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# Categorical Inequality: Schools As Sorting Machines

# Thurston Domina, Andrew Penner, 2 and Emily Penner<sup>3</sup>

<sup>1</sup>School of Education, University of North Carolina, Chapel Hill, North Carolina 27599; email: tdomina@email.unc.edu

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# **Keywords**

education, inequality, schools, social categories

#### **Abstract**

Despite their egalitarian ethos, schools are social sorting machines, creating categories that serve as the foundation of later life inequalities. In this review, we apply the theory of categorical inequality to education, focusing particularly on contemporary American schools. We discuss the range of categories that schools create, adopt, and reinforce, as well as the mechanisms through which these categories contribute to production of inequalities within schools and beyond. We argue that this categorical inequality frame helps to resolve a fundamental tension in the sociology of education and inequality, shedding light on how schools can—at once—be egalitarian institutions and agents of inequality. By applying the notion of categorical inequality to schools, we provide a set of conceptual tools that can help researchers understand, measure, and evaluate the ways in which schools structure social inequality.

<sup>&</sup>lt;sup>2</sup>Department of Sociology, University of California, Irvine, California 92697

<sup>&</sup>lt;sup>3</sup>School of Education, University of California, Irvine, California 92697

#### **INTRODUCTION**

All stratification systems require "a social structure that divides people into categories" (Massey 2007, p. 242). Educational systems are among the most important such structures in contemporary societies. In this review, we investigate the ways in which education plays this role, discussing the processes through which schools construct categories and the implications of these categories for inequality both within and beyond the schoolhouse doors. Drawing upon theories of categorical inequality, we argue that educational institutions construct and reinforce highly salient social categories and sort individuals into these categories. These educational categories structure the competition for positions in stratified societies and, in the process, influence which individuals attain which social locations. In doing so, schools, and the categories they help construct, shape the inequality structure of the societies in which they operate.

Contemporary mass education systems are founded on the egalitarian notion that all people are educable and deserve an opportunity to learn. Congruent with the idea that the most important category schools create is the category of "student" (Meyer 1977), there is substantial evidence to suggest that even highly unequal mass educational systems distribute learning more equitably than families and neighborhoods do. Expanding the availability of schooling lowers class-based inequalities in student mastery of the skills that schools teach (Raudenbush & Eschmann 2015), creating substantial opportunities for social mobility in schooled societies (see Downey & Condron 2016).

But even as they provide these relatively equal learning opportunities, schools create a field for the construction and legitimation of social inequality. Schools play an important role in determining which positions specific individuals occupy in unequal societies, as well as in determining and legitimating the social distance between these positions. As such, we argue that schools are egalitarian institutions that produce social inequality.

The framework of categorical inequality provides a set of tools with which to address the tension between these two views of education. By creating categories and sorting youth among them, schools develop templates that influence the contours of inequality throughout contemporary societies. However, the nature of the categories that schools construct—and thus the ways in which schools structure broader social inequalities—is by no means predetermined. The categorical inequality perspective draws attention toward the organizational processes through which schools create categories and sort individuals into them, and how, in doing so, they generate and reinforce social inequalities. In addition to influencing a given individual's position in a social hierarchy, educational organizational processes—including such factors as the number, relative size, and institutional salience of categories at work in schools—influence the axes, shape, and magnitudes of inequalities in the societies in which they operate.

Our review thus seeks to complement recent work that asks whether formal schooling processes generate more or less inequality than a counterfactual in which no schooling is available (Raudenbush & Eschmann 2015, Downey & Condron 2016). Although the substantial racial and socioeconomic skills gaps present at the start of students' school careers persist—and in many cases, widen—as children develop toward young adulthood (Alexander et al. 2014, DiPrete & Eirich 2006, Baumert et al. 2012, Fryer & Levitt 2006, Potter & Morris 2016), students from relatively disadvantaged backgrounds benefit more from exposure to additional schooling than their relatively advantaged peers (Raudenbush & Eschmann 2015). Further, the economic and intergenerational benefits associated with educational attainment are particularly large for poor and minority students (Hout 2012, Attewell et al. 2007).

Although we suspect that schooling is central to category creation and allocation everywhere it exists (e.g., Hu 1984), we draw the majority of our examples from K-12 and higher education

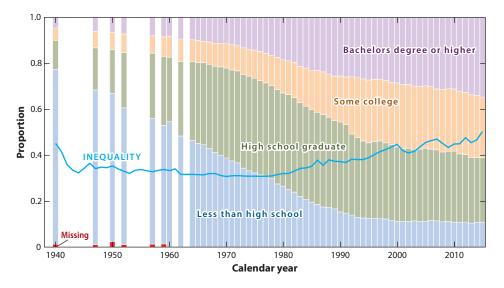


Figure 1

Trends in income inequality and educational attainment in the United States, 1940–2014. Educational attainment data are for men and women aged 25 and older and are derived from the Current Population Survey (https://www.census.gov/hhes/socdemo/education/data/cps/historical/); the income inequality measure represents the share of income claimed by the top 10% of earners (http://www.wid.world/).

in the contemporary United States. Recent American history tempers broad statements regarding the school's role as the great equalizer (Mann 1848). **Figure 1** graphs the remarkable expansion of educational attainment among working-age adults in the United States since 1940 against trends in economic inequality. In 1940, less than one-fourth of US working-age adults had earned a high school diploma; by 1980, two-thirds had. But this educational expansion is largely unrelated to the temporal trend in income inequality. As **Figure 1** illustrates, income inequality declined from the 1940s through the 1970s, only to grow rapidly over the past 30–40 years. Today, the American working-age population is far more educated than ever before. Approximately 10% of working-age adults have less than a high school education and more than 30% have a college education. But income inequality is also approaching historical highs (Schofer & Wick 2008).

