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Leveled and Exclusionary Tracking: English Learners' Access to Academic Content in Middle School

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This study examines the characteristics and determinants of English learners' (ELs') access to academic content in middle school (Grades 6–8). Following 10 years of data from a large urban school district in California, I identify two predominant characteristics of EL access to content: leveled tracking in which ELs are overrepresented in lower level classes and underrepresented in upper level classes and exclusionary tracking in which ELs are excluded from core academic content area classes, particularly English language arts. Using regression analysis and two regression discontinuity designs, I find evidence that ELs' access to content is limited by a constellation of factors, including prior academic achievement, institutional constraints, English proficiency level, and direct effects of EL classification. This study contributes to understanding of the experiences and opportunities of students learning English as well as theory regarding educational tracking.

Keywords: course-taking, English learners, regression discontinuity, tracking

Introduction

For students learning English, as for any student, success in school depends in large part on exposure to instruction and content. Policy and law regarding the education of English learners (ELs) are structured around the concept of enabling full and meaningful integration in school. Yet a large body of research suggests that ELs face inequitable opportunity to learn (Dabach & Callahan, 2011). A critical determinant of opportunity

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to learn and subsequent educational achievement is students' access and exposure to academic content. In this article, I empirically examine ELs' course placement in middle school (Grades 6–8) and the factors that limit ELs' course access.

Using longitudinal data from a large urban school district in California, the article is divided into two analytic sections. In the first section, I offer a descriptive analysis of EL course-taking in middle school, comparing patterns between EL and non-EL students as well as patterns between subgroups of EL students of different English proficiency levels and academic achievement levels. I propose a conceptual framework describing EL course-taking, identifying two main features of EL access to content. The first is leveled tracking, in which ELs are disproportionately in lower track classes. The second is exclusionary tracking, in which ELs disproportionately are not enrolled in academic content area classes.

In the second analytic section, I hypothesize and test the causes of ELs' inferior access to courses compared with English speakers. I examine the role of four theoretically derived factors that may limit ELs' access: (1) academic performance, (2) institutional barriers, (3) English proficiency level, and (4) EL classification. I find evidence that ELs' access to content is structured by each. These findings suggest that ELs may face multiple barriers to content. The implications of ELs' limited course access are likely to be profound, potentially contributing to low academic performance, high drop-out rates, and low college eligibility and enrollment (Fry, 2007; Gándara & Contreras, 2009).

English Learner Course-Taking and Access to Academic Content

Students who are deemed to be acquiring English have two essential rights that have been delineated through a series of court cases and federal and state regulations. First, schools must provide English language instruction so that EL students acquire English proficiency. Second, schools must provide accessible academic content instruction so that EL students can reach grade-level standards in the academic curriculum (*Castañeda v. Pickard*, 1981; Every Student Succeeds Act of 2015, 2015; *Lau v. Nichols*, 1974; Lhamon & Gupta, 2015; Moran, 2005; No Child Left Behind Act of 2001, 2002; Wiley, 2009).

Paralleling federal law, ELs' courses in middle school can be thought of in two categories. The first is direct instruction in the English language, typically in the form of one or more designated class periods for English language development (ELD). The second consists of core academic courses. Federal guidelines on EL education specify that core academic curriculum includes English language arts (ELA), math, science, and social studies (Lhamon & Gupta, 2015). Furthermore, federal law specifies that core academic content must be provided in a way that is accessible to students

who are not yet proficient in English. Most districts comply with this law by offering academic classes that employ specific instructional techniques and methods to increase accessibility (these classes are often referred to as specially designed academic instruction in English—SDAIE—classes).

Middle school is a critical period in students' lives, a time that is credited with establishing academic identities and setting in motion course sequences that continue through high school and beyond (Eccles, Lord, & Midgley, 1991; Kurlaender, Reardon, & Jackson, 2008). Increasingly, the stakes are high when it comes to middle school course-taking, with important implications for career, education, and life outcomes (Rumberger & Lim, 2008; Wang & Goldschmidt, 2003; Williams et al., 2010).

Existing research has found numerous ways in which ELs' access to academic content in school is problematic. ELs have been found to be overrepresented in lower level classes and underrepresented in upper level classes (Callahan, 2005; Gándara, Rumberger, Maxwell-Jolly, & Callahan, 2003; Solorzano & Ornelas, 2004; Wang & Goldschmidt, 1999; Zuniga, Olson, & Winter, 2005). ELs are also less likely than non-ELs to complete graduation and college preparatory coursework (Callahan & Shifrer, 2016; Xiong, 2010) and face barriers to enrollment in academic content areas such as math (Estrada, 2014; Gándara et al., 2003; Lillie, Markos, Arias, & Wiley, 2012; Nord et al., 2011; Olsen, 1997). Evidence suggests that ELs' course access may be limited by factors that other students do not encounter. Several analyses, for example, indicate that EL classification and the services and treatments that EL classification triggers may create barriers to academic course-taking or delay progress through school (Callahan, Wilkinson, & Muller, 2010; Callahan, Wilkinson, Muller, & Frisco, 2009; Carlson & Knowles, 2016; Hodara, 2015; Umansky, 2016; Zuniga et al., 2005).

While research suggests that ELs tend to have inferior access to content in school compared to English-speaking students, this article address two main gaps in the literature. First, I propose a framework for analyzing and understanding ELs' access to academic content, delineating two main forms of tracking: leveled and exclusionary. Second, I analyze the role of key factors that contribute to limiting ELs' access to academic content. This allows for targeted policy and practice implications to improve ELs' course access.

Conceptual Framework

Educational Tracking and Dimensions of EL Course-Taking

Educational tracking refers to the placement of students in separate and hierarchically tiered classes or instructional settings. Scholars have long discussed how tracking disproportionately impacts African American, Latino, and poor students (Gamoran, 2010; Oakes, 2005), and increasingly, the term is being used by policymakers, practitioners, and researchers with

regard to EL students. In fact, the original Supreme Court case *Lau v. Nichols* (1974), which frames EL students' rights in school, itself employed the concept of tracking, warning that EL services "must not operate as an educational dead-end or permanent track."

Scholars have analyzed EL course placement as a form of educational tracking, parallel to academic ability grouping, but based instead on stratification of students by English proficiency or language classification (Callahan, 2005; Callahan & Shifrer, 2016; Gándara et al., 2003; Harklau, 1994; Valdés, 1998; Valenzuela, 1999; Wang & Goldschmidt, 1999). Like traditional ability-based tracking, these scholars discuss the ways in which EL course placement can contribute to limiting ELs' access to academic content as well as their exposure to English-speaking and/or high-achieving peers.

Course availability and course assignment policies and practices can differ from school to school, district to district, and state to state (Estrada, 2014; Garet & DeLany, 1988; Spade, Columba, & Vanfossen, 1997). In part due to flexible federal policy regarding the rights of ELs in schools as described previously, variation in EL course-taking patterns and exposure to content is likely to be considerable across settings.

Leveled Tracking

I theorize that EL course-taking may differ from that of non-ELs along two key dimensions. First, ELs may be enrolled in classes that differ, on average, in level from non-ELs. Zuniga and colleagues (2005), for example, examining one rural high school, find that ELs are placed into low track science classes regardless of prior achievement. Similarly, Kanno and Kangas (2014) document the course placement practices of a large suburban high school, finding that ELs, when able to exit from SDAIE classes, are placed automatically into low track classes. These are examples of the traditional notion of tracking, in which students are placed into hierarchically leveled classes according to measured or perceived ability or prior performance. In this article, I refer to this as *leveled tracking* because course placement is structured by levels.

Honors, grade level, and remedial classes constitute the three traditional levels in a leveled tracking system. Honors classes (referred to as upper level classes) offer grade-level content but are geared toward high-achieving students, usually covering additional content or delving more deeply into content. Remedial classes (referred to as lower level classes) are below grade level classes that focus on basic concepts in order to support struggling students. Importantly, several studies have found that student characteristics, such as race and socioeconomic status, predict level placement after controlling for prior achievement, suggesting that level placement is not distributed solely by ability/prior performance (Kelly, 2009; Oakes, 2005).

Leveled tracking is commonplace throughout the country at the middle and high school levels. The central argument for leveled tracking is that students' educational needs are better met if classes are tailored to their ability levels and if teachers can focus instruction on a specific band of ability levels. Research suggests that while tracking often benefits high track students, it penalizes low track students, thereby exacerbating gaps between high and low performers (Attewell & Domina, 2008; Gamoran, 2010; Garrett & Hong, 2015; Nomi & Raudenbush, 2016; Oakes, 2005). Compared to upper track classes, lower track classes typically offer slower pacing and less rigorous content, are characterized by fewer higher-order thinking activities, employ more authoritarian and discipline-oriented instruction, and build weaker student-teacher relationships (Harklau, 1994; Oakes, 2005; Page, 1991).

Exclusionary Tracking

The second form of course-taking difference is that ELs may differ from non-ELs in the amount of access they have to certain subject areas. For example, ELs may be less likely to be enrolled in science classes compared to non-ELs. This form of differentiated access to academic content has not been examined in prior tracking literature but instead emerges from indepth, often school-level examinations of ELs' course access (Callahan, 2005; Estrada, 2014; Olsen, 1997; Valdés, 1998). Analyzing EL students' high school course schedules, Gándara et al. (2003) find frequent cases of students with empty class periods, multiple electives, and missing core content areas such as science and social studies. Estrada (2014) documents middle school class placement policies in four schools and finds that some schools systematically exclude low English proficiency ELs from core academic content areas. In this article, I propose that this is a distinct form of tracking, and I call it *exclusionary tracking* given that it pertains to students' inclusion or exclusion from academic subject areas.

Beyond these two dimensions of course-taking difference, it deserves mention that merely being placed in the same classes as non-ELs does not guarantee that ELs have equal access to academic content. If instruction in mainstream classes is inaccessible or incomprehensible to EL students, then they will have less access to content despite equal allocation to courses. Although this issue lies at the heart of the *Lau v. Nichols* Supreme Court case, it does not relate to course-taking per se and is not examined in this study.

