost search using each scholar's name with the term "engineering education." The outreach yielded 29 responses, which were combined with an existing R-RIGHTS list of over 80 self-identified Scholars of Color in STEM to create a working list of Black scholars engaged in engineering education research. From this list, 88 scholars were confirmed, with 65 appearing in EBSCOhost searches. Data for this study included publication outlets, participant groups, and theoretical frameworks represented in their work. Preliminary findings reveal that Black scholars publish most frequently in flagship journals such as the *Journal of Engineering Education* (14.16%) while also engaging equity-focused venues like the *Journal of Negro Education* and the *Journal of Diversity in Higher Education*. Research predominantly centers on Black students and employs critical and justice-oriented theories, underscoring a commitment to racial equity and epistemic transformation. These patterns highlight both the influence of Black scholars and the structural constraints that shape their visibility. By mapping these contributions, this study provides a foundation for future efforts to amplify Black scholarship and dismantle systemic barriers in engineering education through a Pro-Black Engineering Education frame.

Introduction

This Work-in-Progress paper advances a Pro-Black Engineering Education Framework (Pro-Black EE) by mapping the collective knowledge production of Black scholars in engineering education and identifying structural barriers that limit their visibility and recognition. By examining publication venues, citation networks, and patterns of scholarly dissemination, we aim to document what Black scholars contribute to the field and how they go about doing so, while also highlighting the systemic obstacles they face. Through this analysis, we contribute to ongoing efforts to both document and dismantle anti-Black structures, offering implications for a Pro-Black EE that centers Black excellence and scholarly liberation within engineering education research and practice.

Engineering education research has long been structured by epistemic and methodological practices that reflect and reproduce anti-Blackness, limiting the recognition, dissemination, and influence of Black scholars' work [1], [2]. Anti-Blackness in engineering

education is “where Black-ness/people are conceived as subhuman and antithetical to whiteness/people” [3]. Despite growing attention to diversity, equity, and inclusion in engineering education research, anti-Blackness remains deeply embedded in research practices, publication norms, and institutional structures [3], [4], [5].

Recent scholarship has emphasized the importance of interrogating the racialized dynamics of knowledge production in engineering education. For example, McGee’s [6] concept of racialized academic emotional labor highlights how Black scholars often expend additional affective and intellectual energy to both produce knowledge and survive in predominantly White institutions. Other scholars have brought to the forefront how standard methodologies often reproduce Whiteness and marginalize Black perspectives [1]. Pawley [7] notes that authors are frequently required to justify a focus on diversity, which signals that Whiteness remains the unexamined default in engineering research. Similarly, Haverkamp and colleagues [8] show that dominant methodological and discursive practices obscure social inequities, including racial inequities, while positioning technical knowledge as race-neutral. Collectively, these studies reveal that engineering education operates within a field-level environment that constrains Black scholars’ influence and shapes the reception and dissemination of their work.

Black scholars have long contributed critical perspectives to the study and practice of engineering education, yet their intellectual labor often remains marginalized or underrecognized within mainstream academic discourse [9], [10], [11], [5]. The systemic exclusion of Black perspectives in engineering fields is not simply a matter of representation but of epistemic recognition, whose ideas are legitimized and voices are amplified [12], [13]. Understanding how Black scholars navigate, resist, and reimagine these structures is crucial for developing a more equitable and reflexive engineering education research community. Despite this growing body of work, there has been a limited systematic synthesis of how Black scholars collectively shape the intellectual contours of engineering education. According to Moore and Colleagues [14], few reviews and bibliometric studies in the field have examined the intersection of race, authorship, and dissemination patterns. As a result, much of the critical scholarship by Black researchers risks fragmentation or siloing, limiting the community’s ability to engage with and build on these contributions fully [15], [16].

