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Education Privatization in the United States: Increasing Saturation and Segregation

Frank Adamson



Meredith Galloway

California State University, Sacramento
United States

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Abstract: This article outlines different forms of education privatization operating globally, examines their prevalence within the United States, and analyzes whether student marginalization and segregation occurs at the local level. We analyze six U.S. districts with higher saturation levels of charter schools, the most predominant type of privatization (Camden, NJ, Washington DC, Flint, MI, Detroit, MI, Natomas, CA, and Oakland, CA). We find education privatization increasing in the US, but unevenly dispersed, with charter schools concentrated primarily in urban areas serving students of color. Furthermore, segregation in education remains a major issue for all types of schools, with students of color in urban contexts often attending intensely segregated schools (over 90% students of

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color). Instead of mitigating the segregation problem, student selection by charter school appears to exacerbate it, specifically for special education students.

Keywords: Access to Education; Charter Schools; English Learners; Neoliberalism; Privatization; School Choice; School Resegregation; Special Education

Privatización de la educación en los Estados Unidos: Aumento de la saturación y la segregación

Resumen: Este artículo describe diferentes formas de privatización de la educación que operan a nivel mundial, examina su prevalencia dentro de los Estados Unidos y analiza si la marginación y segregación de los estudiantes ocurre a nivel local. Analizamos seis distritos de EE. UU. Con mayores niveles de saturación de escuelas *charter*, el tipo de privatización más predominante (Camden, NJ, Washington DC, Flint, MI, Detroit, MI, Natomas, CA y Oakland, CA). Encontramos que la privatización de la educación aumenta en los Estados Unidos, pero está dispersa de manera desigual, con escuelas *charter* concentradas principalmente en áreas urbanas que atienden a estudiantes de color. Además, la segregación en la educación sigue siendo un problema importante para todo tipo de escuelas, ya que los estudiantes de color en contextos urbanos a menudo asisten a escuelas intensamente segregadas (más del 90% de estudiantes de color). En lugar de mitigar el problema de la segregación, la selección de estudiantes por la escuela *charter* parece exacerbarlo, específicamente para los estudiantes de educación especial.

Palabras-clave: acceso a la educación; Escuelas *charter*; Aprendices de inglés; Neoliberalismo; Privatización; Elección de escuela; Resegregación escolar; Educación especial

Privatização da educação nos Estados Unidos: Aumento da saturação e segregação

Resumo: Este artigo descreve diferentes formas de privatização da educação operando globalmente, examina sua prevalência nos Estados Unidos e analisa se a marginalização e segregação de alunos ocorrem em nível local. Analisamos seis distritos dos EUA com níveis mais altos de saturação de escolas *charter*, o tipo mais predominante de privatização (Camden, NJ, Washington DC, Flint, MI, Detroit, MI, Natomas, CA e Oakland, CA). A privatização da educação está aumentando nos EUA, mas dispersa de maneira desigual, com escolas *charter* concentradas principalmente em áreas urbanas que atendem estudantes de cor. Além disso, a segregação na educação continua sendo uma questão importante para todos os tipos de escolas, com estudantes de cor em contextos urbanos frequentando escolas intensamente segregadas (mais de 90% dos estudantes de cor). Em vez de atenuar o problema de segregação, a seleção de estudantes por escola *charter* parece exacerbá-lo, especificamente para estudantes de educação especial.

Palavras-chave: acesso à educação; Escolas *charter*; Aprendentes de inglês; Neoliberalismo; Privatização; Escolha da escola; Ressegregação Escolar; Educação especial

Introduction

This special issue addresses the intersection and implications of globalization, privatization, and marginalization within education. This article focuses on the latter two issues—privatization and marginalization—within the context of the United States (US), while beginning and concluding with global implications. We analyze three core issues: the different types of privatization mechanisms operating globally, the saturation of types of education privatization in the United States, and the question of whether marginalization and segregation occur in districts with higher saturation levels of charter schools. Overall, the article illustrates how current U.S. federal policy proposals advocating for expanding privatization raise concerns about education segregation and equity.

Globally, research has shown that educational privatization in multiple forms has spread internationally in recent decades (Adamson, Åstrand, & Darling-Hammond, 2016; Chakrabarti & Peterson, 2009; Verger, Fontdevila, & Zancajo, 2016). This diffusion involves a variety of processes and actors, including: (a) governments that often “borrow” policies from other countries (Steiner-Khamsi, 2006; Whitty & Edwards, 1998), (b) “intermediary organizations” such as think tanks that work across contexts to frame and promote policy ideas (Scott & Jabbar, 2014; Verger, 2012); (c) epistemic research communities connected with these intermediary organizations that produce and recycle favorable studies to change perceptions around reform ideas (Cooper & Shewchuk, 2015; Vasquez Heilig, Brewer, & Adamson, 2019a); and (d) reform entrepreneurs and philanthropists that often facilitate these processes (Lubienski & Au, 2016; Russakoff, 2015). These global actors and interconnections have facilitated the policy borrowing and uptake of education privatization, harkening back at least to University of Chicago Professor Milton Friedman advising Chilean dictator Augusto Pinochet in the late 1970s to institute a national voucher program (Castro-Hidalgo and Gomez-Alvarez, 2016).

Despite these long-standing connections, the US is often treated as a separate case from international examples (both at home and abroad), even though it exports and implements education privatization through different means of influence. As the only U.S.-based article in this special issue, examining the rising tide of education privatization in the United States is essential not only for understanding the domestic landscape a quarter century after privatization’s first mainstream iterations in the US, but also as a bellwether for education in the upcoming decades. This article also seeks to bridge the gap between international and domestic analyses for the U.S. audience by beginning at the global level before homing in on the national and local levels, thereby situating the case of the US in an international context.

While research referenced above discusses many actors and processes, this article focuses on describing the types, functions, and saturation levels of education privatization across contexts. First, we begin by presenting a “living figure” that draws upon prior research and further delineates the complex and varied terrain of education systems, specifically focusing on privatization. Such illustrations of a theoretical “spectrum” of education privatization are difficult to distill due to complexities comparing modalities across countries. This figure represents another iteration of interpretation of these interconnections across contexts.

Second, we present current data on different types and saturation levels of education privatization according to governance levels within the United States. This analysis reveals education privatization as an endeavor targeting specific communities, namely urban communities of color. While this analysis provides a broader picture than the overall thrust of our analysis concerning charter schools, education stakeholders need to understand the functioning and prevalence of some less well-known types of privatization (such as neo-vouchers) currently included in proposals by the U.S. Congress and Secretary of Education.

Third, we analyze education segregation in relation to school privatization vis-a-vis charter schools, confirming previous research that the United States has an increasingly segregated system by race/ethnicity and class overall. However, we show that discussing segregation at the national and state level is insufficient for understanding its impact on certain populations, so we examine six districts selected by geography and size to better identify patterns. By examining districts in detail, our analysis addresses a debate in the literature, raised by Ritter et al. (2010), about grain size—namely that Frankenberg et al. (2011) overstate segregation by referring to national and state level data instead of district level data. We find that, instead of providing a solution, charter schools often exacerbate the problem by further segregating already marginalized populations. While other researchers have focused on certain aspects of this article, we bring together those approaches, newer data, and our multi-scalar analysis to provide a detailed snapshot of education privatization in the United States for both the domestic and international communities.

Education Privatization Defined

Education privatization does not have one clear definition. It represents a constellation of approaches, actors, ideologies, funding, and more. Belfield and Levin (2002) offer a broad, yet reasonable explanation of the phenomenon:

The term ‘privatization’ is an umbrella term referring to many different educational programmes and policies. As an overall definition, ‘privatization is the transfer of activities, assets and responsibilities from government/public institutions and organizations to private individuals and agencies.’ Also, privatization is often thought of as ‘liberalization’ – where agents are freed from government regulations, or as ‘marketization’ – where new markets are created as alternatives to government services or state allocation systems (p. 19)

Adamson et al. (2016) offer a more detailed analysis of the economic roots of privatization not covered here as this article focuses on where and to what extent privatization occurs.

In both U.S. and international contexts, privatization takes many forms. Here, we list both conventional titles and its current context/meanings, while emphasizing the evolving nature of the issue. Viewing privatization as a binary belies complex realities; privatization operates on a spectrum whereby government entities divest direct involvement in and outcome risk/reward to private entities, either not-for-profit or for-profit (Verger, Moschetti, & Fontdevila, 2019; World Bank PPP continuum, 2016). Figure 1 illustrates the common pathways states have taken in moving towards privatizing their education systems (left), the mechanisms used (center), and current examples of nation-states along the privatization spectrum (right). While the spectrum runs from predominantly public systems (top, in blue) to comprehensively privatized systems (bottom, in red), each specific modality has different saturation levels by location, so their identification does not imply an ordinal position on the spectrum. Also, we distinguish between the application of different forms by ownership (who owns the property or school), management (the entity delivering education), and funding (such as the state, parents, or other actors paying). Different forms have different combinations, many falling under Belfield and Levin’s (2002) privatization umbrella in some way.

Including charter schools under the umbrella of “privatization” can be contentious among education stakeholders. Though Lewis (2013) clearly outlines charter schools as public entities based on his analysis of Finn and Gau’s (1998) three elements (access, funding, and accountability), we include charters within the education privatization spectrum because they are often **managed** by private, non-governmental entities. Additionally, charters are often not required to hold open meetings, report salaries, or appoint/retain leaders and teachers with the same transparency as public counterparts. Furthermore, recently adopted international human rights principles determined that

education provision by privately managed and/or operated entities are not “public” schools, contrary to some local interpretations (Abidjan Principles, 2019).

Education Privatization within the US

The U.S. national education agenda positions school privatization as an answer to public systems which are “falling behind” the rest of the world ([White House Issues, Education](#)). At the national level, the appointment of Betsy DeVos as Secretary of Education and recent White House budget proposals, including a \$5 Billion federal investment in education privatization specifically for neo-vouchers and a goal of \$20 Billion annually in school choice funding, have elevated the conversation about the relative merits of different privatization forms such as vouchers, charter schools, tuition tax credits, etc. (Devos, 28 Feb 2019; U.S. OMB, 2018, p. 40). Their rationales for shifting to privatization models include: 1) access—increased equitable access to quality schools by a decoupling of housing and schools ([Devos, 2018 July 25](#); [Devos, 2019, Feb 5](#)) 2) competition—market-driven incentivizing of school improvement ([White House Press Release, 2017, Jan 27](#)), and 3) outcomes—students achieving at measurably-higher academic levels in charters and other privatized school environments ([Devos, 2019 Feb 28](#)). However, these policy initiatives require further analysis into how the approaches of education privatization operate at different levels and how they relate to segregation by race and ethnicity, poverty, special programs, and achievement. After a brief framing of the economic principles underlying these proposed policies, we review the types of education privatization occurring in the US—charter schools, vouchers, and neo-vouchers—followed by a longer analysis of research on charter schools in particular, as they represent by far the largest privatization mechanism in U.S. education.

The underlying theory proposed by Secretary DeVos is summarized as the choice-competition-quality axis, namely that families choosing schools will incentivize schools to compete for students (customers), which will, in turn, increase quality, usually measured by test scores (Mundy & Murphy, 2000). In economic terms of supply and demand, the supply side in this model (schools) aim for efficiency, driven by the demand side (family desire for high quality schools measured by test scores). However, the reality of our study and the larger situation is that education exists in a public sector, not a pure market, and therefore contains a number of externalities and inefficiencies exacerbated by the variables we examine below.

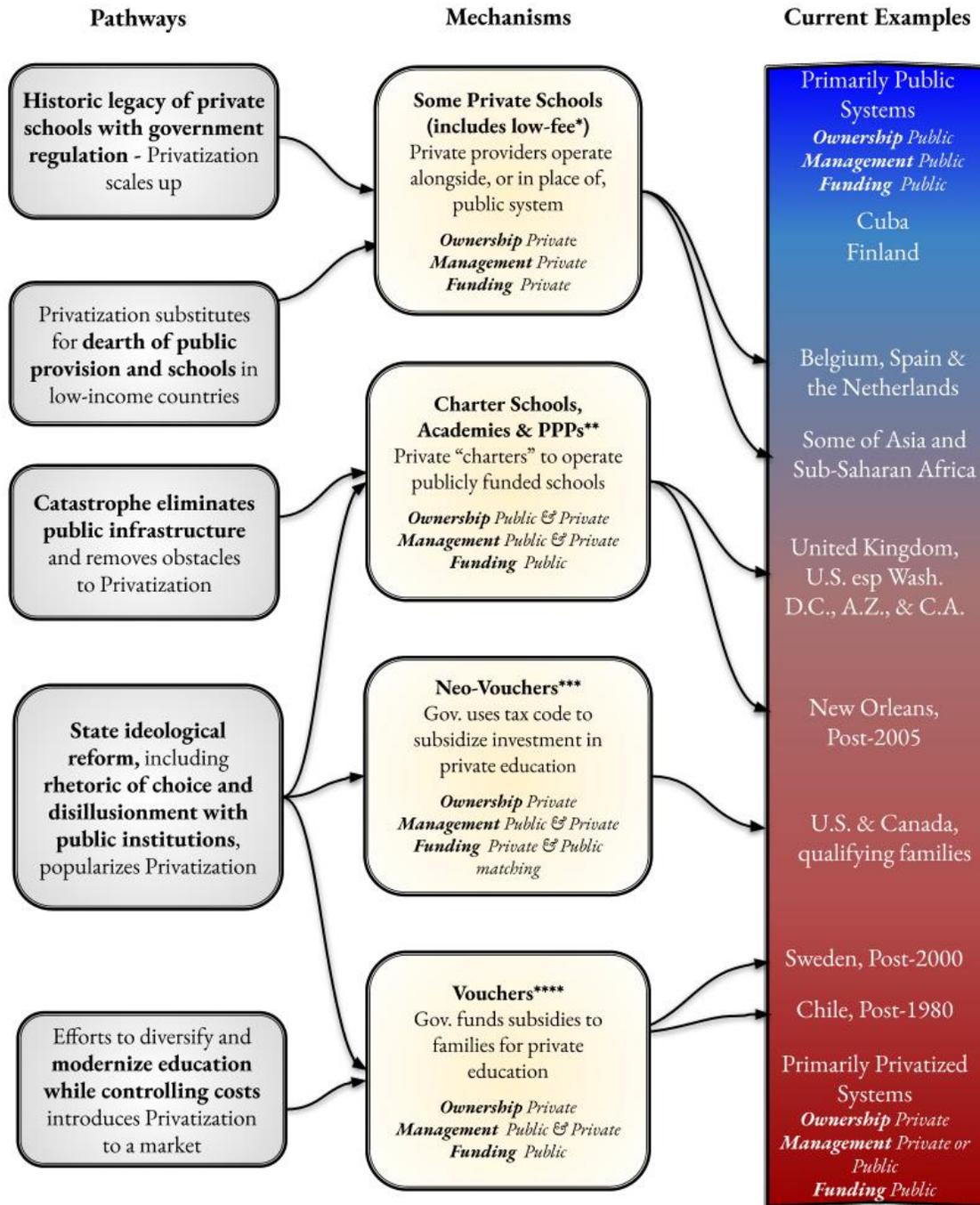


Figure 1. Education Privatization Pathways, Mechanisms, and Current Examples

Sources: Adamson et al. (2016); Carnoy (2017); Verger et al. (2016 & 2019); Welner (2008); World Bank (2016).