Figure 1 fails to account for a wide array of factors that likely shape the reciprocal relationship between educational opportunity and economic inequality (Condron 2011), including technological changes, and changes in the US welfare state (Garfinkel et al. 2010, Goldin & Katz 2009, McCall & Percheski 2010). Nonetheless, the co-occurrence of educational expansion and rising income inequality highlights that the rapid expansion of educational opportunities need not lead to less inequality.

Research examining the equalizing consequences of schooling focuses on arenas such as preschool, higher education, and summer school where it makes sense to think about the absence of schooling as a counterfactual to schooling (Raudenbush & Eschmann 2015); we focus instead on how schools operate within contemporary stratification systems. In this review, we argue that even if schools perfectly compensated for racial, ethnic, gender, or class inequalities among their students, they would still structure and legitimate social inequalities in schooled societies. One way in which schools structure inequality is by issuing a status-differentiated set of educational credentials that interact with labor markets and other social systems to influence individuals' placements

in contemporary systems of social stratification (see Hout 2012 for a review). But well before schools issue credentials, they create meaningful social categories by deciding which students to enroll and by repeatedly sorting students into age grades, ability groups, and instructional tracks, among other formal and informal groups. In this article, we argue that these category-construction processes, many of which are central to what Tyack & Cuban (1995) describe as the grammar of schooling, are seeds of durable inequalities in schooled societies.

By applying the theory of categorical inequality to the operation of schools and educational systems (Tilly 1999, Massey 2007, Tomaskovic-Devey et al. 2009), we focus attention on the social processes that produce variation in student experiences within and between schools, as well as the mechanisms through which this variation contributes to social inequality (Torche 2016). Ours is thus primarily a descriptive project. We view social inequality as a process, in which the boundaries among social groups, as well as their salience and relative power, are continually negotiated and contested in the social sphere. Because schools are data-rich environments, the sociology of education provides unique opportunities for studying inequality processes. By highlighting an array of categorical inequality processes that operate within educational systems, we aim to integrate insights from recent research on education and inequality and identify a set of conceptual tools that can help both scholars and practitioners evaluate and adjust the schools' role in unequal societies.

# A CATEGORICAL INEQUALITY PERSPECTIVE ON EDUCATION

Much as scholars have attempted to bring the firm back in to research on workplace inequality (Baron & Bielby 1980; see also Stainback et al. 2010 for a recent review), we are interested in understanding the ways in which educational organizations create categories that structure social inequality. Approaching the relationship between education and inequality from a categorical inequality framework highlights two distinct processes: the creation of categories and the assignment of individuals to categories. Canonical research on the role of education in inequality largely neglects the first process, taking the categories of interest (e.g., academic tracks, credential levels, race, class, gender) as given. In this review, we focus on the role that educators and schools play in the construction of powerful social categories, drawing attention toward the processes of decision making, contention, and compromise that shape the relationship between education and inequality.

The discussion that follows proceeds in three parts. First, we describe several category-building processes that operate in contemporary educational systems. Following Tilly (1999), we argue that schools create internal categories such as grades, classrooms, and academic tracks; adopt imposed categories such as accountability labels; and reinforce external categories such as race, class, and gender. Second, we consider the ways in which these social categories generate inequalities within schools and beyond. Educational categories shape the educational resources and incentives to which students are exposed, and thus influence students' cognitive and socio-emotional development. In addition, the social categories that schools construct provide a context for the formation of student identity; a signal of ability and social status that students carry forward into adulthood; and a template for social categories that operate in the labor market and other contemporary institutions. Third, having used the theory of categorical inequality to discuss the processes through which schools operate as inequality regimes, we describe several key dimensions of educational category-building processes and their likely consequences for the distribution of opportunities, status, and resources. In particular, we argue that the effects of categories likely vary with the number of relevant categories at work in a context, the relative magnitude of different categories, the mechanisms through which students are allocated to different categories, the salience of categories, and the extent to which youth have the opportunity to move among categories.

Although schools typically embrace an egalitarian ethos and rarely create categories with the goal of producing inequality, many of the most persistent inequalities in contemporary societies originate in schools. We argue that a categorical inequality approach offers new insights into the processes through which social inequalities develop in an era of mass education. Categorical inequality provides a conceptual vocabulary for thinking about the ways in which schools differ with regard to inequality production, a set of criteria for evaluating educational inequality regimes, and a range of ideas about ways to restructure educational practice in order to yield a more egalitarian social structure or otherwise reconfigure social inequality.

#### FORMS OF EDUCATIONAL CATEGORICAL INEQUALITY

Education research often assumes a set of ascriptive inequalities created by society outside of schools, focusing, for example, on racial, gender, and class gaps. A categorical inequality perspective on the sociology of education focuses on how schools contribute to the creation of these and other powerful categories, and how students are allocated into these categories. The theory of categorical inequality thus draws attention to the ways in which categories intersect and overlap to shape the distribution of resources such as money, knowledge, status, skills, or power across individuals.

