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Problematizing the Black-White Racial Dichotomy Inherent to High School Graduation Rate Accountability: A Mixed Methods Critical Policy Analysis

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Abstract: The U.S. Department of Education introduced the four-year adjusted cohort high school graduation rate formula in 2008 to usher high school graduation in as a high-stakes accountability metric. This policy sought to address disparate graduation rates by student race but did not attend to systemic reasons why minoritized students had lower graduation rates. Using a critical structural capital theoretical framework, this mixed methods critical policy analysis analyzes federal and state-level policy on high school graduation rate accountability and state administrative data from North Carolina to assess how policy ignores structural inequality in ways that result in divergent access to traditional forms of capital, dismissing non-traditional forms of capital necessary for college and career readiness. A critical discourse analysis of policy finds language that alludes to college and career readiness but relies on high school graduation alone as the metric. We use these findings to provide context for our quantitative analysis. In school-by-cohort fixed effects models, Black

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students were more likely to fail courses than similar White students but more likely to graduate high school. These findings indicate federal accountability incentivized schools to push more Black students to graduate but did so at the expense of their college and career readiness.
Keywords: critical policy analysis; critical discourse analysis; mixed methods; high school graduation; racial inequality

Problematización de la dicotomía racial blanco-negro inherente a la responsabilidad sobre la tasa de graduación de secundaria: Un análisis de políticas crítico y de métodos mixtos

Resumen: El Departamento de Educación de los Estados Unidos introdujo en 2008 la fórmula de la tasa de graduación de secundaria ajustada por cohorte a cuatro años para establecer la graduación de secundaria como una métrica de alta responsabilidad. Esta política buscaba abordar las tasas de graduación dispares según la raza de los estudiantes, pero no consideró las razones sistémicas por las cuales los estudiantes minorizados tenían tasas de graduación más bajas. Utilizando un marco teórico de capital estructural crítico, este análisis de políticas crítico y de métodos mixtos examina las políticas federales y estatales sobre la responsabilidad en la tasa de graduación de secundaria y los datos administrativos estatales de Carolina del Norte para evaluar cómo estas políticas ignoran la desigualdad estructural de maneras que resultan en acceso divergente a formas tradicionales de capital, descartando formas no tradicionales de capital necesarias para la preparación universitaria y laboral. Un análisis crítico del discurso de la política encuentra un lenguaje que alude a la preparación universitaria y laboral, pero que se basa únicamente en la graduación de secundaria como métrica. Utilizamos estos hallazgos para contextualizar nuestro análisis cuantitativo. En modelos de efectos fijos por escuela y cohorte, los estudiantes negros tenían más probabilidades de reprobar cursos que estudiantes blancos similares, pero también tenían más probabilidades de graduarse de secundaria. Estos hallazgos indican que la responsabilidad federal incentivó a las escuelas a impulsar la graduación de más estudiantes negros, pero a expensas de su preparación universitaria y laboral.
Palabras-clave: análisis crítico de políticas; análisis crítico del discurso; métodos mixtos; graduación de secundaria; desigualdad racial

Problematizando a dicotomia racial preto-branco inerente à responsabilidade pela taxa de graduação do ensino médio: Uma análise crítica de políticas com métodos mistos

Resumo: O Departamento de Educação dos Estados Unidos introduziu, em 2008, a fórmula da taxa de graduação do ensino médio ajustada por coorte de quatro anos para estabelecer a graduação do ensino médio como uma métrica de alta responsabilidade. Essa política buscava abordar as taxas de graduação discrepantes de acordo com a raça dos estudantes, mas não considerou as razões sistêmicas pelas quais os estudantes minorizados tinham taxas de graduação mais baixas. Utilizando uma estrutura teórica de capital estrutural crítico, esta análise crítica de políticas com métodos mistos examina as políticas em nível federal e estadual sobre a responsabilidade na taxa de graduação do ensino médio e os dados administrativos do estado da Carolina do Norte para avaliar como essas políticas ignoram a desigualdade estrutural, resultando em um acesso divergente às formas tradicionais de capital e desconsiderando formas não tradicionais de capital necessárias para a preparação universitária e profissional. Uma análise crítica do discurso da política encontra uma

linguagem que alude à preparação universitária e profissional, mas se baseia apenas na graduação do ensino médio como métrica. Utilizamos esses achados para contextualizar nossa análise quantitativa. Em modelos de efeitos fixos por escola e coorte, os estudantes negros tinham maior probabilidade de reprovar em cursos do que estudantes brancos semelhantes, mas também tinham maior probabilidade de se graduar no ensino médio. Esses resultados indicam que a responsabilidade federal incentivou as escolas a impulsionar a graduação de mais estudantes negros, mas às custas de sua preparação para a universidade e o mercado de trabalho.
Palavras-chave: análise crítica de políticas; análise crítica do discurso; métodos mistos; graduação do ensino médio; desigualdade racial

Problematizing the Black-White Racial Dichotomy Inherent to High School Graduation Rate Accountability: A Mixed Methods Critical Policy Analysis

The 2010–11 school year marked the first time high school graduation rates became comparable across the country when the U.S. Department of Education mandate for states to implement the four-year adjusted cohort graduation rate calculation went into effect (U.S. Department of Education, 2008). Previously, states had autonomy on how they calculated high school graduation rates giving comparison across states essentially no consistent meaning. The four-year adjusted cohort formula specifically requires identifying the size of the ninth-grade cohort (minus specific allowable exclusions from the cohort, e.g., transfers) and the number of students from that cohort that graduated four years after entering ninth grade (US Department of Education, 2008). This formula allows for nationwide statistics like in the 2021-22 school year, when the National Center for Education Statistics (2024) reported a nine-percentage point difference in the four-year adjusted cohort high school graduation rate between White and Black students nationally, with a seven-percentage point difference in North Carolina.

The high school graduation rate and other metrics like test score proficiency, when taken at face value, reinforce deficit narratives about Black student achievement (Ladson-Billings, 2007; O'Connor et al., 2007). Zuberi and Bonilla-Silva (2008) wrote that this kind of deficit-laden language is common in the social sciences which, "developed alongside the practice of racial stratification, in fact, they were developed as part of the system of racial stratification." (p. 16). From its inception, social scientists have tended to rely on explanations of racial differences grounded in individual or cultural traits rather than structural forces including systemic racism. In the words of Ladson-Billings (2007) focusing on this dichotomy, "places the onus of underachievement on the students, their families, and in some cases individual teachers. It constructs students as defective and lacking. It admonishes them that they need to catch up" (p. 321). In other words, this language invites the implication that some students are lesser than others when we should really be focusing on problematizing the conceit of these comparisons, recognizing the way structures, policies, and practices construct these harmful dichotomies.

In this critical policy analysis, we explore how policy, as written and enacted, prioritizes high school graduation over access to key forms of capital required for college and career readiness. We do so from the vantage point of federal and state policy and through analysis of high school graduation in a large, diverse state. We focus on high school graduation rates of Black and White students because of the historical relevance of this comparison within the context of U.S. educational policy and the state under study (Morris & Monroe, 2009; O'Connor et al., 2007). We employ the concept of critical structural capital (Gray-Nicolas, 2023) to examine how the

educational system in North Carolina (NC) suppresses the capital of Black students through higher rates of course failure compared to White students while pushing students out of the system to increase graduation rates, a key accountability measure. To do so, we address the following research questions:

1) How does federal and state guidance on high school graduation measurement and accountability support deficit narratives and individual responsibility over structural inequality in access to various forms of capital necessary for college and career readiness?
2) To what extent can we observe how the discourse in federal/state policy may be related to the likelihood of Black and White students graduating high school in relation to their accumulation of educational capital as observed through course failure rates?