Notes: Though nearly any mechanism above can replace state provision of public education, we list common mechanisms in the global market today (locations are not comprehensive). * Low-fee private schools (LFPS) differ by target clientele (poor but not destitute), structure (often commercial), and provider (often internationally supported). ** While not the same as charter schools, Public-Private Partnerships (PPPs) and Academy schools closely resemble them in their provision, management, and funding structures. *** Programs termed Neo-Vouchers operate globally in many locations under different names (Boeskens, 2016). **** In the United States, all voucher programs are targeted, meaning they are limited to qualifying families. In Milwaukee, the largest concentration of U.S. vouchers, 55% of families received a full or partial voucher in 2017. Globally, vouchers have been used in both targeted and universal applications.

In this study, we operationalize the discussion of supply and demand as one of provision and access. We do not simply refer to enrollment, but also use the term “access” to address the demand side of education, namely whether or not parents, families, and students can and do access schools that differ by any number of factors (demographics, public/charter, test scores). “Provision” refers to the institutional provision of education on the supply side, meaning whether certain schools are provided to certain students.

This study primarily addresses the supply side, or “provision,” as we do not conduct research with parents or other stakeholders to better understand the demand side dimensions within our selected districts. Researchers such as Pedroni (2013a, 2013b) do analyze the political support of parents and stakeholders of color for market-based reforms, conceptualizing the agency of the subaltern in complex relationships with conservative institutions that ideologically support school choice. Our supply side analysis does, however, reveal whether and to what extent segregation occurs, thus revealing patterns on the demand side, although the exact machinations of that segregation (e.g. are the schools choosing students on the supply side or are parents choosing specific schools on the demand side?) remain outside of the scope of this study.

Literature Review

Segregation

One of the major societal concerns in the United States is segregation that occurs in many forms: housing, school, job opportunities, wages, and the list continues. Jargowsky (2014) shows that segregation remains high, slightly declining between blacks and whites, but increasing between whites compared to Latinx and Asians. Jargowsky (2014) also finds increased socio-economic segregation, especially regarding the poor vis-a-vis other groups, although wealthy whites also remain highly segregated from other groups. Despite the intention of *Brown vs. Board* (1954), Jargowsky (2014) reports that K-12 students are “substantially more racially and economically segregated than people not enrolled in school” (p. 98). Given the continuation of this social problem, this article examines how it interacts with education privatization.

Education Privatization Mechanisms in the United States

Charter schools. Across the United States, school privatization through charters, vouchers, and neo-vouchers directly impacts slightly greater than 7% of all students; however, concentrated privatization occurs within certain localities (NCES, 2017, Table 206.30). Charters, the most common form of education privatization in the United States and the mechanism on which the empirical portion of this study concentrates, are often termed “public schools” in that they must legally enroll students in an open enrollment policy and are not supposed to discriminate based on social status, race, gender, or prior academic performance. Technically, a “charter” is a contract with an authorizing agency which exempts the school from certain state or local rules and regulations. In return for flexibility and autonomy, the charter school must meet contracted accountability standards.

While the original image of a charter school was an independent model for pedagogic innovation, the structure of charters now varies greatly from each entity to the next. In 2012, 16% of U.S. charters were run by a not-for-profit management company (CMO), with about 80 percent of all CMO-run schools operating in Texas, California, Arizona, and Ohio (Furgeson et al., 2012). Across the United States in 2018, approximately 15% of charters are run by a for-profit company (EMO) (National Alliance for Public Charters, 2018). Evidence also suggests CMO’s have greatly accelerated their pace of replication recently—comprising 25% of total charter enrollments from 2009-2015—unsurprising given direct federal incentives to CMO expansion (LiBetti, Burgoyne-

Allen, Lewis, & Schmitz, 2016). Berends (2015) also identifies a shift from charter schools converting from public schools to an influx of newly started schools during the same time period.

Vouchers

Vouchers, also termed scholarship programs and tuition assistance, directly fund pupil enrollment in a participating private school via a public subsidy. The second most-common privatization mechanism in the United States, all U.S. voucher programs are ‘targeted,’ meaning only certain populations—low socioeconomic status, disability status, and/or attending a ‘failing’ public school are common metrics—may be eligible to receive them (Koteskey & Stuart, 2017). Not all private schools can or do participate in receiving voucher funds as these programs often require private school participation in standardized testing, minimum teacher qualifications, and, at times, randomization of student enrollment (Ferrare, 2007). As requirements may provide a disincentive for private school participation, researchers in Milwaukee and Ohio have found a negative correlation between private school quality and its voucher participation (DeAngelis & Hoarty, 2018).

Proponents for voucher programs often note their award amount is nearly always below the per pupil spending for municipality’s public schools, thus demonstrating a net savings to taxpayers and subsequently a better return on investment (Forster, 2013). However, detractors argue these programs often allow for top-up whereby parents pay more to the private school than the voucher amount. Voucher programs also fail to capture the personnel and transportation costs public school otherwise incur by shifting these costs to parents (Dynarski, & Nichols, 2017). Furthermore, recent analysis of claims about student outcomes using vouchers interrogates the robustness of achievement impacts (Lubienski & Brewer, 2016).

Neo-Vouchers. Recently gaining in political visibility are Tuition Tax Credits (TTC), Individual Tax Credits/ Deductions (ICD), and Education Savings Accounts (ESA’s), all of which use state tax law as a mechanism to subsidize education privatization. Termed “neo-vouchers” by Welner in his seminal 2008 book, these mechanisms, though seemingly marginal in application, operate as pseudo universal vouchers in certain jurisdictions. Furthermore, neo-vouchers are often available to more families than traditional vouchers as they have more generous allowances for participating family income (Welner, 2008, 2017) and at times even offer a tax benefit exceeding the value of donated funds (Davis, 2017).

Tuition Tax Credits (TTC) allow both individuals and corporations to contribute funds to a qualifying third-party, which then funds scholarships for students to attend qualifying private schools. In turn, the corporation or individual receives a tax credit for the funds donated and reduces income tax liability. As an example, in Illinois, an individual or corporation donates funds to a 3rd party termed a “Scholarship Granting Organization” (SGO) which receives up to 5% of the donations as an operating fee. The SGO then allocates the funds to pre-approved private schools, which in turn fund scholarships to students whose family income cannot exceed 300% of the Federal Poverty Index Limit. Individual donors, though not corporations, may even select the school(s) to benefit from their donation. All contributors receive a 75% state tax credit. Though not refundable, it is eligible to be carried over for up to five years as a buffer against future tax (Illinois Dept. of Revenue, 2019).

Similarly, Individual Tax Credits (ICD) and Education Savings Accounts (ESA) offer tax-sheltering advantages to families. Parents place funds in a tax-free account (ESA) and use these funds toward educational expenses (tuition, books, fees, tutoring, and/or supplementary education services), or submit proof of qualifying expenses when filing taxes and receive a credit (TTC). ESA’s also operate federally by allowing up to \$2,000 per beneficiary per year to be invested in a market mechanism and grow income tax-free (IRS pub 970, 2017). Federal income caps limit federal ESA use to households falling below the top 5% of U.S. income earners (DeNavas-Walt & Proctor,

2015). Though no national TTC is authorized, current proposed U.S. legislation SB 634 would scale tuition tax credits federally to an annual \$5B budget allotment if passed (Cruz, 2019).

Though potentially desirable, it is beyond the scope of this study to analyze all research for each privatization mechanisms for three reasons: 1) the sheer scope of this undertaking is a project unto itself and is already done well by Belfield & Levin (2002) and Verger et al. (2019, p. 2). In both scale of enrollment and adopting states, charter schools are by far the largest mechanism for privatization in the U.S., and 3) recent district and state-level pushbacks to charter scaling call for further scrutiny as to the policy implications of charters as a large-scale provider of education (See California A.B. 1505). Therefore, we concentrate below on prior research and empirical study of charter schools.

Multi-Level Complications in Analyzing Claims

Analyzing the impact of charter schools requires care with the aggregation and disaggregation of data at the national, state, and local levels. For instance, while charters nationally enroll a greater number of minorities and students who qualify for Free and Reduced Lunch (FRL) programs, researchers have previously found this national statistic obfuscates state and local realities (Carnoy, Jacobsen, Mishel, & Rothstein, 2005, 2006; Frankenberg, Siegel-Hawley & Wang, 2011; Lubienski, 2013). Additionally, equitable enrollment access specifically regarding populations of English Learners and those qualifying for Special Education services is debated in research literature and by the general public (Rapa, Katsiyannis, & Ennis, 2018; Welner, 2013).

Furthermore, charter schools are often accused of “cream-skimming,” meaning they enroll students who are unlike peers remaining in the public setting in ways sometimes unaccounted for analytically (Frankenberg, Siegel-Hawley, & Wang, 2011; Miron, Urschel, Mathis & Tornquist, 2010). Some evidence of the “cream-skimming” practice has emerged from research (West, Ingram, & Hind, 2006; Jacobs, 2011) but is contested in other studies (Hoxby, Murarka, & Kang, 2009; Zimmer & Guarino, 2013). Naturally, this complicates treatment effect claims for charter school advocates (Ozek, 2009). As our research centers on questions of access and provision as charter saturation increases in specific locations, we focus our literature review on empirical studies addressing access/provision claims while only summarizing literature addressing competition and student achievement outcomes.

Access and Provision by Race/Ethnicity and Free/Reduced Lunch

Research by Renzulli and Evans (2005) established that charters can serve as a “white flight option” (p. 410) increasing stratification of races. Using the same data, Renzulli (2006) later noted that African-Americans participate in charters at a higher rate when district schools are more racially segregated prior to charter entry. This paradoxical finding implies that charters can act as both a mechanism for and a response to stratification by race/ethnicity. Though among the first to make this claim, Renzulli is not alone in identifying these findings of bi-directionality of access and provision for charter school enrollment. Garcia (2008) notes segregation by charter entry happens as both a white-flight response and by minority self-selection segregation whereby minorities enter charter schools which are more racially-segregated than the district schools they exit. Researchers also note this effect is not unique to charter schools; parents of all racial/ethnic backgrounds have long utilized charters, magnet schools, and vouchers as a mechanism toward monocultural education (Bifulco, Ladd, & Ross, 2009).

Layering poverty status measured by student eligibility for Free and Reduced Lunch (FRL) modulates the overall picture for race/ethnicity of charter school attendance. Logan and Burdick-Will (2016) report in a national analysis that a students’ race and poverty status along with charter attendance correlates with racial isolation and poverty exposures. For whites and Asians, charter

attendance often results in reduced exposure to poverty and minority students; conversely, for African American and, to a lesser extent, Latinx students, charter school attendance is associated with over-exposure to high-minority, high-poverty populations (Frankenberg & Lee, 2003; Miron, Urschel, Mathis & Tornquist, 2010).

In a more recent large-scale review across 40 states and the District of Columbia, Frankenberg, Siegel-Hawley, and Wang (2011) observe stronger evidence of racial and class isolation in charter schools than in public schools. This finding held constant across virtually every state and metropolitan area in the United States and is echoed in international research (Musset, 2012). This finding was recently repeated in Whitehurst's (2017) evaluation of the United States' 100 largest school districts, finding those using school choice mechanisms such as the common application strongly correlated with racially imbalanced high schools as compared to district catchment areas. Furthermore, Ertas and Roch (2014) and Miron, Urschel, Mathis, and Tornquist (2010) add that charter management may also relate to equity of access. In EMO-run charters, African-Americans are overrepresented even amidst underrepresentation of students of poverty compared to similar public schools and non-EMO charter schools. (Ertas & Roch, 2014). The connection escalated in significance as the scale of the EMO-operator grew.

Access at state and district levels often focuses on stratification effects which tend to be more prominent at the district level, although several state-wide studies also find that racial stratification increases as charters enter the market (Ausbrooks, Barrett, & Daniel, 2005; Tedin & Weiher, 2004). At the district level, although a 2009 Chicago study noted decreased segregation for charter attendance (Zimmer et al., 2009), updated research in Chicago shows that as privatization increased, African Americans were increasingly segregated into low-income and uni-racial schools through both charter entry and public-school closure (Jankov & Caref, 2017). This trend was also observed in Washington D.C. by Jacobs (2011, 2013) when proximity variables were measured against other possible determinants finding that parental preference for neighborhood schools significantly correlates with racial segregation. The results indicate that school-choice markets, as they currently exist, can reinforce de facto segregation patterns found in urban neighborhoods (Jacobs, 2013).