Theorists differ on the origins of social categories, attributing their ubiquity to exploitation (Tilly 1999), organizations' technical needs (Bowker & Star 2000, Timmermans & Epstein 2010), or a distinctively human cognitive tendency toward grouping (Fiske & Taylor 2013, Massey 2007). We suspect that each of the mechanisms operates in the creation of social categories in schools, and we focus here on their consequences. Regardless of their origins, the theory of categorical inequality holds that social categories create boundaries and influence the distribution of valuable resources across those boundaries.

In the section that follows, we describe three ways in which schools participate in the construction of categorical inequality. First, schools create important social categories, such as "high school dropout" and "college graduate," and sort individuals among these categories. Second, schools enact and give meaning to categories, such as "citizen," that are explicitly defined by outside actors and imposed on schools. Finally, school practices reinforce social categories that originate outside of the school—most notably, race and gender. The decisions of educators and educational policy makers, as well as the structure of educational organizations, drive the allocation of resources and status among these categories. As such, the categories that are forged in schools are the foundations upon which many lasting social inequalities are constructed in contemporary societies.

## Schools As Sorting Machines: The Construction of Internal Categories

Schools are, among other things, social sorting machines (Kerckhoff 1995). Educational systems sort children into schools based on a combination of criteria, including their residential location, parental preference, and—in many contexts—their attributes (including measures of their academic skills, maturity, and other cognitive, cultural and socio-emotional characteristics). These schools then sort children by age into grades. Within grades, schools sort students into classrooms and instructional groups. Later in their educational careers, students become increasingly active participants in this sorting process, whether by selecting courses, vying for spots in competitive teams or selective institutions, joining formal or informal social networks, or by dropping out altogether (Furlong 2008, McDonough 1997, Rumberger 2011, Saito 1998, Schneider 2008). The credentials that schools confer on students serve as markers of students' prior experiences in the educational sorting machine as well as distinctions that inform subsequent sorting decisions.

As this list of educational sorting processes makes clear, the categories that schools build are diverse. Educational systems sort students between and within organizations into formal and

informal groups based on a wide array of criteria. But educational sorting processes are neither arbitrary nor random. Students differ from one another in countless ways, only some of which are directly observable. At their first exposure to formal schooling, students vary in physical characteristics and capacities, dispositions, exposure to different cultural norms and expectations, and stores of knowledge and learned skills, as well as in geographic location and access to socially valuable resources. Further variation exists in the ways in which these characteristics develop and change over the life course. Educational systems "produce discontinuity out of continuity" (Bourdieu 1991, p. 120) based on various combinations of these student characteristics. In the process, schools privilege some student characteristics over others and create discrete social categories out of multidimensional human variation.

In some cases, schools explicitly position themselves as gatekeepers, intentionally sorting students into the social roles that they will ultimately play in a complex and highly specialized adult society. In these instances, defining and defending student selection and placement criteria is a central organizational undertaking. This gatekeeping process is influenced by dominant notions of talent, often institutionalizing the exclusion of students from marginalized backgrounds (Ford et al. 2001, Stevens 2009). Admissions decisions are an important part of the gatekeeping process for many schools, particularly in higher education, where institutions are evaluated in large part based on their institutional selectivity rather than measures of their technical effectiveness (Espeland & Sauder 2016). Gatekeeping is particularly central to many institutions that restrict access to highly compensated, high-status occupations and thereby reinforce these occupations' social power (Rivera 2012).

In other cases, schools sort in order to facilitate their technical functioning. For example, although schools have experimented with a range of instructional designs, from the mixed-age and mixed-skill common school to monitorial schools' skills-based competitions, most contemporary schools divide students by age into grades and use those grades to organize instruction into year-long units. This strategy, intended to improve educational efficiency by reducing the degree of developmental heterogeneity in instructional environments (Kaestle 1983, Tyack & Cuban 1995) also generates categories—grades—that receive unequal opportunities to learn in the short term. Because these inequalities do not overlap with other categorical inequalities, age grading is arguably a relatively egalitarian strategy for organizing instruction in schools. Other educational categories such as credentials and instructional tracks, which we discuss at length below, likely generate more persistent inequalities.

## Schools As Social Instruments: Adopting External Categories

In addition to generating internal categories, schools also enact externally imposed categories. The category of citizenship, for example, is central to the historical expansion of public schooling (Meyer 1977, Boli et al. 1985). Much work on schools and citizenship focuses on how schools socialize students to the demands of citizenship by introducing all students to a body of shared cultural knowledge and a set of civic practices and rituals (see Gutmann & Ben-Porath 1987, Macedo 2003). But even before they do so, public schools coconstruct citizenship as a social category when they make decisions about who to enroll. For example, in antebellum America, whites—even in relatively liberal Northern communities—blocked efforts to educate African-Americans out of a concern that education provided a path to civic inclusion (Moss 2010). The implied link between educability and citizenship claims helps to explain why questions about educational inclusion are often so politically charged.

