SCHOOL CHOICE VS EQUITY: THE EFFECTS OF CARCERAL IDEOLOGY ON LOW-INCOME AND RACIAL MINORITY STUDENTS

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SIGNIFICANCE

Beginning in the 1990s, the school accountability movement led to widespread expansion of charter schools (Wells, 2002), which are designed to expand parental choice (Friedman, 1955) and overcome government failures in education through innovation in school governance and management (Chubb & Moe, 1990). Charter schools that serve primarily low-income, minority students are in high demand. The number of students attending charters doubled from 1.6 million in 2009 to 3.3 million in 2018 (Irwin et al., 2021). However, after thirty years, the black-white gap in educational achievement—25 points in reading and 32 points in math—remains virtually unchanged (de Brey et al., 2019). While black students are about as likely as white students to graduate from high school, they are among the least likely to immediately enroll in college (Irwin et al., 2021). Those who do attend college are concentrated in the least selective, "open-access" institutions (Carnevale & Strohl, 2013), and just four in ten will graduate within six years (de Brey et al., 2019). Racial gaps that persist at each of these transition points serve as precursors to subsequent gaps in income and employment, the primary drivers of racial wealth inequality (Aliprantis & Carroll, 2019; Chetty et al., 2020; Sharkey, 2013).

I plan to investigate the role of a specific structural factor—carceral ideology, which I define here as the propensity to solve problems through surveillance, coercion, and confinement—in limiting charter and traditional public schools' potential to reduce inequality. Research suggests that an accumulation of carceral practices in schools may alter the education, beliefs, and identities of poor and racially minoritized students in ways that inhibit their successful transition to college, the workplace, and other social environments inhabited by the middle- and upper-classes (Darling-Hammond, 2007; Fine & Ruglis, 2009; Golann, 2015; Justice, 2021). I will examine how carceral ideology shapes the ways that schools pursue accountability goals and in doing so, potentially reinforce existing socioeconomic class hierarchies rather than weakening them.

Improving the lives of young people entails reducing inequality, both in their educational experiences and in their transitions to early adulthood. This project has four aims that will examine the structural influence of carceral ideology on these experiences and transitions.

AIMS

1. Aim 1: To investigate and catalog school practices that fall along a carceral continuum leveraging surveillance, coercion, and confinement.
2. Aim 2: To describe geographic and demographic patterns of heterogeneity in carceral practices across charter schools, traditional public schools, and private schools.
3. Aim 3: To evaluate the impacts of carceral school practices on academic outcomes for low-income and racial minority students, including math and reading scores; high school graduation; and postsecondary enrollment, persistence, and graduation.
4. Aim 4: To identify and disseminate evidence-based tools for reducing burdens associated with carceral practices, including a carceral ideology scorecard and school handbook analysis tool.

EXISTING EVIDENCE: CARCERAL IDEOLOGY IN EDUCATION

Carceral ideology is closely linked to the three primary ideologies of correctional systems in the United States—punishment, rehabilitation, and prevention—all of which view individual and

familial failures as the primary drivers of societal deviance (Allen et al., 2016). Incarceration serves as punishment for those who break the rules, a deterrent to those who might break the rules, and a layer of protection between offenders and the rest of society. The United States has dramatically expanded the carceral state, leading to the highest incarceration rate in the world (Hinton, 2015; Weaver & Lerman, 2010). The carceral state has broad impacts on society, reshaping how citizens—particularly black Americans—experience government (Hinton & Cook, 2021; Soss & Weaver, 2017; Weaver & Lerman, 2010). Building on existing studies of the carceral state, I aim to investigate how the mechanisms of the carceral state—particularly surveillance, coercion, and confinement—influence public education.

Scholars have produced a vast literature on carceral *disciplinary* practices in schools, including school-police partnerships and zero-tolerance policies (Cook et al., 2010; Hirschfield, 2018; Justice, 2021; Reynolds et al., 2008). A report compiled by the American Psychological Association noted that zero tolerance policies perform the same functions as incarceration: punishing offenses, deterring misbehavior among other students, and protecting the learning environment for rule-abiding students (Reynolds et al., 2008). Zero-tolerance disciplinary practices disproportionately impact racial minorities as well as students with high needs—those who may be homeless, in foster care, or struggling with learning disabilities—and predict lower levels of motivation and achievement (Gregory et al., 2010; Noguera, 2003). Aggressive proactive policing in schools is associated with higher rates of student arrest, a phenomenon referred to as the school-to-prison pipeline (Crawley & Hirschfield, 2018; Owens, 2017). Studies show that involuntary police contact leads to increased anxiety (Geller et al., 2014), reduced self-control and responsibility (Hipwell et al., 2018), as well as lowered attendance and achievement (Legewie & Fagan, 2019). Even for students who are not arrested, involuntary contact with police corresponds to lowered GPAs (Gottlieb & Wilson, 2019).