In this study, we seek to make the following three contributions. First, we problematize the notion that success, as defined by accountability metrics, is indicative of increased access to traditional and non-traditional capital which, in this case, is operationalized as "college and career readiness." In other words, relying on high school graduation as a proxy for college and career readiness might be more likely to corrupt the significance of the high school diploma than to increase the percentage of students who are college and career ready, particularly for marginalized students. Second, this study aims to build an understanding of how federal and state policies incentivize behavior that differentially impacts minoritized students in expected and unexpected ways. Prior literature has examined similar questions on standardized assessment-driven accountability (e.g., Booher-Jennings, 2005), and we extend this literature by focusing on high school graduation. Third, we elucidate anti-Black racism using advanced methods to qualitatively tease apart color-evasive policy and quantitatively model structural racism and categorical inequality at several levels (Domina et al., 2017; O'Connor et al., 2007). Below, we summarize relevant literature on high school graduation accountability and describe our theoretical framework guiding this analysis: critical structural capital.

Literature Review and Context

The literature on high school graduation has often sought to examine why students graduate from high school or leave without a diploma, the changes in high school graduation rates over time, or different types of interventions to increase high school graduation rates (e.g., Goldin, 1998; Heckman & LaFontaine, 2010; Mac Iver, 2011; Murnane, 2013). Instead of summarizing this wealth of evidence, we focus on how high school graduation became a target of federal accountability and the role of high school course credits in determining high school graduation and college readiness. We do so in order to provide the necessary context for understanding the discourse in federal and state policy documents as well as how these national and state-level policies might affect school-level policies and outcomes.

High School Graduation as a Federal Accountability Metric

Since the early 20th century, high school graduation has represented an important credential for all American students due to the large economic returns of a high school diploma (Goldin, 1998; McDaniel & Kuehn, 2013). While graduation rates in recent years (pre-COVID-19) consistently increased, the high school graduation rate in the US is 10-15 percentage points lower than 100%, with traditionally disadvantaged groups of students having much lower graduation rates (Heckman & LaFontaine, 2010; National Center for Education Statistics, 2024). Evidence indicates both the

accountability movement and the corresponding push for the high school diploma as a signifier of college and career readiness have contributed to the suppression of the graduation rate. Specifically, high school exit exams and increased course requirements are common state-level policies aimed at college and career readiness of high school graduates that are associated with lower graduation rates (Holme et al., 2010; Papay et al., 2010; Plunk et al., 2014; Reardon et al., 2010).

However, as noted above, a key shift in the accountability movement took place in the 2010-11 school year when the No Child Left Behind Act (NCLB) began requiring high schools to report their four-year adjusted cohort graduation rates (U.S. Department of Education, 2008). While NCLB always included high school graduation as an accountability target, until 2011, there was no standardized calculation method for schools' high school graduation rate, making high school graduation rates a weak accountability metric that, essentially, had no consistent meaning across states. For instance, states could define the high school graduation rate as the percentage of seniors in high school who received a diploma at the end of the year, conveniently eliminating students who dropped out prior to 12th grade from the denominator (Curran, 2005[1]). The four-year adjusted cohort calculation standardized school, district, and state-level high school graduation rates using the following formula:

$$ACGI = \frac{Students\ entering\ 9th\ grade\ for\ the\ first\ time\ in\ Y_C\ who\ graduated\ by\ Y_G}{(Students\ entering\ 9th\ grade\ for\ the\ first\ time\ in\ Y_C + Students\ who\ transfer\ into\ the\ cohort) - (those\ excluded\ in\ Y_C, \ldots, Y_G)}$$

The numerator of the adjusted cohort graduation indicator (ACGI) is the number of students who entered the ninth-grade cohort in year C who received a diploma by year G (four years later; C+4=G). The denominator is the number of students who entered ninth grade for the first time in year C plus the students who transferred into the cohort in years C+1, C+2, and C+3. The ACGI is "adjusted" by subtracting from the denominator students who meet exclusion criteria (transferred out, emigrated, deceased; U.S. Department of Education, 2008). Ten years after test score proficiency became a national priority, the establishment of the uniform ACGI facilitated the addition of high school graduation to the roster of high-stakes accountability targets.

The passing of NCLB also signaled the rise of the phrase "college and career ready" (Klasik & Strayhorn, 2018). The measurement of college and career readiness is usually conflated with measures of high school graduation and often ignores race and ethnicity (Klasik & Strayhorn, 2018). What complicates these measures (high school graduation and college readiness) even more is the inflation of grades at the high school level (Sanchez & Moore, 2022). According to the ACT (Sanchez & Moore, 2022), grade inflation has become more prevalent in the last decade with COVID-19 and standardized test-optional admissions policies as recent contributing factors. Pertinent to this study is the need to rethink how we understand capital acquisition, by separating standardized assessments and inflated high school grades from measures of high school graduation and college readiness. This calls for a focus on non-traditional forms of capital (Carter, 2003; Gray-Nicolas, 2023; Yosso, 2005) and alternative ways to define college and career readiness (Duncheon, 2015, 2021; Gray-Nicolas, 2017).

High School Course Credits and High School Graduation

As high schools entered an era of being held accountable for their graduation rates, they likely identified high school course credits as the primary barrier to students successfully completing high school within four years. Studies from across the country have confirmed that students are less likely to graduate high school when they fail courses, even when controlling for demographics, test

[1] For citations of documents included in our critical discourse analysis, see Table 1.

scores, and other key characteristics. Several studies have used the measure of earning average grades of D or F, finding that students with consistently low grades are less likely to graduate from high school (Bowers, 2010; Neild et al., 2008). In a study of Philadelphia students in the late 1990s and early 2000s, students earning an average grade of a D or an F in ninth grade were more likely to drop out than students with higher average grades in ninth grade even when these students were very similar to one another according to their grades, test scores, and attendance in middle and high school in addition to similarities in measures of rebelliousness, risk-taking, and academic engagement in middle school (Neild et al., 2008). In a discrete time hazard model estimating risks of dropping out, receiving average grades of D or F in 11th grade was the strongest risk factor for dropping out of high school, as compared to receiving similar grades between sixth and 10th grade (Bowers, 2010). More specifically, other studies found that failing courses is associated with a lowered rate of high school graduation (Mac Iver & Messel, 2013; Silver et al., 2008). For the class of 2005 in the Los Angeles Unified School District, failing 10% or more of high school courses was associated with extremely low odds of graduating high school after controlling for eighth grade academic performance. These studies highlight the negative relationship between failing courses and graduating from high school.

At the same time, states have established minimum course credits to graduate in recognition of high school courses as the primary method for developing knowledge and skills necessary for college and career readiness (Silva et al., 2015). For more than a century, high schools have largely defined course completion through the Carnegie Unit: 120 hours of instruction in the subject in which students are receiving credit. This uniform classification system has provided affordances for assessing college readiness, in particular, as higher education institutions use a similar system of course credit and often use the Carnegie Unit as part of their admissions criteria (Silva et al., 2015).[2] In this way, course credit accumulation as both an indicator of college readiness and a common graduation requirement makes course credits synonymous with what a high school diploma signifies to students and society.