Why ELs May Have Inferior Access to Courses Than Non-ELs

ELs may have inferior access to courses compared to English proficient students for four main reasons: (1) prior academic achievement, (2) institutional constraints, (3) English proficiency, and (4) EL classification. While this list is not exhaustive, these are the factors that I examine in this study.

Prior Academic Achievement

EL students may have inferior access to content in middle school as a result of having lower levels of academic preparation and achievement than fluent English speakers upon entry into middle school. ELs have lower achievement profiles than non-ELs, on average, for complex reasons. First, because academic performance is a common criterion for exiting EL status, selection into EL status, by definition, is linked to lower academic achievement (Hopkins, Thompson, Linquanti, Hakuta, & August, 2013; Saunders & Marcelletti, 2012). Second, outcomes on academic assessments administered in English are often downwardly biased when taken by ELs (Abedi & Lord, 2001; Bialystok & Hakuta, 1994; Martiniello, 2008; Parker, Louie, & O'Dwyer, 2009). Third, EL students often attend under-resourced schools (discussed in the following section on institutional constraints) and come from low-income families, characteristics that are correlated with lower academic achievement (Alba, Massey, & Rumbaut, 1999; Dronkers & Levels, 2007; Fry, 2008; Kao, Tienda, & Lafield, 2005; Portes & MacLeod, 1996). Finally, ELs may reach middle school with lower average levels of academic preparation than fluent English speakers because of systematic differences in their educational experiences in elementary school that result in lower academic achievement (Umansky, 2016). While non-ELs are also placed in classes based on prior academic achievement, ELs' average lower academic achievement could result in disproportionate constraints on ELs' course access.

Institutional Constraints

Institutional constraints, from limited or insufficient resources, may result in tracking that limits ELs' access to content in school. While there is considerable variation by locale, socioeconomic status, and national origin, a large body of research documents the relative segregation of many immigrant families and their children in low-income neighborhoods, neighborhoods frequently served by under-resourced schools (Alba et al., 1999; Dronkers & Levels, 2007; Ellen et al., 2002; C. Lee, 2006; Portes & MacLeod, 1996; Reardon, Yun, & Eitle, 2000; Rumberger & Gándara, 2004; Suárez-Orozco, Suárez-Orozco, & Todorova, 2009). These schools—whose composition is often largely comprised of students of color and immigrant students—have been shown to offer fewer high track academic classes on average than more economically advantaged schools in more affluent communities (Chang, 2000; Iatarola, Conger, & Long, 2011; Monk & Haller, 1993; Oakes, 2005; Spade et al., 1997). As a result, many ELs may face more constrained access or no access at all to specific academic classes, most notably honors or advanced placement (AP) classes (Fry, 2008; Garet & DeLany, 1988; C. Lee, 2006).

English Proficiency Level

ELs may have different access to academic content in middle school on account of their English proficiency, irrespective of their academic achievement levels. Course-placement policy or administrator/teacher beliefs may confound English proficiency with academic ability, placing lower English proficient students into lower track classes or excluding them from academic content (Bruna, Vann, & Escudero, 2007; García, 1992; Yoon, 2008). Closely related, the content of specific classes may be deemed (either in policy or in practice) linguistically inaccessible to students with lower English proficiency levels (Harklau, 1994; Olsen, 1997). Exclusionary and leveled tracking based on English proficiency may be subjective rather than objective; course placement may be based on assumptions about ELs' proficiency levels rather than accurate knowledge of students' English language abilities.

EL Classification

Finally, EL students may have limited access to content as a direct effect of EL classification. Again, this could happen for multiple reasons depending on how individual schools or districts structure services for ELs. A likely mechanism in many schools is crowding-out due to ELD. The requirement that ELs have designated ELD instruction often removes one or more periods from students' schedules. If students' schedules become sufficiently constrained, this may result in exclusion from academic content areas (Estrada, 2014). State policy in Arizona, for example, places ELs in a fourhour ELD block, amounting to 80% of students' instructional time, severely constraining students' ability to take academic classes (August. Goldenberg, & Rueda, 2010; Lillie et al., 2012). While the aforementioned is an example of exclusionary tracking, schools may also structure students' access to course level by EL classification. Schools' institutionalized course sequences may feed ELs from SDAIE classes into remedial classes, essentially barring access to grade level, honors, and AP classes (Kanno & Kangas, 2014).

Data and Context

I use longitudinal administrative data from a large urban school district in California. This is a useful school district in which to examine EL course-taking for several reasons, including having a large and diverse EL population, having a strong historical focus on EL opportunity and achievement, and being located in California, a state that often leads the United States in EL policy and has the highest proportion of EL students (IES, 2015).

The data consist of student course-taking panel data over a 10-year period spanning from fall 2002 to spring 2012. The district annually enrolls between 60,000 and 70,000 students. Over 50% of the student population

speaks a language other than English at home. These students come from multiple linguistic and national backgrounds.

District Language Classification Policy

Policies in this district reflect federal and California state law.2 When a new student arrives in the district, his or her parents complete an intake form that includes questions regarding language use at home. The district identifies language minority students (students who have a primary language other than English) from these questions and gives them an English language assessment. Over the time period examined, the assessment was the California English Language Development Test (CELDT), comprised of speaking, listening, reading, and writing subtests. Students who score below established thresholds on the CELDT are classified as EL. The overall CELDT and each subtest is scored along five proficiency levels (1-5), each of which represents a distinct band of scale scores. The five levels are: beginning, early intermediate, intermediate, early advanced, and advanced. During the time period examined, incoming kindergarten language minority students who scored below a 4 (early advanced) on the overall CELDT were to be classified as EL (CELDT subtest scores were not determining factors for the cohorts examined).

Aside from EL classification, students in the district can fall into three other language categories (California Department of Education [CDE], 2006). Students who have no primary language other than English, according to the parental intake form, do not have their English level assessed and are classified as English only (EO) (Abedi, 2008; Linquanti, 2001). Language minority students who take the CELDT for initial identification and score above the EL thresholds are classified as initially fluent English proficient (IFEP). IFEP therefore describes students who speak a language other than English at home but enter school already proficient in English. The final language classification is reclassified fluent English proficient (RFEP); this classification describes language minority students who are classified as ELs when they enter the school district, receive services as ELs, and then test out of EL status based on annual assessments (CDE, 2015a; Linguanti, 2001; Ragan & Lesaux, 2006). Collectively, I refer to EO, IFEP, and RFEP students as non-ELs. Non-EL students are mainstreamed in school while EL students receive specialized ELD, bilingual, and/or SDAIE instructional services.

According to district policy, every EL student should be assessed annually to determine eligibility for reclassification. To be reclassified, over the time period examined, students needed to reach set thresholds on the CELDT as well as on the state English language arts test. Specifically, students needed to attain a minimum of early advanced (Level 4) on the CELDT with no CELDT subscore below intermediate (Level 3). Students also needed to score at least mid-basic (scale score 325) on the California

standards test in English language arts (CST ELA). In addition to these test criteria, the district also considered a set of more localized criteria, including grade point average, teacher recommendation, and parent approval.

District EL Course Placement Policy

According to district policy, middle school EL students should take ELD and a full academic course load of classes each semester. Following federal guidelines, the district considers a full academic course load to include ELA, math, science, and social studies (Lhamon & Gupta, 2015).

As mentioned earlier, ELD classes are classes specifically designed to teach ELs the English language, often focusing on oral English skills (Saunders, Goldenberg, & Marcelletti, 2013). The English skills taught in ELD classes can pertain to nonacademic areas (e.g., life skills) or can relate to any academic subject area (math, science, etc.). Importantly, ELD is not designed to take the place of ELA, a core academic subject area focused on literacy, genre, and literature. Instead, ELD and ELA are designed to be offered "in tandem . . . [for] ELs at all English proficiency levels" (CDE, 2015b, p.7). As evidence, ELD courses do not count toward ELA requirements for higher education eligibility in California.³ Furthermore, California state policy underscores the importance of designated (i.e., separate and focused) ELD instruction (CDE, 2015b). I elaborate on the tension between ELD and ELA as well as designated versus integrated ELD in the discussion section.

Procedures for course placement in this district, as in many districts in California, are determined at the school level (Estrada, 2014; Zuniga et al., 2005). Some schools allow for student and parent choice in course enrollment, others use a computerized course placement system, while others still rely on school administrators to determine students' schedules.

During the time period examined, the district offered middle school classes in each of the three traditional tracking levels: remedial, grade level, and honors. One difference in this district compared to traditional leveled tracking systems is that remedial classes are designed to be taken in addition to, rather than in place of, a grade-level class of the same content area. This policy is enacted most of the time: In the data examined here, 91% of students in remedial ELA classes and 88% of students in remedial math classes are simultaneously enrolled in grade-level classes of the same content areas.

Data

Table 1 presents descriptive statistics, by language classification, of the analytic sample. In total, the sample includes 42,790 individual students and 189,013 student-semester observations in Grades 6–8 (see Table A in the online version of the journal for a table of observations by year and grade). Because so many of the variables of interest vary over time, Table

Table 1

Descriptive Statistics of Analytic Sample, in First
Observed Semester in Grades 6-8

		I	anguage C	lassificatio	n
	Total	EL	EO	IFEP	RFEP
Latino (%)	21	39	11	27	17
Chinese (%)	36	40	11	37	63
Other ethnicity (%)	43	20	78	36	20
Female (%)	51	46	53	54	53
U.S. born (%)	71	36	91	79	74
CST-ELA proficiency level (1-5)	3.40	2.33	3.58	3.92	3.89
CST-math proficiency level (1-5)	3.44	2.82	3.35	3.80	3.95
Level enrollment (leveled tracking)					
Grade level credits	11.34	12.70	11.38	10.59	10.34
Honors credits	3.53	0.61	4.08	4.73	4.97
Remedial credits	0.96	1.33	1.09	0.73	0.54
Algebra by eighth grade (%)	47	37	44	55	58
Subject enrollment (exclusionary track	king)				
Total credits	21.99	25.01	21.44	20.87	20.46
Total academic credits	15.83	14.65	16.56	16.05	15.85
ELA credits	5.21	3.72	5.88	5.63	5.49
Math credits	5.43	5.74	5.45	5.25	5.19
Science credits	5.20	5.20	5.23	5.16	5.17
ELD credits	1.86	6.33	0.36	0.40	0.40
Full academic course load (%)	85	52	96	96	97
N (students)	42,790	10,651	15,639	4,419	12,081

Note. EL = English learner student; EO = English only student; IFEP = initially fluent English proficient student; RFEP = reclassified fluent English proficient student; ELA = English language arts; ELD = English language development; CST = California Standards Test. The total academic credits row sums math, science, and ELA credits. Full academic course load indicates enrollment in math, science, and ELA. A full credit course is five credits.