But while disciplinary practices are well studied, less attention and scholarship has been devoted to understanding how carceral ideology bleeds into a broader set of educational practices. A subset of charter schools has adopted carceral practices as part of a broader "no excuses" philosophy, which argues that because all children can learn, poverty is no excuse for failing schools (Carter, 2000). No-excuses schools use extensive surveillance, frequent testing, narrow curricula, extended school days, and strict disciplinary regimes to raise achievement (Angrist et al., 2011; Carter, 2000; Cheng et al., 2017). Administrators train teachers to control students' behavior in myriad ways—including attention, eye contact, and posture (Lemov, 2010)—an extension of "broken windows" policing in the classroom (Lemov, 2010; Whitman, 2008; Wilson & Kelling, 1982). Research suggests that these practices reinforce class-based skills and behaviors such as conformity and deference to authority (Golann, 2015). No-excuses schools also reinforce existing socioeconomic hierarchies by catering to those students who are positioned to succeed and "counseling out" those who are not (Booher-Jennings, 2005; Wells, 2002). As large charter management organizations have grown, those with a no-excuses philosophy have grown in popularity (Whitman, 2008). In densely populated areas where charters are popular and oversubscribed, a key question that I plan to answer is whether neighborhood schools respond to charter competition by adopting the same carceral strategies.

School practices aimed at maintaining a safe environment include the use of surveillance technology such as metal detectors and cameras; prohibition of cell phones or smartphones;

enforcement of a strict dress code; and requiring students to carry clear backpacks, wear uniforms, or wear picture IDs (Musu et al., 2019). I plan to incorporate these practices into a school-level measure of carceral ideology and observe the extent to which this measure varies across school characteristics.

CONTRIBUTION

This research contributes to the Foundation's interest in policy analysis that explicitly considers disparate impacts of policy on marginalized youth and communities as well as its shift in emphasis from the causes and consequences of inequality to mechanisms that reduce inequality. First, I will examine the role of carceral ideology across a wide array of education dimensions, including operations, pedagogy, and discipline. My approach provides a new perspective for examining no-excuse and zero-tolerance regimes, as well as the school-to-prison pipeline. Second, I will document empirical evidence of differences in carceral ideology across a wide array of schools and student populations, building upon existing work on charter schools but expanding the units of analysis to include traditional public schools and private schools. This work is especially salient given the spread of reforms employing carceral ideology as a pathway to improving achievement and renewed attention to the impacts of incarceration on poor and racially subordinated communities. Using both manual and automated content analytical techniques, I will construct a novel dataset of school characteristics from published school handbooks. Finally, using quasi-experimental designs and machine learning methods, I will examine the impacts of carceral ideology on the short- and long-term achievement outcomes of low-income and racially minoritized students, including their transition to and success within college.

SIGNIFICANCE FOR POLICY AND/OR PRACTICE

The school choice movement emerged during the late 1980s, as policymakers became concerned about an overall lack of quality in American schools (Wells, 2002). The rationale behind school choice is rooted in the theory that increasing choice leads to more efficient and productive outcomes (Friedman, 1955). Choice is expected to create competition among schools, limit the bureaucratic inefficiency associated with democratic control, and increase parent and student satisfaction (Chubb & Moe, 1990). School choice mechanisms have taken many forms, including vouchers, magnet schools, open enrollment, and charter schools. Of these, charter schools have been the most popular, enjoying bipartisan political support for decades (Henig, 2008).

Charter schools face a tall order: in exchange for public funding and increased autonomy, they are expected to improve achievement and create competition for neighborhood schools, the administrations of which must adapt or face sanctions. In doing so, they face two important challenges. First, states have not consistently provided charter schools with physical infrastructure and adequate financial support, leaving them to rely on fundraising, for-profit corporations, or the support of large charter management organizations (Wells, 2002). Second, state legislation governing charter schools did not explicitly incorporate equity goals (Wells, 2002). While charter school performance is comparable to that of traditional public schools on average, recent research suggests that urban charter schools are effective at raising the achievement of racial minority students (Cohodes & Parham, 2021). However, the harms associated with carceral practices suggest a "paradox of success" (Golann, 2015). This research

moves beyond achievement to consider the extent to which carceral ideology shapes equity outcomes for students.

THEORETICAL FRAMEWORK

The overarching aim of this research is to investigate how carceral ideology, as a structural factor, influences the implementation of policies that are intended to reduce inequality in education. Given the prevalence of educational reforms that target schools, I will focus on the school as the key unit of analysis, examining the role of carceral ideology in different varieties of public schools as well as private schools. This cross-sector approach provides me with an important opportunity to "study up." Coined by anthropologist Laura Nader, studying up involves acknowledging the structure of power in society and choosing to investigate those with power as fervently as we study the disadvantaged or oppressed (Nader, 1972). With a comprehensive view of the role of carceral ideology across the spectrum of public and private education, I will be better equipped to place the findings of this research within the broader context of an American society that stands alone in its propensity to incarcerate its citizens.

To understand *how* carceral ideology drives inequality in schools, I will draw on the sociological theory of racialized organizations (Ray, 2019). To understand *what* carceral practices lead to inequality, I will draw on the field of public administration and specifically the study of administrative burden (Herd & Moynihan, 2019; Ray et al., 2021). The theory of racialized organizations highlights the importance of organizations in reinforcing inequality, while the framework of administrative burdens provides a way to examine specific mechanisms and their impacts on individuals.