Given the need for engineering education scholarship that attends to Blackness and Black people in ways that are “asset-based and socially transformative,” [17] James Holly Jr. proposes a need for Pro-Black Engineering Education (Pro-Black EE) as a framework for reorienting the field [17]. Pro-Black EE emphasizes the affirmation of Black life, knowledge, and creativity as central to engineering education, challenging the assumption that the discipline’s norms are neutral or universally applicable [17]. Pro-Black EE positions research not merely as the pursuit of technical knowledge, but as a socially transformative practice that foregrounds Black scholars’ intellectual contributions and lived experiences. In doing so, Pro-Black EE provides both a lens and a call to action for scholars committed to addressing inequities in knowledge production and scholarly recognition.

This ongoing research aims to advance a framework for Pro-Black EE by mapping the scholarly landscape of Black authorship in engineering education, examining where Black faculty are publishing, what topics they are advancing, and who has access to these publication venues. In identifying patterns in publication outlets and thematic concentrations, towards the goal of understanding dissemination barriers, we seek to illuminate both the scope and substance of Black scholars’ contributions. Ultimately, this study contributes to a broader movement

toward epistemic justice in engineering education, centering Black knowledge, methodologies, and lived experiences as foundational to the discipline's future.

Background and Literature Review

This inquiry builds on foundational work in mathematics and science education that sought to identify Black scholars and examine the strategies they employed to advance racial justice through their research. Ridgeway & McGee [18] explored the role of Black mathematics educators in promoting racial emancipation, while Morton and colleagues [19] advocated for Black liberation in K–12 science education. Inspired by these efforts, our team developed a discipline-specific approach to Black engineering education researchers and analyzing their publication patterns over the last decade. Engineering Education refers to the cultivating engineering within an increasingly international environment and transforming the traditional engineer-training model across dimensions such as educational philosophy, learning goals, instructional models, pedagogical approaches, and teaching methods [20].

Research Question: How do patterns in publication outlets, participant focus, and theoretical frameworks characterize the visibility and knowledge contributions of Black scholars in engineering education research?

Methods

The process began with a community-based outreach effort, including a targeted email distributed through personal networks and the Racial Revolutionary Inclusive Guidance in Health Throughout STEM (R-RIGHTS) listserv. This call yielded 29 responses, which were added to an existing list of over 80 self-identified scholars of color in STEM from the R-RIGHTS website. From this combined pool, we developed a working list of Black scholars engaged in engineering education research across various institutions. To identify the publication outlets associated with the scholars' work, we conducted a systematic search using EBSCOhost. Specifically, each scholar's full name was entered with the term "engineering education." This search yielded a subset of scholars whose work explicitly appears under that disciplinary label.

To ensure comprehensive coverage of publication venues, we applied explicit inclusion and completion criteria. We focused exclusively on peer-reviewed journal articles, excluding conference papers, editorials, and commentaries. Searches were conducted in EBSCOhost using two query structures: (1) scholar's full name + "engineering education" and (2) scholar's full name + "engineering" + "education" to capture variations. The search was considered complete when all identified scholars had been queried using both terms and no additional eligible records emerged.

Researcher Positionality

As Black critical scholars—Monica Miles, Brooke Coley, Ebony O. McGee, and Terrell R. Morton—we approach this work as a collective act of love and liberation for Black people within and beyond engineering. Several of us have backgrounds in engineering, while all of us have deep intellectual expertise in Black STEM education. Our scholarship is grounded in a deep commitment to dismantling anti-Black structures and affirming Black knowledge as central to the future of these disciplines [1]. This project is not simply research; it is a testament to our

shared vision of Black intellectual sovereignty and a refusal to allow Black brilliance to remain invisible or undervalued.

We situate ourselves by paying homage to a lineage of Black academics, such as W.E.B. Du Bois, whose intellectual contributions were often ignored or resisted because of their Blackness. We acknowledge this history as we labor to create space for Black scholars in engineering education, not as an afterthought, but as foundational [20]. Our work is unapologetically Pro-Black, and we recognize that it may not resonate with all audiences. That is intentional. This scholarship is for those who come after us, for the next generation of thinkers and builders who will continue to expand Black knowledge and epistemologies. Our collective positionality is rooted in love for Blackness, in resistance to anti-Blackness, and in the belief that engineering education must be transformed to honor the full humanity and creativity of Black people. This work is a living document and as a work in progress reflecting our ongoing journey toward liberation.