1 describes the sample in each student's first observed middle school semester (fall of sixth grade for most students). I removed students who were ever classified for special education services from the sample (17.6% of middle school students) due to prior research suggesting that special education students often have course-taking patterns that are substantially different than non–special education students, coupled with research suggesting disproportionality of EL representation in special education (Artiles, Rueda, Salazar, & Higareda, 2005; Shifrer, Callahan, & Muller, 2013; Thompson, Umansky, Martinez, & Díaz, 2016).

Table 1 illustrates key differences between EL and non-EL students. Average academic performance, as measured by the ELA and math CST tests, is lower for ELs than for all other student subgroups. Table 1 also shows that ELs enroll in more credits overall compared to non-EL groups but fewer academic credits and fewer honors level credits. In this district, a full credit course is five credits. Credit averages below five indicate that some students are not enrolled in that category while averages above five suggest that some students are enrolled in more than one class in that category.

In order to provide more information on the EL population analyzed in this study. Table B in the online version of the journal presents descriptive data on the EL population (again in their first observed semester of middle school), subdivided by English proficiency level. Following district definitions, just over one-third of the EL sample is considered newcomer students (students who enter U.S. schools post-kindergarten and have been in the United States for less than two years). Newcomer students are clustered in the lower English proficiency levels, particularly Level 1. Roughly one-fifth of the EL sample is considered by the district to be long-term ELs (i.e., having been classified as ELs for more than five years without reaching reclassification criteria), with that proportion somewhat higher at the higher English proficiency levels.⁴ The remaining 43% of EL students are considered in this district to be developmental ELs (having been in the district between two and five years). These three subgroups of ELs have diverse educational needs and outcomes (Francis, Rivera, Lesaux, Kieffer, & Rivera, 2006; Kleyn, Menken, Ascenzi-Moreno, & Chae, 2009), and where possible, I note how findings relate to these different subgroups. However, a full analysis of EL course-taking by years in U.S. schools is not possible in this article.

Sixty-four percent of the EL sample is born outside the United States, again concentrated in the lower English proficiency levels. The two largest ethnic groups are Chinese (40%) and Latino (39%), with the remaining students coming from many different ethnic and linguistic backgrounds. While research has shown very different patterns of outcomes for ELs of different national origins (J. Lee & Zhou, 2015; Lew, 2006; Portes & Rumbaut, 2006; Valentino & Reardon, 2015), a differentiated analysis of course-taking patterns by ethnicity is beyond the scope of this article.

Data are complete with the exception of test scores. The CELDT, taken only by EL-classified students, is missing for 6.8% of EL students, roughly evenly distributed across academic years and grade levels. Math and ELA CST tests, taken by all students in Grades 2 through 11, are missing in 2% to 3% of cases, roughly evenly distributed across years and grades. Missingness of CELDT and CST is significantly associated with certain predictor variables, including ethnicity and in the case of CST, language classification. However, the differences are small in magnitude and are unlikely to bias results. I do not impute missing test scores.

Key Variables

Outcome variables were created from student course-taking data. Over the course of a year, I worked with a team from the school district to classify courses by level and subject area. This process involved several checks by different district departments for accuracy. Leveled tracking outcome variables include the number of credits taken in remedial, grade level, and honors classes per semester. I also created dummy variables indicating whether a given level (e.g., grade level) is the highest level a student takes in a given semester. Finally, I include a dummy variable indicating whether a student takes algebra by the end of eighth grade. Algebra has been found to be a gatekeeper course that, if completed by the eighth grade, facilitates access to advanced coursework in high school (Smith, 1996). The timing of algebra relates to students' exposure to more or less advanced content in middle school, and as such, I include it as a measure of leveled tracking.

Outcome variables for exclusionary tracking include the number of credits a student takes in ELD, ELA, math, and science classes per semester as well as dummy variables for whether a student takes any credits in each content area in a given semester. Due to data limitations, I cannot reliably examine social science course-taking in this district. Finally, I created a dummy variable indicating whether a student is enrolled in a full academic course load in a given semester. I define a full academic course load as enrollment in ELA, math, and science (I do not include ELD because it is not considered an academic course).

Key predictor variables relate to the hypothesized explanatory variables: CST scores (academic achievement), school of attendance (institutional factors), CELDT scores (English proficiency level), and language classification variables (EL, EO, IFEP, and RFEP). Control variables include student ethnicity, generational status, gender, and cohort. Unfortunately, I do not have a control for family socioeconomic status. The only data the district systematically collects on this is free and reduced-priced lunch eligibility. This variable is both problematic as a proxy for socioeconomic status (Harwell & LeBeau, 2010) and unavailable because the district considers it to be private, non-shareable data under federal law.

Comparison Groups

In this article, I use several methods to examine the characteristics and determinants of EL course-taking patterns, each of which calls for a specific comparison group. In the descriptive portion of the analysis, I compare EL course-taking to that of every other language classification (EO, IFEP, and RFEP) as well as comparing course-taking between ELs of different English proficiency and academic achievement levels. In looking at the roles of prior academic achievement and institutional constraints, I compare EL course-taking to that of EOs. EOs are an important comparison group

because they represent traditionally mainstream students. In looking at how English proficiency structures course access, I compare ELs with higher English proficiency levels to ELs with lower English proficiency levels. Annual English proficiency testing among ELs allows me to look at how course-taking changes across the continuum of English proficiency levels. Finally, in looking at the role of EL classification, I compare students who are classified as ELs to those with similar characteristics but who are not classified as ELs. Therefore, I use the comparison groups of IFEPs and RFEPs, language minority students who are not EL-classified. Taken together, these analyses and comparison groups provide multiple lenses and a comprehensive and comparative picture of EL course-taking in this school district.

Methods

Descriptive Analyses

In the descriptive portion of this study, I compare course-taking outcomes across subgroups of interest. These analyses include the full analytic sample of 42,790 students. Data for all semesters of middle school are combined. I compare ELs to EOs, IFEPs, and RFEPs, as well as comparing ELs with different English proficiency levels and academic achievement levels.

Explanatory Analyses

In the second part of the study, I examine the role of the four hypothesized causes of ELs' limited access to content. Analyses were conducted using Stata version 13.

Prior Academic Achievement

To examine the role of prior academic achievement, I use ordinary least squares (OLS) regression to examine the extent to which prior academic achievement explains differences between EL and EO course-taking. The sample for this analysis includes all EL and EO students for whom I have fifth-grade achievement data (the main control variable) and who are present in the data in sixth grade. This results in a sample size of 15,911 students. The model is presented in Equation 1. Outcomes (Y) include leveled and exclusionary course-taking outcomes in the sixth grade (combining fall and spring credits). I do not include seventh- or eighth-grade outcomes in this analysis since they would introduce endogeneity. In order to control for prior achievement, I include A, students' fifth-grade ELA and math CST scores. EL indicates a student is EL rather than EO; X includes a vector of student characteristics including ethnicity, gender, and generational status; and Δ_y are fixed effects for academic year. Academic year fixed effects are included to control for any cohort effects or changes over time in the district.

The coefficient β_E represents the difference between EL and EO course-taking, controlling for prior academic achievement (and other covariates). If prior achievement explains the differences between EL and EO course-taking, I would expect β_E to be small and nonsignificant (and B_A to be significant and large), indicating that differences in leveled and exclusionary tracking disappear once controlling for student achievement. As an OLS model, causal inference is limited. In other words, if the inclusion of prior achievement variables diminishes course-taking differences, I cannot conclude that this is directly because of prior achievement. However, it gives preliminary evidence of the role of prior achievement.

$$Y_i = \beta_0 + \mathbf{B}_A \mathbf{A}_i + \beta_E E L_i + \mathbf{B}_X \mathbf{X}_i + \Delta_y + e_i. \tag{1}$$

As a sensitivity check, I also ran the model controlling for a vector containing each student's third-, fourth-, and fifth-grade CST scores. This is a more robust set of prior achievement variables, but it cuts the sample size down considerably and changes the sample characteristics to include only students who have been present in the district from at least the third grade.

Institutional Constraints

To examine the role of institutional constraints, I add school fixed effects (Λ_s) to Model 1 (see Equation 2). This allows me to compare EL to EO course-taking for students with the same prior academic achievement who attend the same school. In effect, this allows me to examine the extent to which differences in course offerings or course placement practices across schools explain differences in EL and EO course-taking. If these differences across schools play a role, I would expect leveled tracking, specifically differences in honors level enrollment, to diminish, as prior research has shown that low-income schools, such as those attended by many ELs, tend to offer fewer upper track classes (Oakes, 2005).

$$Y_i = \beta_0 + \mathbf{B}_A \mathbf{A}_i + \beta_E E L_i + \mathbf{B}_X \mathbf{X}_i + \Delta_y + \Lambda_s + e_i.$$
 (2)

The sample for this analysis is the same as in the prior analysis (15,911 students). The coefficient of interest remains β_E . If institutional constraints limit ELs' course-taking, I hypothesize that β_E will diminish once including school fixed effects, specifically for the honors enrollment outcome. Again, this is an OLS model, and causal inference is limited.