The theory of racialized organizations provides a lens for understanding the role of organizations in maintaining racial inequality. Ray argues that organizations play a critical role in producing racial disparities because they tie prejudiced ideas to the distribution of resources (Ray, 2019). Several tenets of the theory of racialized organizations are relevant to the study of carceral ideology. First, organizations are racial structures which tie racial schemas to resources. Schools are influenced by an array of cultural schemas about race being tied to intelligence, labor, or social deviance. These ideas then inform how schools manage the learning environment and how they distribute resources such as knowledge and curricula, technology, and materials. A prominent example is school tracking (Lucas et al., 2020; Moller & Stearns, 2012; Ray, 2019). Cultural schemas that view students of color as less intelligent, when tied to organizational procedures for course planning and enrollment, result in fewer students of color being enrolled in challenging classes (Wells et al., 2000).

Another tenet of the theory is that racialized organizations legitimate the unequal distribution of resources (Ray, 2019; Ray et al., 2021). Within schools, carceral ideology may be one of many rationales that racialized organizations employ to justify the disparate treatment of students of color. I will specifically investigate whether schools using carceral practices are more likely to use surveillance, coercion, and confinement in educational settings with large numbers of students of color. Finally, racialized organizations enhance or diminish the agency of racial groups (Ray, 2019). Diminished agency means that racially subordinate groups have fewer resources to leverage for self-directed goals. Schools can diminish the agency of students through routine policies and procedures. For example, longer school days and school years help

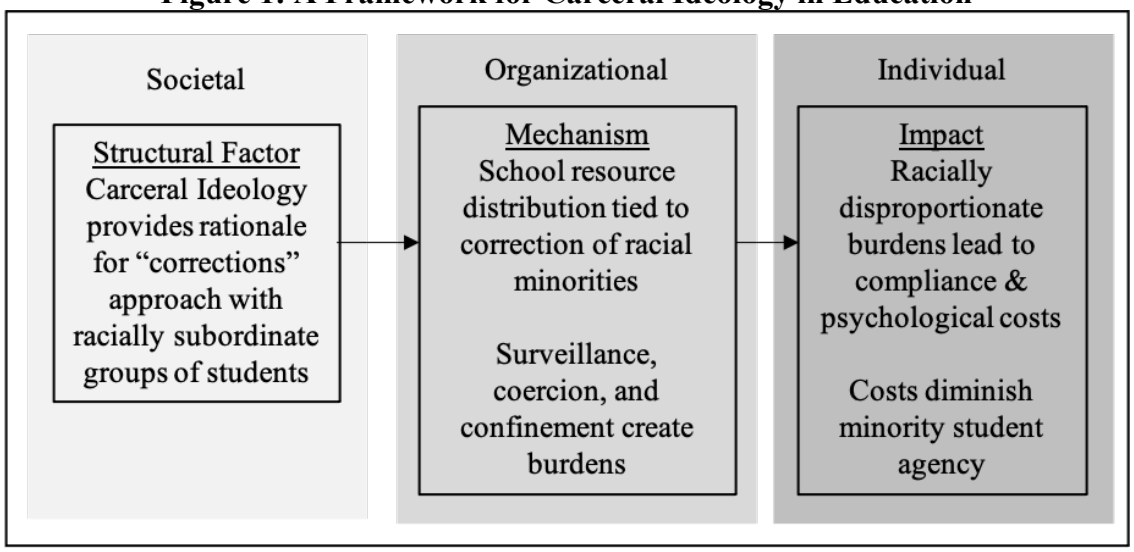
the school to meet its objectives but may leave less time for students to spend with family and on self-directed activities. A narrow curriculum focused on boosting test scores excludes the academic and socio-emotional skills that students require to transition to college and the workplace (Darling-Hammond, 2007).

In a variety of policy arenas, such as immigration, voting, and social welfare programs, administrative burdens have racially disproportionate effects on people of color (Herd & Moynihan, 2019; Ray et al., 2021). Policymakers may use burdens as an a way to achieve hidden policy goals, which Herd and Moynihan refer to as "policymaking by other means" (Herd & Moynihan, 2019). For example, policymakers claim that voting restrictions help to prevent fraud, while using administrative burdens to target African Americans' civil rights (Ray et al., 2021). Schools embed racialized burdens in their policies and practices by creating barriers for students and families seeking to access public education.

Carceral Ideology and Educational Inequality

I argue that schools are racialized organizations that reinforce inequality through the use of surveillance, coercion, and confinement, or these carceral ideologies, which in effect are burdens that negatively impact students' ability to access their basic right to an education. These "correctional" approaches assign disproportionate burdens to students of color, who must compensate for the loss of time, autonomy, and agency in order to access a high-quality public education. Figure 1 provides an overview of how I have applied the theory of racialized organizations to carceral ideology, which I use to show the relationship between carceral ideology as a structural factor, the implementation of carceral practices at the organizational level, and the impacts on students. Together, these phenomena reduce the individual and collective agency of students interacting with the public education system.

