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Predictive Validity of High School Grade Point Average Before and After AB 705

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Introduction

Implementation of AB 705 in fall 2019 required California community colleges to use high school grade point average (HSGPA) as the main measure of placement and maximize the likelihood of students being placed into transfer-level English and math courses. Since that time, research¹ has shown that with the vast increase in access to transfer-level courses, the one-year completion rate of these courses (i.e., throughput) also increased. These completion outcomes exceeded prior throughput rates when students largely began in basic skills coursework. However, as throughput increased for all student groups,² course success rates decreased at varying rates across colleges, causing some concern about the validity of high school transcript data as a predictor of success in transfer-level English and math courses.

Prior to implementation of the legislation, the California Community Colleges Chancellor's Office (CCCCO) provided guidance on how best to place students based on their high school performance.³ While previous research showed HSGPA to be the most predictive factor of college performance in English and math coursework,⁴ full implementation for English and math within the California Community Colleges still left some wondering if this measure remained the best predictor of college success post AB 705 implementation.

To further explore this issue, The RP Group's Multiple Measures Assessment Project (MMAP) research team examined the validity of HSGPA in predicting course grades in students' first community college course in either English or math when that course was at transfer level. The following brief reviews our methodology and highlights key findings and conclusions. Graphical displays of the results are included in the brief, while the full results of each model are included in the appendix. As this summary demonstrates, **strong evidence continues to support HSGPA as a valid measure for community college placement into transfer-level English and math.**

¹ <https://bit.ly/3dcXKVY>

² <https://bit.ly/3Dn7kQv>

³ <https://bit.ly/3U8CgKl>

⁴ <https://bit.ly/SageJournal>

Methodology

The RP Group obtained data for this analysis from the Cal-PASS⁵ system using MMAP data file methodology.⁶ We created three separate regression models to determine the predictive validity of HSGPA and course grades. Model 1 includes HSGPA alone. Model 2 includes HSGPA with the addition of the highest course a student completed in high school in either English or math, respectively. Model 3 includes HSGPA with the highest course a student completed in high school English or math and adds the grade received in those courses.

We ran separate regression analyses by subject (English and math), by cohort (year of community college course attempt), and for each model mentioned above (Model 1-3). Additionally, we ran each model with and without sample restrictions (complete⁷ high school transcript information⁸ and incomplete high school information). We provide a graphic depiction of each model in Graphs 1-4 below and present the standardized coefficients⁹ of each of these models in Tables 1-4 in the Appendix.

We defined English courses by the Taxonomy of Program (TOP) code 1501.00 (English). We identified math courses by the TOP code 1701.00 (Mathematics); in addition, we collaborated with the Academic Senate for the California Community Colleges (ASCCC) to determine specific "non-math department" courses in other TOP code areas that also fulfill the math transfer requirement.¹⁰ Transfer-level gateway courses with English and math TOP codes were those courses with a CB21 code of "Y" (not prior to college level) and a CB05 transfer status code indicating that the course transfers to the University of California (UC) and/or California State University (CSU) system.

In our first set of analyses, we ran the CCCC's original default placement rules¹¹ for students with complete high school information. Our second set of analyses did not limit the data to four full years of high school data; that is, high school information (such as HSGPA or course

⁵ <https://www.calpassplus.org/Home>

⁶ <https://bit.ly/3dcXKVY>

⁷ Complete information refers to some course information being available in all four years of high school. However, there were still instances with some missing data depending on the data field. That is, GPA might be available for all four years, but highest course completed or grade in highest course might be missing. Therefore, sample sizes even in complete transcript data models differ between Models 1-3.

⁸ In addition, the complete data set was limited to students with a maximum of 10 years between last course enrollment in high school and community college subject enrollment. The incomplete transcript dataset did not have a time restriction between high school and community college enrollment.

⁹ The benefit of using standardized coefficients is that they are comparable across models and mimic correlation coefficients.

¹⁰ Including 0103.00 (Plant Science); 0501.00 (Business); 0505.00 (Business Administration); 0506.00 (Business Management); 0707.10 (Computer Programming); 1799.00 (Other Math); 2001.00 (Psychology); 2003.00 (Behavioral Science); 2099.00 (Other Psychology); 2201.00 (Social Sciences); 2204.00 (Economics); and 2208.00 (Sociology).

¹¹ <https://bit.ly/3U8CgKI>

completion) was not available for all years for all students. This model might under- or overestimate GPA and potentially underestimate highest completed course level.

