

Summary Points

- Significant racial and socioeconomic disparities exist in ninth-grade advanced course enrollment, even after accounting for prior academic achievement.
- Arkansas counselors consider various factors when placing students in advanced courses, but there is a lack of consistency and transparency in the process.
- To address these disparities, we recommend 1) adopting a local norm-based placement system in school districts and 2) automatically enrolling eligible students in advanced courses, with an opt-out option for parents or guardians.

Examining Disparities in Ninth-Grade Advanced Courses

In this brief, we examine the racial and socioeconomic disparities in ninth-grade advanced course placement. We utilized a statistical analysis of course placement patterns and interviewed Arkansas counselors. We suggest districts implement local norm-based placement systems that automatically enroll students in ninth-grade advanced courses to enhance equity in course placement.

Introduction

The ninth-grade year is a pivotal point in a student’s academic journey, influencing high school graduation and college enrollment (Allensworth & Easton, 2007; Easton et al., 2017; Morris et al., 2021). Staying on track and succeeding in ninth-grade course grades could lead to increased educational outcomes (Easton et al., 2017).

Another critical factor for academic success is enrolling in advanced courses. Enrolling in advanced courses like early Algebra I lays the foundation for academic success (McEachin et al., 2020; Wehde-Roddiger et al., 2012). Participation in advanced courses improves test scores, increases graduation rates, and enhances college readiness (Iatarola, 2016). Advanced Placement (AP) and Concurrent Enrollment (CE) courses offer opportunities for college-level learning and could

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increase student interest in advanced materials (Conger et al., 2023).

Although enrolling in advanced courses has been linked to better educational outcomes, disparities in advanced course enrollment exist. Black students and lower-income students are less likely to enroll in advanced courses (Kolluri, 2018; Ogut et al., 2023). Minority students face barriers to accessing advanced courses, contributing to educational inequities in schools (Moreno et al., 2021). Early academic recognition could help bridge enrollment gaps (Avery & Goodman, 2022); moreover, automatically enrolling the top students into advanced courses could alleviate the disparities gaps in course enrollment (New York Equity Coalition, 2023).

Enrolling in advanced courses is more than a simple student interest in the advanced material; it often requires meeting specific prerequisites and navigating potential biases from counselors, principals, and teachers (Ricciardi & Winsler, 2021). These educators play pivotal roles in determining students' access to advanced courses. Counselors advocating for all students and ensuring equitable opportunities for enrollment, can contribute to reducing disparities (Devine, 2022; Hatfield, 2022).

Study Design

In our study, we aimed to address the following questions:

- Are there racial and socioeconomic disparities in the likelihood of student enrollment in ninth-grade advanced courses?
- What factors influence the placement of ninth-grade students in Arkansas schools, and how do counselors consider various factors when transitioning eighth-grade students into ninth-grade courses?

We define a course as advanced if it meets one of the following criteria: 1) Advanced Placement (AP), 2) Pre-Advanced Placement (Pre-AP), 3) “advanced” in the course title, 4) a concurrent enrollment course, 5) or a math or science course that exceeds regular ninth-grade academic tracking pace, such as Algebra II, Geometry, Chemistry, or Biology. A ninth-grade student receives an indicator of “1” if they enroll in at least one course identified as advanced.

We used a mixed-methods research approach that incorporated three district data sources. First, we conducted an analysis of a pooled sample, comprising 163,616 first-time, full-time ninth-grade students spanning the 2017-2022 school years. This anonymized student-level data was provided by a partnership through ADE. This analysis enabled us to explore our first question by examining variations in ninth-grade advanced course enrollment across different student and district characteristics.

Additionally, we distributed a survey to Arkansas counselors that would provide insights into counselor perspectives and practices for course placement. This survey achieved a 10% response rate, with 90 total counselors participating. Lastly, we conducted counselor interviews, selecting participants randomly based on district characteristics and geographic regions. These interviews, which yielded a 74% response rate with 14 counselors participating, offered insights into our second question by analyzing the factors counselors consider when placing ninth-grade students into courses.

Descriptive Results

We present Table 1 below to provide the distribution of Arkansas’s ninth-grade students enrolled in advanced courses across demographic and programmatic characteristics. Of our pooled sample, approximately 27% of ninth-grade students were enrolled in advanced courses. We observed that a slightly higher percentage of females were enrolled in advanced courses compared to males. Enrollment percentages varied across demographic characteristics; 30% of White students, 19% of Black students, 23% of Hispanic students, 55% of Asian students, and 33% of students from other racial/ethnic backgrounds enrolled in advanced courses. Programmatic characteristic enrollment patterns differed as well; 19% of students eligible for Free or Reduced-Price Lunch (FRL) were enrolled in advanced courses, while 63% of Gifted and Talented (GT) students were enrolled in advanced courses during their ninth-grade year. Additionally, nearly 8% of English Language Learners (ELL) and 4% of Special Education (SPED) students were enrolled in advanced courses.