Similarly, an urban study conducted in the mountain-West region concludes that district-wide stratification in schools occurs more often in districts with charters and parental selection appears driven by social rather than academic factors (Phillips, Larsen, & Hausman, 2015). Furthermore, in urban charters managed by an EMO, charter schools were substantially more segregated by race, wealth, disabling condition, and language than other district schools in which the charter schools resided (Miron, Urschel, Mathis, & Tornquist, 2010).

Access and Provision by Program, Special Education and English Learners

That charter schools in aggregate serve fewer students of Special Education status than their public-school corollaries is not in debate. The National Council on Disability's "School Choice Series" (2018) and a 2012 U.S. Government Accountability Office (GAO) report both show substantially lower enrollments of Special Education students in charter schools. Civil Rights Data Collection (CRDC) analysis for the 2013–2014 school year (the most recent year available) found that 10.62% of students in charter schools received Special Education services as compared to 12.46% in public schools. Furthermore, the same data set reveals students receiving Special Education services at charter schools are disproportionately categorized as having a high-incidence, mild disability—such as learning disabilities, behavior disabilities, or mild intellectual disabilities, whereas lower-incidence and more severe disabilities such as developmental disabilities (0.92 versus 2.07) intellectual disabilities (3.64 versus 5.89) are often underrepresented in charters vs. public schools.

Colorado and Wisconsin studies report reduced access to charters for students who qualify for Special Education (McLaughlin & Henderson, 1998; Drame, 2011) which echoes qualitative findings at the national level (Rhim & McLaughlin, 2010). Additionally, in an empirical related study, charters that did enroll Special Education students at rates similar to district averages had negative growth outcomes in both reading and math for both the general population and, more pronouncedly, for those enrolled in Special Education (Drame, 2010). While some research maintains that under-subscription is simply a product of fewer parent applications (Winters, 2014), a recent experimental study found that charter schools reduced responses to enrollment inquiries (significant at a $p < 0.01$ level) when the inquiry noted the student was designated as special needs (Bergman & McFarlin, 2018).

English Learner (EL) national representation in charter schools remains opaque. Despite the fact that ELs represent 9.6% of all K-12 enrollments nationally, federal datasets fail to report EL classification disaggregated by charter or public-school enrollment and qualitative research finds charter school authorizers fail to report explicit consideration of ELs in charter authorizations (Garcia & Morales, 2016). Furthermore, ELs are “reclassified” as they acquire English Language proficiency, making status harder to track longitudinally. In California, where both English Learners and charter school enrollments are higher than national averages, 27.8% of all K-12 students in both charter and public were classified as ELs whereas only 19.5% of California charter school enrollments were classified as ELs (California Department of Education, 2019). Winters (2013) notes a similar gap in EL charter enrollment for New York. Both figures substantiate Frankenberg, Siegel-Hawley, and Wang’s preliminary national findings of under-enrollment of ELs in charter schools (2011).

Student Achievement and Competitive Pressure Outcomes

Across the national landscape, meta-analyses which control for empirical studies present mixed achievement outcomes in comparing charter and public schools. A notable 2016 meta-analysis of 17 U.S. empirical studies on charter efficacy of student outcomes reports a small positive difference in math achievement, yet no difference in reading outcomes (Betts & Yang, 2016). Their follow-up meta-analysis expands this finding to higher outcomes in middle school for both math and reading, although the authors acknowledge variation within and across locations (Betts and Yang, 2019). A similarly designed 2015 lottery-based study (across 13 states) which targeted middle school effects found slightly negative, but not statistically significant, academic impacts for those attending a charter school (Clark et. al.), replicating previous elementary school findings (Imberman, 2011). This null achievement effect is echoed by Braun, Jenkins, and Grigg, (2006), Zimmer et. al. (2009), and Gleason, Clark, Tuttle, and Dwoyer (2010).

Oft-cited CREDO studies conducted at Stanford University fail to clear the muddied waters. The 2009 CREDO study, a first of its kind in many ways, reported overall negative aggregate results charter participants in both math (.03 standard deviations) and reading (.01 standard deviations) testing outcomes. Methods critiques, most notably by Hoxby (2009), abound, and follow-up studies (2013, 2015) reverse these findings by reporting overall small but positive outcomes for charter enrollees. Using the 2013 CREDO data, however, Rapa, Katsiyannis, and Ennis (2018) report a null effect for the impact of charter attendance at the national level; we do note a large range of impact from -11 (reported in days of learning) to +46 across a variety of charter school locations. Epple, Romano, & Zimmer, (2015) offer a summary statement that charters perform no better than public schools, writing that “the evidence suggests that, accounting for differences in population served, charter schools are not, on average, producing student achievement gains any better than TPSs” (pp. 56-57).

Outcomes studies at district levels report positive or null effects for charter participation. A Boston-based study reported modest yet consistent positive charter school outcomes, yet also reported charter under-representation of students of poverty, special-education status, and English learners (Abdulkadiroğlu et al., 2009). In a multivariate analysis of New York City schools, research findings suggest that there are more similarities in student outcomes between charter schools and other public schools than differences. Although charter schools had higher sixth- and eighth-grade math scores, outcomes were comparable along other measures (Silverman, 2013). One consistent bright spot exists for charter school outcomes—students in urban areas tend to have higher standardized test scores and later, graduation rates, than comparison public schools in the same urban area (CREDO, 2015a). A multi-district study found that urban charters result in net positive gains for students, especially for students of poverty, but charters in non-urban areas had null effects (Angrist, Pathak & Walters, 2013). Logan and Burdick-Will (2016) update this finding by paradoxically concluding charter schools produce better outcomes for most students of color in terms of standardized test scores in concentrated-poverty areas but worse outcomes for the same category of students in lower-poverty districts. Ferrare (2019) provides an article-length, multi-level literature review for multiple outcomes that reports similar findings as discussed above.

Methods

Research Questions (RQs)

National discussions of the expansion of education privatization require understanding its manifestations across system levels. Here, we broadly address questions of education access as privatization grows in local contexts. Specifically, this article seeks to answer the following two questions regarding US education privatization:

RQ1: How much do different forms of education privatization saturate the United States' education system and where?

RQ2: Do demographic characteristics, programmatic participation, and student achievement differ between privatization approaches, specifically charter schools, and public schools?

While education privatization began long before the current administration, the scope of its proposed implementation is unprecedented in the United States. Given the somewhat mixed evidence surrounding these school choice policies, education researchers must evaluate this critical issue of public import. This research brings together previous evidence at different levels with new analyses across representative local contexts to better understand if and how segregation is occurring when privatization approaches or exceeds 25% of the local education market. The implications of this research reveal expected issues if privatization mechanisms scale up in the United States.

Hypotheses

Though we uncovered multiscalar empirical studies which analyzed charter market share in Frankenburg et al. (2011), we find it important to add the complexity of district and school-level analysis in this article. Furthermore, as privatization through charters has vastly increased in the United States since 2011, we seek to expand on Frankenburg's findings, building again on Frankenburg et al.'s (2019) recent update to their original findings.

Given the multi-directionality of research findings and the stratification trend that emerged from the literature, we concentrate specifically on charter school access for students by race/ethnicity and program type (measured by FRL, Special Education, and English Learner status) across six districts. We hypothesize that, as privatization exceeds 25% of the enrollment for a local

district, trends of disparate access by program type, race/ethnicity, and FRL will emerge. Specifically, we predict limited charter enrollment for students in Special Education and English Learners, and we anticipate patterns of racial/ethnic access and segregation to emerge as well.

Conceptual Framework

Given the complexity of the United States' educational system and the scope of the research, we represent our intended research in the Conceptual Framework (see Figure 2). While **RQ1** is analyzed across national and state systems, **RQ2** remains localized to the district level.

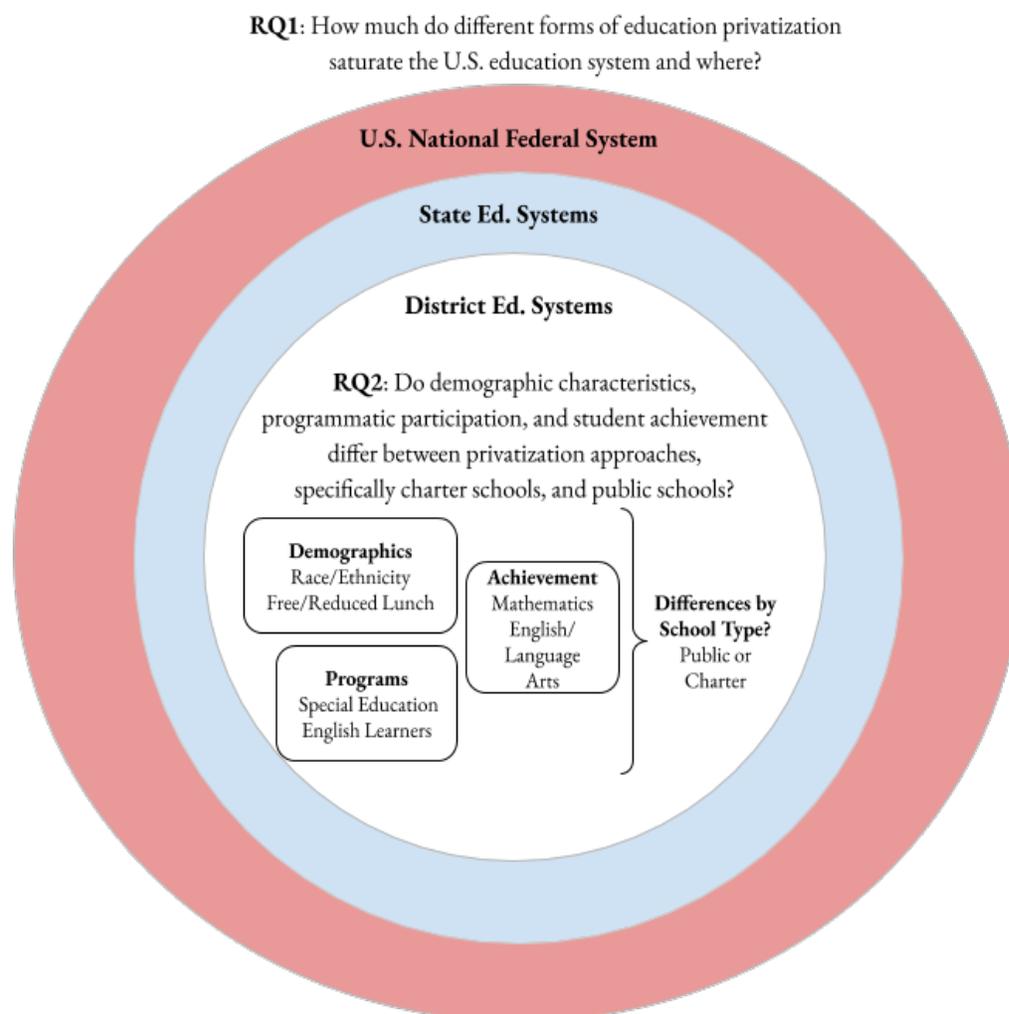


Figure 2. Education Privatization Saturation Across United States' Political Levels

To answer **RQ1** regarding current privatization saturation in the United States, we queried national education data sets via Common Core of Data to determine charter school saturation at the national and state levels. All figures included represent the most currently available data at the time of publication. As charters can be authorized at the state or local level with recorded anomalies of authorizing charters asymmetrically to their operating location, we also found it necessary to consult the National Alliance for Public Charters (2017), a pro-privatization 501c(3), which houses a database of charter school saturation geo-matched to public school districts (Baker and Miron,

2015). We then mapped the reported charter saturation levels using geocoding techniques in ArcPro to visually represent the private sector's saturation at the local level (See Figure 3, below). Virtual charters¹ were excluded in this analysis as geo-matching was unavailable, which may result in under-counting. Table 1 (see Appendix A) categorizes districts mapped and charter saturation nationally to 10% saturation by charter schools. This figure reveals, in visual form, a key finding discussed in detail below about the specific targeting of urban communities by education privatization in the form of charter schools.

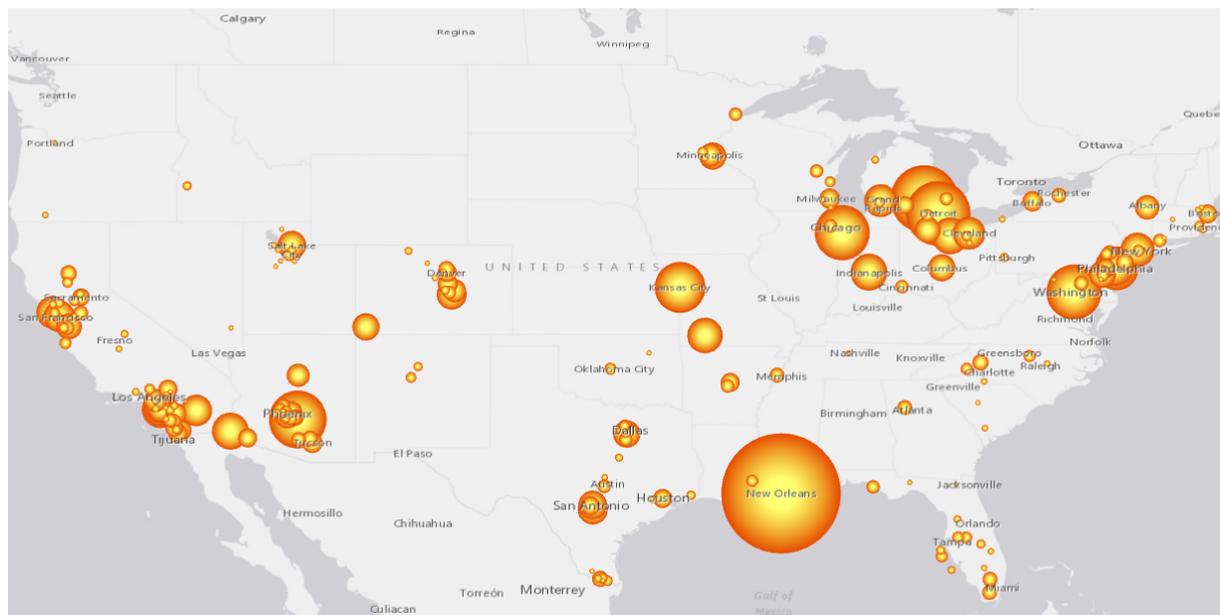


Figure 3: United States K-12 Districts with charter school enrollment greater than 10%. Circle size proportional to enrollment.

