Data Management Plan

Study Information

Title(s): The Impact of the Advanced Placement Policies in DCPS

Abstract: The District of Columbia Public Schools (DCPS) is requesting assistance from REL Mid-Atlantic in studying effects of mandated participation in Advanced Placement (AP) courses on students' high school participation and completion outcomes and the likelihood of taking and passing AP exams, as well as the effects of different AP teacher preparation routes on students' likelihood of taking and passing AP exams. This study will use historical data to address each of these questions. In addition, the study will examine these relationships for two subgroups who might not have participated in AP courses due to an absence of a mandatory AP policy in their schools: English learners and students with low academic achievement in middle school.

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Data Sources

The study will not collect any new data. The study will acquire only data that DCPS and the Office of the State Superintendent of Education (OSSE) have already collected. The study team will request data from DCPS for all students in DCPS high schools between the 2008-09 and 2017-18 school years. We will request data from DCPS for these students from 2005-06 to 2017-18, which will cover data from 6th through 12th grades. We will also request data from OSSE on all DC charter school students in grades 6 through 8 from 2005-06 to 2017-18. The following table provides details about each piece of data the study team seeks to obtain. We anticipate acquiring data for about 12,000 students and 150 teachers.

Name of data source	Owner/ publisher of the data	Year(s)	Variable(s) *Please include the variable name and brief definition*
Treatment variables			
School policies	DCPS	2008-09 to 2017-18	*AP mandate policy* – a school-by-year level indicator for whether the school mandated that students take AP courses in a given school year
Student enrollment data	DCPS, OSSE	2008-09 to 2017-18	*AP [course name] enrollment* – from DCPS: an indicator for whether a student enrolled in a given AP course in a given school year *Student grade* – from DCPS and OSSE: the student's grade level in a given school year
Teacher preparation data	DCPS	2014-15 to 2017-18	*Teacher college major* – the teacher's college major(s) *Participation in APSI* – an indicator of whether the teacher participated in the College Board's Advanced Placement Summer Institute in a given school year
Background variables			

ID variables	DCPS, OSSE	2006-07 to 2017-18	*Student ID* – identification (ID) number for each student covering all years of their data, which we will convert to an anonymized study ID number *Student USI* – state identification (ID) number for linking charter school data from OSSE with DCPS data *Teacher ID* – ID number for each teacher covering all years of his or her data, which we will convert to an anonymized study ID number *School ID* – indicates the student's school in a given school year, which we will convert to an anonymized study ID number *School year* – indicator for the school year of the data provided
Student demographics	DCPS	2006-07 to 2017-18	*Race and ethnicity* – categorical variable indicating the student's race and ethnicity *Gender* – binary variable indicating the student's gender *Age* – age at the start of a given school year *Free or reduced-price lunch eligibility* – binary variable indicating whether the student is eligible for the free or reduced-price lunch programs in a given school year *Disability or special education status* – binary variable indicating whether the student has a disability or receives special education services in a given school year *English learner status* – binary variable indicating whether the student is an English learner in a given school year *Student address* – student home address in a given school year, which we will convert to ward and neighborhood of residence
Student prior achievement	DCPS, OSSE	2006-07 to 2016-17	*GPA* – grade point average for a given school year in grades 6–8 *Math standardized test score[a]* –the student's math scale score in a given school year in grades 6–8 *Math proficiency category*– the student's math proficiency category (e.g., "below basic") based on standardized test performance in grades 6–8 *Reading standardized test score* –the student's reading scale score in a given school year in grades 6–8 *Reading proficiency category*– the student's math proficiency category (e.g., "below basic") based