English Proficiency Level

To examine the extent to which students' English proficiency level structures ELs' access to core content in middle school, I compare course-taking patterns of ELs with different English proficiency levels, holding other factors constant (see Equation 3). As in the prior analyses, I only examine sixth-grade course-taking outcomes because my main independent variable—English proficiency level—is taken from Grade 5. The sample for this analysis therefore includes EL students in Grade 6 who have fifth-grade CELDT and CST scores (3,883 students).

$$Y_i = \beta_0 + \mathbf{B_A} \mathbf{A_i} + \beta_C CELDT_i + \mathbf{B_X} \mathbf{X_i} + \Delta_y + \Lambda_s + e_i.$$
(3)

The model controls for prior achievement (fifth-grade math and ELA CST scores) (A_i); student characteristics, including ethnicity, gender, and generational status (X_i); academic year (Δ_y); and school (Λ_s). In this model, the coefficient of interest, β_C , identifies the estimated OLS association of one additional CELDT proficiency level in Grade 5 on a range of sixth-grade course-taking outcomes. In this analysis, I use CELDT proficiency levels rather than CELDT scale scores in order to facilitate the interpretation of regression results. If course access is structured by English proficiency level, I would expect to see significant and meaningful point estimates on the CELDT coefficient indicating greater access among students with greater English proficiency. Again, this is an OLS analysis, so causal inference is limited.

EL Classification

I measure the effect of classification as an EL on middle school coursetaking using two regression discontinuity (RD) designs. RD takes advantage of the essentially random assignment of certain individuals when treatment is assigned based on one or more cut-points on known distributions. In this case, students who speak a language other than English at home are assigned to language classifications based on cut-points on the CELDT and, for reclassification, CST ELA. This is true both for initial classification (EL or IFEP) and subsequent classifications (EL or RFEP). While EL students are not the same, on average, as IFEP or RFEP students across the continuum, they are the same, in expectation, right at the cut-point. For example, students who fall just short of reaching reclassification criteria in a given grade are, in expectation, identical to those who just manage to reach those same criteria. Following these two, otherwise identical groups of students over time, RD takes advantage of these natural experiments to estimate the impact of treatment (EL classification in this case), for those just above and below the thresholds. In this article, I conduct two regression discontinuity analyses; the first exploits the assignment of students to EL versus IFEP

status when students first enter school in kindergarten, and the second exploits the assignment to remain EL versus reclassify to RFEP that occurs in the transition from fifth to sixth grade. In the following, I describe both, including their samples, model specifications, and assumptions.

The first RD method provides a strong causal estimate of the direct effect of initial EL versus IFEP classification in kindergarten on middle school course-taking among language minority students who enter kindergarten just above or below the IFEP cut-point (I refer to these students as marginal students). The sample for this analysis includes language minority kindergarten entrants in the years 2002-2005. These are the cohorts in the dataset that reach the middle school grades by spring 2012 when the data ends. The analysis does not include any students who enter the district after kindergarten (and therefore includes no newcomer students). While the analytic sample is limited, a strength of this analysis is that it compares a group of EL students to an otherwise identical group of students who never experience EL classification. A weakness, however, is that most (78%) of the EL-classified students in the sample are reclassified as RFEP by the time they reach middle school. To the extent that RFEP students have fuller access to content than EL students, the estimands from this analysis may dilute the true effect of EL classification among students who remain EL.

Compliance with the EL-IFEP classification policy (reaching 4 on the CELDT) is high; 90% of students at the EL-IFEP margin are appropriately classified based on their CELDT score (see Figure A in the online version of the journal). I examine course-taking outcomes in sixth through eighth grade and embed the RD in a growth model to account for students moving through grades. Equation 4 specifies the model. Level 1 represents how each student's course-taking outcomes change across semester, and Level 2 represents how students' course-taking outcomes differ based on EL or IFEP classification (Reardon & Robinson, 2010; Singer & Willett, 2003).

In Level 1, *Spring6*, *Fall7*, and so on, are dummy variables for each semester of middle school (omitting fall of sixth grade), and *Grade* is a linear term for each semester of Grades 6–8, centered in the fall of sixth grade. The model includes dummy variables for each semester to allow for nonlinear variation in course-taking by semester. It includes a linear grade term in order to estimate a linear effect of EL (vs. IFEP) status on course-taking.

Key variables for the RD design are in Level 2. *Rating* is a standardized, centered transformation of each student's CELDT score. *EL* is a dummy variable indicating whether the student should be classified as EL based on their CELDT score. In developing this final model, I compared goodness of fit of different models as well as considered how one would expect EL status to influence course-taking. Outcomes, Y, include the set of leveled and exclusionary tracking outcomes. I cluster standard errors to account for the coarseness of the rating variable and include control variables (X_i) for student ethnicity, gender, cohort, and generational status.

$$\begin{split} Y_{it} &= \beta_{0i} + \beta_{1i} Spring 6_{it} + \beta_{2i} Fall 7_{it} + \beta_{3i} Spring 7_{it} + \beta_{4i} Fall 8_{it} \\ &+ \beta_{5i} Spring 8_{it} + \beta_{6i} Grad e_{it} + e_{it} \end{split}$$

Level 2:

$$\begin{split} &\beta_{0i} = \gamma_{00} + \gamma_{01}Rating_{i} + \gamma_{02}EL_{i} + \gamma_{03}Rating_{i} \times EL_{i} + \textbf{\textit{B}}_{0}\textbf{\textit{X}}_{i} + u_{0i} \\ &\beta_{1i} = \gamma_{10} \\ &\beta_{2i} = \gamma_{20} \\ &\beta_{3i} = \gamma_{30} \\ &\beta_{4i} = \gamma_{40} \\ &\beta_{5i} = \gamma_{50} \\ &\beta_{6i} = \gamma_{61}Rating_{i} + \gamma_{62}EL_{i} + \gamma_{63}Rating_{i} \times EL_{i} + \textbf{\textit{B}}_{6}\textbf{\textit{X}}_{i} + u_{6i}. \end{split}$$

In this model, γ_{02} is the first parameter of interest, representing the average effect of initial EL (vs. IFEP) status on marginal students' course-taking outcomes in the fall of sixth grade. γ_{62} is the second parameter of interest. It represents the average effect of initial EL (vs. IFEP) status on the incremental change in marginal students' course-taking outcomes, by semester, for each semester after fall of sixth grade through spring of eighth grade. For each outcome, I run a test of joint significance of γ_{02} and γ_{62} to test the hypothesis that EL classification (compared to IFEP classification) impacts marginal students' course-taking. This model is an intent-to-treat model. It estimates the effect of EL classification on course-taking outcomes for all marginal students irrespective of whether a given student was actually assigned to EL or IFEP status correctly. As such, it is a lower bound estimate of the effect of EL classification among compliers (i.e., students who are assigned to EL and IFEP classification in compliance with district policy).

For all outcomes, I run the models using a range of bandwidths of data on each side of the cut-score from .5 to 1 standard deviations (*SDs*). A .75 bandwidth means that I use data from .75 *SDs* on the rating variable below the cut-score through .75 *SDs* above the cut-score. I use the Imbens and Kalyanaraman (2012) method to calculate, for each outcome, the optimal bandwidth that balances precision with lack of bias. The optimal bandwidths cluster around .75 *SDs* (see Table C in the online version of the journal), so while I present results from the range of bandwidths, I focus the discussion on the .75 bandwidth results. In general, the point estimates are similar in direction and size across bandwidths.

In order to interpret the RD estimates causally, the model must meet certain assumptions. Key among these is the assumption that nothing other than language classification varies at the cut-score. If other variables vary at the cut-score, then it is difficult to determine whether estimated effects are due to the treatment (EL classification) or due to some other factor that changes at the cut-score. In testing this assumption, I find that while no other

pretreatment covariates vary at the cut-score, the proportion of Latino students varies at a marginally significant level (see Table D in the online version of the journal). Specifically, there are 6 percentage points fewer Latino students just above the IFEP threshold than just below it. This may indicate possible manipulation of the EL-IFEP classification system or differential sample attrition that is related to student ethnicity. To account for this possible assumption violation, I include student ethnicity variables in the model (Robinson-Cimpian & Thompson, 2016). With these variables included, EL and IFEP assignment, at the margin, is random in expectation.

The second RD estimates the impact of entering sixth grade as an EL compared to entering sixth grade as an RFEP on course-taking outcomes for students just above and below the reclassification thresholds in fifth grade. The sample analyzed in this method is of considerable interest given that fifth grade is when the largest proportion of EL students is reclassified (Umansky & Reardon, 2014). This sample also includes a broader range of EL students than the previous RD since EL students who enter the district after kindergarten (and before the sixth grade) are included. A limitation of this method is that RFEP students may experience barriers to content as a result of having previously been ELs (Kanno & Kangas, 2014; Umansky, 2016). If this is the case, the estimands from this analysis will likely obscure some of the ways in which ELs face barriers to access.

As described earlier, reclassification criteria in this district are substantially more complex than initial classification criteria. The main criteria are CELDT overall scores, CELDT subtest scores and CST ELA scores, but the district also takes into account students' grades, teacher recommendation, and parental opinion. Of these criteria, I have access to CELDT (overall and subtest) scores and CST ELA scores, meaning that I cannot perfectly model reclassification eligibility. Using the test scores, I calculate a 46% compliance rate at the threshold (see Figure B in the online version of the journal). This means that just reaching these criteria, as opposed to just missing them, results in a 46 percentage point jump in likelihood of RFEP classification. While considerably lower than the 90% compliance I find at the EL-IFEP threshold, this rate is on par with other studies of reclassification (Robinson-Cimpian & Thompson, 2016).

$$Y_i = \beta_0 + \beta_1 Rating_i + \beta_2 EL_i + \beta_3 Rating_i \times EL_i + \boldsymbol{B_X X_i} + e_i.$$
 (5)

The model is presented in Equation 5. Outcomes, *Y*, include leveled and exclusionary tracking outcomes in the sixth grade; *Rating* is a standardized, centered transformation of each student's lowest contributing test score (the lowest test score is the determining score for whether a student should be classified as EL or not; see Reardon & Robinson, 2010). *EL* is a dummy vari-

able indicating whether a student should be classified as an EL based on *Rating*. Standard errors are clustered to account for the coarseness of the rating variable and control variables, X_i , are included for student ethnicity, gender, cohort, and generational status. I conducted the same checks on this analysis as on the prior RD, and there are no assumption violations in this analysis (see Table E in the online version of the journal). β_2 is the coefficient of interest, representing the estimated impact of EL versus RFEP eligibility at the end of fifth grade on students' sixth-grade course-taking outcomes, among students at the margin. As with the prior RD, this is an intent-to-treat model. Optimal bandwidths cluster around .5 (see Table F in the online version of the journal), so I present findings from a range of bandwidths of data on each side of the cut-score from .25 to .75 standard deviations, focusing on the .5 results.