Differences in Graduation Rates by Race/Ethnicity

In the two decades since the passage of NCLB and the decade since the establishment of the ACGI, the differences in high school graduation between White students and racially minoritized students has been a stubborn, well-publicized outcome of the American public education system (Michelmore & Rich, 2023; National Center for Education Statistics, 2024). Recent research examining differences in high school graduation by race, particularly between students who identify as White and African American, have often focused on explanations for these differences in the behavior of students, students' race-gender identity, and socioeconomic-driven disparities in neighborhoods and schools (Clark & Shi, 2020; Michelmore & Rich, 2023; Reeves & Kalkat, 2023). For instance, Michelmore & Rich (2023) use state administrative data from Michigan to identify if the difference in the high school completion rate between Black and White students is attributable to systematic differences in Black and White families' socioeconomic circumstances, neighborhoods in which they tend to live, or the schools they attend. However, these studies have ignored how federal and state policy could exacerbate racial inequality as well as how racism within schools could account for these differences. In this way, high school graduation research has focused more on how

[2] The ubiquitous use of the Carnegie Unit as the standardized measure for course completion has become increasingly controversial with criticism that this metric prioritizes seat time over mastery or competency-based learning. In fact, the Carnegie Foundation for the Advancement of Teaching, the namesake of the Carnegie Unit, is engaged in a long-term project to "further the development of a 'post-Carnegie-Unit' ecosystem" over the next decade (Carnegie Foundation for the Advancement of Teaching, n.d.).

historical racism has led to geographic and socioeconomic inequality while avoiding analyses that seek to examine ways in which contemporary racism is evidenced in policy, practice, and outcomes (Kohli et al., 2017). Below, we explain our critically oriented framing that allows us to more explicitly examine these types of questions.

Conceptual Framework: Critical Structural Capital

Critical structural capital explores how the characteristics of institutions (schools) interact with the characteristics (e.g., race, gender, and socioeconomic status) of the population it serves (i.e., students) to produce or reproduce outcomes (e.g., graduation, post-secondary readiness, or lack thereof; Gray-Nicolas, 2023). Students with higher levels of traditional (i.e., cultural, economic, and social) and non-traditional (e.g., community cultural wealth, Black cultural capital) forms of capital have high levels of access to support and resources at the delivery system and population characteristic sites. Critical structural capital pulls from traditional and non-traditional forms of capital. Bourdieu's (1986) examination of cultural and social reproduction explains how the uneven distribution of cultural, economic, and social capital perpetuates inequities in systems. Non-traditional forms of capital, such as Yosso's (2005) community cultural wealth and Carter's (2003, 2005) Black cultural capital, further the discussion on capital and expand upon Bourdieu's concept of cultural capital (1986) by considering how identity markers such as race and ethnicity impact capital acquisition and manifestation. Yosso's (2005) community cultural wealth framework posits six forms of capital (aspirational, linguistic, familial, social, navigational, and resistant) that illuminate race's significant role in determining educational inequities. Carter (2003, 2005) proposes Black cultural capital, the non-dominant form of cultural capital deployed by low-income Black youth in schools and other such delivery systems to expand their social standing, establish their racial authenticity, and gain recognition.

Students' possession of capital (e.g., aptitude, resources, and supports) and their characteristics are often used as determinants of academic placement and educational trajectories. Critical structural capital adds to the cannon on non-traditional forms of capital and further draws on aspects of critical race theory (Bell, 1980; Ladson-Billings & Tate, 1995) to explain the system's (in this case, school's) onus in students' capital expression and access as opposed to placing the onus on students to acquire and display capital. Critical structural capital has three framing ideas: 1) *Capital distribution and development are a function of the delivery system;* 2) *Capital is fluid, and access should match the context;* and 3) *All students possess capital*. The first framing idea highlights the gatekeeping nature of delivery systems such as schools. Schools operate as either gatekeeping agents or empowerment agents (Stanton-Salazar, 2011). Empowerment agents "counter… the established and hierarchical social structures" (Stanton-Salazar, 2011, p. 1089). The second framing idea emphasizes how students' success relies on the delivery system's context. Non-traditional forms of capital (Carter, 2005; Yosso, 2005) take into account the individual and the context. The second framing idea focuses on the fluidity of non-traditional forms of capital. Unlike traditional forms of capital that often require outside validation, non-traditional forms of capital are intrinsic and adaptable to the situation, as seen in Black cultural capital, where non-dominant cultural capital is used as a barometer to measure authenticity (Carter 2003, 2005). This fluidity is akin to code-switching or changing speech or dress patterns to fit a certain context. Carter (2003) shows this by stating, "…within certain intra-racial and intra-ethnic social spaces, individuals' authentic cultural status depends upon the degree to which they can "do" and "act" race or ethnicity" (p. 138). The third framing idea serves as a challenge and reminder that all students possess the capital necessary to succeed. It challenges the delivery system to resist the belief that only certain forms of capital are valid and beneficial.

In this study, we apply a critical structural capital lens to understand how policy informs the choices of institutions (i.e., the delivery system) in producing/reproducing outcomes related to federal accountability. Based on our conceptual framework, we hypothesize that policy documents at the federal and state levels are translational documents to schools that structure opportunities in ways that minimize sanctions on schools. This removes the onus from schools and places them on students to succeed (graduate on time and pursue college or other post-secondary endeavors) despite inequitable support and resources. These minimal sanctions permit schools to provide differential access to traditional forms of capital accumulation via high school course credits (for graduation purposes and to bypass remedial courses in college) to students based on their racial identity in ways informed by policy. Given that critical race theory is integrated into critical structural capital, we predict that schools will continue to perpetuate systemic racism in access to traditional capital (in our case course credits) such that policy could exacerbate opportunity gaps if not structured in racially conscious ways. We are specifically interested in the role of federal accountability in high school graduation and college readiness, the resulting state-level accountability system that we study, and how policy discourse contributes to opportunity gaps in course credit between students who identify racially as African American or White.

Data Sources and Methods

We use a mixed sequential design that begins with a critical discourse analysis of federal and state policy documents from North Carolina (NC) on high school graduation followed by quantitative analysis testing the relationship between course completion and high school graduation for students who identify racially as Black or White. This sequential design seeks to build theory on how policy language supports deficit narratives and prioritizes access to college and career readiness and then test this theory using quantitative data. Instead of the traditional design of a policy impact study, we neither seek to quantify qualitative policy documents nor evaluate the impact of policy on students. This design seeks to surface what is being (consciously and subconsciously) communicated in policy through a critical lens followed by refining our theory through models that assess inequality in access to capital and differences in outcomes between Black and White students.

Qualitative Design

Federal and State Policy Documents

We review contemporaneous and recent historical policy documentation aligned with the timeframe of our quantitative data sample. Correspondingly, our qualitative data are federal and NC policy documents from the last 20 years that include language around high school graduation. This includes language from the two most recent reauthorizations of the Elementary and Secondary Education Act (ESEA): NCLB and the Every Students Succeeds Act (ESSA). While NCLB included high school graduation as an accountability metric, the actual integration of high school graduation into high-stakes accountability was delayed until the adoption of a standardized high school graduation calculation by the U.S. Department of Education (ED), the ACGI, in 2008 (US Department of Education, 2008). We included the updated NCLB Title I regulations concerning the ACGI and related policy guidance written by the ED. We also include a series of influential reports with recommendations for high school graduation formulas and high school graduation accountability (Curran, 2005; NISS, 2005). At the state level, we include NC Department of Public Instruction (DPI) and State Board of Education (SBE) policies on graduation requirements and graduation rate accountability. See Table 1 for a full list of policy documents.