			on standardized test performance in grades 6–8
Teacher background characteristics	DCPS	2014-15 to 2017-18	*Years taught* – number of years of teaching experience in each school year *AP subject* – the AP subject(s) the teacher taught in a given school year *Teaching license* – binary variable indicating whether the teacher has a teaching license *Licensure area* – the name of the teaching license the teacher obtained *Praxis subject(s)* – the name of each Praxis teaching exam the teacher took *Praxis score(s)* – a score ranging from 100 to 200 for each Praxis exam the teacher took *Graduate degree* – a binary variable indicating whether the teacher has a graduate degree *Teacher training* – type of training the teacher received (e.g., traditional university, teaching fellowship)
High school characteristics	DCPS	2009-10 to 2017-18	*Grade span* – grades included in the school in a given school year *School enrollment* – number of students enrolled in the school in a given school year *Graduation rate* – five-year graduation rate in a given school year *ELA proficiency* – percentage of students scoring at or above the proficient level on the state standardized assessment in English language arts *Math proficiency* – percentage of students scoring at or above the proficient level on the state standardized assessment in math *School address* – address of the school, which we will convert to ward and neighborhood of school
Outcome variables			
Student AP exam performance	DCPS	2009-10 to 2017-18	*[course name] exam score* – a score ranging from 1 to 5 for each AP exam a student has taken in a given school year. Separate variables for each AP course exam.
Student AP exam participation	DCPS	2009-10 to 2017-18	*AP [course name] exam participation* – an indicator equal to 1 for students who took the AP exam and 0 otherwise
Student high school achievement	DCPS	2009-10 to 2017-18	*Dropped out HS* – indicator of whether a student dropped out of high school in a given school year *Graduated HS* – indicator of whether a student graduated high school in a given school year

Note: [a]Standardized test scores in DC are based on the DC CAS through the 2013-14 school years. Beginning in 2014-15 standardized test scores in DC are based on the PARCC.

Data Confidentiality Procedures

The study team will ensure study data remain confidential and will protect personally identifiable information. All study team members will sign a pledge to protect the confidentiality of study data and participants' identities. Breaking this pledge will be grounds for immediate dismissal and possible legal action. Before receiving any study data, the study team will ask DCPS to provide unique identification numbers for the teachers, and will ask both OSSE and DCPS to provide unique identification numbers for students in the data set. The team will replace the teacher and student identification numbers with anonymized identification numbers before analyzing the data.

Both OSSE and DCPS will transmit the study data to the study team through a secure file transfer site. The study team will store the data in encrypted folders on Mathematica's network. Only study team members will have access to the folders. The study analysis file will not include any personally identifiable information. Any reports that are released under this project will present data only in aggregate form that does not identify any student or teacher. Data in cells with fewer than five individuals will be suppressed. Finally, at study completion, the team will securely transmit the final data sets back to both OSSE and DCPS and destroy all study data on Mathematica's network and dispose of electronic and physical media in compliance with all U.S. Department of Education policies and regulations and the data agreement with DCPS.

Paul Burkander, the principal investigator, will oversee data management and ensure that all study staff adhere to the data confidentiality procedures described here. Study research analyst Alyson Burnett and a yet-to-be-determined programmer will work directly with the study data and implement all data confidentiality procedures.

If Dr. Burkander leaves the study, the Regional Educational Laboratory Mid-Atlantic (REL MA) applied research task lead Steven Glazerman, will, in consultation with REL MA leadership, appoint a new principal investigator. Dr. Glazerman will work with the new principal investigator and all other study staff to ensure the transition is smooth and that study data remain confidential.

Format for Final Data File

The study will produce an alternate data file, as described in the Data Management Plans and Data Files Guidance document, with the relevant documentation needed to replicate the analysis. In a .txt format, the alternate file will describe the data and the steps the study team took to merge and clean the data, create variables, and run analyses.

Why Public Use Files Might Not Be Available

To protect its students' confidentiality, DCPS is unable to release student and teacher data to entities that are not parties to the data agreement between Mathematica and DCPS. To enable researchers to replicate the findings of the proposed study, the REL research team will provide DCPS with an analysis data file that includes any necessary component files and documentation,

and DCPS will be able to control access in accordance with the district's policy on research requests.

DCPS is unable to release student and teacher data to entities that are not parties of the data agreement between Mathematica and DCPS due to the regulations of the Family Educational Rights and Privacy Act (FERPA). Regulation 34 CFR 99.30(a) requires consent of the affected student's parent (or the student him or herself, if he or she has reached the age of 18) to disclose student data. Regulation 34 CFR 99.31(a)(6)(iii)(A)(3) contains an exception to this consent to disclose rule, and allows DCPS to disclose personally identifiable information from student education records to organizations conducting research for DCPS or on DCPS' behalf without parental consent, provided the organization does not allow personal identification of parents and students by anyone other than representatives of that organization with legitimate interests in the research. In addition, regulation 34 CFR 99.33(a)(1) says that a school district like DCPS can only disclose personally identifiable information from education records on the condition that the party to whom the information is disclosed will not re-disclose to anyone else without the prior consent of the parent or age-eligible student. These regulations mean that only those Mathematica employees conducting the research have access to the data and they cannot re-disclose the data to other individuals or organizations.