The education of immigrants is a particularly contentious issue in contemporary societies. In some cases, schools police category boundaries via processes of exclusion. Policies that require

undocumented immigrants to pay out-of-state tuition when they enroll in public colleges and universities, for example, ask schools to police citizenship categories (Perez 2015). However, even when schools open their doors to immigrant youth, they help to construct notions of citizenship. Historically, concerns about immigration and the assimilation of immigrant youth have played an important role in the expansion of public education. But even when schools play this assimilationist role, they may alienate immigrant and other youth from their societies of origin, denying these youth access to linguistic and other cultural resources. These category construction processes are particularly troublesome when they are subtractive, straining ties between youth and their communities of origin without providing them access to the full benefits of membership in their new communities (Valenzuela 2010).

Other external categories operate within schools in ways that influence students' access to school resources and academic content, and can carry social consequences and stigma among both teachers and peers. In American schools, state and federal educational policies define student categories such as free- and reduced-lunch eligible, English language learner, and special education student. Although these policies often mandate both the criteria for allocating students to these categories and a set of formal educational services for students in these categories, schools retain varying degrees of autonomy over the ways in which these categories are enacted and services are administered. And as McDermott (2001) notes in his aptly titled work on "The acquisition of a child by a learning disability," these external categories take on a life of their own, becoming part of the social fabric that structures our understandings of the abilities of individual children and shapes how we think about the kinds of children that exist.

Accountability policies create similar categorical definitions regarding student proficiency and school adequacy that lead to the construction of socially meaningful categories both within and among schools. Booher-Jennings (2005) describes the ways in which schools facing accountability pressures triage students into informal groups such as "bubble kids," "unaccountables," and "unreachables" in the lead-up to high-stakes tests. Neal & Schanzenbach (2010), Reback (2008), and Lauen & Gaddis (2012) provide evidence to suggest that these instructional categories derived from school accountability systems influence the distribution of instructional resources and student learning within schools. These categories vary in their relationship to lasting inequalities. The category of the free and reduced lunch recipient, for example, is constructed with the intent to narrow socioeconomic inequalities by directing compensatory resources to poor students. Although there is some evidence to suggest that it is modestly successful in this regard (Hinrichs 2010), the free lunch category may become counterproductive in settings in which it becomes a highly salient marker of social stigma (Poppendieck 2010).

# Schools As Social Mirrors: Reinforcing Inequality

In addition to adopting de jure external categories, schools often reinforce de facto social categories through their formal and informal practices. We discuss the relationship between schools and two socially pervasive categorical inequalities: race and gender. Racial and gender categories shape children's lives long before they enroll in formal schooling, and few would claim that schools single-handedly create either of these categorical inequalities. Indeed, in many cases, schools attempt to undermine these categorical inequalities in the name of a universalistic and egalitarian ethos. Nonetheless, educational systems continue to reinforce racial and gender inequalities by legitimating boundaries and shaping category content.

Several forces conspire to create an educational system in which school enrollment categories overlap with racial and ethnic categories in American schools, including a high degree of residential racial segregation, a tradition of defining enrollments primarily via neighborhood residence, and

white parents' widespread preference for sending their children to predominantly white schools (Billingham & Hunt 2016, Reardon & Owens 2014, Rich 2016). School segregation thus creates a set of educational categories (in this case, school enrollments) that overlap considerably with race. Similarly, educational categories (e.g., special education, gifted and International Baccalaureate course work, extracurricular activities) that operate within schools reinforce and coconstruct racial categories (Tyson 2011). By the end of secondary education, racial categories and privilege can be maintained without explicitly referencing race (Bonilla-Silva 2006), making it possible for schools to take actions that are prima facie race neutral but have disparate racial consequences (e.g., Soares 2015).

Educational categories have profound implications for students' understandings of what race means (Lewis 2003), and students' educational experiences and category memberships also shape how students racially identify (Feliciano 2009). Educational systems also contribute to the legitimation of racial boundaries and promote understandings of what race means through the racial content in textbooks (McDiarmid & Pratt 1971, Morning 2008, Sleeter & Grant 2011). Of particular importance are the school-relevant racial meanings that shape students' understandings of the universe of what is possible, and what is probable, for their lives. Researchers have long highlighted the ways in which these processes generate advantages for white students relative to black and Latino students (Tyson 2011). But as Jiménez & Horowitz (2013) demonstrate, in schools with a large number of high-achieving Asian students, whiteness can become associated with laziness and academic disengagement. These stereotypes shape the racial understandings and behavior of both white and Asian students, who talk about "acting white" or "acting Asian." (Fordham & Ogbu 1986, p. 176; Lee & Zhou 2015, p. 61) Lee & Zhou (2015) highlight how these racial meanings can frame understandings of success, so that a grade of A- is referred to as an "Asian F" (p. 56) and leads Asian students who do not excel academically to feel that they are not real Asians.

Although considerable research highlights the problems associated with educational processes that reinforce racial and ethnic categories, schools also offset racial inequalities by giving disadvantaged minorities tools to confront racialized expectations and discriminatory opportunity structures. A growing body of research demonstrates, for example, the educational benefits associated with matching black and Hispanic students with same-race teachers (Dee 2004, Fox 2016, Gershenson et al. 2016, Irizarry 2015) and curricula that reflect their experiences (Dee & Penner 2016).