Preliminary Findings

At this stage, we have chosen not to include the comprehensive list of Black scholars reflected in the studies in this manuscript. This decision reflects both the evolving nature of this work and our desire to hold space for critical reflection amid a climate that often commodifies diversity without addressing systemic inequities. Future iterations may include such lists, but for now, we sit with the complexity of representation and recognition as we continue to interrogate these dynamics.

Our preliminary analysis reveals a complex but illuminating picture of Black scholars' contributions to engineering education research. Our findings demonstrate how Black scholars enact this vision through their research practices. First, publication visibility shows that Black scholars are publishing in leading journals such as *Journal of Engineering Education* (14.16%) and *International Journal of Engineering Education* (5.94%), while also engaging with equity-focused outlets like the *Journal of Negro Education* and the *Journal of Diversity in Higher Education* (Table 1). This dual presence reflects a determination to shape engineering education discourse broadly, no matter the outlet. We view this intentional decision-making—advancing research in white hegemonic spaces (i.e., engineering education journals) and Black-supporting places (e.g., diversity, race, and Black-focused journals)—as a means of resisting epistemic marginalization.

Table 1. Frequency of Journal Names.

Journal Name	Count	% Frequency
Journal of Engineering Education	31	14.49%
The International Journal of Engineering Education	13	6.07%
Journal of Negro Education	11	5.14%

Journal of Diversity in Higher Education	11	5.14%
Studies in Engineering Education	10	4.67%
Journal of Pre-College Engineering Education Research	8	3.74%
Advances in Engineering Education	5	2.34%
American Educational Research Journal	5	2.34%
Education Sciences	5	2.34%
Chemical Engineering Education	4	1.87%

Note. Table 1 reports the top 10 journals where Black scholars published, as determined by article count. Percentages are computed against the full journal publication list (N = 214). This list focused on peer-reviewed journal articles and excluded conference papers, editorials, commentaries, and dissertations. The full search strategy and completion criteria are detailed in the **Methods** section.

Second, participant focus indicates that much of this research published by Black scholars attends to Black students and equity-related issues (Figure 1). This outcome demonstrates scholars' dedication to elevating Black epistemologies within engineering and addressing systemic barriers that impede Black students' holistic thriving within and beyond engineering. This outcome notes the importance and necessity of Black scholars leading conversations about affirming Black learners' realities and experiences as central to the field of engineering education.

Third, an examination of the theoretical frameworks used reveals the presence of race-critical theories and justice-oriented theories, including Critical Race Theory, Pro-Black frameworks, and intersectional approaches as leading perspectives (Figure 2). These frameworks signal an intentional disruption of dominant narratives and a commitment to epistemic justice, even within a field structured by Whiteness. Using race-critical theories and justice-oriented theories are outcomes of a complex, multilayered decision, as scholars who employ these frameworks consider the social, emotional, cultural, and professional cost that comes with this theoretical orientation [21]. Choosing a race-critical or justice-oriented theory to support research puts Black scholars in a position where their research outcomes, professional and personal livelihoods can be under attack, including attempts at physical violence against their lives. Maintaining this theoretical orientation exemplifies the imperative to challenge neutrality claims and reimagine engineering education as a liberatory practice despite possible costs.

Fourth, racial focus in publications shows that about one-third of the publications from these scholars focus specifically on Black students, while the remaining two-thirds attend to all students (Figure 3). When considering this outcome in relation to the theories used and outcomes discussed, this finding highlights Black scholars' role in advancing equity discourse via a Black specificity and through comparative approaches. Both a Black specificity and exploring Black people's experiences among other racialized groups provide opportunities to advance research that dismantles anti-Black racism [23], specifically when situated within race-critical and justice-oriented frameworks. Dismantling anti-Black racism is an approach to promote race-conscious social transformation in engineering education.