Figure 1: A Framework for Carceral Ideology in Education



Example: Performance and Behavior Contracts

Many charter schools require parents to sign a contract agreeing that their child(ren) will maintain a certain level of performance and behavior. If the student's academic performance falls below a certain level, the charter school can place them on academic probation and later expel

them on the grounds that the family violated the contract (Wells, 2002). Binding contracts are a form of coercion; students must meet high standards in order to remain enrolled in a "good" school or else be forced out. Parents from the most socioeconomically vulnerable families may have less experience with contracts and may not feel that they have enough agency to negotiate the terms or deal appropriately with the school when there is a violation by either party. Contracts that require parents to volunteer or attend events also result in compliance costs due to lost time. Importantly, however, these are effectively racialized burdens given the degree to which they are targeted at black children and their families (Ray et al., 2021). These costs may reinforce inequality by reducing the agency of students and their families. For charter schools that serve primarily low-income, racially minoritized students, the effects of carceral practices can work to reduce the collective agency of entire communities.

RESEARCH DESIGN

In order to conduct a comprehensive investigation of carceral ideology, I will use a mixed-method research design that examines how carceral ideology manifests as a structural factor across many institutions, how carceral ideology manifests within schools as racialized organizations, and how carceral ideology drives inequality among students in different groups based on race, socioeconomic status, and other characteristics.

Study 1 – Identifying and Classifying Carceral Practices in Schools

Carceral ideology appears across many of students' everyday experiences and interactions within schools. The goal of this first phase of the analysis is to investigate the ways in which students' experiences fall along a carceral continuum involving surveillance, coercion, and confinement (Aim 1).

Research Questions

- Aim 1, Research Question 1: What school practices involve surveillance, coercion, confinement, or some combination of the three?
- Aim 1, Research Question 2: Where does each school fall along the carceral spectrum?
- Aim 1, Research Question 3: What administrative burdens are associated with each practice?

To identify relevant school practices, I will examine an array of school contexts, such as: goals and values, recruitment and admissions, student/family expectations, codes of conduct, calendar and schedule, operating procedures and routines, academic affairs, and technology and materials. I will utilize qualitative methods including observations of individual and group behavior, as well as open and semi-structured stakeholder interviews.

Students do not have complete autonomy within schools; some level of surveillance, coercion, and confinement is warranted in order to keep students safe and to create an orderly and effective learning environment. However, some practices may be taken to an extreme, resulting in considerable burdens for students or families. Therefore, I will consider carceral ideology as a spectrum, with practices falling on a range from minimally to highly carceral. After identifying and comparing a wide array of school practices, I will develop a carceral practice scorecard that can be used to categorize different schools. Table 1 provides a sample rating scheme for a subset

of school practices relating to operating procedures. A school with a strong carceral ideology would have many practices classified as highly carceral.

Table 1: Carceral Rating Scheme for Operating Procedures

Operating Procedure	Rating		
	Minimally Carceral	**Moderately Carceral**	**Highly Carceral**
School entry	Monitored by staff, sign-in required	Monitored by uniformed security, sign-in required	Monitored by armed security, metal detector
School materials	Students may use backpacks and lockers as needed	Students may use clear backpacks and visit lockers at designated times	Students may store backpacks in lockers but may not carry them
Student autonomy	Open campus, students may leave building during lunch	Students may be in hallways but may not leave building	Students may not be in hallways except under certain circumstances

Primary Data

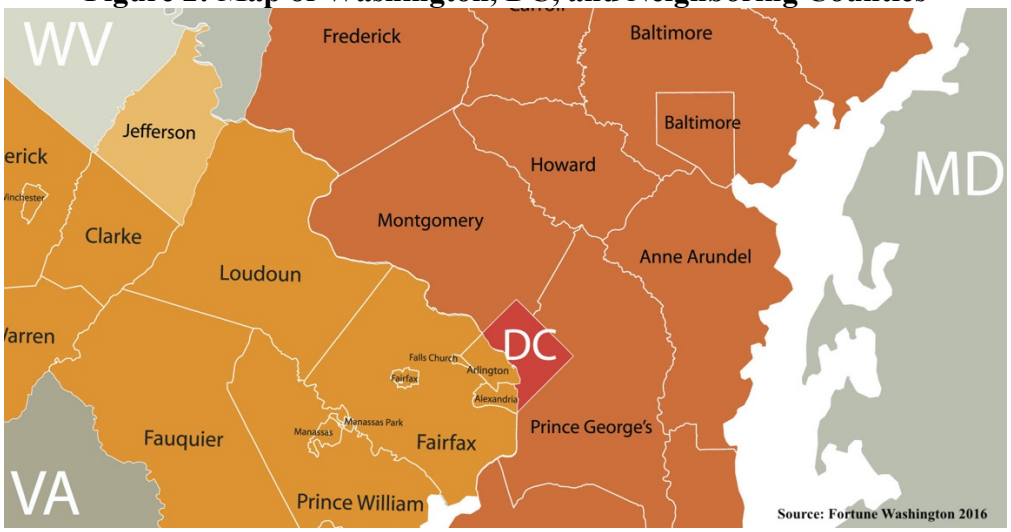
I have partnered with an educational consultant who will arrange for me to tour and observe the daily functioning of a set of schools in the Washington, D.C., metropolitan area. I plan to conduct observations of teacher trainings, classes, and disciplinary events, as well as observe the overall operations of each school. I will visit each school on at least two occasions, for approximately 12-16 hours of observation. I will also conduct open and semi-structured interviews with 2-3 administrators from each school. The open interviews will allow me to capture information about carceral practices that I have not already catalogued, while the semi-structured interviews will allow me to make subsequent comparisons across schools. The target sample of 14 schools, detailed in Table 2, includes urban and suburban public schools, public charter schools, and private schools.