The relationship between educational categories and gender is perhaps more subtle. In certain ways, schools have historically challenged conventional understandings of gender. The movement toward coeducation, particularly in primary and secondary schooling, largely predates efforts to loosen gender roles elsewhere in society (Tyack & Hansot 1992), and most youth spend the bulk of their educational careers in mixed-gender schools and classrooms. But even though students typically begin kindergarten with an awareness of gender, schools play a central role in reinforcing the gender binary (Thorne 1993) and helping students understand what it means to be a girl or a boy and a woman or a man. Boys and girls typically use separate bathrooms in schools and often (but not always) compete on separate sports teams. Further, schools present students with dominant gender norms throughout the curriculum (Evans & Davies 2000), and even high school biology textbooks provide inaccurate folk notions of sex and gender (Nehm & Young 2008).

Education also plays an important role in the formal and informal socialization that it provides regarding gender roles. These roles, and thus the gender socialization that occurs within schools, vary by class, race, and geography (Legewie & DiPrete 2012). Through structuring peer interactions, as well as communicating expectations and providing opportunities, education frames students' understanding of gender and gender-appropriate behavior. In this respect, education

is not particularly different from other institutions that reinforce larger societal gendered expectations within their institutional context. Indeed, it would be somewhat surprising for our teachers, schools, and textbooks to be immune to the biases that are present more broadly in society. Nonetheless, it is important to recognize the powerful role that schools play in creating, legitimating, and reinforcing racial and gender categories.

#### FROM CATEGORIES TO CATEGORICAL INEQUALITIES

Like categories in other domains, the social categories that operate in schools are almost inevitably unequal. First graders look up to second graders; high schools accord higher status to students on the accelerated track than to students on the vocational track; racial identities develop in the context of a racial hierarchy. In addition, these social categories often facilitate the creation of further inequalities both within schools and in the adult world. We focus on four mechanisms through which the categories that operate in schools contribute to the construction of persistent inequalities: first, by influencing the allocation of resources and creating structures that facilitate opportunity hoarding; second, by shaping the incentives to which students are exposed and thus directing their efforts and energies; third, by serving as a context where student identities are formed; and fourth, by creating status distinctions that are reproduced across other organizational settings.

#### **Resources and Opportunity Hoarding**

Many of education's most salient social categories originate in political decisions about the allocation of educational resources. When school districts or others define school enrollment boundaries, implement school choice systems, or construct selective admissions systems, they determine which students are eligible to attend which schools. These decisions generate meaningful social groups, transforming youth into schoolmates and crosstown rivals. To the extent that the quantity and quality of educational resources and academic prestige vary across schools, these decisions also create inequalities that persist at least as long as students remain in their assigned schools (see Hanushek & Rivkin 2006).

Similarly, when elementary schools identify students as "gifted" or "learning disabled" or "English language learners," or when secondary schools place students into tracked classrooms, they construct social categories within schools that serve as a tool to direct these students toward differentiated—and often unequal—sets of instructional services. Whereas advanced and honors courses provide students with rigorous and highly academically demanding instruction, remedial and developmental courses focus on simpler instructional content and proceed at a slower pace. To the extent that students are sorted into tracked classes based on their prior academic achievement, tracking also generates inequalities in students' access to high-achieving peers (Kubitschek & Hallinan 1998, Zimmer 2003). Furthermore, because teachers often prefer to teach high-track classes (Carey & Farris 1994, Oakes & Guiton 1995), students in high-track classes may have access to more experienced teachers and more engaging instruction than their peers in lower-track classes (Kalogrides & Loeb 2013, Kelly & Carbonaro 2012). Given these resource inequalities, it is perhaps not surprising that several studies indicate that academic tracking systems widen achievement inequalities, raising the achievement of students who are placed into upper tracks relative to students who are placed into lower tracks (Brewer et al. 1996, Gamoran 1992, Gamoran & Mare 1989, Rosenbaum 1976).

It is worth noting, however, that these stratifying consequences are not inevitable. Indeed, some research suggests that tracking benefits students placed into high and low tracks alike (Duflo

et al. 2011, Figlio & Page 2002). The positive effects of tracking may be particularly likely in instances in which status inequalities between categories are small, students are carefully matched to categories, and instructional resources are distributed equitably across categories (Hallinan 1994). Furthermore, schools create many instructional categories with the goal of allocating compensatory resources to disadvantaged students. For example, in the United States, students who are categorized as cognitively, emotionally, behaviorally, and/or physically disabled qualify for supplemental, individualized educational services under the federal Individuals with Disability Education Act. Although questions persist regarding these resources' consequences and the role they play in practice (see Shifrer et al. 2013), their intent is to provide a better educational experience than these students would otherwise experience (Morgan et al. 2015).

Educational categories may also serve as sites for opportunity hoarding by members of socially advantaged groups. There is considerable evidence to suggest, for example, that socially advantaged families often resist efforts to eliminate academic tracking (Domina et al. 2016, Wells & Oakes 1996). Such status-based distinctions between educational categories appear to be particularly important to the maintenance of social inequality in contexts where educational opportunities are universally available (Lucas 2001, Domina & Saldana 2012).