Source: ArcPro Visualization of data table by National Alliance for Public Charters, 2017. See Appendix A.

Though these saturation statistics are widely-accepted, in order to further analyze reported data, we selected six focus districts in the top 20 reported saturation from areas, all with over 25% charter school saturation. We selected these districts using the following criteria. First, as mentioned above, all six districts have substantial charter saturation rates. We then selected two districts from geographies with a larger preponderance of charter schools: the west, the Midwest, and the northeast. In each region, we included one smaller and one larger district with the largest saturation level within that region. From the east coast, we included Camden, New Jersey, and Washington D.C. From the Midwest, we selected the City of Flint and Detroit, limiting the selection to Michigan. Finally, from the west, we identified Natomas and Oakland Unified, again limiting the selection to California. The sampling strategy is not intended to be statistically robust across the districts, but it does provide different data across two dimensions, geography and district size, for districts with higher levels of charter saturation rates.

After identifying districts of interest, we gathered publicly-available school-level data sets from corresponding departments of education regarding school categorization (charter or traditional

¹ Virtual charter schools present a particular challenge to any geo-mapping as states allowing virtual charters to operate within their borders also allow state-wide catchment areas. Furthermore, studies find students and families who elect to attend virtual charter schools are unlike those attending brick and mortar charters in important ways (Miron, 2016; Molnar et. al., 2019) with less robust academic outcomes (CREDO, 2015b).

public) and student enrollment at each school, disaggregated by race/ethnicity, Special Education participation, English Language Learner participation, and Free/Reduced Lunch participation. In parallel with Common Core of Data (CCD) school classification, we excluded private schools, virtual schools, schools listed as operational but without enrolled students, schools which did not serve K-12 populations (preschools, adult education centers), and schools whose specific mission is serving unique alternative populations (such as homebound, targeted Special Education schools) from this analysis.

As charter schools may be authorized at the state level or by the non-geographically operational district, we found it necessary to map charter schools geographically using the address listed in the Common Core of Data and geographic bounds of a corresponding public school district as recorded by the U.S. Census Bureau in order to make determinations about inclusion/exclusion of charter schools for analysis. This resulted in the inclusion of the following total (public and charter) number of schools in each district: 28, Camden, NJ; 223, Washington DC; 21, Flint, MI; 152 Detroit, MI; 21, Natomas, CA; and 125, Oakland, CA.

Subsequently, we separated the data sets by traditional public schools and charter schools to identify trends in enrollment demographics and potential over/under representation of population groups. We use the free lunch or reduced-price lunch (FRL) status classification as a proxy for socioeconomic status (SES), and the proportion of students who are FRL eligible as a metric for school-level SES. Though this convention is widely accepted, the limitations of these variables to measure economic status are discussed in depth in Micheltore and Dynarski's (2016) recent study. Special Education programs, EL programs and race/ethnicity identifiers are reported categories within all states analyzed; therefore, we rely on school-level reporting of these enrollment numbers.

To better compare the differences between public and charter schools, we also analyzed these variables (race/ethnicity, FRL, Special Education programs and EL programs, and math and English Language Arts outcomes) using independent sample Welch's *t*-tests (for unequal variances, due to small sample sizes in some districts) using Mac OSX Numbers software embedded "TTEST" and "two-sample unequal" commands to execute the following equation:

$$t = \frac{m_A - m_B}{\sqrt{\frac{S_A^2}{n_A} + \frac{S_B^2}{n_B}}}$$

In this equation, A and B refer to public and charter schools, respectively, m_A and m_B represent the means for each variable of interest for public and charter schools, n_A and n_B represent the sizes of each group of schools. S_A^2 and S_B^2 are the standard deviations of groups A and B, respectively. The software calculates degrees of freedom and determines significance based on a 5% alpha. We report significant differences for both one-tail (<0.10) and two-tail (<0.05, etc.) between public and charter schools.

In addition to testing for significant differences between types of schools, we also examine three types of aggregate levels of isolation: intense segregation (populations at or above 90% of students of color); double intense segregation (populations at or above 90% of students of color *and* at or above 90% FRL); and double intense segregation for Special Education students and English Learners. Based on similar analyses by Frankenberg et al. (2011) and Vasquez-Heilig, Brewer, and Williams (2019b). We do not *t*-test the differences between each of these segregation subgroups, but we do discuss when the differences between public and charter schools follow a specific pattern and reference it back to the *t*-test results.

Study Limitations

As this study uses publicly-available school level data bounded by specific geographic areas, limitations exist for the interpretation and generalization of findings. Questions of enrollment access and outcomes are best measured at the student, not school, level because students may enroll across district geographic bounds in all states analyzed. Because federal law requires inter-district transfer requests to prioritize under-served populations and those currently in low performing schools unless prohibited by state law (ESSA Section 1111(d)(1)(D)(i)), inter-district transfers, if present, may not be homogeneously spread throughout the population. Also, in at least one state analyzed in this study, state law requires that students with a parent working within but who does not reside within the geographic bounds of a district to be granted within-district school enrollment eligibility (CA Education Code 48204(b)). In other words, we cannot know for sure if a particular student enrolled in a charter school would otherwise have attended a public school in that same school district. Ideally, we would have been able to access student level data including addresses, identifiers (race/ethnicity, FRL status), and matched testing scores to provide a more robust analysis.

Moreover, most of this study provides a one-year snapshot comparison of enrollment access/provision and student achievement outcomes discrete by charter and public entities (we do measure charter growth at the state level since 2005-06). It does not account for the number of years of education in a particular type of school (public/charter), nor recency of move. For a more complete picture, longitudinal analysis would be useful especially as several studies indicate temporarily decreased outcomes for students who transfer between school types (Bifulco & Ladd, 2006; Jinnai, 2014).

Finally, we encountered two instances in which data was reported in a range instead of by student enrollment numbers in order to protect student identification. In Michigan, school sites with under 10 students in a special reporting category (English Learners, those qualifying for Special Education services) report range-only data of <10. For calculations, we imputed range-reporting schools to 5 students at each school site. For Special Education, this affected 1 school in Flint (out of 21) and 1 school in Detroit (out of 152). For English Learners, this affected 6 Flint sites and 83 Detroit sites.

In Washington D.C., though all public-school reported enrollment population for FRL status, 64 of 122 charter school sites denoted only range data for student FRL eligibility reporting 60% or greater population. We therefore report charter FRL population in D.C. as a range with the lower bound excluding schools with range-only reporting and the upper bound assuming range reporting schools to have a student FRL eligibility of 100%. For *T*-testing, we imputed range-reporting schools to the D.C. mean FRL of 77.1%.

Findings

Saturation of Education Privatization across U.S. System Levels (RQ1)

National level. Charter schools, which comprise 7% of all U.S. schools and 5.7% of all enrollments, are by far the largest actors in the U.S. systems and therefore occupy much of the attention in this research study (NCES, 2017, Table 216.90). In contrast, vouchers account for merely 0.34% of U.S. national student enrollments (NCES, 2017, Table 205.80).² Furthermore,

² The voucher enrollment percentage represents the sum of all student voucher enrollments divided by the total U.S. K-12 school enrollment. Aggregating these data required identifying voucher programs nationally followed by gathering program data from each state, illustrating the difficulty of obtaining reliable data not

only 0.02% of families nationally participated in Individual Tax Credits, Tax Credit Scholarships, and Education Savings Accounts.² However, these relatively small programs, as discussed above, are a main focus of the current national administration's education plan, and are concentrated in a few states where they are over-represented and often hidden from direct scrutiny (Carnoy, 2017; Welner 2017). Therefore, they are included in state-level analysis.

Examining the most prevalent form of education privatization, charter schools, Figures 4 and 5 show national level data disaggregated between public and charter students and schools, respectively. Demographically at the U.S. national level, students attending charter schools are more likely to be African-American or Latinx than White or Asian/Pacific Islander; however, some of this is attributable to their concentration in urban areas which often house larger minority populations, although that does not fully account for the difference, as we discuss below (Lubienski, 2013; McFarland et. al., 2018). In 2015, white students comprised 50% of all U.S. K-12 school enrollments (for both charter and traditional public schools), but only 33% of the charter population. In the same year, African-American students (16% of the overall population) and Latinx students (25% of the overall population) were overrepresented at charters—27% and 33% respectively (McFarland et. al., 2018). A similar pattern repeated for schools with racial/ethnic concentrations over 50% of a particular subgroup, with 58.2% of public schools having concentrations of white students, while charter schools had high concentrations of African American (23.4%) and Latinx (25.2%) students.

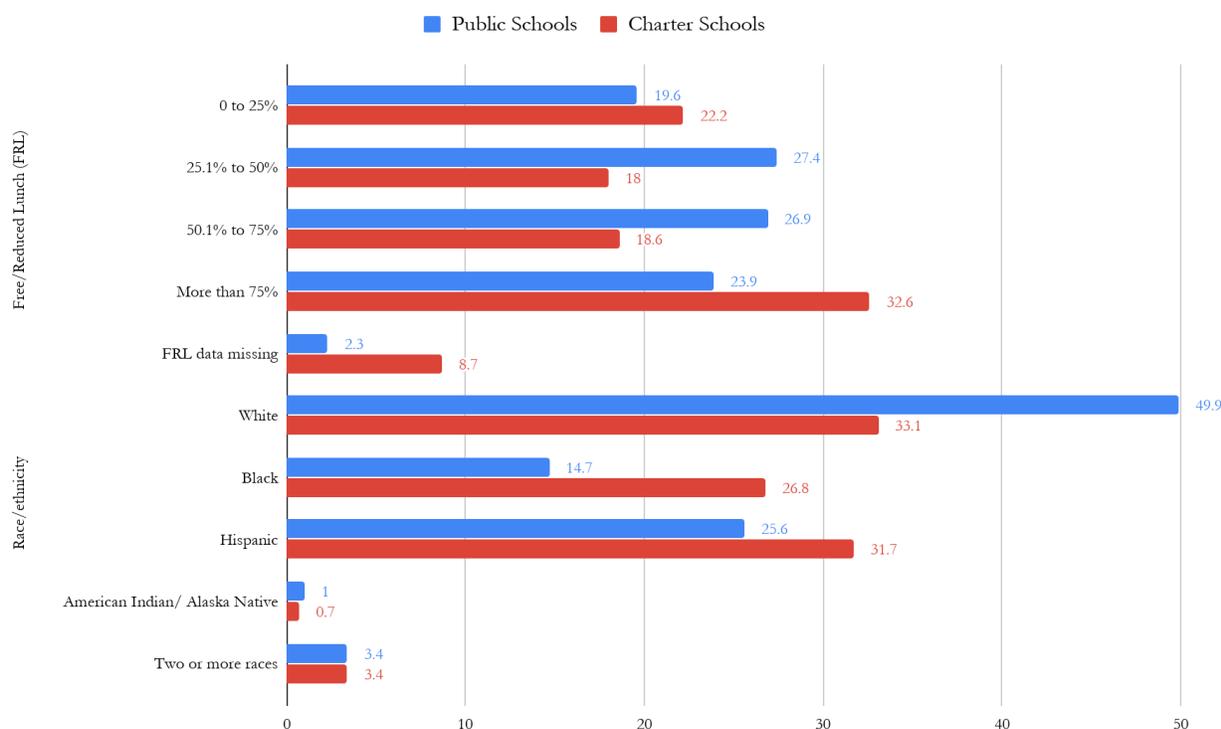


Figure 4. National Public and Charter Demographics, by Percentage of Students (2015-16)

Source: National Center for Educational Statistics, 2017. Table 216.30. Number and percentage distribution of public elementary and secondary students and schools, by traditional or charter school status and selected characteristics: 2000-01 and 2015-16.

formally collected nationally, despite the policy environment encouraging voucher use. Calculations of enrollment percentage for Tax Credits, Scholarships, and Savings Accounts used the same method.

Nationally, both figures show that charter schools have a higher percent of both students and schools at both the bottom and top of the FRL scale, potentially revealing increased levels of segregation for both high and low socio-economic status students. Figure 5 shows that 56.5% of charters operate in an urban environment compared with 25.9% in the suburbs and the remaining 17% in both towns and rural municipalities. By contrast, only 24.9% of K-12 students live in an urban area, with the suburbs (32.1%) and rural areas (28.9%) both comprising larger percentages, and towns (14.1%) representing the remainder (NCES, 2017, Table 216.30).