Table 2: Target School Sample Overview

Type	Name	Grades	District or Location	% Minority
Urban Public	Deal Middle School	6-8	Washington, DC	54%
	Excel Academy	PK-8	Washington, DC	99%
	Wilson High School	9-12	Washington, DC	61%
	Roosevelt High School	9-12	Washington, DC	100%
Suburban Public	Stoddert Middle School	6-8	Prince George's County, MD	100%
	Flowers High School	9-12	Prince George's County, MD	99%
	North Bethesda Middle	6-8	Montgomery County, MD	44%
	Whitman High School	9-12	Montgomery County, MD	33%
Charter Public	KIPP Northeast Academy	5-8	Washington, DC	100%
	Friendship – Blow Pierce	4-8	Washington, DC	100%
	DC International	9-12	Washington, DC	85%
	BASIS DC	9-12	Washington, DC	61%
Private	Sidwell Friends School	PK-12	Bethesda, MD	54%
	Georgetown Day School	PK-12	Washington, DC	40%

Each proposed site is a middle or high school located in either Washington, DC, or a neighboring county in Maryland (see Figure 2). This region of the country is ideal for studying the impacts of carceral ideology on racial minority students. District of Columbia Public Schools (DCPS) enroll more than 50,000 students each year. More than 80% of DCPS students are students of color and more than 70% are classified by the district as economically disadvantaged.[1] Washington, DC, is also home to 123 public charter schools, which collectively enroll approximately 43,000 students, overwhelmingly students of color (93%). Located immediately to the north of DC, Montgomery County, MD, is one of the wealthiest counties in the United States, with a median household income of roughly $100K. Montgomery County Public Schools enroll over 160,000 students, 73% of whom are students of color. Prince George's County, MD, has a comparably large school district with more than 136,500 students, 96% of whom are students of color. In 2020, Black students made up more than half of all public-school students in Washington, DC, (58%) and Prince George's County (55%), while comprising just 21% of students in Montgomery County.

Figure 2: Map of Washington, DC, and Neighboring Counties



For this initial stage of data collection, I am focusing on middle and high schools for two reasons. First, because middle and high schools draw students from many feeder schools, their student populations tend to be more racially and socioeconomically diverse. Second, middle and high school students exhibit greater autonomy and are more likely to utilize school handbooks directly than elementary school students. Since a concurrent phase of my research design will capture information from school handbooks, focusing on this population of schools will allow me to validate the handbook analysis using my findings from the qualitative data collection.

Analysis

The analysis will consist of a comparative case study of carceral practices in schools.

[1] "Economically disadvantaged" refers to students, identified by the DC Office of the State Superintendent of Education (OSSE), who possess one of the following characteristics at any point in the SY: Received Free or Reduced-Price Lunch (FRL); Received FRL through CEP (attending a school where the entire student population receives FRL); Eligible to receive TANF or SNAP benefits; Identified as homeless in available homeless data feeds; Under the care of CFSA.

First, I will summarize the notes from my school visits as well as the administrator interview transcripts in order to identify and define educational practices that fall on the carceral spectrum. The school observations will allow me to measure which carceral practices are used, while the administrator interviews will allow me to better understand the conditions under which these practices were put in place, as well as the contexts in which they are employed. The goal of this analysis is to develop a conceptually valid definition of a carceral practice, recognizing that school practices may exhibit different degrees of surveillance, coercion, or confinement in different contexts. The case study will also allow me to develop research questions and hypotheses, which I will incorporate into subsequent stages of the project.

The second key component of the analysis is characterizing carceral practices by school dimension (e.g., school day, calendar, attire, classroom management, etc.) as well as the core carceral dimensions of surveillance, coercion, and confinement. Additional school and carceral dimensions may emerge through the data collection process and analysis. Identifying the specific contexts for different practices will help me to connect my findings with existing bodies of research in those areas and examine potential causal pathways for the impacts of carceral practices on students. I will also develop a standardized carceral practice scorecard that can be generalized to many different schools. While I will examine the effects of individual practices, a validated scorecard will allow me to construct a single, parsimonious measure of carceral practice.

Study 2 – Measuring Carceral Ideology in Practice at Scale

Carceral ideology in education encompasses ideas and practices that inform pedagogy, culture, and discipline; however, few empirical measures capture these phenomena. For example, some charter schools issue currency to students who adhere to behavioral and academic norms, and students use the currency to purchase necessary school supplies (Carter, 2000). An indicator of this type of incentive system could be used to gauge the extent of a school's adherence to carceral ideology. The second study will investigate the use of carceral practices across a large sample of schools (Aim 2).

<u>Research Questions</u>

- Aim 2, Research Question 1: How does carceral ideology vary across schools?
- Aim 2, Research Question 2: How do schools communicate carceral beliefs? Exploring topical themes from school handbooks
- Aim 2, Research Question 3: Understanding the diffusion of carceral ideology: Are neighborhood schools near successful charter schools more likely to adopt carceral practices?