Results

Descriptive Results

ELs Compared to Non-ELs

Table 2 compares EL course-taking to that of EOs, IFEPs, and RFEPs. ELs have inferior access to content compared to students in all other language classifications with regard to both leveled and exclusionary tracking. ELs are in lower level classes, on average, compared to EOs, IFEPs, and RFEPs. For example, ELs are enrolled in one-ninth the number of honors credits, compared to EOs. ELs are also less likely than any other group to take algebra by the eighth grade.

In terms of exclusionary tracking, ELs are less likely to be enrolled in math, science, and ELA compared to EOs. In math and science, an additional 3% and 9% of ELs are not enrolled, respectively. Results are particularly striking with regard to ELA; 42% of ELs are not enrolled in ELA in a given semester compared to 1% to 2% of non-ELs. The full academic course load row also shows ELs' exclusion from academic content areas. While over 95% of students in the non-EL categories are enrolled in math, science, and ELA in a given semester, the corresponding figure for ELs is 53%. This means that in a given semester, close to one in two ELs is not enrolled in at least one academic content area.

Contrary to state and district policy, 32% of ELs are not enrolled in ELD in a given semester of middle school. ELD and ELA are largely used as substitutes rather than complements to each other. Supplementary analysis (see Table G in the online version of the journal) shows that only about one in four ELs is in both ELA and ELD. The remaining three out of four are in either ELD or ELA, with a very small proportion (<1%) of ELs not enrolled in either.

Table 2

Descriptive Course-Taking Statistics, by Language Classification, Semester

Averages Grades 6–8

		Language C	lassification	
	EL	EO	IFEP	RFEP
Total credits	25.2	22.2	21.4	21.1
Total academic credits	14.9	16.6	16.0	15.8
Level enrollment (leveled tracking)				
Grade level credits	12.6	10.8	10.0	10.1
Honors credits	0.5	4.5	5.2	5.0
Remedial credits	1.8	1.2	0.8	0.6
Algebra by eighth grade (%)	37	44	55	58
Subject area enrollment (exclusionary	tracking)			
ELA credits	4.0	5.8	5.6	5.4
Math credits	6.1	5.6	5.3	5.3
Science credits	4.8	5.1	5.1	5.0
ELD credits	5.5	0.3	0.3	0.3
No ELA (%)	42	1	1	2
No math (%)	4	1	1	1
No science (%)	10	1	1	1
No ELD (%)	32	94	95	94
Full academic course load (%)	53	98	98	97
N (students)	10,651	15,639	4,419	12,081

Note. EL = English learner; EO = English only; IFEP = initially fluent English proficient; RFEP = reclassified fluent English proficient; ELA = English language arts; ELD = English language development. The total academic credits row sums math, science, and ELA credits. Full academic course load enrollment indicates enrollment in math, science, and ELA. A full credit course is five credits.

ELs of Different English Proficiency Levels

The first set of columns in Table 3, titled "English Proficiency Level (CELDT)," presents descriptive statistics on course enrollment among ELs, by English proficiency level. As predicted, leveled and exclusionary tracking characterize the course-taking of ELs with low levels of English proficiency more than those with higher English proficiency levels.

Lower proficiency ELs are in fewer honors credits than higher proficiency ELs but also in fewer grade-level and remedial credits. These results are driven by exclusionary tracking patterns, most specifically that large proportions of lower proficiency ELs are not enrolled in ELA (85% at Level 1 and 63% at Level 2). Exclusionary tracking in ELA appears to be strongly linked to English proficiency while the same is not the case with exclusion from math and science. In those subjects, ELs with higher English proficiency

Descriptive Course-Taking Statistics, Among ELs, by English Proficiency Level and Math and ELA Performance Level, Semester Averages Grades 6-8

		English	English Proficiency Level (CELDT)	evel (CELDT)			N.	Aath Perf	ormance	Math Performance Level (CST Math)	T Math)			ELA Perf	ormance	ELA Performance Level (CST ELA)	ST ELA)	
Early Eaginning Intermediate Intermediate Advanced Advanced Missing	Early Early remediate Advance	Early Intermediate Advance	Early Advance	p	Advanced	Missing	Far Below Below Basic Basic		Basic P	Basic Proficient Advanced Missing	dvanced		Far Below Below Basic Basic		Basic Pı	roficient ,	Basic Proficient Advanced Missing	Missir
27.1 25.9 25.5 24.6	25.5		24.6		23.8	23.5	26.6	26.0	25.2	24.3	24.2	24.7	26.6	25.8	24.6	23.4	22.3	25.2
12.0 13.5 15.4 16.0	15.4		16.0		16.0	16.1	15.2	15.6	15.3	14.2	14.1	14.1	13.3	14.9	15.5	15.5	15.6	15.0
10.7 11.6 13.1 13.4	13.1		13.4		13.1	12.8	12.6	12.9	13.0	12.1	11.1	12.2	11.5	12.6	13.2	12.7	6.6	12.7
0.1 0.1 0.3 0.6	0.3		9.0		1.2	1.6	0.1	0.2	9.4	8.0	2.3	0.3	0.1	0.2	0.5	1.7	5.2	0.4
1.3 1.8 2.0 2.0	2.0		2.0		1.7	1.7	2.4	2.5	1.9	1.2	0.7	1.5	1.7	2.1	1.8	1.1	0.5	2.0
36 35 36 39	36		39		42	41	32	32	41	61	62	13	31	32	43	65	69	18
0.9 2.5 4.4 5.2 5.5	4.4	5.2		Ϋ́	10	5.2	3.9	4.5	4.2	3.5	3.3	3.7	2.3	3.9	4.7	4.8	4.9	4.3
6.2 6.0	6.2 6.0	0.9			5.6	0.9	6.5	6.3	6.2	5.8	5.7	5.8	6.3	6.2	0.9	5.6	5.5	0.9
4.8 4.6 4.9 4.9	4.9		4.9		4.9	5.0	4.8	4.8	4.9	4.9	5.1	4.7	4.7	4.8	4.9	5.1	5.2	4.7
5.1 3.6	5.1 3.6	3.6			8.2	2.6	6.4	5.5	5.1	5.4	5.3	5.9	9.8	0.9	4.2	2.9	1.5	5.3
36	36		26		19	20	45	39	38	45	44	45	29	45	31	23	14	43
5 2 3 4	3		4		9	2	√	4	3	3	2	5	ς.	4	3	3	1	4
10	10		10		8	_	11	10	6	œ	5	13	12	11	6	5	2	11
5 15 30 41	30		41		50	99	26	30	33	34	40	30	13	26	39	99	9/	37
13 33 58 68	58		89		73	7	48	55	99	51	53	20	29	49	63	73	84	52
2,623 1,137 2,667 2,265	2,667		2,265		802	1,157	9//	1,906	2,381	1,777	820	2,991	2,487	3,018	3,467	894	177	809
				1														

Note. Math CST test is measured in seventh grade (the only grade in middle school when there is only one test type) rather than by semester in order to avoid confusing test score with test type. The total academic credits row sums math, science, and ELA credits. Full academic course load enrollment indicates enrollment in math, science, and ELA. A full credit course is five credits. CELDT = California English Language Development Test; CST = California Standards Test; EL = English learner; ELA = English language arts; ELD = English language development.

levels are roughly as likely as ELs with lower English proficiency levels to not be enrolled.

ELs of Different Math and ELA Performance Levels

Leveled and exclusionary tracking characterize access to content more for EL students with lower math levels than those with advanced math skills (see the second set of columns in Table 3, titled "Math Performance Level [CST Math]"). EL students with low math scores are almost never in honors classes whereas students with advanced math scores take, on average, 2.3 honors credits per semester.

ELs with low math performance are also more likely than their higher achieving peers to not be enrolled in math and science. ELs of all levels of math performance face exclusionary tracking in ELA, however. Between one in two and one in three ELs is not enrolled in ELA across math performance levels. Even among high performers, nearly one in two is not in a full course load of classes in any given middle school semester.

The final set of columns in Table 3 shows results by ELA performance levels (columns titled "ELA Performance Level [CST ELA]"). Patterns here are similar to those of math, with leveled and exclusionary tracking limiting course access particularly among ELs with low CST ELA scores. One notable difference is that ELs with high CST ELA scores are rarely excluded from ELA classes or other core content areas. As a result, while 29% of CST ELA "far below basic" EL students are in a full course load, 84% of "advanced" EL students are.

Analyses of Explanatory Factors

The descriptive results reveal that ELs have very different access to content compared to non-ELs and that access to content among ELs is structured along lines of English proficiency level and academic performance level. It also underscores the prominence of both leveled and exclusionary tracking—both of which limit ELs' access to content in middle school. This next section analyzes possible causes of ELs' inferior course access.

Prior Academic Achievement

In Table 4, Model 1 looks at the raw differences between ELs and EOs and confirms that there are large and highly significant differences in the course-taking patterns of ELs and EOs across leveled and exclusionary outcomes. Model 2 assesses the extent to which lower academic achievement explains ELs' comparatively limited access to content. Unlike some of the subsequent analyses, this analysis relates to the full spectrum of EL students in the district, including newcomers, developmental ELs, and long-term ELs.