Table 1

List of Policy Documents included in the Critical Discourse Analysis

Level	Document Name	Citation
Federal	National Institute of Statistical Sciences/ Education Statistics Services Institute Task Force on Graduation, Completion, and Dropout Indicators Final Report (NISS, 2005)	NISS. (2005). *National Institute of Statistical Sciences/ Education Statistics Services Institute Task Force on Graduation, Completion, and Dropout Indicators: Final Report* (NCES 2005–105). U.S. Department of Education, Institute of Education Sciences.
Federal	Graduation Counts: A Report on the National Governors Association Task Force on State High School Graduation Data (Curran, 2005)	Curran, B. (2005). *Graduation counts: A report of the National Governors Association Task Force on State High School Graduation Data*. National Governors Association.
Federal	Every Student Succeeds Act (2018)	Every Student Succeeds Act, Pub. L. No. Pub. L. No. 114-95 § 114 Stat. 1177, 443 (2018).
Federal	ESEA Flexibility and Graduation Rates (ED, n.d.-b)	U.S. Department of Education. (n.d.-b). ESEA Flexibility and Graduation Rates. https://www2.ed.gov/policy/eseaflex/flexibility-graduation-rates.pdf
Federal	ESEA Flexibility, June 2012 (ED, 2012a)	U.S. Department of Education. (2012a). ESEA Flexibility. https://www2.ed.gov/policy/eseaflex/approved-requests/eseaflexireqw3.doc
Federal	Advancing Accountability for Graduation Rates (ED, n.d.-a)	U.S. Department of Education. (n.d.-a). Advancing Accountability for Graduation Rates. https://www2.ed.gov/policy/elsec/guid/esea-flexibility/resources/graduation-rates.pdf
Federal	State Graduation Rate Goals & Targets (ED, 2012b)	U.S. Department of Education. (2012b). State Graduation Rate Goals & Targets. https://www2.ed.gov/policy/elsec/guid/esea-flexibility/gradrate/gr-goals-targets.doc
Federal	Dear Chief State School Officer, November 2012 (Duncan, 2012)	Duncan, A. (2012, November). Dear Chief State School Officer. https://www2.ed.gov/policy/elsec/guid/secletter/121126.html
Federal	High School Graduation Rate: Non-Regulatory Guidance (ED, 2008)	U.S. Department of Education. (2008). High School Graduation Rate: Non-Regulatory Guidance. https://www2.ed.gov/policy/elsec/guid/hsgrguidance.pdf
Federal	No Child Left Behind Act (2002)	U.S. Department of Education. (2008). No Child Left Behind High School Graduation Rate Non-Regulatory Guidance.

Level	Document Name	Citation
Federal	Title I Regulations, October 2008 (ED, 2008)	U.S. Department of Education. (2008). Title I--Improving the Academic Achievement of the Disadvantaged; Final Rule, 34 CFR Part 200. https://web.archive.org/web/20081115015003/http://www.ed.gov/legislation/FedRegister/finrule/2008-4/102908a.html
NC	Four-Year Adjusted Cohort Graduation Rate Manual 2021-22 (NCDPI/Accountability Services, 2021)	NCDPI/Accountability Services. (2021). *Four-Year Adjusted Cohort Graduation Rate Manual 2021-22*. Public Schools of North Carolina, Department of Public Instruction, Division of Accountability Services, Analysis and Reporting Section.
NC	High School Graduation Requirements (NCDPI, 2016)	North Carolina Department of Public Instruction. (2016). High School Graduation Requirements.
NC	CCRE-001: Course for Credit (NC State Board of Education, 2017)	North Carolina State Board of Education. (2017). Course for Credit, Pub. L. No. GS 115C-8, 001 CCRE.
NC	GRAD-001: Authority for Local School Boards to Exceed Minimum Graduation Requirements (NCSBE, 1978)	North Carolina State Board of Education. (1978). Authority for Local School Boards to Exceed Minimum Graduation Requirements, 001 GRAD.
NC	GRAD-004: State Graduation Requirements (NCSBE, 2020)	North Carolina State Board of Education. (2020). State Graduation Requirements, Pub. L. No. GS 115C-12(9c); GS 115C-81(b)(4); GS 115C-12(9d); GS 115C-81.25(c)(10); GS 115C-12.9d and GS 115C-8 1.25.10; NC Constitution, Article IX, Section 5, 004 GRAD.
NC	GRAD-007: High School Diploma Endorsements (NCSBE, 2019)	North Carolina State Board of Education. (2019). High School Diploma Endorsements, Pub. L. No. GS 115C-81(b); GS 115C-12.40, 007 GRAD.
NC	GRAD-008: Advanced Courses Satisfying Graduation Requirements (NCSBE, 2017)	North Carolina State Board of Education. (2017). Advanced Courses Satisfying Graduation Requirements, Pub. L. No. G.S. 115C-174.26; S.L. 2019-82, 008 GRAD.
NC	GRAD-010: Graduation Certificates & Participation for Students with Disabilities (NCSBE, 2017)	Graduation Certificates & Participation for Students with Disabilities, Pub. L. No. GS 115C-106.3(1), 010 GRAD (2017).

Note. ED = U.S. Department of Education, NC = North Carolina; ESEA = Elementary and Secondary Education Act; DPI=Department of Public Instruction; SBE=State Board of Education.

Critical Discourse Analysis

We analyze these policy documents using critical discourse analysis (CDA) to critically interpret and explain how policy is constructed in ways that maintain and legitimize social inequalities (Fairclough, 2013; Fairclough & Fairclough, 2018; Flick, 2014). CDA can be described as, "a form of critical social analysis which focuses upon relations between discourse and other

aspects of social life" (Fairclough & Fairclough, 2018, p. 1). Specific to this CDA, we conduct a normative critique of state and federal policies around high school graduation (Fairclough & Fairclough, 2018). We were concerned with the power dynamics in the analyzed state and federal policies. This attention to social realities (e.g., power relations, justice, equity) sets CDA apart from other forms of discourse analysis (Fairclough, 2013; Fairclough & Fairclough, 2018).

Our CDA follows a multi-step analysis framework (see Mullet, 2018) that begins with memos on each policy document's background, followed by inductive and deductive coding. See Table 2 for an overview of the CDA process. Keeping in mind the research questions, the methodological framework (CDA), and the conceptual framework, the authors independently inductively coded the policy documents for the overall narratives in the policy documents before comparing codes. We used qualitative software (Author 1 used Nvivo, Author 2 used MAXQDA) to complete the inductive and deductive coding. The use of qualitative software allowed us to save emergent codes to apply to other documents. By independently inductively coding, we are able to interpret macro and micro elements of the documents without influencing each other's codes. The inductive codes that emerged were based not only on what was being said in the documents but also on who or what body (individual or group) authored the document.

Table 2

Critical Discourse Analysis Process

Stage	Description	This Study
1. Discourse selection	Identify the discourse as it relates to injustice/inequality	The oversimplification of the Black-White high school graduation gap.
2. Data corpus	Identify text for analysis	Federal and state policy documents, focusing on sections on high school graduation
3. Memoing to build understanding of the background of the data	Identify who produced the documents, the historical context of the documents, and the tone of the documents	For each text in our corpus (from Step 2), structured memos that identify historical context, overall style, intended audience, intended purpose, the publisher, and the writers
4. Inductive coding	Authors independently read the texts, identifying emerging themes based on the study's research questions	Inductive coding based on the research question, "1. How does federal and state guidance on high school graduation measurement and accountability support deficit narratives and individual responsibility over structural inequality in access to various forms of capital necessary for college and career readiness?"
5. Deductive coding	After conferring on inductive coding findings, authors re-code the data deductively using codes from first round and codes aligned with framework	Re-code the data using the four themes from the inductive coding and the three framing ideas from our critical structural capital conceptual framework (see Table 3)
6. Summarize and interpretation of the coding	Interpret the findings from the first five steps of this process	Revisit the data, inductive codes, deductive codes, build meaning between the co-authors to identify major findings

Note: This table is adapted from Mullet (2018, p. 122).

After combining our codes, we completed a round of deductive coding using the codes developed post-inductive coding and the framing ideas from critical structural capital. Then, we reflected on our coding and the relevance of our identified themes in the data. Through this process, we identified themes that respond to our first research question on how discourse in federal and NC policy documents prioritizes access to privileged forms of capital (as conceptualized by Bourdieu, 1986) and dismisses non-traditional forms (Carter, 2003, 2005; Yosso, 2005) necessary for college and career readiness.