Finding 1: Mapping Publication Venues for Black Scholars in Engineering Education

At this stage of the process, we have identified 88 Black scholars contributing to engineering education research. Of these, 65 were located through an EBSCO search, with 43 found using the term “engineering education” and an additional 21 identified through a secondary search using “engineering + education” to capture scholars not included in the initial query. This comprehensive identification process provides the foundation for our analysis of publication patterns and visibility.

To understand where these scholars' work is most frequently disseminated, we focused on the top 10 journals where Black scholars published, as determined by article count, spanning engineering education-specific, interdisciplinary, and justice-oriented outlets (Table 1). Our findings reveal that the *Journal of Engineering Education* dominates as the primary venue, accounting for 31 publications (14.16%), signaling that Black scholars are contributing to the flagship journal despite systemic barriers. Other notable outlets include the *International Journal of Engineering Education* (5.94%), the *Journal of Negro Education* (5.48%), and the *Journal of Diversity in Higher Education* (5.02%). These journals reflect a strategic mix of discipline-specific and equity-focused spaces, suggesting that Black scholars navigate both traditional and justice-centered platforms to amplify their work. In contrast, lower frequencies in highly specialized technical journals, such as *Chemical Engineering Education* (1.83%), indicate limited representation in these areas.

These patterns highlight a dual reality: Black scholars are present and influential in leading engineering education journals, yet their contributions remain clustered within a small set of outlets. This concentration shows both progress toward inclusion and persistent vulnerability to gatekeeping within the publication landscape.

Finding 2: Affirming Black Epistemologies and Learner Realities

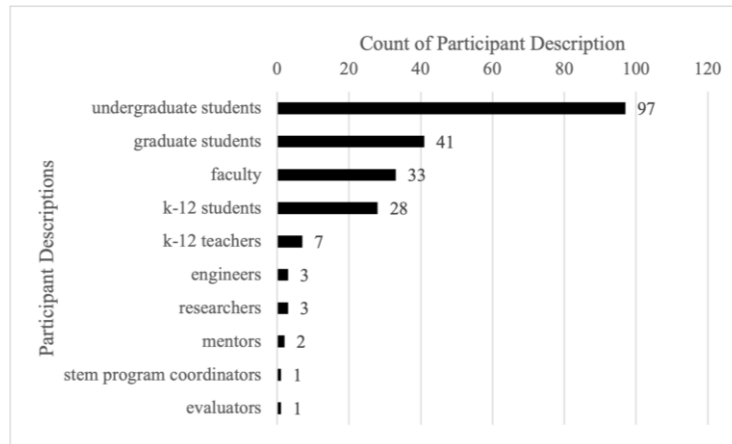


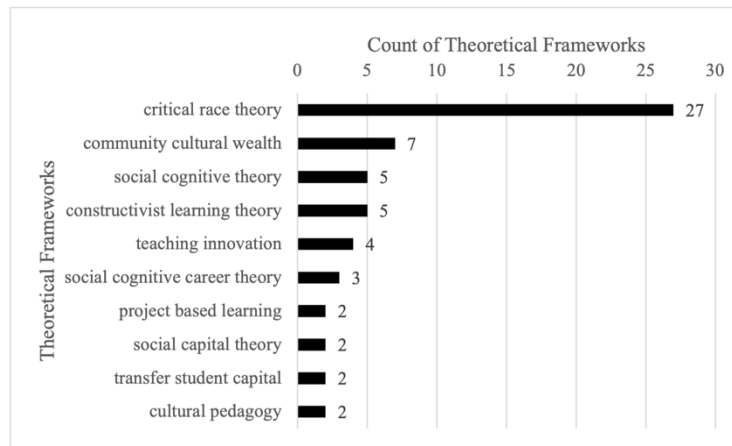
Figure 1. Participant Groups Represented in Publications.

Note. Participant descriptions are not mutually exclusive; they are not a one-for-one correlation to journal publications as a single source may include multiple participant types.