Table 4
Ordinary Least Squares Estimates of Effect of EL Language
Classification Compared to EO Classification on Sixth Grade
Leveled and Exclusionary Tracking Outcomes

	Mode	l 1	Mode	1 2	Mode	1 3
Leveled tracking						
Honors credits	-7.97***	(0.25)	-2.50***	(0.24)	-2.18***	(0.21)
Grade level credits	3.48***	(0.28)	-2.28***	(0.27)	-2.39***	(0.24)
Remedial credits	1.41***	(0.10)	-0.33**	(0.11)	-0.57***	(0.10)
Highest class: honors	-0.21***	(0.01)	-0.02*	(0.01)	-0.01	(0.01)
Highest class: grade level	0.21***	(0.01)	0.02*	(0.01)	0.00	(0.01)
Highest class: remedial	0.00~	(0.00)	0.00	(0.00)	0.00	(0.00)
Exclusionary tracking						
Total credits	3.54***	(0.27)	-0.12	(0.28)	-0.24	(0.27)
Total academic credits	-3.08***	(0.19)	-5.12***	(0.20)	-5.14***	(0.20)
ELA credits	-2.73***	(0.11)	-3.32***	(0.12)	-3.46***	(0.12)
Math credits	0.21*	(0.08)	-0.91***	(0.09)	-0.85***	(0.09)
Science credits	-0.56***	(0.05)	-0.90***	(0.05)	-0.83***	(0.05)
ELD credits	7.86***	(0.13)	6.00***	(0.14)	5.86***	(0.14)
No ELA	0.25***	(0.01)	0.20***	(0.01)	0.19***	(0.01)
No math	0.01~	(0.00)	0.00	(0.00)	-0.01**	(0.00)
No science	0.00	(0.00)	0.00	(0.00)	0.00	(0.00)
Full academic course load	-0.43***	(0.01)	-0.40***	(0.01)	-0.39***	(0.01)
Student characteristics	X		X		X	
Year FE	X		X		X	
Achievement			X		X	
School FE					X	
N (student-semesters)	15,911		15,911		15,911	

Note. Standard errors shown in parentheses. EL = English learner; EO = English only student; FE = fixed effects; ELA = English language arts; ELD = English language development. Student characteristics include variables for student ethnicity, gender, and generational status. Year FE include dummy variables for each academic year. Achievement controls include fifth-grade math and ELA California Standards Test (CST) scores. School FE include dummies for each middle school. The total academic credits row sums math, science, and ELA credits. Full academic course load indicates enrollment in math, science, and ELA. A full credit course is five credits.

 $\sim p < .10. *p < .05. **p < .01. ***p < .001.$

Controlling for prior academic achievement dramatically attenuates ELs' exposure to leveled tracking. With achievement controls, ELs take far fewer credits at all three levels (honors, grade level, and remedial) compared to EOs with the same achievement profiles. This indicates the presence of exclusionary tracking since ELs do not make up for fewer credits at one level with more credits at another level. A limited degree of leveled tracking may remain; ELs remain 2 percentage points less likely to have an honors level

class as their highest level class, compared to EOs with the same prior achievement.

By contrast, controlling for prior achievement exacerbates many of the exclusionary tracking patterns in the base model. Once controlling for prior achievement, ELs take 5.12 fewer academic credits, on average, compared to EOs with the same achievement profiles. While the bulk of this is accounted for by ELA (3.32 credits), ELs also take fewer math (.91) and science (.90) credits compared to EOs with the same prior achievement. Likewise, controlling for prior achievement has little effect on differences in full course load enrollment; ELs are 40 percentage points less likely to be in a full academic load compared to similarly achieving EOs.

In summary, prior achievement explains much of the pattern of ELs enrolling in fewer upper level classes and more lower level classes, but it does not explain differences in enrollment between ELs and EOs in academic subject areas. As discussed earlier, I conducted a sensitivity check using Grades 3–5 ELA and math CST scores as predictor variables. The results are very similar to those presented here (see Table H in the online version of the journal), indicating that fifth-grade test scores are a good proxy for a more extensive set of prior achievement variables.

Institutional Constraints

Model 3 in Table 4 tests the hypothesis of institutional constraints: namely, that ELs have inferior course access because they are disproportionately enrolled in schools with fewer upper track classes.

The results show modest support for this hypothesis. As predicted, including school fixed effects modestly diminishes ELs' under-enrollment in honors level classes (from 2.5 fewer credits to 2.18 fewer credits). A similar pattern can be seen with regard to students' highest level class: While ELs are significantly less likely to have an honors level class as their highest class compared to EOs with the same prior achievement, this difference drops slightly to 1 percentage point and nonstatistical significance when comparing ELs to similar EOs in the same schools. This suggests that the schools that ELs attend may offer fewer honors level classes, on average, compared to those that EOs attend.

English Proficiency Level

English proficiency is predictive of students' course-taking, after controlling for school, prior achievement, cohort, and student background characteristics (see Table 5). Point estimates in that table reflect the association of a one unit change in English proficiency level (measured from Levels 1–5) on a given course-taking outcome. ELs with lower English proficiency levels in middle school—most of whom are newcomer students—experience clear

Table 5
Ordinary Least Squares Estimates of Effect of English Proficiency Level (CELDT Performance Level) on Sixth-Grade Course-Taking Outcomes

	Coefficient on CELDT	Performance Level
Leveled tracking		
Honors credits	0.28***	(0.07)
Grade level credits	0.82***	(0.16)
Remedial credits	0.27***	(0.08)
Highest class: honors	0.03***	(0.01)
Highest class: grade level	-0.04***	(0.01)
Highest class: remedial	0.00*	(0.00)
Exclusionary tracking		
Total credits	-0.47*	(0.23)
Total academic credits	1.36***	(0.18)
ELA credits	1.30***	(0.11)
Math credits	0.00	(0.07)
Science credits	0.06	(0.05)
ELD credits	-1.81***	(0.13)
No ELA	-0.11***	(0.01)
No math	-0.01*	(0.00)
No science	0.00	(0.00)
Full academic course load	0.09***	(0.01)
N	3,883	

Note. This model controls for fifth-grade math and ELA CST scores, student ethnicity, gender, and generational status, middle school fixed effects, and academic year fixed effects. ELA = English language arts; ELD = English language development; CST = California Standards Test; CELDT = California English Language Development Test. The total academic credits row sums math, science, and ELA credits. Full academic course load indicates enrollment in math, science, and ELA. A full credit course is five credits. *p < .05. ***p < .001.

patterns of leveled and exclusionary tracking as compared to ELs with higher English proficiency—most of whom are developmental EL students.

For every one-unit gain in English proficiency level, ELs are 3 percentage points more likely to have an honors class as their highest level class. This means that a Level 5 EL is 12 percentage points more likely to have an honors level class as their highest level class compared to a Level 1 EL with the same prior achievement in the same school.

With regard to exclusionary tracking, EL students at higher proficiency levels take significantly more academic credits. Each additional proficiency level is associated with 1.36 more academic credits and an 11 and 1 percentage point gain in the likelihood of ELA and math course enrollment, respectively. Taken together, these differences have large implications for students' enrollment in full academic course loads. A Level 1 EL is a full 36 percentage

points less likely to be enrolled in a full academic load than a Level 5 EL with the same prior achievement in the same school.

EL Classification

The two regression discontinuity analyses reveal that EL classification may also limit students' course access. As described in the methods section, the first model examines the impact of EL as compared to IFEP classification in kindergarten on middle school course-taking, among students at the margin of EL classification in kindergarten. Results are presented in Tables 6 (leveled tracking outcomes) and 7 (exclusionary tracking outcomes). While the results are largely in the expected direction (providing less access to EL- than IFEP-classified students at the margin), most are not statistically significant. No leveled tracking results reach standard levels of significance. Exclusionary tracking results suggest that EL classification, among marginal students, results in greater ELD enrollment in middle school, a difference that diminishes over time. In addition, this analysis suggests that EL classification, among marginal students, results in enrollment in fewer core academic content area credits in middle school, a difference that grows over time. The test of joint significance for this outcome is only marginally significant, and the effect size is small, however, amounting to only a fraction of a credit each semester.

The second RD method looks at the impact of remaining an EL as compared with being reclassified at the end of fifth grade on sixth-grade course-taking. Results are presented in Table 8. There are no significant results with regard to leveled tracking. With regard to exclusionary tracking, there are clear and immediate effects of remaining an EL versus being reclassified, for marginal students. Namely, remaining an EL results in higher credit enrollment in ELD and science and lower enrollment in ELA (.88 fewer credits) and a full academic load (7 percentage points).

Discussion

In this section, I first discuss the two prevailing characteristics of EL course access: leveled tracking and exclusionary tracking. I then discuss findings regarding the causes of ELs' limited access to academic courses.

Leveled Tracking

This study adds to a growing body of research showing that ELs take fewer high track credits and more lower track credits compared with students of any other language classification (Callahan, 2005; Gándara et al., 2003; Nord et al., 2011; Solorzano & Ornelas, 2004; Wang & Goldschmidt, 1999; Zuniga et al., 2005). Underrepresentation in honors classes is particularly acute among ELs with low academic achievement and/or low English

Table 6

Regression Discontinuity Estimates, Impact of EL Versus IFEP Classification in Kindergarten on Middle School Leveled Tracking Outcomes

	BW.5		BW.75		BW1	
Grade level credits						
Intercept	0.61	(0.65)	0.13	(0.55)	-0.05	(0.51)
Slope	-0.11	(0.13)	0.04	(0.11)	0.08	(0.10)
Joint test p value	0.63		0.81		0.70	
Honors credits						
Intercept	-0.34	(0.64)	0.02	(0.51)	0.14	(0.47)
Slope	-0.05	(0.13)	-0.13	(0.10)	-0.14	(0.09)
Joint test p value	0.57		0.36		0.27	
Remedial credits						
Intercept	-0.22	(0.14)	-0.15	(0.11)	-0.09	(0.09)
Slope	0.05	(0.06)	0.01	(0.05)	0.00	(0.04)
Joint test p value	0.28		0.26		0.46	
N	7,419		11,039		13,593	
Algebra by eighth gra	.de					
Algebra	0.00	(0.02)	-0.02	(0.02)	-0.02	(0.02)
N	1,737		2,577		3,146	

Note. Optimal bandwidth in bold. Standard errors shown in parentheses. The intercept value represents the estimated impact of EL versus IFEP status on fall of sixth-grade course-taking outcomes. The slope value represents the estimated change in the impact of EL versus IFEP status on each subsequent middle school semester after fall of sixth grade. EL = English learner; IFEP = initially fluent English proficient; BW = bandwidth.

proficiency. While this finding is not surprising given ELs' lower average academic performance compared to other students, there is ample evidence that placement into low track classes can depress achievement and likelihood of graduation (Oakes, 2005; Slavin, 1990; Walqui & Van Lier, 2010). High track placement and exposure to advanced content, by contrast, benefits disadvantaged students' achievement, self-esteem, college enrollment, college completion, and labor market earnings (Engel, Claessens, Watts, & Farkas, 2016; Kettler, Shiu, & Johnsen, 2006; Long, Conger, & Iatarola, 2012). Some of this research shows effects of content exposure specifically for ELs (Aguirre-Muñoz & Boscardin, 2008; Garrett & Hong, 2015).