### **Incentives and Student Motivation**

In addition to allocating resources within and between schools, educational categories generate inequality by shaping the incentives to which students are exposed and, in the process, shaping student motivation. In a system in which membership in certain educational categories is highly valued, students have strong incentives to reach desirable categorical locations. Manski (1993, p. 43) memorably described students as "adolescent econometricians," arguing that they make day-to-day decisions about how to allocate their time, energy, and attention based on the expected returns to these investments. To the extent that this rational actor conception of student behavior holds, one might expect students and their families to closely observe the sorting criteria that schools utilize and then tailor their behavior and development to maximize assignment to desirable categories (Breen & Goldthorpe 1997). As such, the very existence of socially meaningful educational categories likely shapes young people's behavior and motivation. A vivid example of the process occurs when youth carefully select and narrate activities and interests in order to construct compelling applications to selective colleges and universities (Stevens 2009).

Because information about educational sorting processes is distributed unequally across society, children from socially advantaged families have greater access to information about the timing, requirements, and logistics of such processes, as well as access to resources that improve their chances of attaining their desired outcome (Beattie 2002, Fishkin 2014). Furthermore, the educational incentives that students face likely vary with their categorical locations. For example, many secondary school tracking systems allow students to move or fail out of college-preparatory tracks but do not allow students to accelerate from lower tracks into college-preparatory tracks (Rosenbaum 1976, Lucas 1999). In such settings, students who are in high-status categories have powerful incentives to maintain their position, whereas students in lower tracks may see little potential advantage to educational effort. As a result, students in higher tracks may invest more effort in their education than students in lower tracks, compounding the inequalities associated with track placements (Morgan 2005). Similar dynamics may operate in the transition from high school to college, where high-achieving students compete for admissions in a highly differentiated selective college and university sector, whereas lower-achieving students attend a large and less highly differentiated open admissions sector (Rosenbaum 2001).

#### Signaling and Identity

One need not subscribe to a purely rational view of student behavior to expect educational category assignments to influence student behavior. In addition to influencing student incentives, educational categories likely also influence students' expectations, goals, and behavior by contributing to their identity formation processes. Once assigned to educational groups, students think of themselves as "first graders," or "English language learners," or "academically proficient," or "members of the elite" (Khan 2011). Such assignments send students messages about their academic potential. In educational settings in which students have imperfect information about their chances of academic success, Benabou & Tirole (2003) argue that students internalize cues about themselves from others (e.g., teachers, peers) and adjust their effort and expectations of success based on these signals. Thus, even relatively trivial categorical assignments may influence students' identity formation, peer networks, behaviors, and achievement (Ashforth & Mael 1989, Ball et al. 2001, Lovaglia et al. 1998, Papay et al. 2016). As a result, signals need not be closely related to students' chances of success in order to substantially influence their hopes and expectations (Wang & Eccles 2013).

These category labels also send signals to the people who surround students, including parents, peers, and teachers. As status-based identities, educational categories can influence external evaluations of an individual's competence (Ridgeway & Correll 2006). If teachers perceive an association between a student's categorical assignment and his or her competence, educational categories may generate inequalities in teacher behavior and expectations. Teachers may grade "remedial, special education" students harshly and hold lower expectations for these students (Lewis & Diamond 2015). Conversely, they may dedicate greater attention to high-track or gifted students. Similar concerns exist around class and race-based teacher bias (Calarco 2011, Downey & Pribesh 2004).

Schools create new categorical inequalities with remarkable ease. For example, in an attempt to increase scores on an accountability test, two high schools instituted a prize system in which students wore either platinum-colored, gold-colored, or plain white ID cards based on their test score performance (Domina et al. 2016). This ID card program created powerful new categorical inequalities among students at these schools, and students who received a white card performed considerably worse than peers who scored only a point or two higher the year before and received a gold card. These findings highlight both the power of schools to create such categories and the detrimental effects that low-status category assignments have, echoing the classic anecdotal findings from a teacher who convinced her students (on alternating days) that students with blue (or brown) eyes were superior to others (Peters 1971).

#### **Emulation**

Although the processes described above are sufficient to produce inequalities in the short term, emulation is often the process that converts short-term resource or status inequalities among students into inequalities that last across lifetimes and, indeed, generations (Tilly 1999). Recent research on the reciprocal relationship between elite universities and high-status firms provides a striking illustration of the process of emulation. As Binder et al. (2015) demonstrate, elite university career offices funnel students toward a small number of high-status employers. These firms, in turn, develop a nearly exclusive recruiting relationship with particular elite universities. Recruiters describe candidates' alma maters as their pedigree, a term that neatly encapsulates the assumption that members of the category of elite university graduates share a set of desirable capacities, values, cultural norms, and skills (Rivera 2016). The status advantages in these hiring processes are reciprocal. That is, even as being hired from an elite firm helps graduates secure the advantages that elite universities convey, these graduates convey status upon the firms for which they choose to work. Lower-status firms, meanwhile, recruit largely from lower-status schools (Davis & Binder

2016). In the process, the postbaccalaureate labor market reinscribes inequalities forged in the college admissions process.

Similar emulation processes run throughout the educational system. Elementary school instructional groupings set students on an academic course and acclimate them and their parents to the logic of categorization in schools. Colleges and universities seek out class valedictorians and establish so-called feeder relationships with particular high schools, translating categorical inequalities generated in secondary schools into postsecondary institutional categorical inequalities (Long et al. 2010). Secondary school tracking systems, meanwhile, emulate elementary school instructional groupings. Because schooling is not a single event, but a sequence of educational contexts through which students move, school contexts shape students by changing their odds of exposure to various future educational contexts. In the process, educational categories accumulate across the life course to generate lasting inequalities (DiPrete & Eirich 2006). In this way, schools' agency to manipulate their categorical construction processes is constrained by the processes operating in adjacent organizations.