<u>Primary and Secondary Data</u>

Nationwide education data on school practices are notoriously difficult to compile due to the widely varying political and regulatory environments in different states. One notable exception is the School Survey on Crime and Safety (SSOCS) published by the National Center for Education Statistics (Padgett et al., 2020). The SSOCS reports information on safety measures such as the use of surveillance cameras and metal detectors, student dress and identification requirements, and the prevalence of police officers in schools (Musu et al., 2019). However, the survey has limited utility for constructing a broad measure of carceral ideology. While the SSOCS includes

several dimensions of school operations, it does not include carceral practices related to curricula or classroom management. Second, the sample is limited in scope. From an original sampling frame of more than 87,000 schools, investigators sent the 2017-18 SSOCS to approximately 4,800 schools; 2,762 were returned (Padgett et al., 2020). Finally, the dataset includes little geographic or demographic information, in order to protect the identities of respondents.

To address this gap, I will construct a large-scale dataset of school practices at scale using the handbooks published by schools and provided to students and their families. Handbooks are widely accessible, contain relatively standardized content, and convey concise information about schools' values, goals, structure, practices, and intentions. Using automated text analysis augmented by manual coding, I will construct a multidimensional measure of carceral ideology using words, phrases, and ideas from the handbooks of a large representative sample of public schools. Using web-scraping techniques, I will obtain the handbooks from a sampling frame of approximately 35,000 middle and high schools.

In constructing a measure of carceral ideology, I will emphasize the dimensions that correspond to the qualitative data gathered in Study 1. For example, one dimension would encompass the calendar and structure of the school day, which reflects a pattern among some charter schools of having longer than average school days and in some cases, mandatory after-school and summer programs. Although they are not intended to be punitive, extended school days are a form of confinement and therefore fall along the carceral spectrum. Another dimension might comprise schools' expectations of students, parents, and teachers. For example, no-excuses schools often expect highly specific behavioral norms, such as a particular posture or level of eye contact (Lemov, 2010). A third dimension might focus on incentives for performance and behavior. No-excuses schools tend to focus on extrinsic rather than intrinsic motivation to achieve educational outcomes across a narrow set of curricular goals—typically those mostly closely aligned with standardized testing (Carter, 2000). The extrinsic orientation is also reflected in strict disciplinary practices. Behavioral norms and incentives become carceral when they are used to convince students that their compliance is necessary for academic success. This philosophy is commonly employed in prison management: inmates follow a system of rules and practices and receive incentives for "good behavior" (Barak-Glantz, 1981).

Measures

While charter schools have grown considerably over the last fifteen years, they enroll just seven percent of all public-school students (Irwin et al., 2021). To better understand the extent to which different types of schools utilize carceral ideology, I will empirically document differences between schools across an array of features. These features include: organization type such as charter, magnet, or traditional public school; geographic location and urban or rural designation; reading and mathematics achievement scores; and disciplinary outcomes. Features will also include the populations of students served by level (elementary, middle, and high school), racial or ethnic group, and socioeconomic group.

The secondary data will come from three sources: (1) the NCES *Common Core of Data* (CCD), (2) the NCES *National Assessment of Educational Progress*, and (3) the US Department of Education Office for Civil Rights *Civil Rights Data Collection*.

- School information: name, address, location coordinates, and website

- School characteristics: type, charter status, magnet status, full-time equivalent teachers, pupil-teacher ratio, enrollment
- Student body demographics: White, Black, Hispanic, Asian or Asian/Pacific Islander, American Indiana/Alaska Native, Hawaiian Nat./Pacific Islander, two or more races, male, female, reduced-price lunch eligible, free lunch eligible, students with disabilities
- School disciplinary practices: in-school suspensions, out-of-school suspension
- Student assessment: Grade 8 and 12 scores in reading and mathematics

Analysis

Measuring carceral ideology from handbooks involves both manual coding and automated content analysis. First, I will manually code information from the handbooks across each dimension. Subsequently, I will use automated content analysis to analyze the specific language that schools use in their handbooks to communicate their intentions and practices. This step involves converting the text of the handbooks into a simplified representation called "bag of words," in which frequent words such as *the*, *of*, and *a*, are removed and the order of the words is stripped away (Weiss et al., 2015). The bag-of-words representation can be used to generate a document-term matrix for statistical analysis. Using clustering and other unsupervised machine learning techniques, I will examine the types of words most associated with carceral ideology, as well as how those words co-occur across documents and therefore across schools (Research Question 2). These techniques, such K-means clustering or agglomerative hierarchical clustering, will allow me to identify groups of schools that are similar (Tan et al., 2019).

For Research Questions 1 and 3, I will utilize supervised machine learning techniques to predict key outcomes using secondary data measures as features. Supervised techniques—such as logistic regression, K-nearest neighbors classification, or decision tree classification—will allow me to assess whether charter status and other school characteristics can be used to predict the use of carceral language.