Quantitative Design

North Carolina Administrative Data

Our quantitative dataset includes longitudinal student-level administrative data from all public schools in NC. The sample consists of first-time ninth graders in the 2012-13 through 2015-16 school years. Enrollment files include students' racial identities, and we focus in this analysis on the comparison between students who identify as Black versus White, racially. An important caveat to this measure of racial identity is that whether a student identifies racially as Black versus White is socially constructed. How people identify racially is context specific and can change based on societal norms as well as over time (Viano & Baker, 2020). Race is not biological in that racial identity represents individuals' racialized experiences (Omi & Winant, 2015). Even the language we use to describe these racial categorizations is driven by the authors' life experiences and identities (Viano et al., 2024).

We include two outcomes: failing a course and high school graduation. We have access to roster and grade files that indicate if a student ever failed a course in high school. For high school graduation, we use graduation files, excluding students who transferred out, left the country, or are deceased. Our outcome indicates whether the student graduated from high school within four years of entering ninth grade, the relevant outcome given our focus in the CDA on the four-year ACGI accountability metric.

The administrative data also allow for a robust set of covariates that previous research indicates are associated with the probability of graduating high school including other racial identities than Black and White, gender, special education status, English proficiency status, whether the student is identified as gifted, economic disadvantage status, and approximate age in ninth grade. In addition, high school students in North Carolina take three end-of-course exams (Algebra I [Math I], English II, and Biology). We include their average standardized score on end-of-course exams as a covariate as well as average attendance rate.

Fixed Effects Models

We differentiate individual likelihood of graduating from high school from the school they attend and their ninth-grade cohort year using school-by-ninth grade cohort fixed effects and include a variety of covariates associated with high school graduation probability. Our first set of models take the following form:

$$(1)\ y_{ins} = \beta_0 + \beta_1 Black_{ins} + X_{ins} + \alpha_n \sigma_s + \varepsilon_{isn}$$

where y_{ins} is whether student *i* in ninth grade cohort *n* and school *s* failed a course. We include the vector X_{ins} of covariates at the student-level. Between school and cohort variation is eliminated by $\alpha_n \sigma_s$, the school-by-ninth grade cohort fixed effect. The coefficient of interest is on β_1 which represents the adjusted difference in probability of failing a course between students who identify as

Black and those who identify as White (the comparison group since indicators of other racial identities are in the model as covariates).

Our second set of models is similar except the outcome, y_{ins}, is now graduating high school within four years, and the previous outcome is now included in the model on its own and as a moderator with $Black_{ins}$:

$$(2)\ y_{ins} = \beta_0 + \beta_1 Black_{ins} + \beta_2 Failed_{ins} + \beta_3 Black_{ins} \times Failed_{ins} + X_{ins} + \alpha_n \sigma_s + \varepsilon_{isn}.$$

In this model, the coefficients of interest are β_1, β_2, and β_3. The first two coefficients represent the adjusted difference in probability of graduating high school for Black students versus White students (β_1) and students who fail at least one course versus students who pass all of their courses (β_2). The third coefficient (β_3) is interpreted alongside β_1 and β_2 to assess if failing courses is associated with a different probability of graduating high school for Black students compared to White students.

While we would ideally be able to compare trends before and after the adoption of the four-year adjusted cohort graduation rate, we only have access to course enrollment data beginning in 2012–13. This makes it impossible to identify if the adoption of the four-year adjusted cohort graduation rate either did or did not cause changes in the relationship between course failure and graduation for students who identify as African American or White. Instead, we are only observing ninth-grade cohorts subject to the four-year adjusted cohort graduation formula. Since we are not comparing pre- and post-four-year adjusted cohort formula policy contexts, we are unable to identify if what we observe is the same pre-policy change or if these relationships were stronger or weaker before.

Positionality

Both authors use critical theories in their work such that we interpret racial differences as products of systematic racism. The first author came to this project already knowing from previous analyses that African American students in NC are more likely to graduate high school, particularly for the sample of students who failed courses, although could not explain this finding theoretically pre-CDA. She also graduated from high school in NC and has an understanding of the state's high school graduation expectations from that experience. The second author identifies as a Black woman and has worked for a college readiness program. She studies equity and access to college and career readiness as it pertains to Black students in the K–20 pipeline. These experiences have directly informed our research questions, our critical framing, and analytical choices.

Findings

Critical Discourse Analysis: How Policy Prioritizes Access to Capital

Our CDA inductively identified four themes in the federal and NC policy documents: (1) *college and career readiness allusions*, (2) *the assumption that accountability incentivizes only positive behaviors and increases access to capital*, (3) *federal accountability as incentivized oversight*, and (4) *schools as problems*. In our deductive coding, we affirmed the relevance of the previously noted four themes in addition to the salience of the three framing ideas of critical structural capital framework: (5) *capital distribution and development is a function of the delivery system,* (6) *capital is fluid and access should match the context,* and (7) *capital is present in all*. We discuss each broad theme with their associated sub-themes in turn. See Table 3 for a summary of each theme and lists of related sub-themes.

Table 3

Themes from the Critical Discourse Analysis and Critical Structural Capital

Theme	Theme Description
1) College & Career Readiness Allusions	What it means to "graduate from high school", what we associate with a high school diploma, how high school graduation is conflated with college & career readiness.
2) Accountability Increases Access to Capital	Accountability for higher graduation rates will provide access to (privileged forms of) capital". Accountability will force schools to improve, and, if they do not, they will be given "resources" (but does not specify how resources should be used).
3) Federal Accountability as Incentivized Oversight	Federal oversight provides access to various "resources" and "measures" to get schools back on track for positive performance, particularly for "disaggregated subgroups.
4) Schools as Problems	Schools are "bad" they need to be forced to improve. They need oversight to do so.
5) Capital Distribution and Development is a Function of the Delivery System	The delivery system (schools) operates as a gatekeeper or empowerment agent in the acknowledgment and/or privileging of capital (that students possess).
6) Capital is Fluid and Access Should Match the Context	Capital is contextual and when the only focus is on traditional forms of capital, we ignore how non-traditional forms manifest.
7) Capital is Present in All	All students possess ample capital to succeed despite the privileging of dominant forms of capital.

College and Career Readiness Allusions

While high school graduation rates have increased, the college and career readiness rate has steadily remained around 25% nationally (ACT, 2019). Despite only one in four students being college/career-ready, the analyzed policy documents equate being college and career-ready to graduating from high school. In discussions of increasing the high school graduation rate, documents did not address whether students receiving a diploma had the prerequisite skills for college or career. For instance, Arne Duncan (2012) wrote in a letter to chief state school officers that,

> A regular high school diploma is a gateway credential for college and careers in the 21st century and helps in ensuring that students are prepared to obtain the postsecondary education and training required for successful participation in our competitive global economy. Raising high school graduation rates for all students, and all subgroups of students, is essential to reaching the President's goal of ensuring that, by 2020, the United States will once again have the highest proportion in the world of adults who are college graduates. (p. 1)

This explanation relies on the theory that a significant barrier to raising the college graduation rate is the high school graduation rate. At the same time, the letter also states,

> The four-year adjusted cohort graduation rate … will play a key role in the new State-developed systems of differentiated recognition, accountability, and support approved under ESEA flexibility … We believe that the State-designed accountability systems implemented under ESEA flexibility will result in more effective and meaningful accountability for all schools and students. (Duncan, 2012, p. 2)

This explanation conflates mastery of high school subjects with seat time. The goal of mastery is in tension with the strict four-year window for high school graduation—with Duncan's letter arguably prioritizing on-time graduation over achieving mastery of a subject or skill. We noted that one way

NC negotiated this strict timeline was to have different graduation requirements depending on whether the student sought career readiness or college readiness, dropping the "*and*" from *college and career readiness*. In these ways, the documents reflected assumptions made among policymakers about what it means to be college/career ready, making earning a high school diploma the indicator of this accomplishment.