# EVALUATING AND AMELIORATING EDUCATIONAL CATEGORICAL INEQUALITY

It is difficult to imagine a school that operates without constructing unequal social and organizational categories. Schools, like all organizations, create categories (Bowker & Star 2000), and as schools do so in an institutional context where access to advantaged positions is negotiated, these categories often serve as the foundation of stratification systems. Accordingly, schools as we know them are inextricably linked to the production of social inequality. That is not to say, however, that all schools or educational systems have the same consequences for the distribution of opportunities and outcomes. In evaluating schools as inequality regimes, therefore, the relevant question is not whether schools produce inequality; rather, the relevant questions are, when and where do schools produce inequality, how do they do so, how large are the inequalities they create, how are these inequalities justified, and how justifiable are these inequalities?

These questions draw attention to several features of schools that play an important role in shaping broad social inequalities, including the criteria that govern student allocations to various categories, the extent to which students have the opportunity to change categorical assignments over time, the relative size of categories, and the extent to which categorical placements influence organizational operations. As we discuss below, these organizational features vary across educational systems and organizations. Further, we argue that each of these dimensions of educational category construction processes likely influences the magnitude and nature of the link between education and social inequality.

### **Assignment Mechanisms**

Perhaps the most widely discussed features of categorical inequality in education are the criteria that govern student assignments to categories. Like other distinctively modern institutions, contemporary schools are governed by standardized and rationalized institutional logics (Baker 2014, Bowker & Star 2000, Timmermans & Epstein 2010, Meyer 1977). These logics have profound implications for educational category assignment processes, leading educators, policy makers, scholars, and others to debate the universality of selection criteria, the definitions of merit that these criteria embody, and the extent to which school categorical assignment processes maximize the social benefits of educational opportunities, among other topics.

Consider, for example, selective college and university admissions in the United States, a process that determines students' eligibility to join the socially valuable category of enrollees, and eventually graduates, at elite institutions. The criteria by which elite US institutions make admissions decisions change over time, from the nineteenth-century emphasis on character to the twentieth-century emphasis on intelligence and merit to more recent notions of diversity. Likewise these institutions' selection mechanisms vary over time, from institutionally created and administered tests of student mastery of classical academic topics, to the College Board's scientized standardized tests, to the contemporary movement toward holistic review (Karabel 2006, Lehmann 1996, Hirschman et al. 2016). Central to the ongoing debates surrounding college admissions is the relationship between these categorical assignment processes and other socially relevant educational criteria. Many view assignments to educational categories based on considerations such as race and gender as suspect, even when selection processes explicitly aim to compensate for inequalities on other categorical assignment processes (Regents of the University of California v. Bakke 1978, Grutter v. Bollinger 2003, Gratz v. Bollinger 2003, Fisher v. University of Texas 2016). In practice, however, institutions rarely assign students to categories based purely on the standardized criteria emphasized in discussions of meritocracy. There is considerable evidence to suggest that selective university admissions favor students from underrepresented minority groups, as well as relatively advantaged legacy students and student athletes (Bowen & Bok 1999, Grodsky 2007).

Institutions thus struggle to articulate criteria for selective admissions that are universally applicable and defensible on rationalistic grounds (Lamont & da Silva 2009, Hirschman et al. 2016). In many cases, institutions legitimate selective admissions criteria based on their predictive validity. The US Supreme Court, for example, grants selective universities discretion to design processes that select students who can "contribute to, and benefit from" the educational opportunities they provide, even if these selection processes consider students' ascriptive characteristics (*Fisher v. University of Texas* 2016, p. 5). However, the extent to which these categorical assignment processes remain subject to strict scrutiny in both the courts and public discussions is a testament to the extent to which the courts—and society more generally—believe these processes are implicated in the production of social inequality.

# **Opportunities for Categorical Mobility**

In addition to categories that are assigned via rationalistic or meritocratic criteria, schooled societies often have a preference for categorical systems that provide repeated opportunities for students to move between categories over time. Consider, for example, student grade assignments, among the most ubiquitous institutional categories in contemporary American schools. These categories generate meaningful educational inequalities based largely on the ascriptive characteristic of student age—the seven-year-olds in second grade are typically exposed to more challenging instruction than the six-year-olds in first grade. However, the practice of age grading is uncontroversial in contemporary schools, presumably because students have nearly perfect odds of moving between the categories grading systems generate over time. Indeed, although the research literature provides multiple examples of instances in which socially advantaged parents use educational categories to pass their advantages on to their children, it is not unheard-of for socially advantaged parents to voluntarily place their children in ostensibly disadvantaged lower-grade categories at the start of their educational careers in an attempt to secure advantaged category placements for their children within their grade (Bassok & Reardon 2013).

Category mobility is likely particularly important in systems that assign students to instructional categories early in their educational careers. Because inequalities in family resources induce strong

correlations between students' backgrounds and their measured ability in early childhood (Breen & Jonsson 2005), educational categories that are based on early measures of student achievement may deny educational opportunities to qualified youth from disadvantaged backgrounds. In such a case, systems that allow for categorical mobility are likely to achieve a better match between students and educational opportunities (Sørensen 1970).