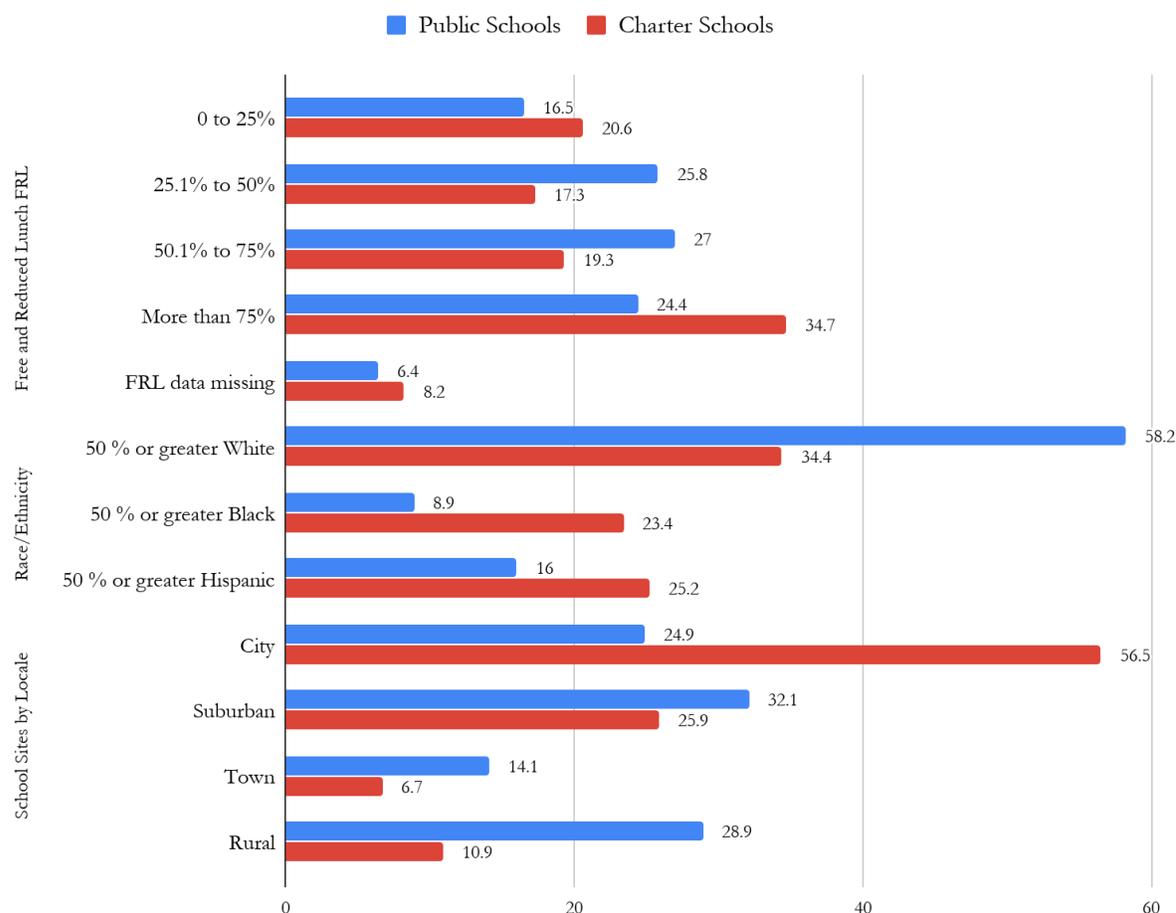


Figure 5. National Public and Charter Demographics by Schools (2015-16)

Source: National Center for Educational Statistics, 2017. Table 216.30. Number and percentage distribution of public elementary and secondary students and schools, by traditional or charter school status and selected characteristics: 2000-01 and 2015-16.

State level. At the state level, charter, voucher, and neo-voucher saturation varies both among regions and over time as states have not homogeneously embraced privatization mechanisms (Sørensen, 2017). Regionally, the northeast hosts 15.7% of the nation’s schools (both charter and public) but accounts for a mere 10.1% of charter schools. However, in the west, charter schools are over-represented with the region contributing 36.8% of all national charters while housing with only 23.8% of its K-12 schools (NCES, 2017, Table 216.30).

By enrollment numbers, California is currently the largest contributor to the national charter school movement with 9% of its 6.2 million students enrolling in a charter school in 2016. However, state level market saturation as a percentage of total students is highest in Washington D.C. (43%),

Arizona (16%), and Colorado (12%) (NCES, 2017, Table 216.90). Longitudinally from 2005/06 - 2015/16, charter school enrollment trends also differ among states (see Appendix B). Washington D.C, Delaware, California, Utah, Texas, Oregon, Louisiana, Rhode Island and Nevada have all doubled their charter enrollments within this ten-year period resulting in 2015-16 state-level saturation well above the national mean of 6%. Interestingly, Iowa is the only state to report decreased saturation of charter school enrollments. This may simply reflect the popularity of different privatization mechanism within the state; Iowa has embraced a state-level tuition tax credit quadrupling its funding from \$2.5 to \$12 million in this same time period (Ryan, M., 2018).

Fifteen U.S. states and Washington D.C. currently operate voucher programs (see Table 1 below). While national voucher saturation remains relatively small, especially compared with charter school enrollments, in Ohio, Vermont, Wisconsin, Indiana, state-level saturation reaches 3.0% or more of the K-12 population, ten-times the national rate. Additionally, 32 states operate some form of neo-voucher, such as a tax credit scholarship (TCS), ICD, or ESA, by using state tax law to shelter otherwise taxable income (see Appendix C). As discussed above, programs vary by state in eligibility and whether tax savings is a credit or deduction—a difference often worth over a third of the net return to the contributor for these programs.

Table 1

Student Enrollment in States with Voucher Programs, by Voucher Percentage, 2017-18

State	Total K-12 enrollment	Voucher %	State	Total K-12 enrollment	Voucher %	State	Total K-12 enrollment	Voucher %
Wisconsin	864,432	4.1%	Florida	2,816,791	1.1%	Utah	659,801	0.1%
Indiana	1,049,547	3.4%	Louisiana	716,293	1.0%	Oklahoma	693,903	0.1%
Vermont	88,428	3.2%	North Carolina	1,550,062	0.6%	Arkansas	493,447	0.1%
Ohio	1,710,143	3.0%	Maryland	886,221	0.4%	Mississippi	483,150	0.1%
Maine	180,512	2.8%	Georgia	1,764,346	0.3%	New Hampshire	180,888	0.0%
Washington D.C.	85,850	1.9%	--	--	--	--	--	--

Source: Departments of Education, listed states.

District level. District-level saturation for all privatization mechanisms remains beyond the scope of this article and impossible in some instances. Neo-vouchers, especially those benefiting private families, are not disaggregated to the household level for privacy reasons. Therefore, we will focus RQ2 on the largest privatization mechanism in the U.S. charter schools. Charter saturation at the district level serves as the basis for case selection to answer RQ2.

Differences between Public and Charter Schools in Demographic Characteristics, Programmatic Participation, and Student Achievement (RQ2)

A main empirical focus of this study is questioning whether, and to what extent, segregation occurs in education systems with higher levels of privatization - predominantly charter schools in the US. Previously, we illustrated a level of inadequacy of both national and state-level analyses for understanding a predominantly localized phenomenon. Therefore, we turn to six districts, summarized in Table 2, all with over 25% enrollment in charter schools. As a recap, based on prior

research, namely (Drame, 2011; Frankenburg et al., 2010; McLaughlin & Henderson, 1998; Rhim & McLaughlin, 2010) our hypotheses are that charter schools will enroll a lower percentage of students in specific subgroups (Special Education students, English Learners, and students receiving FRL) and may enroll lower percentages of African American and Latinx students. The race/ethnicity hypothesis varies by known differences in certain group interests in charter schools.

Table 2

K-12 Enrollment and Charter Share for Six Selected School Districts, by District Size, 2017-18.

District, State	K-12 Population	Charter Share (% of students)	Charter Share (% of schools)
Camden, New Jersey	14,348	47.5	28.6
Washington, D.C.	88,566	45.8	50.7
Flint, Michigan	7,716	41.6	38.1
Detroit, Michigan	72,545	30.6	35.5
Natomas, California	14,895	33.2	30
Oakland, California	50,410	26.4	28.6

Sources: Publicly-available data sets from the Dept. of Education, New Jersey, Michigan, California, and Washington D.C.

Note: Data in this table differ from Table 2 by source and year. These data are more current and therefore likely to represent more accurate comparisons by purposeful inclusion/exclusion (see Methods section).

As an overview, analyzing sub-group enrollments—and differences between them in charter and traditional public schools—at the district level revealed a pattern of differences in the access of certain types of students. The most significant differences occurred between Special Education populations, with more Special Education students enrolled in public than charter schools. English Learner populations had fewer significant differences, but of the same type. For these same districts, achievement scores went in the opposite direction, although this analysis did not account for the observed student selection within the outcome measures. Finally, race/ethnicity did not have a discernable pattern at the aggregate level, so we further examined the issues of concentrated and intense segregation.

Demographic differences. Table 3 shows demographic characteristics (race/ethnicity³ and FRL) for student enrollment in each of the six districts analyzed in this study, disaggregated by type of school (public and charter).⁴ Student populations within these districts range from 7,716 in Flint, MI to 88,566 in Washington, D.C. The percentage of charter schools ranges from 26.4% in Oakland, CA to 47.5% in Camden, NJ. White students represent under 25% of the population in all six cities, the Californian cities have majority Latinx populations, and the Midwest and east coast cities have majority African American student populations except for Camden, almost evenly split between African American and Latinx students.

³ For student race/ethnicity in this study, we focus specifically on the historically disenfranchised populations of African Americans and Latinx students in comparison with white students, while also recognizing that the US has mistreated many minority groups over time (Native American genocide, Japanese American internment camps, etc.).

⁴ Percentages of students computed by mean of school-level enrollment for each district. Figures do not add to 100 based on rounding.

Table 3
K-12 District Enrollment and Percent Difference between Public and Charter Schools for African Americans, Latinx, White, and FRL-qualifying students, by District Size, 2017-18

Location	African American			Latinx			White			Free/Reduced Lunch		
	Pub.	Char.	Diff.	Pub.	Char.	Diff.	Pub.	Char.	Diff.	Pub.	Char.	Diff.
Camden	45.3	53.5	8.2	50.8	37.1	13.8	0.6	1.2	0.6	65.4	81.6	-16.2†
Wash D.C.	67.1	76.6	-9.6***	16.9	11.5	5.4*	12.4	6.2	6.1**	81.3	65.0 [^]	16.3**
Flint	74	78.7	-4.6	3.5	5.2	-1.7	17.2	11.3	5.9	94.4	92.6	-1.9
Detroit	86.2	79.7	6.5	10.1	10.9	-0.7	1.1	3.5	-2.4	86	92.7	-8.3***
Natomas	21.5	9.1	12.3***	34.2	28.8	5.3	15.5	20.9	-5.4†	63.8	41	22.8**
Oakland	29.4	23.1	6.3	42.8	55.2	-12.5*	10.2	5.8	4.3†	76	77.9	-1.9

* $p < .05$; ** $p < .01$; *** $p < .001$; † $p < .10$.

Sources: Publicly-available data sets from U.S. DOE, New Jersey, Michigan, California, and Washington D.C.

Notes: When difference is **positive**, number signifies percent greater representation in public schools; when **negative**, number signified percent greater representation in charter schools. In Washington D.C., 64 of 112 charter schools reported range-only data for student FRL at or above 60%, which we mean imputed at the district average of 77.1% instead of using the lowest (60%) or highest (100%) possible figures.

Table 3 also reports differences in enrollment between the demographic groups and shows statistical significance determined by independent sample t-tests between public and charter schools. As with the national figures, differences in race/ethnicity between types of schools do not show a strong pattern in these districts, although some of the bi-directionality discussed in the literature review occurs. Among public schools, African American students are more significantly represented in public schools in Natomas, but more represented in charter schools in Washington D.C. Significantly more Latinx and White students attend public schools in Washington D.C., signaling some segregation between school types in this location. Significantly more Latinx students attend charter schools in Oakland, while significantly more white students attend public schools, again showing some form of intra-district segregation by school type. Schools in Natomas segregate the opposite way, with significantly more white students in charter schools and significantly more African American students in public schools.

Differences in programmatic participation and student achievement and special programs and student outcomes. Table 4 (below) reports the difference in enrollment between public and charter schools by specific programs and student outcomes, along with statistically significant differences between the two populations. In four of the six districts examined, public schools enrolled significantly higher numbers of Special Education students (Camden, Detroit, Natomas, and Oakland). While discussed further below, this represents a main finding of this study, confirming previous research showing student segregation by Special Education status (Drame, 2011). For English Learners, public schools in the two California districts (Natomas and Oakland) enroll significantly more EL students than charter schools.

Table 4

*K-12 Program Participation and **Percent Difference** for Special Education/English Learners and Student Achievement by ELA/Math Standardized Testing Outcomes, by District Size, 2017-18*

Location	Special Education			English Learners			Met ELA Proficiency			Met Math Proficiency		
	Pub.	Char.	Diff.	Pub.	Char.	Diff.	Pub.	Char.	Diff.	Pub.	Char.	Diff.
Camden	19.9	11.6	8.2***	7.8	4.3	3.5	14.2	36.5	-22.3**	8.3	27.9	-19.6**
Wash D.C.	14.4	15.7	-1.3	11.4	6.6	4.8	22.5	23.7	-1.2	21.2	21.7	-0.4
Flint	17.1	12.6	4.5	4.7	2.8	1.9	22.7	12.5	10.2	10.8	8.4	2.5
Detroit	14.9	11.4	3.5**	13.2	10.9	2.3	16.4	19.6	-3.2	9.5	12.1	-2.6
Natomas	12.9	7.1	5.8**	17.9	10.4	7.4*	36.1	63.9	-27.8**	20	48.3	-28.3 **
Oakland	13.2	8.6	4.6***	38.7	26	12.8†	27.1	42.7	-15.6***	22	31.5	-9.5 *

* $p < .05$; ** $p < .01$; *** $p < .001$; † $p < .10$.

Sources: Publicly available data sets from the U.S. DOE, New Jersey, Michigan, California, and Washington D.C.

Note: When difference is **positive**, number signifies percent greater representation in public schools; when **negative**, number signified percent greater representation in charter schools.

Three of the four districts with higher Special Education populations in public schools also report higher achievement scores in charter schools. Pairing these findings reveals the need for further research into the student populations at each type of school in order to determine if the Special Education populations and achievement score differences are related. Prior research has confirmed such relationships and the evidence in these districts appears to follow a similar pattern, although we did not test for association or causation in this study (Estes, 2004).

Concentrated Segregation

While school desegregation became law with *Brown vs. Board* (1954) case, the intersection of housing and school segregation have prevented that promise from becoming reality (Chetty, Hedren, Jones, & Porter, 2018). A main concern is that white flight, increasing minority populations, school choice programs, and other demographic factors have resulted not only in continued or re-segregation, but contributed to more intensely segregated schools. Frankenberg et al. (2019) find that the share of intensely segregated minority schools more than tripled from 1988 to 2016, from 5.7% to 18.2%, now superseding the share of intensely segregated white schools (16%). They also posit the role of school choice, first through magnets and currently predominantly through charter schools, as another contributor to the isolation (Frankenberg et al., 2019). We explore that issue in the subsequent analysis at both the national level and within the six selected districts.