Accountability Increases Access to Capital

Unsurprisingly for NCLB/ESSA-era policies, federal policy documents reflected the assumption that accountability incentivizes positive behaviors for schools that would then provide students with increased access to capital. The main mechanism for meeting this goal is the four-year adjusted cohort graduation rate formula. Having a standardized method for calculating high school graduation rates was intended to provide parents with an indicator of school quality that would allow parents to avoid schools with low graduation rates. Concerns about ways schools could game this calculation—like, for instance, forcing students who are dropping out to "transfer" instead—are brushed aside. Federal reports with recommendations on how to hold schools accountable for graduation suggested multiple indicators to reduce the risks of unintended consequences, but this strategy was not adopted. For instance, the National Institute of Statistical Sciences (NISS, 2005) report recommended,

> A more subtle incentive, not preventable by data definitions alone, would be for schools to pressure students who are in danger of not graduating to transfer, or even transfer them involuntarily. As discussed in §4.5 and 4.6, multiple indicators for graduation and transfer are a means of at least detecting these kinds of behaviors. (p. 7)

In not adopting multiple indicators, schools were given the benefit of the doubt that they would provide students access to capital while increasing graduation rates. At the state level, NC did not necessarily turn a blind eye to this matter but gave local education agencies authority to determine if courses included the state standards, as is expressed in NC state board policy, "Each local board of education shall ensure that all required and elective courses have sufficient rigor, breadth, and depth to be awarded high school credit, in accordance with the North Carolina Standard Course of Study." This does not mean that accountability alone would force schools to improve, as there were also plans to provide triage to schools that were not progressing on their graduation goals. This triage available to schools promised "resources" or "supports" that would help schools increase their graduation rates, "schools with the lowest graduation rates will engage in meaningful and rigorous reforms" according to the ED (n.d.-a).

Federal Accountability as Incentivized Oversight

Accountability is not only meant to prompt responses from schools but also do so through oversight at the federal level. Disaggregation mandates in accountability policies are meant to force schools to provide student subgroups with access to cultural, economic, and social capital, allowing for schools that do not meet accountability metrics to be given "resources" to accomplish their graduation rate goals. The federal government enforced the newly adopted accountability metric. As is expressed in these Title I regulations (2008),

> The purpose of setting a meaningful graduation rate goal and targets, whether a State has adopted the four-year rate in new Sec. 200.19(b)(1) or is using a transitional rate until it can calculate the four-year rate, is to focus attention on graduation rates and motivate efforts to improve these rates as soon as possible. (p. 30)

States could not be trusted to improve their graduation rates, and accountability from the federal government was necessary for improvements to occur. This was closely paired with subgroup improvements. In the non-regulatory guidance for states on the four-year adjusted cohort formula, the ED (2008) wrote:

> Nearly six years after the implementation of NCLB, we now know that simply reporting disaggregated graduation rate data is not sufficient to address the problem of wide disparities in graduation rates among different student subgroups. We believe schools and LEAs must be held accountable for the differences in graduation rates among subgroups. (p. 24)

The accountability mechanism was not only to force schools to increase graduation rates overall but also to increase graduation rates for subgroups.

Schools as Problems

Our fourth theme encompasses how policy places the blame on schools as the cause of depressed high school graduation rates. The onus is on the school for its shortcomings. Schools are "dropout factories" that need to be told to increase graduation rates. As the ED (n.d.-b) wrote:

> Only about 12 percent of high schools produce fully half of the country's dropouts. NCLB allowed states to mask schools with low graduation rates by lacking a requirement for how graduation rate had to be calculated, prompting 2008 federal regulations aimed at ensuring common and accurate graduation rate calculations. (p. 1)

If schools' graduation rates are low, they are subject to federal oversight, and they need to work harder to increase their graduation rates. There is no discussion in federal policy of structural differences in how schools are funded and how students are enrolled in these schools. The system these schools exist within disappears, as individual schools are held solely accountable for high school graduation. As was written in the recommendations from the National Governors Association in a Forward signed by Virginia Governor Mark Warner, "As chairman of the National Governors Association, I have made it my priority to raise national awareness about the urgent need to improve America's high schools and make them more challenging and relevant to student needs" (Curran, 2005, p. 3). Likely because schools were seen as the problem—their lack of effort or low quality caused low graduation rates—the solution to this challenge in federal policy was accountability. Accountability was a panacea. Amid some discussion of whether schools with low graduation rates will receive interventions, the clear argument is that holding schools accountable is the primary intervention to increase graduation rates.

Capital is a Function of the Delivery System

The framing ideas were used as deductive codes in our second round of coding and as presented as themes in the findings. The first framing idea of critical structural capital focuses on the responsibility of schools and other such delivery systems. If capital distribution and development is a function of schools (i.e., the delivery system), then the onus of recognizing and nourishing capital falls on schools. Thus, students are inherently able to accumulate or build upon the capital they have. Thus, it is the responsibility of schools to prepare students for high school graduation and post-secondary endeavors adequately. As stated in a policy report by the National Governors Association task force on state high school graduation data:

> America's high schools play an integral role in preparing students for college and work in the 21st century. High school success is more important than ever for the health of our economy, for civic life, and to ensure equal opportunity. (Curran, 2005, p. 7)

This underscores how federal documents framed the responsibility of high schools and the importance of appropriate data.

As gatekeepers of capital (e.g., knowledge, opportunity, support, resources, networks), high school staff are responsible for acknowledging and developing capital to ensure that students have achieved a level of preparation. NC policy on course for credit (CCRE-001) states, "A high school principal shall award course credit toward high school graduation based upon a student's demonstration of sufficient mastery of the standards for a course as defined in the NC Standard Course of Study" (p. 1). While this state policy allows for high school staff to determine mastery, it does not define mastery. This provides high school staff with the opportunity to either create a false equivalency (e.g., grade inflation; Shachez & Moore, 2022) amongst students or administrators can truly take on the onus of capital development.

Capital is Fluid

The second framing idea of critical structural capital asserts that capital is contextual. Both traditional (Bourdieu, 1986) and non-traditional forms of capital (Yosso, 2005; Carter 2003, 2005) assert that capital is fluid and, as such, critical structural capital asserts that access to capital should match the context. As recommended in a policy report by the National Governors Association task force on state high school graduation data, schools should augment how they determine student achievement and outcomes. The third recommendation states that schools should:

> Adopt additional, complementary indicators to provide richer context and understanding about outcomes for students and how well the system is serving them. Some of the graduation rate measures currently used by states are inaccurate or inflated because they try to capture too many different student outcomes in one rate. Adopting a series of complementary indicators allows states to measure and report different forms of high school completion without skewing the recommended four-year graduation rate. The indicators should include five- and six-year cohort graduation rates; a college-ready graduation rate; a dropout rate; completion rates for those earning alternative completion credentials from the state or a GED; in-grade retention rates; and percentages of students who have not graduated but are still in school or who have completed course requirements but failed a state exam required for graduation. (Curran, 2005, p. 17)

In federal policy, by adopting additional indicators to match the context of the school and provide additional measures, high school staff can better provide access to resources (capital) that students need. Furthermore, it would lower instances of inflated grades and "high achieving" students who are not college ready.