Preliminary Results: DMV Handbook Analysis

As an exploratory proof of concept, I compiled a sample of 50 handbooks from schools in the Washington, D.C., metropolitan area (including suburban districts from parts of Maryland and Virginia), also known as the "DMV" region. Using these handbooks, I created a dictionary of approximately 6,000 of the most frequent words and cross-referenced it with the NRC Valence, Arousal, and Dominance Lexicon (NRC-VAD) (Mohammad, 2018). The NRC-VAD provides sentiment scores along three dimensions of word meaning: valence (positive/negative), arousal (active/passive), and dominance (full control/no control). Table 3 gives examples of words that might appear in school handbooks from each dimension.

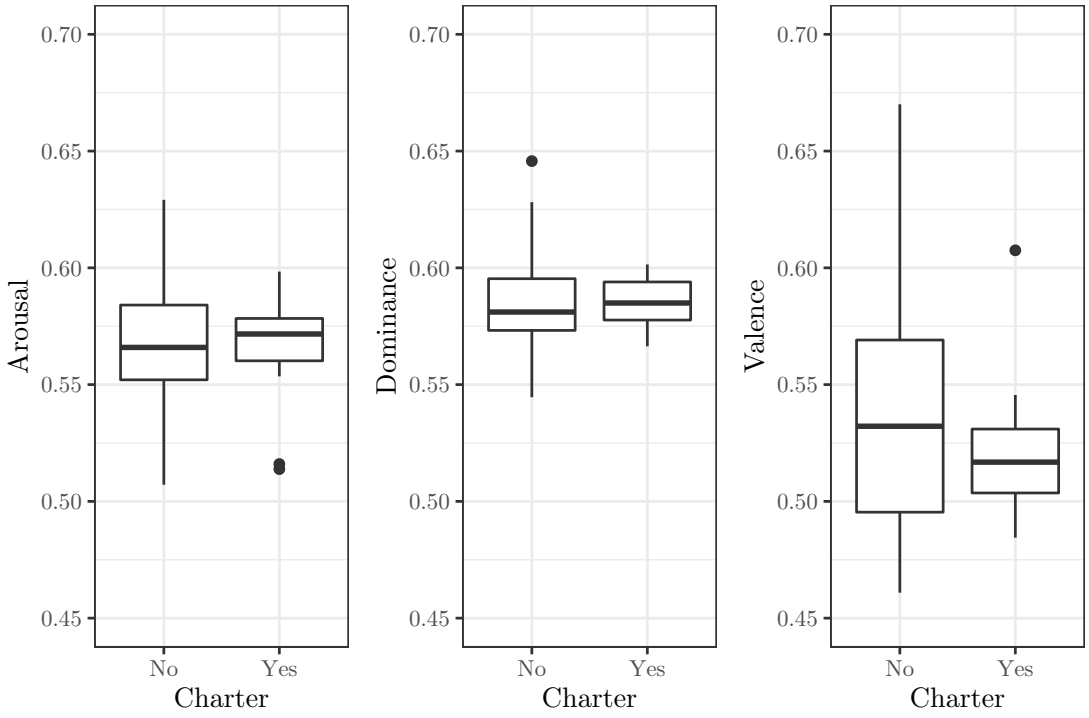
Table 3: Handbook Terms with High and Low Scores by Dimension

Dimension	High Scoring Term	Score	Low Scoring Term	Score
Valence	*perfect*	0.980	*chaos*	0.016
	excellent	0.970	*misbehave*	0.020
	success	0.959	*dangerous*	0.020
Arousal	*aggressive*	0.971	*slow*	0.073
	destroy	0.935	*calm*	0.100
	violence	0.933	*basic*	0.102

Dominance	*leadership*	0.983	*ineffective*	0.094
	success	0.981	*careless*	0.125
	strengthen	0.971	*unprepared*	0.152

For each school, I used the handbook dictionary to compute an average valence, arousal, and dominance score. Figure 3 compares charter schools (N=24) and traditional public schools (N=25) across the three dimensions. I find that the charter school handbooks use more active language (higher arousal) and more negative language (lower valence). In addition, I find that in comparison to traditional public schools, charter school sentiment scores are concentrated within a much smaller range of values. If this pattern holds as I collect more data, it may suggest that charter schools adopt very similar language.

Figure 3: Average Sentiment by School Type



EXPERIENCE AND MENTORSHIP

I am an interdisciplinary scholar with expertise in public policy, political science, and computational social science. My doctoral training comprised three major fields: (1) public policy; (2) policy analysis, including program evaluation and cost-benefit analysis; and (3) political research methods with an emphasis on computation and data science. I am an expert in research design, including experimental and quasi-experimental/observational methods, frequentist and Bayesian statistical techniques, machine learning, and survey methods. My methodology field training also included qualitative research methods, such as focus groups, interviews, and ethnography. During my postdoctoral training, I developed additional expertise in computer science and statistical software development.

Reducing Inequality

Inequality in education is a central theme of my research. I have investigated the causes and consequences of racial inequality in disciplinary outcomes, and I have designed and tested interventions to reduce gender inequality in postsecondary academic outcomes. In a forthcoming article, my colleague and I show that magnet schools in Tulsa, Oklahoma, effectively reduced racial inequality in suspensions among middle school students. While most studies of school suspensions focus on the individual characteristics of students, we also examine a host of structural, school-level factors such as the student-teacher ratio and the racial make-up of the staff and student body. Our findings are particularly important for black students, who face disproportionately higher rates of suspension across the United States.