Intensely segregated schools at or above 90% students of color. While previous research analyzes concentrated segregation (over 50% of one population), we analyze schools with over 90% white or students of color (our term), classified by Frankenberg et al., (2019) as “intensely segregated schools.” In this article, we analyze the difference in the percentage of public and charter schools with 90% or greater enrollments of students of color (SOCs). We recognize that grouping students of different race and ethnicity does not reflect real differences between, for instance, African American and Latinx students. However, given the history of desegregation, determining whether “intensely segregated” schools remain is a priority. And indeed, these schools exist in high numbers. Figure 6 (below) depicts the number of school sites for each of the six concentration areas of this study which house 90% of greater students of color (SOC), discrete by public and charter schools. Every single school - both public and

charter - in Camden N.J. is intensely segregated for SOCs. In Detroit, over 90% of public schools and 85% of charter schools are intensely segregated. Around 3 out of 4 charter schools are similarly segregated in Washington D.C., with the public schools just behind at 72%. Larger differences between intensely segregated public and charter schools appear in Oakland and Natomas (8% and 21% more segregated public schools, respectively) and Flint (25% more segregated charter schools).

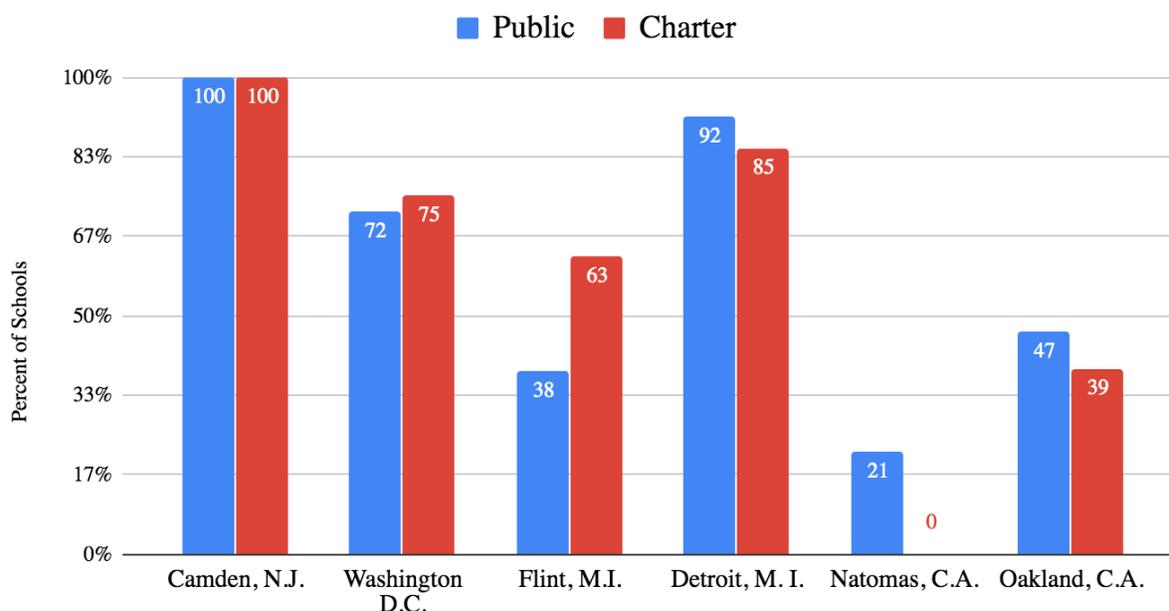


Figure 6. Intensely Segregated Schools with 90% or above Students of Color (SOC), by School Type, 2017-18

Sources: Publicly-available data sets from the U.S. DOE, New Jersey, Michigan, California, and Washington D.C. Data exclude students declining to disclose race/ethnicity.

Schools at or above 90% students of color and FRL students. While the segregation by race and ethnicity alone is problematic, combining it with class segregation, measured here as schools with 90% or greater students receiving FRL, creates a situation of exacerbated marginalization for students in these schools (See Figure 7). Of the six districts analyzed, Washington D.C. has anywhere between 12%-65% more public schools than charters meeting this criterion (due to charter school FRL data range-reporting), and Natomas has no such schools. Three districts - Camden (50% more), and Flint (11% more), Detroit (23% more) - have more charter schools with combined race and class segregation above 90% SOCs and 90% FRL, while Oakland has 8% more public schools with combined race and class segregation.

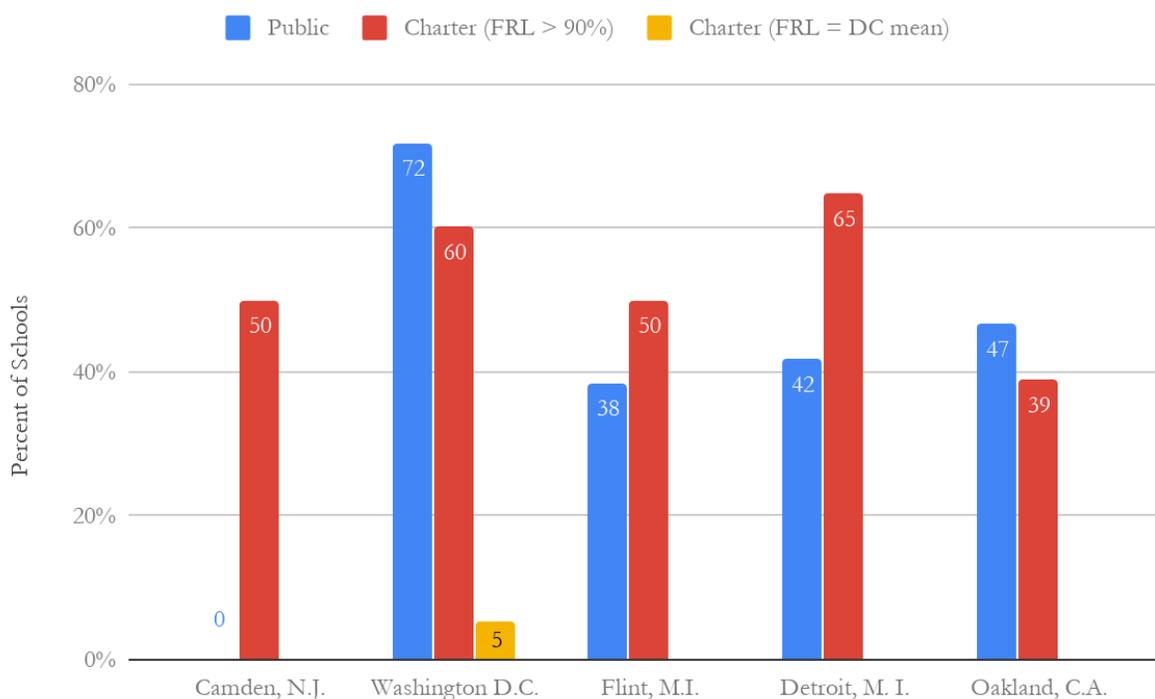


Figure 7. Percentage of Double Intensely Segregated Schools (at or above 90% Students of Color and FRL), by School Type, 2017-18

Sources: Publicly-available data sets from the U.S. DOE, New Jersey, Michigan, California, and Washington D.C. Data exclude students declining to disclose race/ethnicity.

Notes: Natomas (not shown) has no schools and Camden has no public schools with both 90% or more students of color and FRL students. The majority of Washington D.C. charter schools report range-only data for FRL. Because these data likely under-count FRL, we present range-only schools two ways: DC mean (78%) and above 90% FRL.

Special education students and English Learners at schools with 90% students of color and FRL students, or more. Within intensely segregated schools, the danger for multiple levels of marginalization can occur for Special Education students and English learners. Despite a greater percentage of charter schools, Figure 8 shows that segregated public schools serve a larger percentage of students with Special Education services in Oakland, Detroit, and Flint. Comparisons are not possible in Camden and Natomas, while Washington D.C. provides different results depending on the range of FRL students included. English learners (not shown) follow a similar pattern, except for Detroit, which has a higher percentage of ELs in highly segregated charter schools than public schools.

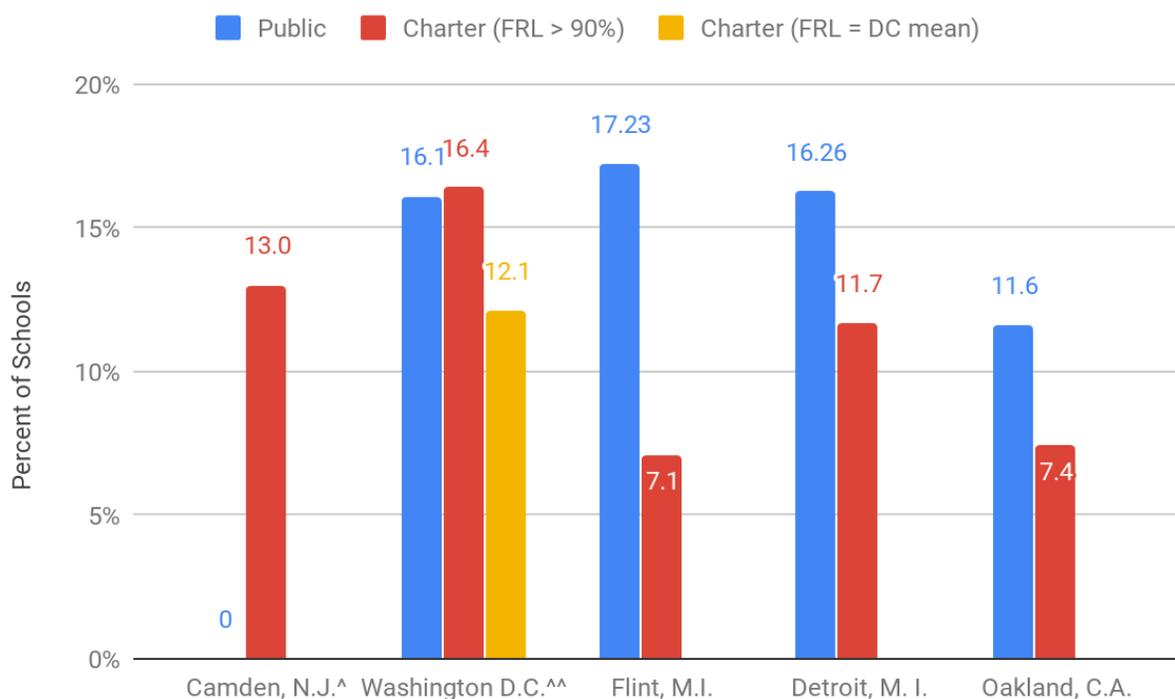


Figure 8. Mean Percentage of Students in Special Education Programs in Schools with Intense Segregation by Students of Color and FRL Status, by School Type, 2017-18

Sources: Publicly-available data sets from the U.S. DOE, New Jersey, Michigan, California, and Washington D.C. Data exclude students declining to disclose race/ethnicity.

Notes: Natomas (not shown) has no schools and Camden has no public schools with both 90% or more students of color and FRL students. The majority of Washington D.C. charter schools report range-only data for FRL. Because these data likely under-count FRL, we present a range from the DC mean (78%) to all schools above 90% FRL.

Unpacking Segregation

In addition to the differences between public and charter schools, another segregation phenomenon has occurred in two of the six districts analyzed. Segregation can be much broader than schools and can involve the intersection of housing, race/ethnicity, finance, and approaches to education. One situation that illustrates the interlocking of these issues is that of school district secessions, as identified by Erica Frankenberg. In a recent interview, she said that “communities sometimes secede from larger countywide school districts, creating school district boundary lines that expand segregation in schools” (As reported in Qu, 2019).

Two of the districts in this study demonstrate a similar type of phenomena, although one could argue that the community divisions were not based on school district secession per se, but due to related issues within the constellation outlined above. In Figure 9 (below), both Detroit MI, and Oakland, CA, and have protectorates carved out within their contiguous bounds. In Detroit, the contrast remains evident, although not quite as stark. While Detroit proper’s citizens are 79.1% African-American, 7.6% Latinx, and 14.1% White; Dearborn and Hamtramck both host majority-white populations: 90.5% and 54.2% respectively. Though Highland Park’s demographics and income more closely mirror larger-Detroit area, it is decidedly less densely-populated and houses a larger retiree population. And while contrasts in median income are less evident here than in Oakland, median owner-occupied housing values which often represent generational wealth are

telling: \$42,800 in Detroit; \$53,900 in Hamtramck; and \$124,200 in Dearborn (U.S. Census, 2018). Green, Sanchez, & Castro (2019) further examine the geospatial realities of schools in Detroit, discovering that charter schools open in specific, non-white area of the city. Taken together, these different housing and education approaches create very different environments for families.