Capital Is Present in All

The final framing idea of critical structural capital reiterates the fact that capital is not just bestowed on those with innate privilege due to their race, socioeconomic status, or other identity marker. Capital, as asserted in non-traditional framings such as community cultural wealth (Yosso, 2005) and Black cultural capital (Carter 2003, 2005), is present in all, and all forms of capital should be acknowledged and developed by the delivery system (i.e., schools). While this framing idea is not

as explicit in the federal and NC state policy documents, given the language of the documents, it is clear that the presence of capital is not taken into account in how high schools are held responsible for student outcomes. This framing idea was coded less frequently in the NC policy documents because these documents focused primarily on standardized measures, and thus traditional forms of capital, which neglect alternative ways to succeed. This missing acknowledgment speaks to the need to humanize measures of high school graduation rates and college-ready rates. We noted federal policy was slightly more likely to address this framing idea, as stated in the third recommendation of the policy report by the National Governors Association task force on state high school graduation data, complementary indicators and measures to those already being used are necessary to provide a greater understanding of what is needed to ensure accurate measures of graduation rate and college readiness (Curran, 2005).

Summary of Critical Discourse Analysis Findings, Transition to Quantitative Analysis

Overall, the CDA has some key potential implications we tested in the quantitative analysis. First, these federal and state policies clearly communicated that high schools only needed to increase their four-year cohort-adjusted graduation rates. While high schools also had some other accountability for test scores elsewhere, these were independent metrics. The assumption that the high school diploma indicates college and career readiness was unchallenged, so high schools would only need to increase graduation rates. Specifically, they needed to increase overall graduation rates and graduation rates for disaggregated subgroups. Overall, federal and state policies were based on the assumption that schools will push for students to graduate within four years, but we would not expect, based on these policies, for these students to necessarily show signs that they are accumulating capital. Harkening back to our conceptual framework, these policies likely allowed schools (delivery systems) to reproduce outcomes that were not part of the accountability system (federal oversight and capital accumulation), providing differential access to capital until graduation. Consequently, we hypothesize that we might observe rising high school graduation rates for Black students but, otherwise, these students would continue to have lower rates of college and career readiness than their White-identifying peers, allowing inequality in access to capital related to college and career readiness to continue.

Fixed Effects Analysis: Access to Capital Through High School Course Credits and High School Graduation

In this analysis, we approximate access to structural capital pre-graduation through course failure to the extent possible through correlational analysis. Our findings in Table 4 indicate that Black students are more likely to fail a course in high school both unadjusted and after adjusting for covariates like standardized assessment scores and attendance. When comparing Black students to White students within their school and ninth-grade cohort, Black students are 5 percentage points more likely to fail a course than similar White students. Our findings indicating Black students are more likely to fail courses than similar White students suggests systemic racism in the distribution of course failures, suppressing students' prospects for higher education. For instance, students who fail courses but then enroll in higher education might be more likely to be placed in remedial courses that slow their progress to a postsecondary credential (Valentine et al., 2017).

Table 4

Fixed Effect Models with Outcome of Failing a Course in High School

	(1)	(2)	(3)	(4)
Black	0.230***	0.078***	0.150***	0.051***
	(0.0040)	(0.0032)	(0.0042)	(0.0028)
Hispanic	0.210***	0.067***	0.160***	0.050***
	(0.0038)	(0.0033)	(0.0042)	(0.0032)
Other Race	0.047***	0.0074*	0.027***	0.0018
	(0.0061)	(0.0035)	(0.0038)	(0.0029)
Female		-0.110***		-0.110***
		(0.0015)		(0.0016)
Gifted		-0.074***		-0.067***
		(0.0034)		(0.0033)
Special Education		-0.0068*		-0.005
		(0.0028)		(0.0030)
Was LEP		-0.026***		-0.020***
		(0.0035)		(0.0033)
Current LEP		-0.003		0.004
		(0.0041)		(0.0042)
Economically Disadvantaged		0.140***		0.120***
		(0.0027)		(0.0022)
Approximate Age in 9th Grade		0.021***		0.017***
		(0.0014)		(0.0015)
Average EOC Exam Score (standardized)		-0.110***		-0.120***
		(0.0040)		(0.0042)
Average Absence Rate		0.032***		0.033***
		(0.00027)		(0.00032)
Constant	0.360***	-0.071***	0.390***	-0.003
	(0.0036)	(0.021)	(0.0016)	(0.023)
School-Cohort Fixed Effects			X	X
Observations	457,849	457,849	457,849	457,849
R^2	0.047	0.273	0.227	0.387

Note. LEP=Limited English Proficiency; EOC=End of Course. Robust standard errors in parentheses clustered by cohort-school. *** $p<0.001$, ** $p<0.01$, * $p<0.05$

We then proceed to examine the likelihood of graduating high school based on racial identity and course failure in Table 5. Unadjusted, Black students are less likely to graduate high school (2.7 percentage points less likely), as we would expect since the official forced dichotomy between Black and White students' high school graduation rates is well publicized. However, after adjusting for course failure, covariates, *or* school-cohort fixed effects, the coefficient on Black becomes positive such that Black students are predicted to be more likely to graduate high school than their White classmates. Failing a course is associated with a lower probability of graduating high school: 21 percentage points lower in unadjusted models or 7 percentage points lower in models adjusting for covariates and school-cohort fixed effects. However, Black students who fail courses are more likely to graduate than White students who fail courses, as is indicated by the positive and significant interaction term. To ease interpretation of the interaction terms, we predicted the probability of high school graduation based on the model from Table 5, column (8). The marginal predicted probability of graduating high school for Black students who never fail a course is about 90%, a significantly higher predicted probability compared to White students who never failed a course (87%), Black students who failed at least one course (86%), and White students who failed at least one course (80%). In particular, the predicted probability Black students who fail at least one course graduate high school is not significantly different from White students who never failed a course probability of graduating (86% versus 87%, respectively).

Table 5

Results with Outcome of Graduating from High School within Four Years

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Black	-0.027***	0.012***	0.038***	0.033***	0.020***	0.023***	0.044***	0.028***
	(0.0023)	(0.0016)	(0.0021)	(0.0019)	(0.0020)	(0.0017)	(0.0018)	(0.0017)
Failed a Course		-0.210***		-0.093***		-0.180***		-0.070***
		(0.0023)		(0.0023)		(0.0023)		(0.0019)
Black X Failed a Course		0.018***		0.021***		0.044***		0.037***
		(0.0030)		(0.0027)		(0.0030)		(0.0027)
Covariates			X	X			X	X
School-Cohort Fixed Effects					X	X	X	X
Observations	457,849	457,849	457,849	457,849	457,849	457,849	457,849	457,849
R^2	0.003	0.083	0.177	0.188	0.278	0.320	0.395	0.399

Note. Robust standard errors in parentheses clustered by cohort-school. Covariates and constant omitted for brevity. Excludes students who officially transferred out of North Carolina Public Schools, were expelled, left the country, or had a serious illness/deceased. Model controls for Hispanic and Other Race (as shown in Table 4) making the comparison group White students. Results are almost identical allowing for students to graduate high school more than four years after entering ninth grade. *** $p<0.001$, ** $p<0.01$, * $p<0.05$

Discussion

In this study, we leveraged a sequential mixed methods design to surface what is communicated in federal and state-level policy on high school graduation through CDA followed by assessing the potential implications for what policy communicates on inequality in access to

traditional forms of capital (i.e., cultural and social capital) and differences in outcomes between students identifying as Black/African American and White. Our CDA focused on how policy supports deficit narratives and individual responsibility over structural inequality in access to college and career readiness. We found that policy dictates high schools only needed to increase their on-time high school graduation rates, aligned with the mandated ACGI, assuming that increases in high school graduation would be equivalent to increases in college and career readiness. Given the pressure high schools were under to only increase graduation rates, as measured by ACGI, these policies likely communicated that high schools should get students, particularly from disaggregated minoritized subgroups, diplomas at any cost—even if these students did not achieve college and career readiness in the process.