For my dissertation, I designed and implemented a behavioral nudge intervention that reduced gender inequality in STEM participation, including course enrollment and major selection. The intervention included two major components: (1) scripted encouragement from an academic advisor, and (2) a brochure with gender-targeted messaging, diverse imagery, and structured information about courses. I conducted a randomized controlled experiment to measure the impact of the intervention, which increased STEM course take-up and major selection among women by three percentage points.

Development of New Expertise

The Scholars Program will enable me to develop new disciplinary and methodological expertise. First, I will broaden my interdisciplinary expertise to include research frameworks in sociology and public administration used to investigate inequality. I will be mentored by sociologist and professor Pamela Herd, whose research examines inequality in health, aging, and policy. Professor Herd's recent book, *Administrative Burden: Policymaking by Other Means*, examines social programs that are intended to reduce inequality but are hampered by costly administrative burdens. Since much of the extant literature on carceral ideology is published by sociologists, Professor Herd's disciplinary expertise as well as her experience investigating policy and inequality make her an ideal proposed mentor.

Second, I will further develop my methodological expertise in the areas of content analysis and qualitative methods. I have extensive experience with computational methods for automated text analysis. Through coursework, conference attendance, and mentorship, I will augment these experiences with expertise in qualitative content analysis. This enhanced toolkit will allow me to construct a rich dataset from the school handbooks. I will also develop additional expertise in qualitative methods in order to validate my analysis of the handbook data and to develop new hypotheses and research directions. Table 4 provides a summary of research tasks and mentoring supports.

Table 4: Mentorship Timeline

Study 1: Identifying and Classifying Carceral Ideology in Schools		
Timeline	Task	Mentor Support
Year 1	Develop qualitative methods expertise • Open & semi-structured stakeholder interviews	Advise on conferences, workshops, or courses to audit; make introductions to qualitative researchers

	• Observations of individual and group behavior	
	Develop expertise in sociology and public administration	Advise on relevant books, articles, or other resources; make introductions to sociologists working in the area
	Develop interview questions	Advise on interview instrument design and development. Herd has extensive expertise in survey methods and question design.
	Draft IRB protocol	Review and provide feedback
	Collect data • Conduct observations of teacher trainings, classes, disciplinary incidents • Conduct interviews with school administrators, correctional facility administrators, advocacy groups, and other stakeholders	Advise on issues and problems that arise during the process.
	Analyze data • Summarize observation and interview notes • Identify and define educational practices that fall on carceral spectrum • Categorize practices by school dimension (school day, calendar, attire, classroom management, behavior management, discipline, standards and expectations, curricula) • Categorize practices by carceral dimension (surveillance, coercion, confinement)	Get feedback on preliminary analyses. Mentor will set up opportunities to present work.
	Prepare first manuscript outlining the theoretical framework	Advise on potential outlets, case selection, and vignette development; provide feedback on drafts

Study 2: Measuring Carceral Ideology in Practice		
Timeline	Task	Mentor Support
Year 2	Collect data • Derive school listing from NCES data • Build web scraping and OCR pipeline in the cloud	Advise on issues and problems that arise during the process.

	Construct school-level dataset • Extract raw data for school day hours • Extract text data for sentiment and topic analysis • Construct features/variables	Advise on mapping qualitative findings to variables
	Join school-level data with outcome and covariate data • Achievement outcomes: NCES NAEP • Discipline outcomes: Civil Rights Data Collection • School-level covariates: NCES Common Core Data	Advise on surveys that could be matched to aggregate data (census block, PUMA, etc.)
	Prepare two manuscripts on the relationship between carceral ideology and inequality • Characterization of schools along carceral ideological spectrum – Who is using what? • Topical themes from school handbooks: How do schools communicate carceral beliefs? • Are neighborhood schools near successful charter schools more likely to adopt carceral practices? • Is there an association between carceral practices and achievement and/or disciplinary outcomes for poor minority students?	Advise on ways to link qualitative and quantitative analyses; advise on article placement and tenure packet materials; provide feedback on manuscripts
	Outline book proposal	Advise on book placement; provide connections to academic press(es); suggest potential readers for book conference

IMPLICATIONS AND DISSEMINATION

In the performance-focused era of accountability, some charter schools have rapidly adopted the no-excuses philosophy to raise achievement, with the possibility of traditional public schools following suit. The pressure to perform has led some schools to surveil and police students' bodies in ways reminiscent of policing in the communities most heavily impacted by mass incarceration. I aim to build upon our foundational understanding of the broader impacts of the carceral state by constructing a measure of carceral ideology and studying its use in a variety of school settings. This work will illuminate the link between carceral ideology in education and in American society, with the goal of identifying ways to reduce inequality through the reduction of burdens and improved implementation of school choice policies.

During the first two years of the program, potential presentation and publication outlets include the annual meetings for AERA, the Association for Public Policy Analysis and Management, and the Society for Research on Educational Effectiveness. I will also leverage partnerships in the DC region to share results and develop strategies for disseminating this research to practitioners. Over the course of the 5-year program period, I will develop this research into a book project.

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