Table 1: Number and Percentage of Ninth-Grade Students in Advanced Courses by Demographic and Programmatic Characteristics, Pooled, 2017-2022

Characteristic	N	N Advanced	% Enrolled in Advanced
Male	84,148	20,783	24.7
Female	80,549	23,566	29.3
White	101,160	30,128	30.0
Black	31,752	6,044	19.0
Hispanic	22,313	5,051	22.6
Asian	2,596	1,433	55.2
Other Races	9,472	3,126	33.0
Free or Reduced-Price Lunch	99,036	19,008	19.2
Gifted and Talented	21,598	13,695	63.4
English Language Learner	10,502	785	7.5
Special Education	19,411	862	4.4
Total	163,616	44,349	27.1

We now present Table 2 to provide the distribution of ninth-grade students in advanced courses by differing district characteristics; District FRL Compositions, District Enrollment sizes, and state Geographic Regions.

Table 2: Ninth-Grade Students Enrollment in Advanced Courses Across District FRL Composition, District Enrollment size, and Geographic Regions, Pooled, 2017-2022

District FRL Composition	District N	Av. District % FRL	Student N	Advanced N	% Enrolled in Advanced
High (100%-75%)	64	83.1	16,971	3,764	22.1
Medium High (74%-70%)	68	72.2	47,502	11,712	24.7
Medium Low (69%-50%)	74	60.9	50,648	12,450	24.6
Low (49%-0%)	45	38.7	48,495	16,423	33.9
Total	251	64.9	163,616	44,349	27.1

District Enrollment Size	District N	Av. District Size	Student N	Advanced N	% Enrolled in Advanced
Macro (22,000 - 5,000)	15	11,483	59,335	18,301	30.8
Large (4,999 - 2,000)	41	3,202	44,712	11,498	25.7
Medium (1,999 - 1,000)	60	1,406	29,903	8,138	27.2
Small (999 - 500)	87	719	23,381	5,096	21.8
Micro (499 - 83)	48	329	6,285	1,316	20.9
Total	251	1,816	163,616	44,349	27.1

Region	District N	Av. District % FRL	Student N	Advanced N	% Enrolled in Advanced
Northwest	76	55.4	61,127	18,424	30.1
Northeast	65	64.1	31,850	6,473	20.3
Central	53	55.1	47,703	12,865	27.0
Southwest	35	68.5	14,911	4,573	30.7
Southeast	22	71.8	8,025	2,014	25.1
Total	251	64.9	163,616	44,349	27.1

In districts with a High FRL composition, approximately 22.1% of students are enrolled in at least one advanced course, while Medium-High and Medium-Low FRL composition districts show similar enrollment patterns at 24.7% and 24.6%, respectively. Conversely, districts characterized as Low FRL composition exhibit a notably higher percentage, with 33.9% of ninth-grade students enrolled in at least one advanced course. This highlights the connection between lower FRL composition in a district and higher ninth-grade enrollment in advanced courses.

In the largest (macro) districts, the enrollment of ninth-grade students in advanced courses is the highest at 30.8%, followed by large and medium-sized districts at 25.7% and 27.2%, respectively.

Smaller districts, both small and micro, exhibit lower enrollment percentages, with 21.8% and 20.9% of students enrolling in advanced courses, emphasizing the trend of larger districts enrolling more ninth-grade students in advanced courses compared to smaller districts.

Lastly, in terms of ninth-grade advanced course enrollment rates across regions, the Southwest and Northwest regions lead with rates of 30.7% and 30.1%, respectively. The Central region follows with a 27.0% rate, while the Southeast and Northeast regions have rates of 25.1% and 20.3%, respectively.

These descriptive results offer initial insights into the variations among ninth-grade advanced courses, shedding light on the differences. However, they do not take into consideration the specific characteristics of students or districts. To achieve a more comprehensive understanding of ninth-grade

advanced course enrollment patterns, we conducted further analysis using a statistical tool that allows us to control for these student and district differences. This approach enables us to more accurately measure the likelihood of student enrollment in these courses.

Analysis

Students' prior academic achievement on state assessments and district characteristics may influence the likelihood students will enroll in advanced courses, so we conducted a statistical analysis that controls for these differences. We present the main results of our analysis in Table 3 below that shows the relationship between enrolling in an advanced course in ninth-grade and student characteristics.

Table 3: Eighth-Grade Student Likelihood of Enrolling in Ninth-Grade Advanced Courses, Pooled, 2017-2022, Main Results

Characteristic	Contrast
Black vs. Asian	-22.4
Black vs. Hispanic	-7.7
Black vs. Other Races	-4.4
Black vs. White	-6.7
FRL vs. Non-FRL	-8.0

These results display racial and socioeconomic disparities in advanced course enrollment for ninth-grade students. Black students are 22.4 percentage points less likely to enroll in advanced ninth-grade courses than Asian students, even after accounting for similar prior academic achievement and district characteristics. Black students that have the same academic abilities as Asian students in similar districts are significantly less likely to enroll in advanced courses their ninth-grade year. Moreover, Black students are the least likely to enroll in advanced courses in ninth-grade students compared to all other race/ethnicity groups.