Based on the critical structural capital framing ideas, we conceptualize these policies as allowing schools (delivery systems) to avoid accountability sanctions by increasing graduation rates but to do so while perpetuating long-standing disparities in outcomes that were not part of the accountability system (college and career readiness/traditional and non-traditional capital accumulation). Our CDA of federal and NC policy indicated that policy communicated to schools that graduation rates, particularly for minoritized students, were their problem to solve, prioritizing graduation over any other metric.

Our quantitative analysis tested some suggested themes from our qualitative analysis, specifically the hypothesis that we might observe rising high school graduation rates for Black students but, otherwise, these students would continue to have lower rates of college and career readiness than their White-identifying peers, allowing inequality in access to college and career readiness to continue. In our analysis of administrative data from NC, we argue our findings indicate that schools might be continuing to underinvest in Black students in that African American students were more likely to fail courses than White students, even when controlling for variables like test scores and attendance. While we did not observe these relationships prior to the mandated four-year adjusted cohort graduation rate formula, we leverage our critical framing to suggest that it is racism within schools that would cause higher rates of course failure for Black students who are otherwise very similar (as measured by covariates) to White students in their school. These trends potentially existed pre-policy change, and might have been better or worse than what we observe post-policy change. In any case, we observed in this time period that schools invested in Black students by pushing them to complete high school on time, regardless of their transcript. Most tellingly, we found Black students who fail at least one course in high school have equivalent probability of graduating high school as White students who never fail a course. Consequently, Black students were then more likely to leave high school with a transcript that likely disadvantaged them on the job market and in higher education (Allensworth & Clark, 2020). The critical structural capital framework underscores the overall findings that policies that ignore the system that produces the outcome are destined to replicate systemic racism in unintended ways.

The Benefit of Sequentially Analyzing Policy Documents and Administrative Data

Social science, generally, and quantitative methods, specifically, have been rightly criticized for a history of providing support for deficit narratives around minoritized people, undergirding racial hierarchies (Viano & Baker, 2020; Zuberi & Bonilla-Silva, 2008). Critical theorists in the mid-to-late 20th century suggested that quantitative/mixed methods were unsuited for studying racial inequality arguing that, "social science is potentially antithetical to the core critical commitments that characterize CRT [critical race theory]" (Carbado & Roithmayr, 2014, p. 150). Because of the influence of quantitative analyses in policymaking and other forms of influence, quantitative social scientists have increasingly collaborated with critical theorists to reconcile the troubled history of

quantitative methods in the eugenics movement and the potential for quantitative/mixed methods analysis with social justice goals (Tabron & Thomas, 2023). We argue our study is part of this growing movement and showcases the benefits of a critical, mixed methods approach.

While our qualitative and quantitative analysis could exist as two separate studies, sequentially pairing these analyses allowed for several distinct contributions. First, our CDA allowed us to develop a deep understanding of federal and state-level policy language and how these policies incentivize school and district leaders to prioritize high school graduation as the sole college and career readiness criteria. Second, we noted how, despite concerns that one graduation indicator would be corruptible (Curran, 2005; NISS, 2005), official federal policy clearly chose to ignore this advice and only implement the ACGI. Examining these influential policy antecedents in addition to official policy allowed us to enter into the quantitative analysis hypothesizing that relying on graduation as a proxy for college and career readiness might not lead to increases in rates of students who are college and career ready, particularly for marginalized students. Finally, federal and state-policy in the United States in the modern era tends to be race-evasive, remarking off-hand that schools be held accountable for "subgroups" without historically driven interpretations of why schools have not adequately been serving minoritized students. By both analyzing policy and testing hypotheses using quantitative data, we were able to elucidate anti-Black racism in quantitative outcomes and understand the system that created those outcomes through color-evasive policy. In this way, we quantitatively modeled structural racism and categorical inequality at several levels.

Implications

We suggest this research has a variety of implications for future research and education policymaking. First, we recommend that quantitative analyses of the impacts of policies on students, generally, and inequality, specifically, build a deep understanding of the policy itself. Using CDA, we found that critically analyzing policy language allowed us to generate more sophisticated hypotheses about the translation from policy to practice. Second, we echo recent calls that any quantitative or mixed methods analysis should recognize the complexity of using numbers to support, rather than dismantle, inequality (Castillo & Babb, 2024; Tabron & Thomas, 2023). Successfully navigating the troubled history of quantitative methods necessitates additional considerations like incorporating critical theories into mixed methods analysis, recognizing positionality, and interpreting racial differences as products of systems, not individuals. We echo the recommendation of Castillo and Babb (2024) to carefully consider the kinds of structural variables that can be integrated into quantitative models to identify manifestations of racism. While we focused on the policy-relevant dichotomy of the graduation rates of Black and White students, others might consider including interaction terms for intersectional identities and other variables helpful to "unpack the complexity of systemic racism" (Castillo & Babb, 2024, p. 17). Third, we similarly call on educational researchers to ground explanations of racial differences as produced by systemic racism in policy and practice, rather than as a result of patterns in behaviors (e.g., cultural explanations).

The distinction between grounding differences as produced by systems rather than individuals is especially important for educational policymaking. How we conceptualize the problem directly informs the questions we ask as well as the solutions suggested to address the problem, as exemplified by our findings. As the problem was conceived of as rogue high schools that acted as "dropout factories," the solution focused on accountability for graduating more students, particularly those in "subgroups." Consequently, the solution addressed graduation rates, but not college and career readiness. Relatedly, if we conceptualize of the spirit of the term "college and career readiness" as indicative of students' knowledge and skills that allow them to transition into college and/or a career post-high school, our analysis found the ACGI metric flattened this concept

of college and career readiness. In other words, adopting only the ACGI led to no differentiation between being college-ready versus career-ready. This flattening could lead to prioritizing certain forms of readiness over others, like if states choose to align their graduation with career versus college readiness, that could then have inequitable downstream effects on students. The consequences of prioritizing graduation over college and career readiness are important areas to address as policymakers and for future research.

Similarly, we encourage policymakers to consider proxies other than high school graduation for college/career readiness. For instance, some states have included in their graduation requirements that students must complete either the prerequisite courses for admission to a four-year university or an industry-recognized credential to graduate high school (e.g., New Jersey Department of Education, 2023). Given that high school graduation standards have nebulous meaning across states and our system does not allow federally mandated high school diploma requirements, future accountability systems might consider incentives for ensuring more direct college/career readiness indicators either instead of or alongside high school graduation rates.

Conclusion

By pairing a CDA of federal and NC policy with quantitative analysis problematizing the Black-White racial dichotomy in graduation rates, we seek to discourage the deficit orientation of discussions of differences in graduation rates. Our integration of critical structural capital helps to expose how increases in high school graduation rates that are incentivized by policy lead to minoritized students graduating even if the system had not invested in these students in other ways. Specifically, systemic bias leads Black students to receive failing grades, which can undermine their prospects for success in higher education, while the delivery system pushes students to graduate.

We now briefly return to the motivation for this paper: the deficit-laden language of the forced dichotomy between Black and White students' high school graduation rates. We show that higher course failure rates contribute to these differences. While federal and state policies led schools to address the differences in high school graduation across NCLB "subgroups", these policies did not necessarily provide students more opportunities to succeed in courses necessary to build college and career readiness. These findings belie the ways these dichotomies are socially constructed and imply a deficit-oriented mindset on minoritized student achievement despite these differences being caused by systemic racism embedded in school systems.

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