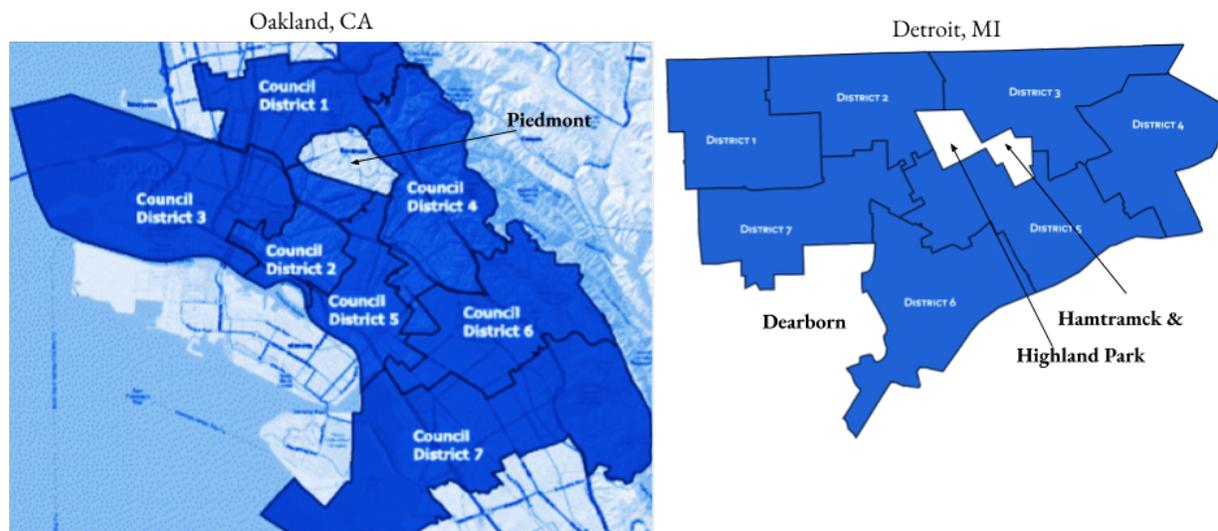


Figure 9. Community Secession in Oakland, CA, and Detroit, MI

Sources: City of Oakland, City Council District Map (2013); Data Detroit, Detroit Zoning Map Index (2016)

Oakland, CA, surrounds the city of Piedmont on all four sides. Piedmont is 73.3% White and 17.8% Asian with Latinx and African-Americans comprising only 4.6% and 1.6% of the population, respectively. In contrast, Oakland households are 27.3% Latinx and 24.3% African-American (U.S. Census, 2018). 85% of Piedmont adults over 25 hold a bachelor's degree while for the surrounding Oakland, less than half of that do so. Perhaps most telling is that median household income in Piedmont is \$202,631, while in Oakland it's \$63,251. In everyday life, these artificial boundaries in Detroit and Oakland might be normalized; however, they serve a real purpose in dividing communities along class and race lines and preventing the equitable distribution of resources across all sectors, including education.

Oakland Example

As a final level of analysis, we take a closer look at the data from Oakland, CA.⁵ In Oakland, the student demographics are fairly diverse, with slightly more African Americans (6.3% more) and statistically significantly more White students (4.3% more) in public schools. Charter schools have statistically significantly more Latinx students (12.5%). Across California, while English Learners in aggregate represent 67 language groups, 81.6% of all ELs speak Spanish as their primary language (California Language Census, 2018). Yet, despite the larger presence of Latinx students in charter schools, public schools in Oakland have statistically significantly more English Learners (12.8% more). Public schools in Oakland also enroll over a third more Special Education students (4.6% more) than charter schools, a statistically significant difference.

Turning to achievement, charter schools have statistically more students meeting English/Language Arts (15.6% more) and Math (9.5% more) proficiency levels than public schools.

⁵ Each of the six cities deserves its own analysis, but that remains outside the scope of this article.

Without the information above about public schools enrolling both more Special Education students and more English learners, one might assume that charter schools are higher performing. While we did not perform more advanced statistical analyses controlling for all of these different variables, it is clear that comparing public and charter schools on the basis of achievement scores alone is not an apples-to-apples comparison. In Oakland, charter schools also serve students with less overall need in Special Education, despite receiving funding for the district average, which is greater than the number they actually serve (Lafer, 2018). Finally, public schools in Oakland have more intense double segregated schools (by race/ethnicity and FRL), even though all charter schools in Oakland are located the flatland neighborhoods with higher percentages of students of color (Adamson, 2018). This difference means that, somehow, charter schools manage not to aggregate these students at the same levels of the public schools, despite their locations.

Despite questions about the differences between public and charter schools, the Oakland School Board and School District are slating 23 out of 86 public schools, *but zero charter schools*, for closure over the 2019-2020 school year, using student performance as a key indicator for closure. Besides the fact that school closures rarely save money, often do not help students, and are usually undemocratic, the analysis above shows that the student performance rationale is incorrect when not accounting for segregated populations and financing (Sunderman, Coghlan, & Mintrop, 2017). Creating an analysis combining these elements would require a longitudinal regression analysis of student achievement by school type, which the district has not presented, and which again would not solve the other issues of school closures. Given that only public schools are being closed and the empirical failure of claims about why, it is hard to see how the systemic approach of education privatization is doing anything more than disenfranchising the Oakland community and its public-school students.

Discussion

In this article, we have outlined and analyzed multiple forms of education privatization (vouchers, neo-vouchers, and charter schools) across different levels (international, national, state, and district). While these approaches comprise a relatively small percentage of the U.S. education system, members of the current federal government have proposed increased funding for education privatization, including up to \$5 billion in education tax credits in private schools nationally. This proposed increase underlines the importance of research into how these approaches operate within communities. We focus below on important findings and issues concerning the beneficiaries of neo-vouchers, the implications of charter schools, and the U.S. analysis within the global context.

Neo-Vouchers

While representing only a fraction of the U.S. education system, neo-vouchers in particular deserve more attention due to the proposed national “Education Freedom Scholarships and Opportunity Act.” However, the most important finding about these types of programs is not their relative obscurity, but rather the uncovering of exactly who benefits and how as part of the underlying reasons for suggested expansion of these programs. Take the Illinois “Invest in Kids” tuition tax credit program, for instance. In this program, which has an upper limit of \$100M per year, individuals and organizations can give money to a third-party entity that manages the process, in return for 5% overhead. The donors then receive a 75% tax credit (not a deduction, but a dollar-for-dollar reduction in taxes owed), meaning that they keep around 40-50% more than a deduction,

depending on their marginal rate.⁶ Their marginal rate also decreases because the donation is subtracted from their adjusted gross income. If donors have the capacity, they can also avoid capital gains taxes by making their donation using stocks. Finally, individual donors can select the actual school for their donation and direct the third-party organization to only provide scholarship funding to students attending that school (Illinois Dept. of Revenue, 2019).

In essence, the program makes what would simply be a donation to a private school (with a possible tax-deduction) into a “scholarship” that uses public money to more than double the return to the individual or organization of the donation. Individuals still get to select the school that they want to receive the donation. As a mechanism for subsuming public funding into private decisions and taxpayer kickbacks, neo-vouchers represent a clear form of education privatization, as defined by Belfield and Levin (2002). The main difference between the Illinois statewide program and the proposed federal program is that the federal program is not capped at 75%, but provides a 100% dollar-for-dollar tax credit, allowing families to keep around 70% more than a deduction, depending on their marginal tax rate.

Charter Schools

Charter schools serve as the primary vehicle for education privatization in the U.S. context, controlling 7% of schools and representing over a 10-fold saturation level compared to vouchers and neo-vouchers. However, charter school distribution is far from uniform. They have a larger presence in urban areas and a greater proportional share of African American and Latinx students relative to public schools. The national evidence on concentrated segregation show 14.3% more charter schools with majority African American populations and 9.5% charters with majority Latinx populations.

Charter schools also enroll more students at both the bottom *and* top of the FRL scale, revealing a more specific clientele than public schools. Renzulli's (2005, 2006) previously mentioned paradoxical findings highlight the complexities of these numbers. He demonstrates that privatization mechanisms serve as a “white flight option” (p. 410) therefore increasing segregation and that they function as a self-selection mechanism out of a public system already plagued with segregation. Thus, charters can act as both a mechanism for and a response to stratification by race/ethnicity. While many charter schools focus on urban areas with higher “minority” populations that influence these differences, the results also reveal the general targeting of urban areas and African American and Latinx populations (see Figure 3).

School privatization proponents often cite these differences as a program strength instead of a design flaw, saying that charters address urban and minority populations. However, this asymmetrical distribution of charter schools raises multiple questions. Why are chronically underserved and marginalized students targeted with this particular intervention while the problems of segregation, underfunding, and the achievement gap remain unsolved? Long-standing

⁶ In general, a tax credit means the taxpayer owes less than for a tax deduction. A tax deduction is a reduction in taxable income. If a taxpayer makes \$50,000 a year with a \$5,000 tax deduction, the taxable income would be \$45,000. The amount of tax liability is still based on the marginal tax rate. However, a tax credit refers to the amount subtracted from the tax liability. If the same taxpayer making \$50,000 owes \$15,000 of taxes based on the marginal rate, but receives a \$5,000 tax credit, the total tax payment would be reduced to \$10,000. This \$10,000 liability would likely be less than the tax liability on a marginal tax rate on \$45,000. For a good description of the difference, see Turbotax (2019). The tax-type difference means the U.S. government is proposing a more lucrative tax structure (credits) that funnels money to individuals supporting private voucher schools.

international analysis finds when parents have access to school choice mechanisms, urban school segregation by Race/Ethnicity increases even when controlling for neighborhood (Burgess, Wilson, & Lupton, 2005). Yet, in 2019, the U.S. Department of Education heralds these choice mechanisms as a way to reverse years of systemic inequalities (Devos, 2019, Feb 5). If, in fact, market-based competition was such an effective educational strategy, why is not occurring at equal or greater rates for white and low FRL students?

Instead of receiving the financial support available in white and low FRL districts, African Americans and Latinx families have to navigate a competitive model that, by definition, disperses funding across multiple types of schools, decreases regulations and opportunities for democratic participation (through privately-appointed boards, etc.), and differentiates students by Special Education status, as discussed above. Further research is necessary into the selection drivers of privatization mechanisms, especially in light of the tendency towards monocultural education related to school privatization, as identified by Bifulco, Ladd, and Ross (2009).

The main empirical focus of this article is the district level analysis seeking to understand how education privatization occurs in different local contexts. Unfortunately, a full-scale analysis of all districts with more than 25% charter schools is outside the scope of this article. Also, our quantitative approach to measuring segregation only partially reveals the situation in specific districts. Further inquiry using qualitative research, such as studies undertaken by one author in New Orleans, would likely reveal the nature of the specific patterns of enrollment by school, neighborhood, and reputation in a manner unknowable using only enrollment data (Adamson et al., 2015). Despite this caveat, comparing the six districts reveals patterns and confirms other studies on some key points. In these six districts specifically, we find intense segregation for all schools by race/ethnicity and that charter schools enroll fewer special education students and fewer doubly intensely segregated students, by both race/ethnicity and student FRL status, than public schools.

Intense segregation in schools with students of color over 90%. In 1954, the United States passed the famous decision to desegregate schools, stating that separate is not equal (*Brown v. Board*, 1954). However, the implementation of this decision has proven quite problematic in the intervening years, from forced desegregation in many states to housing shifts, such as white flight from cities to more homogenous suburban neighborhoods. In fact, an author of a recent school segregation report, Gary Orfield, was quoted as saying “We are back to the periods of the late 1960s in terms of levels of segregation ... We’ve lost all the progress we made since the time of (Martin Luther King Jr.’s) death and we are going backward steadily” (Qu, 2019).

We examined these districts for evidence of intense segregation using 90% students of color as the threshold and found that both public and charter schools had large percentages of these types of schools in five of the six districts. Almost 3 out of 4 students of color in Washington D.C attend intensely segregated schools, while almost 9 out of 10 do in Detroit and *every single student of color* in Camden attends a school intensely segregated by race/ethnicity. These findings echo patterns uncovered by Jankov and Caref (2017) in Chicago and Jacobs (2013) in Washington D.C. Camden is an example of how education segregation relates to housing trends within districts and regions as over 90% of its population is African American or Latinx (US Census, 2018). However, not all schools within these districts had the same trend. For instance, despite a White student population below 5% overall, Detroit has a charter school that is over 70% White. This also represents more than double the white homogeneity found at any public school in Detroit. Furthermore, Vasquez Heilig et al. (2019b) report that charter schools segregate students by race more often than public schools, even in similar contexts. Writ large, these high percentages of intensely segregated schools

by race and ethnicity in both public and charter schools represent a generational condemnation of combined failed housing and education desegregation policies and practices.

Segregation of students qualifying for Special Education services. Perhaps most importantly and conclusively, this study shows that Special Education students attend public schools at a statistically significantly higher rate than charter schools in four of the six districts analyzed (Camden, Natomas, Detroit, and Oakland). The other two districts also had more Special Education students in public schools, but this difference was not statistically significant compared to charters. This finding reflects prior research showing that charter schools serve fewer Special Education students (Adamson et al., 2015; Drame, 2010; Lafer, 2018). Special Education students are more expensive to educate, they often have lower test scores (if they participate in standardized testing), and they require teachers and staff skilled in providing accommodations and individualized learning. Aggregating them in one type of school is problematic enough. But then claiming, as so often happens, that achievement scores are better in charter schools without accounting for the different populations is disingenuous.

The issue can become very nuanced, as some charter schools may accept students at the same rate, but with different levels of need. As the National Council on Disability's "School Choice Series" (2018) and the GAO (2012) uncovered, nationally, charter schools under-enroll students of Special Education needs compared to public counterparts and, of all students of Special Education who do attend charters, charters over-enroll students who have a high-incidence, mild disability—such as learning disabilities, behavior disabilities, or mild intellectual disabilities, (Lafer, 2018) or gifted and talented students classified under individualized education plans (Adamson et al., 2015). Other issues such as "exclusion by inclusion," whereby schools place students in classrooms without the proper supports, also occur (Adamson et al., 2015). As a human rights mechanism, education must seek to include and foster the development of all people, so this type of systemic segregation by Special Education status is both illegal under federal and international law and antithetical to democracy in practice (Abidjan Principles, 2019).

Double intense segregation: Race/ethnicity and Free & Reduced Lunch students over 90%. Although segregation by race/ethnicity can negatively impact isolated groups, charter schools are touted by some as an opportunity for communities of color to gain more self-determination after uneven periods of de- and re-segregation and a general failure to truly integrate schools and communities on a national scale. However, intense segregation by both race/ethnicity and class (using FRL as a proxy) creates a truly pernicious level of marginalization. Of the six districts studied, at least three districts have more charter schools with combined race and class segregation above 90% SOCs and 90% FRL: Detroit (23% more), Camden (50% more), and Flint (11% more), with results from DC varying by how FRL is measured. In Oakland, we posed above a different interpretation that considers housing segregation as well as school segregation as a possible contributor to selection mechanisms by charter schools.