When looking at the participant context, representation was heavily concentrated in higher-education populations. Among the ten most frequently represented groups, undergraduate students were the most commonly represented ($n = 97$; 43.11%), followed by graduate students ($n = 41$; 18.22%), and faculty ($n = 33$; 14.67%). In contrast, K-12 populations were underrepresented; K-12 students appeared in 12.44% of the papers ($n = 28$) and K-12 teachers accounted for 3.11% ($n = 7$). This imbalance reflects a structural limitation that could be the outcome of multiple realities. For example, although Next Generation Science Standards call for engineering integration in K-12, implementation is uneven and often treats engineering as an extension of science, limiting authentic experiences and research at the pre-college level. These gaps suggest few sustained connections between engineering and K-12 curricula, which in turn constrain scholarly attention [24]. Another possibility could be that research in K-12 contexts requires additional permissions (i.e., institutional IRBs and School District IRBs). When compounding this reality with other variables such as being one of a few, if not the only, Black scholar in a particular area, gaining access to K-12 classrooms may become even more difficult. Addressing this disconnect is critical for broadening the pipeline and creating equitable opportunities for early engagement in engineering.

Finding 3: Race-Critical Theories as Acts of Resistance

Figure 2.
Theoretical



Distribution of
Frameworks.

The analysis of theoretical frameworks revealed a clear emphasis on scholarship grounded in race-focused and equity-centered perspectives. Race-critical theories emerged as the dominant framework (i.e., critical race theory (n=27; 13.71%) and community cultural wealth (n = 7; 3.55%) totaling 17.26%), far surpassing all others. This outcome reflects their strong influence in research that studies systemic inequalities, particularly those affecting Black students and communities. Frameworks such as Constructivist or Social Cognitive theories (each n = 5; 2.54%) appeared substantially less often, suggesting that alternative perspectives are present, but they make up a smaller share of the theoretical landscape.

Finding 4: Black Specificity and Anti-Racist Research in Engineering Education

The racial analysis illustrates that the scholarly landscape extends beyond a focus on Black populations alone. Although Black-specific publications accounted for a considerable portion of the reviewed research (n = 71; 33.49%), the majority of studies (n = 139; 65.57%) addressed all racial groups collectively, often discussing “students of color,” “underrepresented minorities,” or broad equity concerns. This pattern raises an important tension: framing research broadly may enhance reach and inclusivity, but it can also dilute the specificity of Black experiences and obscure the unique structural barriers they face. From a Pro-Black EE perspective, we affirm the heterogeneity of Black scholars and their scholarship, Black scholars can and do study topics beyond Black populations, at the same time, Pro-Black EE distinguishes between scholarship authored by Black scholars and scholarship that is explicitly Pro-Black in epistemic orientation, method, and purpose. Our analysis does not presume that all scholarship by Black scholars is Pro-Black; rather, we examine whether and how studies center Black life, knowledge, and liberation, name anti-Black structures, and advance race-conscious transformation. Maintaining an explicitly Pro-Black stance, affirming Black epistemologies and rejecting race-neutral framings can entail significant professional and personal costs, including heightened scrutiny in tenure and promotion, emotional labor amidst systemic oppression, and risks to professional security. As noted, there are opportunities to advance scholarship that promotes the dismantling of anti-Black racism in general or comparative scholarship [23]; however, there has to be an intentionality in highlighting the outcomes and the implications of the research for Black people within the scholarship.

Only two publications focused specifically on Hispanic populations (0.94%), further emphasizing that racialized inquiry tends to cluster around broad, multi-group categorizations rather than targeted examinations of individualized racial groups. The tendency to not focus on Black student and rather “all racial group” may reflect both structural and practical factors with the underrepresentation of Black students in engineering programs, which limits sample sizes, and institutional norms that favor broad diversity framings over race-specific inquiry. These dynamics raise critical questions about whether such approaches enhance inclusivity or obscure the unique experiences of Black learners and scholars. A Pro-Black EE lens asks whether broad framings enhance inclusivity without erasing Black specificity, and whether they explicitly confront anti-Black structures rather than subsuming Black experiences under generalized equity categories. Accordingly, we identify opportunities for both Black-specific scholarship to dismantle anti-Black racism, provided the work is intentional in naming implications for Black people, centers Black epistemologies, and aligns with liberatory aims.