Leveled tracking might be particularly problematic for ELs. First, many factors combine to exacerbate the potential that ELs are placed in inappropriately low track classes (e.g., downwardly biased test results due to English language barriers) (Kieffer, Lesaux, Rivera, & Francis, 2009). Therefore, ELs may be less likely than English speakers to reap benefits from purposeful differentiated instruction that undergirds leveled tracking systems.

Table 7

Regression Discontinuity Estimates, Impact of EL Versus IFEP Classification in Kindergarten on Middle School Exclusionary Tracking Outcomes

	BW.4		BW.7		BW1	
Total credits						
Intercept	0.14	(0.45)	0.09	(0.40)	0.08	(0.36)
Slope	-0.18	(0.15)	-0.15	(0.13)	-0.14	(0.11)
Joint test p value	0.28		0.17		0.19	
Total academic credits						
Intercept	0.05	(0.22)	0.00	(0.21)	0.01	(0.17)
Slope	-0.11	(0.09)	-0.09	(0.08)	-0.08	(0.07)
Joint test p value	0.14		0.09~		0.17	
ELA credits						
Intercept	-0.11	(0.14)	-0.14	(0.12)	-0.11	(0.11)
Slope	-0.01	(0.05)	-0.01	(0.04)	0.00	(0.04)
Joint test p value	0.23		0.15		0.28	
Math credits						
Intercept	0.02	(0.10)	0.05	(0.09)	0.05	(0.07)
Slope	-0.04	(0.04)	-0.04	(0.04)	-0.04	(0.03)
Joint test p value	0.48		0.40		0.34	
Science credits						
Intercept	0.15*	(0.07)	0.09	(0.07)	0.07	(0.06)
Slope	-0.06**	(0.02)	-0.04~	(0.02)	-0.03	(0.02)
Joint test p value	0.03*		0.15		0.30	
ELD credits						
Intercept	0.36*	(0.16)	0.32*	(0.13)	0.30**	(0.11)
Slope	-0.07~	(0.04)	-0.07*	(0.03)	-0.07*	(0.03)
Joint test p value	0.06~		0.05*		0.02*	
Full academic course l	oad					
Intercept	-0.01	(0.01)	-0.02	(0.01)	-0.01	(0.01)
Slope	0.00	(0.00)	0.00	(0.00)	0.00	(0.00)
Joint test p value	0.31		0.55		0.60	
N	6,004		10,443		13,593	

Note. Optimal bandwidth in bold. Standard errors shown in parentheses. The intercept value represents the estimated impact of EL versus IFEP status on fall of sixth-grade course-taking outcomes. The slope value represents the estimated change in the impact of EL versus IFEP status on each subsequent middle school semester after fall of sixth grade. EL = English learner; IFEP = initially fluent English proficient; BW = bandwidth; ELA = English language arts; ELD = English language development. The total academic credits row sums math, science, and ELA credits. Full academic course load indicates enrollment in math, science, and ELA. A full credit course is five credits. $\sim p < .10. *p < .05. **p < .01.$

Second, lower track classes do not simply provide less advanced content. Rather, lower track classes are characterized by fewer opportunities

Table 8

Regression Discontinuity Estimates, Impact of End-of-Fifth-Grade EL Versus RFEP Classification on Sixth-Grade Leveled and Exclusionary Tracking Outcomes

	BW.25		BW.5		BW.75	
Leveled tracking						
Honors credits	1.10~	(0.66)	0.77	(0.52)	0.49	(0.45)
Grade level credits	-1.77~	(0.94)	-1.06	(0.67)	-0.90	(0.57)
Remedial credits	-0.16	(0.40)	0.07	(0.31)	0.33	(0.29)
Exclusionary tracking						
Total credits	1.67	(1.02)	3.05***	(0.75)	3.62***	(0.67)
Total academic credits	-0.83	(0.79)	-0.22	(0.58)	-0.09	(0.50)
ELA credits	-1.15*	(0.48)	-0.88*	(0.35)	-0.64*	(0.30)
Math credits	0.04	(0.33)	0.33	(0.24)	0.30	(0.21)
Science credits	0.28	(0.21)	0.33*	(0.16)	0.25~	(0.13)
ELD credits	1.90**	(0.68)	2.52***	(0.49)	3.12***	(0.43)
No ELA	0.18*	(0.07)	0.18***	(0.05)	0.17***	(0.04)
No math	-0.02	(0.01)	-0.01	(0.01)	0.01	(0.01)
No science	-0.01	(0.01)	0.00	(0.01)	0.01	(0.01)
Full academic course load	-0.07~	(0.03)	-0.07**	(0.03)	-0.09***	(0.02)
N	1,802		3,315		4,390	

Note. Optimal bandwidth in bold. Standard errors shown in parentheses. This model includes controls for student ethnicity, gender, cohort, and generational status. EL = English learner; RFEP = reclassified fluent English proficient; ELA = English language arts; ELD = English language development. The total academic credits row sums math, science, and ELA credits. Full academic course load indicates enrollment in math, science, and ELA. A full credit course is five credits.

 $\sim p < .10. *p < .05. **p < .01. ***p < .001.$

for meaningful content-based language use as well as less supportive student-teacher relationships (Harklau, 1994; Katz, 1999; Page, 1991; Raudenbush, Rowan, & Cheong, 1993; Valenzuela, 1999). Opportunities for meaningful content-based language use and supportive student-teacher relationships have both been posited as key ingredients for EL success in school (Saunders et al., 2013; Stanton-Salazar & Dornbusch, 1995; Stanton-Salazar & Spina, 2003). As such, ELs' disproportionate placement in lower track classes is an important barrier to their opportunity to learn.

Exclusionary Tracking

A contribution of this study is the finding that ELs' course access is characterized by a dimension that has rarely been examined in general studies of course access and tracking. Namely, large proportions of ELs are not enrolled in a full course of study in middle school. ELs most commonly

lack enrollment in English language arts classes, but exclusion from academic content also occurs in math and science.

Districts across the country face an underlying challenge: how to provide both English language development support and access to grade-level academic content within the confines of the school day. Regulations regarding the requirement to provide English language instruction tend to be relatively straightforward. In California, for example, schools are required to provide daily designated ELD instruction to all EL students (California Department of Education, 2015b). This requirement is substantiated in part through reporting requirements in which districts annually report how they provide ELD to their EL students (American Civil Liberties Union of California & Asian Pacific American Legal Center, 2013).

However, federal and state guidance regarding the requirement to provide ELs with equitable access to academic content has been less defined and delineated. While federal law is clear that ELs must have "parity of participation" in academic instruction (*Castañeda v. Pickard*, 1981, p. §1703(f)), federal regulation allows for schools to temporarily disrupt ELs' access to academic content in favor of concentrated English language instruction so long as they "recoup any deficits that they may incur in other areas of the curriculum as a result of spending extra time on ELD" (Lhamon & Gupta, 2015, p. 17). California law parallels federal law, stating:

Districts must ensure that all students meet grade-level core curriculum standards within a reasonable amount of time. If a district chooses to emphasize ELD before full access to the core curriculum or if the student does not comprehend enough English to allow full access to the core curriculum, the district must develop and successfully implement a plan for ELs to recoup any and all academic deficits before the deficits become irreparable. (CDE, 2006, p. 4)

Federal and state regulation do not, however, specify when, for whom, or for how long academic delays are allowable or appropriate. Nor are there guidelines on how schools must compensate for any delays that occur or reporting requirements that pertain to ELs' access to academic content. As such, ELs' right to English language support may be more fully realized than their right to equitable access to content (Callahan & Shifrer, 2016; Walqui et al., 2010).

While allowable, ELs, with few exceptions (e.g., recently arrived ELs with weak or absent prior formal education), benefit from simultaneous rather than sequential access to content (Estrada, 2014; Rios-Aguilar, Canché, & Sabetghadam, 2012; Walqui & Van Lier, 2010). As a result, the district examined here specifies that all ELs should be placed in a full load of academic classes each semester. Other large California districts have similar policies (Los Angeles Unified School District, 2015; San Bernadino City Unified School District, 2010). Despite district policy, this analysis suggests

that many ELs do not have full access to academic content. Exclusionary tracking, albeit more pervasive among lower performing and lower English proficiency ELs, is quite common even among high performing and English proficient ELs. Many of these middle school ELs with higher English proficiency have been in U.S. schools since kindergarten, suggesting that exclusionary tracking is not, at least for some, a temporary practice.

In this district, ELA and ELD are, in practice, largely used as substitutes rather than complements. This may, in part, be due to the fact that the lines between ELD, ELA and other academic content areas have been blurring. States, including California, promote the implementation of both designated and integrated ELD (CDE, 2015b). Designated ELD is ELD instruction in a protected and separate block of time. Integrated ELD, by contrast, is ELD support provided within the context of academic or elective content instruction. Furthermore, designated ELD can focus on English skills that are targeted toward a specific content area, such as math or science. Finally, there has been limited movement in some locales to fully integrate ELD with ELA for EL students with relatively high levels of English proficiency, particularly for those EL students who qualify as long-term ELs (Los Angeles Unified School District, 2015).