Some might claim that these types of schools serve the most marginalized. Indeed, in different countries, this argument has more credibility because some students literally have no access to education without a private provider (although that is still ultimately a governmental failure). However, in all cases, the government is not delivering on its basic obligation to deliver free, high quality education to all students (Abidjan Principles, 2019). From a systems perspective, schools that intensely segregate students by both race and class are reproducing disenfranchisement and perpetuating social inequality. In this study, charter schools do this more often than public schools in most of these districts analyzed, although these findings are not as starkly unidirectional as those for Special Education.

Conclusion

This article set out with three goals: 1) outlining the topography of education privatization; 2) measuring its scope at multiple system levels in the United States; and 3) examining demographic, programmatic, and achievement differences between public and charter schools. Before going further, we must revisit the theory of competition between schools that undergirds education privatization. Efficient and effective competition depends on a transparent marketplace in which families, especially those with low political and socio-economic capital, can make informed educational decisions for their children. In doing this research, we encountered multiple opaque situations - from trying to determine which students charters actually serve, to identifying who authorizes them in a given context, to having to contact multiple agencies for basic student data - and we did not even engage the financial aspects of school management. We constantly asked ourselves how a family could possibly be expected to effectively navigate the information thickets of the charter system. While it's true that bureaucracy has its labyrinths, layering the charter system on top of the public system only vastly complexifies the information gathering and processing necessary for parents to actually make a multi-school comparative decision for their child.

In answering the two research questions we pose in this study, our analysis revealed three main points:

- 1) Education privatization is increasing in the US, while the predominant form of charter schools is unevenly dispersed and concentrated primarily in urban areas serving students of color.
- 2) Segregation remains a major education issue for all schools, with students of color in urban contexts often attending intensely segregated schools.
- 3) Instead of mitigating the segregation problem, charter school selection appears to exacerbate it, specifically for special education students and for students in schools doubly segregated by both race/ethnicity and FRL status.

The trends in this article reveal a de facto policy for a substantial portion of the population that violates the *Brown v. Board* ruling that separate cannot be equal. In essence, the US has a multi-generational education equity problem, but education privatization is not the solution.

Zooming back out to the global level, the lessons of the United States require serious attention, given the role that research, ideas, and commercial endeavors originating in the United States play in countries across the planet. Students in low-fee private schools in Nairobi and Delhi might be learning on a hand-held tablet invented in Silicon Valley using curriculum written in Cambridge, Massachusetts. In 2017, the Education Minister of Liberia presented at the American Enterprise Institute in Washington D.C. about the benefits of exporting charter schools to the developing world, as well as piloting low-fee private schools in the Partnerships for Liberia program (Werner, 2017). As discussed in the introduction, the multi-directional channels of policy borrowing, influenced by multitudes of actors with different interests, offer fertile ground for unsuccessful programs in one context to be repackaged and exported elsewhere, likely with the same trajectory and outcome.

Thus, the primary lesson of education privatization from this study is that it has not worked, at a systemic level, to solve the entrenched educational inequities in the United States. Some schools of all different types are successful, but individual success cannot come at the expense of systemic failure to progress. Furthermore, education privatization has a track record now. The US exported it to Chile in 1980, and the result almost 40 years later is a system widely known as one of the most unequal among middle- and high-income countries (Castro-Hidalgo & Gomez-Alvarez, 2016).

Within the US, vouchers and charter schools have not moved the needle on educational inequity, despite their almost universal application in Milwaukee and New Orleans, respectively.

The global danger of pursuing this path is that we become further segregated both within and between contexts, with all of the disruptions to society that accompany increased segregation. In the United States, the past 20 years have seen increased racial and class segregation accompanied by political and social isolation, netting an admittedly xenophobic president and political system. We are not claiming that privatization of education caused this situation; rather, education privatization has distracted from the hard work of providing high quality education. What do the next twenty years hold in store if we continue down this path of increasing segregation while investing in solutions that haven't mitigated the very problems they purport to address?

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Appendix A

U.S. School Districts with Charter Saturation 10% or Greater by Student Enrollment, by Proportion of Charter Enrollment, Spring 2017

Charter Enrollment	State	Charter Enrollment	District Enrollment	Total Enrollment	Charter Share
New Orleans Public School System	LA	44,380	3,520	47,900	93%
School District of the City of Flint*	MI	5,780	4,810	10,590	55%
Detroit Public Schools Community District*	MI	50,460	44,890	95,350	53%
Queen Creek Unified District	AZ	6,110	6,740	12,850	48%
Gary Community School Corporation	IN	5,000	5,820	10,820	46%
District of Columbia Public Schools*	DC	41,490	48,510	90,000	46%
Kansas City School District	MO	11,410	15,210	26,620	43%
Camden City School District*	NJ	5,360	8,890	14,250	38%
Natomas Unified School District*	CA	4,860	9,790	14,640	33%
Indianapolis Public Schools	IN	14,240	28,770	43,000	33%
Roosevelt Elementary District	AZ	4,750	9,670	14,420	33%
Dayton City School District	OH	6,530	13,320	19,850	33%
Philadelphia City School District	PA	64,270	134,130	198,400	32%
14 St. Louis City School District	MO	11,070	23,850	34,930	32%
Newark City School District	NJ	16,220	35,840	52,050	31%
Cleveland Municipal School District	OH	16,710	38,720	55,430	30%
Inglewood Unified School District	CA	3,770	8,940	12,720	30%
Franklin-McKinley School District	CA	3,170	7,560	10,730	30%
Grand Rapids Public Schools	MI	6,590	15,720	22,300	30%
Oakland Unified School District*	CA	15,210	36,760	51,970	29%
Victor Valley Union High School District	CA	4,030	10,010	14,040	29%
Manor Independent School District	TX	3,520	8,870	12,390	28%
Harrison School District	CO	3,650	9,430	13,080	28%
San Antonio Independent School District	TX	16,900	45,040	61,940	27%
Ogden School District	UT	4,480	12,190	16,670	27%
Christina School District	DE	5,420	15,080	20,490	26%
Columbus City School District	OH	18,080	50,400	68,490	26%
Cedar Hill Independent School District	TX	2,650	7,460	10,110	26%
Brighton School District 27J	CO	4,640	13,180	17,820	26%

St. Paul Public School District	MN	12,910	37,110	50,020	26%
Phoenix Union High School District	AZ	9,470	27,360	36,820	26%
Los Angeles Unified School District	CA	163,720	476,260	639,980	26%
Toledo City School District	OH	7,750	22,890	30,630	25%
Alum Rock Union Elementary	CA	3,330	10,030	13,360	25%

Source: District-level data provided by National Alliance for Public Charters with enrollment data verified independently by State Departments of Education and the Common Core of Data.

Notes: As over half of charters nationally operate as independent LEA's, Geo-code mapping using Common Core of Data school addresses and U.S. Census Bureau Public School District Boundary Lines determined whether to include or exclude a charter as part of a district. This method can fail to account for students who enroll in charters from outside district bounds resulting in under or over counting. Table truncated for length. Entire table available upon request.

* Denotes district studied here by school-level analysis.

Appendix B

K-12 Charter Schools as a Percentage of Total Public Schools, by State, 2005-06 and 2015-16

State	2005-06	2015-16	State	2005-06	2015-16
Washington D.C.*	22.7	49.1	Pennsylvania	3.6	5.8
Arizona	24.1	24.2	Alaska	4.6	5.5
Florida	9.2	15.7	South Carolina	2.3	5.4
Delaware	5.9	12.6	Tennessee	0.7	5.4
Colorado	7.1	12.1	New York	1.7	5.3
California	5.6	11.9	Indiana	1.5	4.6
Hawaii	9.5	11.7	Massachusetts	3.1	4.4
Utah	3.8	11.3	Georgia	2.4	3.6
New Mexico	6.2	11.2	Maryland	1	3.5
Michigan	6.5	10.7	New Jersey	2.2	3.4
Wisconsin	8.1	10.7	Missouri	1	2.9
Ohio	7.9	10.3	Oklahoma	0.8	2.5
Oregon	4.3	10.1	Connecticut	1.3	1.8
Louisiana	1.9	9.9	Illinois	0.7	1.5
Rhode Island	3.3	9.3	Maine	0	1.1
Minnesota	6.1	8.7	Wyoming	0.8	1.1
Texas	3.7	8	Kansas	1.8	0.8
Idaho	3.7	7.3	Washington	0	0.4
Nevada	3.4	7.1	Virginia	0.1	0.3
New Hampshire	1.3	6.3	Iowa	0.4	0.2
North Carolina	4.2	6.1	Mississippi	0.1	0.2
Arkansas	1.7	6	U.S. (total)	3.9	7.0

Source: NCES Table 216.90, Public elementary and secondary charter schools and enrollment, 2000-01 through 2015-16.

Note: Alabama, Kentucky, Montana, Nebraska, North Dakota, South Dakota, Vermont, and West Virginia do not currently have charter schools. *Washington D.C. is included as a state for informational purposes in this table.

Appendix C

Individual Tax Credit (ICD), Tax Credit Scholarship (TCS), and Education Savings Account (ESA) Programs, by State and Program Participation Rate

State	Program Type	Participation Rate (%)	Program Enrollment	Total Funding Awarded (in USD millions)
Iowa	ICD	0.262	133,122	*
Minnesota	ICD	0.246	212,731	*
Illinois	ICD	0.150	305,822	77.6
Louisiana	ICD	0.148	106,549	*
Arizona	TCS	0.066	73,555	130.8
Minnesota	ICD	0.058	49,952	*
Indiana	ICD	0.052	54,755	*
Wisconsin	ICD	0.042	36,640	*
Florida	TCS	0.039	108,098	641
Pennsylvania	TCS	0.024	41,866	1.9
Iowa	TCS	0.021	10,771	17.0
Indiana	TCS	0.009	9743	20.5
Alabama	TCS	0.006	4,092	22.4
Arizona	ESA	0.005	5091	25.8
Nevada	TCS	0.004	2,083	10.9
Florida	ESA	0.004	11917	127.3
South Dakota	TCS	0.004	481	0.3
Oklahoma	TCS	0.004	2,466	3.8
Virginia	TCS	0.003	4,462	20.1
Rhode Island	TCS	0.003	433	1.1
Illinois	TCS	0.003	5,618**	42
South Carolina	TCS	0.003	1,972	10.1
Louisiana	TCS	0.003	1,800	7.5
New Hampshire	TCS	0.001	257	0.5
Georgia	TCS	0.001	1,452	18.8
Kansas	TCS	0.001	369	1.5
Mississippi	ESA	0.000	153	0.9
North Carolina	ESA	0.000	277	1.8
Alabama	ICD	0.000	122	*
Tennessee	ESA	0.000	137	0.7
Nevada	ESA	***	***	***
Montana	TCS	***	***	***
U.S. Total	All	0.023	1,181,168	1,183.60

Sources: Departments of Education, and Departments of Treasury/Revenue, listed states except where noted. Data reflect the most currently available accounting in each state which vary state to state from FY17 or FY18.

Notes: * State spending data unavailable for some ICD programs. ** Student participation by scholarship award was unavailable via the IL Dept. of Education. Data here represent figures reported to WBEZ news organizations by SGO's the week of 6 Aug. 2018. *** Suspended due to constitutionality disputes within the states. The programs are therefore not operational at this time.

About the Authors

Frank Adamson

California State University, Sacramento

adamson@csus.edu

<http://orcid.org/0000-0001-9798-8016>

Dr. Adamson currently studies the relationships between different political and economic approaches to education and student experiences and their performance in schools. His recent volume, *Global Education Reform*, compares the approaches of privatization and public investment to education policy in six countries. He has also studied the role of charter schools and education privatization for communities and students in both Oakland and New Orleans. Previously, he published on assessments of deeper learning and 21st century skills at multiple governance levels, as well as on teacher salary differences within metropolitan labor markets in New York and California. He has also completed studies for the USDOE, OECD, IEA, and UNESCO, including analyses of PISA and TIMSS, and has authored or co-authored 3 books and over 30 publications.

Meredith Galloway

California State University, Sacramento

meredithgalloway@csus.edu

<http://orcid.org/0000-0002-5233-2045>

Meredith Galloway is an emerging researcher and doctoral student at California State University, Sacramento. As a lifelong educator, she has held different positions from dropout recovery specialist to assistant principal and has been recognized as a State-level Keystone Technology Integration Specialist. Her research interests include teacher attrition, labor markets, and education privatization.

About the Guest Editors

D. Brent Edwards Jr.

University of Hawai'i at Mānoa

brent.edwards@hawaii.edu

<http://orcid.org/0000-0003-3955-9525>

D. Brent Edwards Jr. is an associate professor of theory and methodology in the study of education at the University of Hawai'i at Mānoa. He has more than 10 years of experience as an educator, researcher, and scholar of education policy. In his scholarship, he applies political economy perspectives to (a) the examination of the global governance of education and (b) the origins, spread and effects of global education policies. In particular, Brent focuses on the ways that a range of international organizations affect the politics and processes of policymaking and policy implementation. Geographically, these areas of focus have led to research projects on education in many countries across Latin America, Southeast Asia, and Africa. His recent books include *The Trajectory of Global Education Policy: Community-based Management in El Salvador and the Global Reform Agenda* and *Global Education Policy, Impact Evaluations, and Alternatives: The Political Economy of Knowledge Production* (both with Palgrave MacMillan). He also has a forthcoming co-edited special issue of *Educational Policy* entitled "School choice policy and politics around the globe: Sociological contributions."

Alexander Means

University of Hawai'i at Mānoa

meansaj@hawaii.edu

Alexander Means is an assistant professor of educational policy with global perspectives in the Department of Educational Foundations, University of Hawai‘i at Mānoa. He is the author most recently of *Learning to Save the Future: Rethinking Education and Work in the Era of Digital Capitalism* (Routledge, 2018); *Educational Commons in Theory and Practice: Global Pedagogy and Politics* (Palgrave, 2017); and *The Wiley Handbook of Global Education Reform* (Wiley-Blackwell, 2018). His research examines educational policy and organization in relation to political, economic, cultural, technological, and social change.

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