Findings

When exploring the validity of HSGPA in predicting a student's grade in their first community college course in either English or math when that course was at transfer level...

- **HSGPA remained just as strong a predictor of course grades** in transferable English and math when used as the predominant placement method **as it was when assessment tests were the predominant method of placement** in prior years.
- **HSGPA alone or in combination with other high school indicators**, including highest course and course grade, **is a strong predictor of course grades in transferable English and math courses** at California community colleges.
- **While the population of students whose first course of enrollment was at transfer level increased significantly** between 2010 and 2020, **the standardized coefficient remained stable**, with a slight increase in predictive validity of HSGPA post-AB 705 implementation.
- **HSGPA remained a strong a predictor of course grades** in transferable English and math **for students with and without four full years of high school data**.

We detail these findings below.

Predictive Validity of High School GPA for Students with Complete Transcript Data

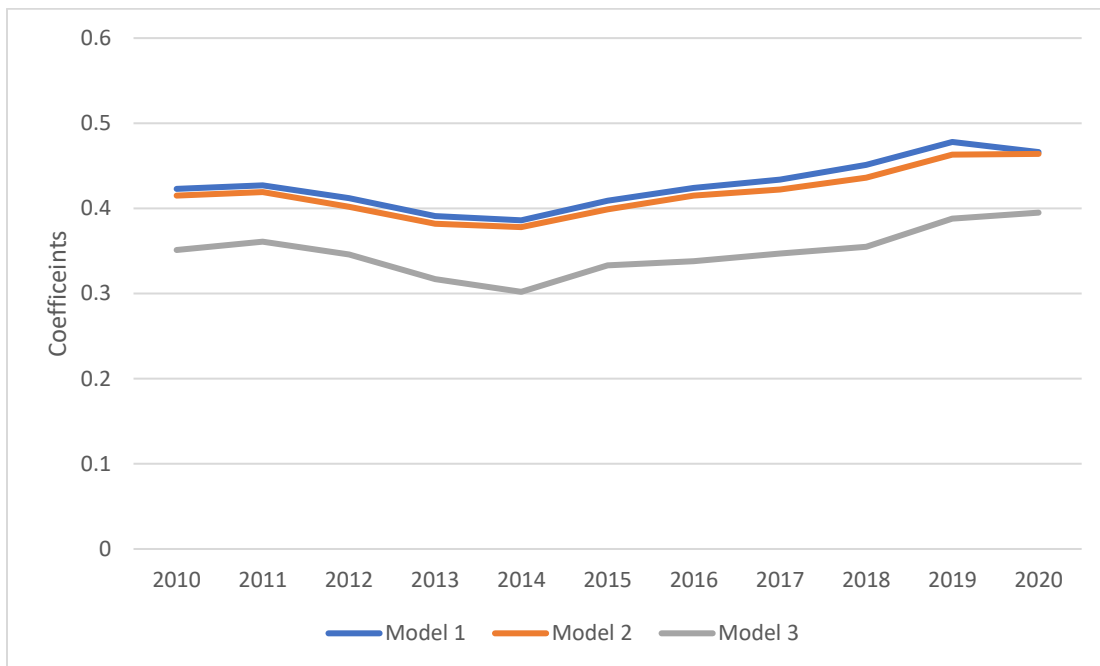
English

Graph 1 below (see Table 1 in the Appendix for the detailed model summary) shows students with four full years of high school transcript data available who enrolled in a transfer-level English course at a California Community College. As the graph displays, the standardized coefficients¹² in Models 1, 2, and 3 remained stable over a 10-year period from 2010 to 2020, including prior to AB 705 implementation (the legislation required full implementation in fall 2019) and post AB 705 implementation. While the population of students whose first course of enrollment was at transfer level increased from around 11,000 students in 2010 to around 78,000 students in 2020, the standardized coefficient remained at over 0.4 indicating a very

¹² Standardized coefficients are a measurement of units of standard deviation which allow for a comparison of the relative magnitude of effects between variables by adjusting the standard deviations so that all variables have equal standard deviations. To interpret a standardized coefficient a beta value of 1.25 would indicate that a change in one standard deviation in the independent variable would result in a 1.25 increase in the standard deviations of the dependent variable.

strong¹³ relationship. This increase of 66,000 students, represents how many more students are being placed predominantly using high school transcript data in 2020. **This finding suggests that HSGPA remained just as strong a predictor of course grades in transferable English when used as the predominant placement method as it was when assessment tests were the predominant method of placement in prior years.**