Regardless of these trends, exclusion from ELA can have serious implications for ELs that last well beyond K–12 education. For example, the university system in California requires that students take four full years of ELA in high school in order to be eligible to apply to a four-year college. If the pattern I observe in middle school continues into high school, a large proportion of EL students may be ineligible to apply to college due to exclusion from ELA.

ELs are not only underrepresented in ELA, they are also underrepresented in math and science courses. Exclusion from math and science is relatively evenly distributed across ELs of different English proficiency levels, suggesting that this exclusion is not a temporary disruption for newcomer students or those with low English proficiency levels. Indeed, the English proficiency group with the highest proportion of students not enrolled in math is actually those with the highest English proficiency level.

This article revealed a somewhat paradoxical finding in math and science enrollment: EL students can be, at one and the same time, enrolled in more math or science credits than non-EL students and more likely to be excluded from math or science than non-EL students. This paradox is created because while EL students are more likely than non-ELs to not take math or science, they are also more likely to be enrolled in grade-level science or math with supplementary remedial support. This suggests a possible bifurcated response to ELs in these content areas: Some schools or administrators may respond to EL status or low English proficiency by providing a double dose of content, while others respond by delaying or blocking access to content.

Like ELA, lack of enrollment in math and/or science in middle school has grave repercussions for students' opportunity to learn. Middle school coursework introduces concepts and skills that are used in high school, and courses are sequenced throughout secondary education (Wang & Goldschmidt, 2003). Missing math or science in one semester, therefore, often results in long-term delays that can block students from being able to graduate or apply to college (Zuniga et al., 2005).

Causes of ELs' Limited Course Access

Grounded in the rich literature on ELs' experiences and opportunities in school, I posited four hypotheses for why ELs have limited course access. These are: academic achievement, institutional constraints, English proficiency, and EL classification. I find at least limited support for each of these four hypotheses.

The findings from this study, taken together, suggest that ELs face multiple barriers to academic content in school. Some of these barriers, namely, academic achievement and institutional constraints, are in place for all students but disproportionately impact ELs. In other words, access to content is structured for all students based on their prior achievement and the school they attend, but due to the characteristics of ELs and the schools they attend, these structures impact a disproportionate number of ELs (Fry, 2007, 2008). The other barriers, English proficiency level and EL classification, impact only EL students because they pertain to characteristics that only EL students have.

While these findings shed light on factors that may limit ELs' access to content, they do not address how, specifically, these barriers are operationalized. Prior research, however, has articulated how prior achievement and school and residential segregation operate. Prior achievement, in schools with leveled tracks, is used to determine students' course level placement (Oakes, 2005). Segregation influences students' access to course level because schools with greater resources and those in more affluent communities tend to offer a greater number of high track classes (Oakes, 2005; Solorzano & Ornelas, 2004). The findings in this article are confirmatory of these processes: Prior achievement and school of attendance explain nearly all of EL students' disproportionate placement in lower track classes. The findings are also confirmatory in that prior achievement and school of attendance are not predictive of exclusionary tracking outcomes. In other words, theory and research on how prior achievement and segregation limit students' access to content deal overwhelmingly with access to high track classes rather than access to core academic instruction.

We know less about how course access is operationalized along the lines of English proficiency and EL classification. The findings from this study indicate that structuring access by English proficiency and EL classification

may relate as much or more to exclusionary tracking than to leveled tracking. This is particularly the case with EL classification. In the two analyses related to EL classification, being identified as an EL impacted exclusionary tracking outcomes but not leveled tracking outcomes. In the case of English proficiency level, students with lower proficiency levels had less access to core academic subjects and less access to higher track classes.

While research on tracking by English proficiency level and EL classification is less abundant, it is gaining momentum. A growing body of work is identifying ways in which administrators and teachers, at times, make assumptions about ELs' academic capacity to succeed in mainstream classes based on their English skills (Bruna et al., 2007; Yoon, 2008). Research further documents how these practices may bar students from accessing high track classes and entire academic subjects (Callahan, 2005; Dabach, 2009; Harklau, 1994; Valdés, 1998). These assumptions can be formalized in school or district policy or programs, or they can be the informal decisions of individuals (Estrada, 2014; Kanno & Kangas, 2014).

Likewise, research is growing on how EL classification may impact course access and how this varies based on local policies, practices, and beliefs about EL students' needs and abilities. In several of these studies, EL classification operates to limit course access through crowding out due to ELD instruction or other EL services (August et al., 2010; Estrada, 2014; Lillie et al., 2012).

Policy and Practice Implications of ELs' Limited Course Access

This study has several implications for education policy and practice. The first relates to the importance of clear regulations and monitoring of ELs' access to academic content. As stated earlier, federal and state guidelines have inadvertently created a weakness in EL students' right to academic content by allowing for sequential or delayed provision of academic content without clear guidance on when and for whom this is appropriate and without monitoring requirements to ensure that delays are fully compensated. Research findings are clear that simultaneous provision of ELD and academic content is preferable to sequential provision, and federal, state, and local education authorities should move to create regulations limiting the conditions under which districts can delay access to academic content. Likewise, they should monitor ELs' access to content and hold schools accountable for providing that access.

Closely related, schools and districts will need resources as they seek solutions to reduce the tension between language and content instruction. These tensions create formidable challenges in staffing, scheduling, and funding for schools (Gándara et al., 2003). Some schools and districts have found ways of extending the school day or school year for ELs (Farbman, 2015). Others, including the district examined here, are considering creative

ways of integrating ELD into elective courses such as art, music, or computer science in order to reduce crowding-out effects of ELD. Technical, professional, and financial resources should be available to schools and districts as they seek to minimize EL exclusionary tracking, reduce the crowding-out of content due to ELD, and ensure that ELD complements rather than duplicates other content area classes.

Finally, schools and districts need to address ELs' disproportionate placement in lower track classes. Some districts are moving to offer open enrollment in honors classes or de-track at the middle school level (Oakes & Lipton, 1992; Winebrenner, 2006; Yonezawa, Wells, & Serna, 2002). In schools that continue to use course levels, the development and use of valid assessment and placement practices that do not negatively bias results for students acquiring English is critical, as is the need to ensure the quality of lower track classes. Finally, teachers need ample support and preparation to work with ELs within their academic classes and to differentiate their English skills from their academic knowledge and ability.

Limitations and Future Research

The analyses presented in this article have several limitations. First and foremost, they are from one school district and only cover middle school grades. Course access patterns are likely to differ according to local and state policy and practice. Future work should be done documenting EL course access patterns in terms of both leveled and exclusionary tracking in different locales and at different grade levels. Second, the analyses of the roles of achievement, institutional resources, and English proficiency are descriptive rather than causal, and the RD analyses of the role of EL classification provide causal estimates only for students near the margin of EL-IFEP and EL-RFEP classification. More quasi-experimental and qualitative research is needed on the factors that influence EL students' access to academic content and, in particular, on how these factors operate to influence EL students' access. This article also did not explore several key issues with regard to EL access to content, including: (1) how access differs for students of different ethnic and linguistic backgrounds and for students with different amounts of time in U.S. schools, (2) how language of instruction may mediate access to content, (3) the extent to which ELs are enrolled in parallel (SDAIE) classes and the academic rigor of those classes, (4) ELs' access to social studies and electives, and (5) the extent to which course completion (as opposed to enrollment) differs between ELs and non-ELs. Importantly, research is needed on the effectiveness of policies and services, some of which are suggested previously, designed to increase EL students' equitable access to content.

Conclusion

English learners arrive in school with unique sets of strengths and vulner-abilities. They bring with them remarkable linguistic assets and cross-cultural and international knowledge and skills (Callahan & Gándara, 2014; González, Moll, & Amanti, 2013; Kolker, 2011). All too often, however, schools interpret these assets as weaknesses as schools become focused on students' lack of English proficiency and the implications this may have on students' ability to participate in schools that are structured for native English speakers (Ruiz, 1984; Valenzuela, 1999). This process undermines students' strengths and exacerbates their vulnerabilities. One of the key ways in which ELs' opportunities are limited in school is stratification in course access.

Despite a legal and regulatory framework that guarantees ELs' equal access to content in school, this article finds that ELs undergo substantial tracking in middle school. The characteristics of this tracking include overrepresentation in lower track classes and underrepresentation in upper track classes as well as exclusion from core academic subject areas. ELs likely have limited course access for a constellation of reasons. In this article, I find evidence that academic achievement, school and residential segregation, English proficiency level, and EL classification all may play a role in limiting EL students' opportunity to learn. These barriers are likely to have negative implications for students' educational outcomes and their lives beyond school. Fortunately, many of the factors that are limiting ELs' access to content are malleable to changes in policy and practice. Addressing these barriers and inequities and implementing policies and practices to ensure ELs' equitable access to content is of urgent importance.

Notes

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¹There is a third way in which English learners' (EL) course-taking may differ from that of non-ELs: ELs may be placed into classes that parallel non-EL classes but are designed for or populated by ELs specifically. Bilingual and specially designed academic instruction in English (SDAIE) classes are the primary examples of these. Due to space constraints, however, I do not analyze this form of tracking in this article. For this article, I consider both SDAIE and bilingual courses to be grade-level courses in their respective content areas.

²Throughout this article, I refrain from citing policy documents from the school district examined. I do this in order to protect district anonymity. I did, however, review this district's policy documents, and wherever appropriate I cite state and federal policy documents.

³California policy does allow up to one year of advanced level English language development (ELD) to count toward the four years of required high school English language arts (ELA) to be eligible to apply to the University of California system (University of California, n.d.). Following that guideline, this district gives ELA credit for select advanced level ELD classes that are designed for ELs who have not reclassified after five years. In this analysis, I count those specific courses as both ELA and ELD.

⁴While the term *long-term EL* is used by the district and will be used in this article to differentiate this subgroup of students, I use it with recognition of the problematic nature of this label (Brooks, 2015; Thompson, 2015).

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