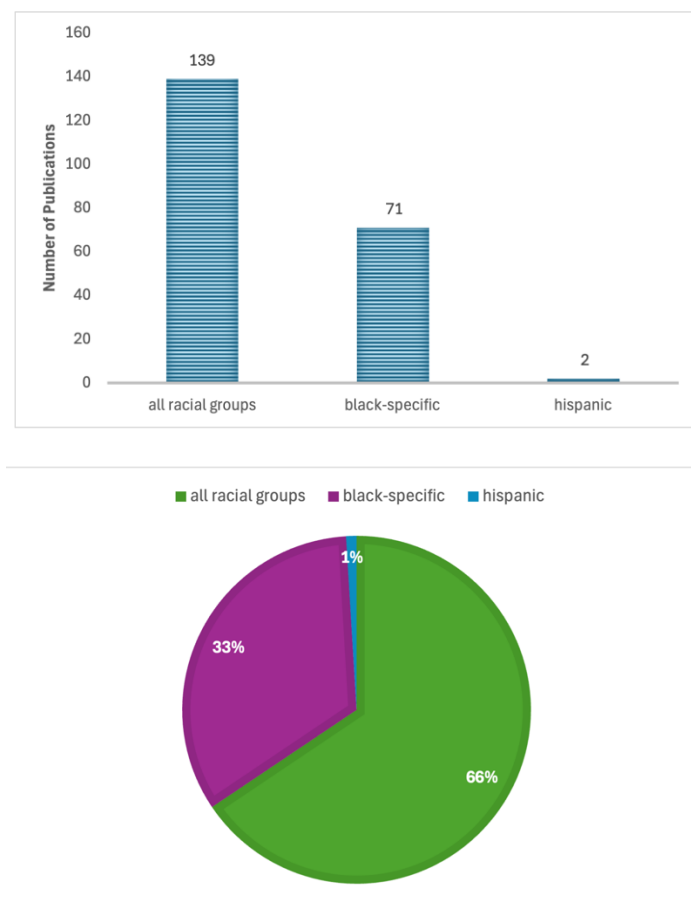


Figure 3. Number of Publications by Racial Focus.

Conclusion

This work-in-progress represents an intentional step toward illuminating and amplifying the contributions of Black scholars in engineering education as a means to advance a framework for Pro-Black Engineering Education research and practice. By mapping publication patterns,

participant focus, and theoretical frameworks, we expose both the depth of equity-driven scholarship and the structural barriers that constrain its visibility. Outcomes from this work point to a Pro-Black Engineering Education Framework as: 1) resisting epistemic marginalization by publishing research on Black people in all dissemination outlets. 2) Affirming Black people's realities and experiences while also positioning them as essential for the foundation and expansion of engineering education. 3) Employing a theoretical orientation rooted in a race-critical and justice-oriented approach to challenge neutrality claims and promote liberatory outcomes. 4) Maintaining a Black specificity within one's research and practice by either focusing on Black people or, through comparative work, elevating outcomes that dismantle anti-Black racism and advance the well-being of Black people.

Our findings articulate Pro-Black EE as a framework that resists epistemic marginalization by asserting Black-authored scholarship across all dissemination outlets and refusing the erasure of Black knowledge. It affirms Black realities and lived experiences as indispensable to the foundation, evolution, and future of engineering education, and employs race-critical theories to challenge neutrality claims, disrupt dominant narratives, and advance liberatory outcomes. Further, Pro-Black EE maintains Black specificity, whether through focused inquiry on Black people that intentionally dismantle anti-Black racism and promote the thriving of Black communities. While these findings signal progress, they stress the urgency of continued resistance to epistemic marginalization and the necessity of structural transformation to achieve epistemic justice.

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