### **Category Scope**

Institutions also vary in the number of different category axes they employ and the degree to which these category axes are independent from one another (Blau 1974). We refer to the extent to which membership in a particular category shapes an individual's lived experience—and conversely, the extent to which an individual can occupy multiple categorical locations simultaneously—as category scope. Consider, for example, the contrast between German and American secondary education. The German model places students in vertically differentiated schools—Gymnasium, Hauptschule, and Realschule—that offer fairly homogeneous curricula to all students. In this model, students' school-level categorical location overwhelmingly influences the educational resources to which they are exposed, as well as the social status and opportunities for postsecondary study available. Because secondary school tier influences academic rigor across subjects, one might describe the German model as one in which school categories have high scope. The American model, by contrast, places students in differentiated classes within relatively diverse high schools. In this model, students' school membership is just one of several categories that shape students' educational experiences. Sharing space in school halls and lunch rooms makes social contact between high- and low-achieving students possible in the American high school model, even if within-school tracking limits exposure in academic settings. Furthermore, at least in principle, students enrolled at the same school in the United States can simultaneously occupy different categorical positions in different academic subjects. If these students' within-school categorical assignments are largely independent of one another—as would be the case if, for example, students who took advanced courses in English were no more or less likely than their peers in remedial English to take advanced courses in mathematics—one might describe the American secondary school system as one in which categorical assignments have low scope (Lucas 1999).

For instructional categories that are internal to schools, students can be more effectively matched to instruction that meets their particular needs in schools in which the scope of categorical assignments is low (Sørensen 1970). Only in a system in which students' mathematics course assignments are independent from their English course assignments is it possible to match a student who struggles in mathematics but excels in English with appropriate instruction. We can extend this insight on the relevance of category scope for the production of categorical inequality to encompass external and reinforcing categories. A system in which students' racial or gender identities sharply constrain their educational opportunities, for example, results in considerable talent loss (Ford et al. 2001). Concerns around tracking are due in large part to the overlap of race and tracking categories, and if high-stakes category assignment processes such as Ivy League university admissions were decoupled from the advantages reaped in other spheres, it seems unlikely that they would be viewed as important. The salience of a specific educational category is thus largely determined by the degree to which it overlaps with other internal and external categories.

# Number and Relative Size of Categories

Schools and educational systems also vary in terms of the number of categories that they produce as well as the relative size of these categories. Although these structural characteristics are

typically subject to less debate than the criteria that schools use to place students into categories, they often play a central role in defining the magnitude and character of educational categorical inequalities. Consider, for the sake of simplicity, the effects of a school tracking system in which students enroll in either high-level courses or low-level courses. In such a setting, the inequality possible between groups of students will vary in a curvilinear fashion with the relative size of the course categories (Hanselman et al. 2016). There are also likely qualitative differences: In schools where a large proportion of students take high-level courses, the stigma associated with low-level course enrollment is likely pronounced, whereas the advantages associated with high-track course enrollment are likely most pronounced in schools where a small proportion of elite students take high-level courses (Sørensen 1970, Gamoran 1992). Finally, decisions about the number of distinct educational categories schools create may have important consequences for the size and shape of educational inequalities. Although the degree of inequality between the highest and lowest categories in a highly differentiated inequality system—such as the American higher education system—is likely greater than in a more unitary system, the construction of multiple educational categories likely decreases the salience of any given category level and raises the potential for category mobility.

#### **IMPLICATIONS**

The notion of categorical inequality provides a theoretical lens that encompasses a wide swath of contemporary research on education. Many of the central issues in contemporary educational policy—including questions around curricula and course sequences, school choice, graduation requirements, and admissions to selective institutions—involve understanding and manipulating unequal educational categories. Categorical inequality highlights the structural similarities among these seemingly independent policy questions and illuminates how and why they matter.

Furthermore, the theory of categorical inequality connects questions of educational policy and practice to more fundamental sociological questions about the ways in which schools interact with broad social categories, including race, class, and gender. Viewing education through the lens of categorical inequality helps to reconcile a contradiction that runs through discussions of education and inequality: On the one hand, schools are arguably the most important egalitarian institutions in contemporary societies. On the other hand, they clearly structure social inequality. Much contemporary work on education and inequality sidesteps this contradiction, focusing either broadly on the net effect of schooling on inequality (compared with a counterfactual world in which schooling is not available) or more narrowly on the consequences of particular educational practices for particular populations of interest.

We argue that categorical inequality provides two central insights for the sociology of education: First, creating and populating categories is a central task of schools, and second, categories created in schools are the raw material of lasting social inequalities. Schools struggle to be egalitarian and construct social categories that distribute learning opportunities relatively evenly to students from diverse social backgrounds. But even perfectly meritocratic category construction processes have winners and losers. By separating out questions about how institutions produce inequality from questions about whom these institutions benefit (Baron & Bielby 1980), the theory of categorical inequality explains that schools inevitably structure social inequality, even when they create a more egalitarian society. At the same time, a categorical inequality perspective suggests avenues for disrupting these inequalities, including the reconfiguration of the dividing lines, the reduction of their permanence, and the decoupling of educational categories from later-life outcomes.

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