Students receiving FRL services, our proxy for lower socioeconomic status, are 8 percentage points less likely to enroll in advanced courses their ninth-grade year compared to students who are not receiving FRL services. Overall, these results are all statistically significant at the highest confidence level, and our model accounts for a moderately strong explanatory power. Differences in course enrollment patterns may be illuminated by counselor perceptions and perspectives.

Among the 90 counselors surveyed, most indicated that

they wield significant influence and consistent involvement in placing ninth-grade students in courses. While some counselors reported occasional parental pressure on course placement, it was generally moderate. Our survey did not inquire about counselors considering student demographic characteristics in their placement decisions. But we did ask counselors to consider for FRL status as criteria for course placement. A significant majority stated that FRL status holds no importance in their course placement decisions. In summary, our counselor survey did not reveal any significant indicators of counselor bias towards lower socioeconomic status in course placement.

We further examined responses from the 14 counselor interviews to understand course placement factors.

Factors in Course Placement

- Arkansas school counselors consider a myriad of factors when placing eighth-grade students into ninth-grade courses.
- The use of data in ninth-grade course placement decisions by counselors is not linked to district size, FRL composition, or regional locations.

Success of Course Placement

- Most interviewed counselors (60%) believe their school effectively places students in advanced courses in ninth-grade, but others (40%) note they have room to grow.

Influence in Course Placement

- Collaboration among counselors, teachers, principals, parents, and students is a key theme in determining course placements for ninth-grade students, but there is a lack of transparency across districts.
- The ultimate influence and authority of course placement varies across districts, with principals, committees, and student-parent voices being most prevalent.

Parental Pressure

- While many districts experience limited parental pressure concerning course placements, there are instances where parental desires for their students' course placements may take precedence over students' academic readiness.

Outcomes of Parental Pressure

- Outcomes of parental pressure vary by district size and composition.

- Some students end up dropping the advanced courses they were challenged with and struggling through, while others struggle through the semester and finish the course with effective counseling and support.

Differences in Course Placement

- Course placement procedures differ across district size, FRL composition, and regional location.
- Smaller districts tailor placements with more direct student and parental involvement, yet larger districts face challenges in forming connections with students.
- No matter the district FRL composition, majority of counselors want more parental support for course placement decisions.

While the responses from our counselor interviews pointed to a lack of consistent and transparent course enrollment system across Arkansas schools, we did not find significant indicators of counselor bias in course placement.

Discussion

We found that disparities in advanced course enrollment for ninth-grade students persist even when accounting for prior academic achievement, similar to prior researchers (Ricciardi & Winsler, 2021). Specifically in Arkansas, Black ninth-grade students face lower enrollment likelihoods in advanced courses, a finding that was revealed in one counselor interview, as well. Additionally, students from lower socioeconomic backgrounds are less likely to enroll in advanced coursework, a sentiment further echoed by majority of our counselors.

We also found many counselors highlight student characteristics like interest, work ethic, and strong academic records in their course placement decisions, similar to Hatfield (2022) and Iatarola (2016). We did not find that data-driven decisions for course enrollment decisions was associated with district size, district FRL composition, or regional locations, either.

Our findings underscore the persistent disparities in ninth-grade course enrollment, emphasizing the need for systemic changes in course placement policies and counselor practices that ensure equitable access to advanced coursework for all students.

Policy Implications

Early exposure to foundational courses like Algebra I, as recommended by McEachin et al. (2020) and Wehde-Roddiger et al. (2012), can increase interest in advanced mathematics and readiness for future advanced courses. Avery and Goodman (2022) also stress the impact of early academic recognition on students' propensity to enroll in challenging courses later.

Transparent and inclusive policies for advanced course enrollment are important to reduce these disparities. The New York Equity Coalition's (2023) proposal for automatic enrollment policies consider various student readiness indicators, ensuring that advanced coursework opportunities are accessible to all students.

Overall, we recommend two policy adoptions for Arkansas districts. First, we recommend a local norm-based placement system in all Arkansas school districts, which can be both legally defensible and locally sensitive. This system would use local norm scores to evaluate students against their peers within the same district, providing a more contextually relevant assessment of readiness for advanced coursework. By shifting the focus from a multitude of factors districts consider for course placement, this approach can help identify and nurture the potential of students who might otherwise be overlooked. School leaders must actively facilitate accessibility and maintain high content quality for students to ensure that advanced courses are not merely listed in catalogs but accessible to all who demonstrate potential.

Second, after ranking all students on a consistent scale that considers grades, state assessment scores, teacher recommendations, and other relevant factors, schools should automatically enroll students who meet the local norm criteria in advanced courses. Parents or guardians should have the option to opt their child out if they have concerns or preferences for an alternative placement (New York Equity Coalition, 2023). This approach streamlines the enrollment process and ensures that deserving students are not inadvertently excluded due to lack of parental awareness or involvement.

This study's results serve as a call to action for educators, policymakers, and schools. We need clear and transparent advanced course enrollment systems to create inclusive and equitable chances for all students.

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