Graph 1. Standardized Coefficients of HSGPA Predicting Course Grades in First Community College Course in English at Transfer Level, Students with Complete Transcript Data



When looking at the three models, the addition of predictors at each step explained some of the variance exhibited by HSGPA, while also increasing the total variance explained in the models (R-squared values). This finding indicates that the additional predictors (highest completed course and grade in highest completed course) help explain performance in the transfer-level community college English course. Nevertheless, the effect size and predictive validity of HSGPA remained strong (coefficients ranging from 0.302 to 0.395), even when including the additional predictors. **This finding suggests that HSGPA alone or in combination with other high school indicators is a strong predictor of course grades in transferable California community college English courses.**

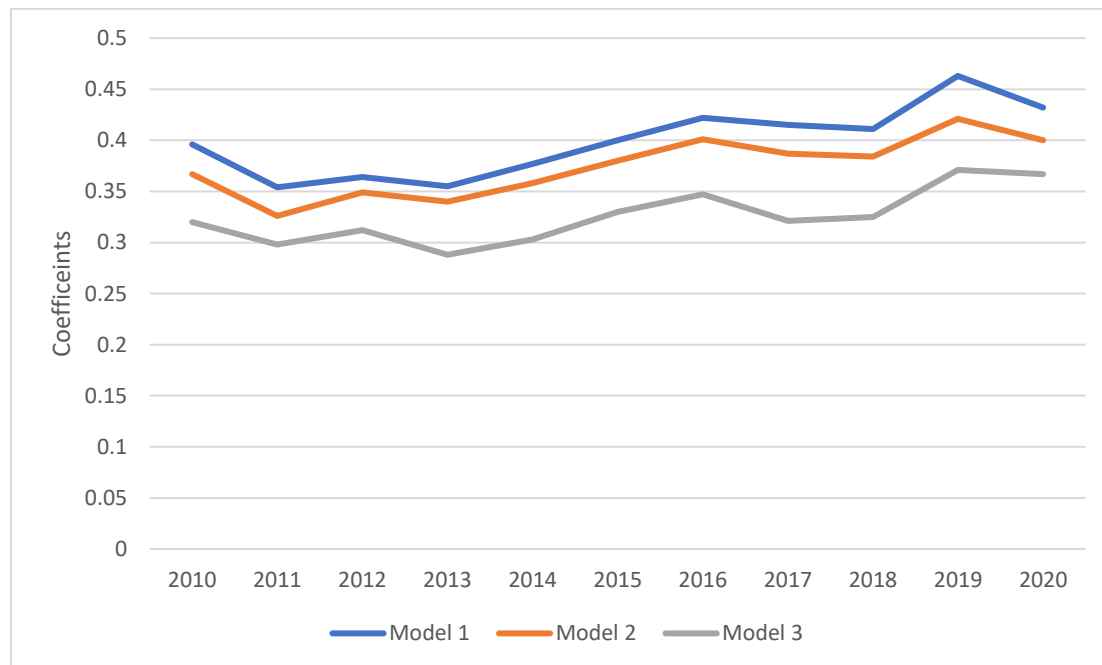
¹³ Our prior work indicated Accuplacer test placement scores correlating with course GPA ranging from .1 to .21. We therefore use the descriptors of strong correlation if the coefficients range from .21- to .4 (about twice as strong as the correlation with test scores) and very strong correlation if the coefficients are above .4 (more than twice as strong as test scores).

MATH

Results for math followed a very similar pattern to English, as displayed in Graph 2 below. The standardized coefficients in Models 1, 2, and 3 (see Table 2 in Appendix for details) remained stable over a 10-year period from 2010 to 2020. While the population of students whose first course of enrollment was at transfer level increased from around 8,000 students in 2010 to around 57,000 students in 2020, the standardized coefficient remained at around 0.4 indicating a very strong relationship. In fact, **post AB 705, there was a slight increase in predictive validity of HSGPA in all three models.**

Similar to the English results, the addition of predictors at each step explained some of the variance exhibited by HSGPA, while also increasing the total variance explained in the models. This finding indicates that the additional predictors (highest completed course and grade in highest completed course) help explain performance in the transfer-level community college math course. Nevertheless, the effect size and predictive validity of HSGPA remained strong (coefficient ranging from 0.288 to 0.371), even when including the additional predictors. **This finding suggests that HSGPA alone or in combination with other high school indicators is a strong predictor of course grades in transferable community college math courses.**

Graph 2. Standardized Coefficients of HSGPA Predicting Course Grades in First Community College Course in Math at Transfer Level, Students with Complete Transcript Data



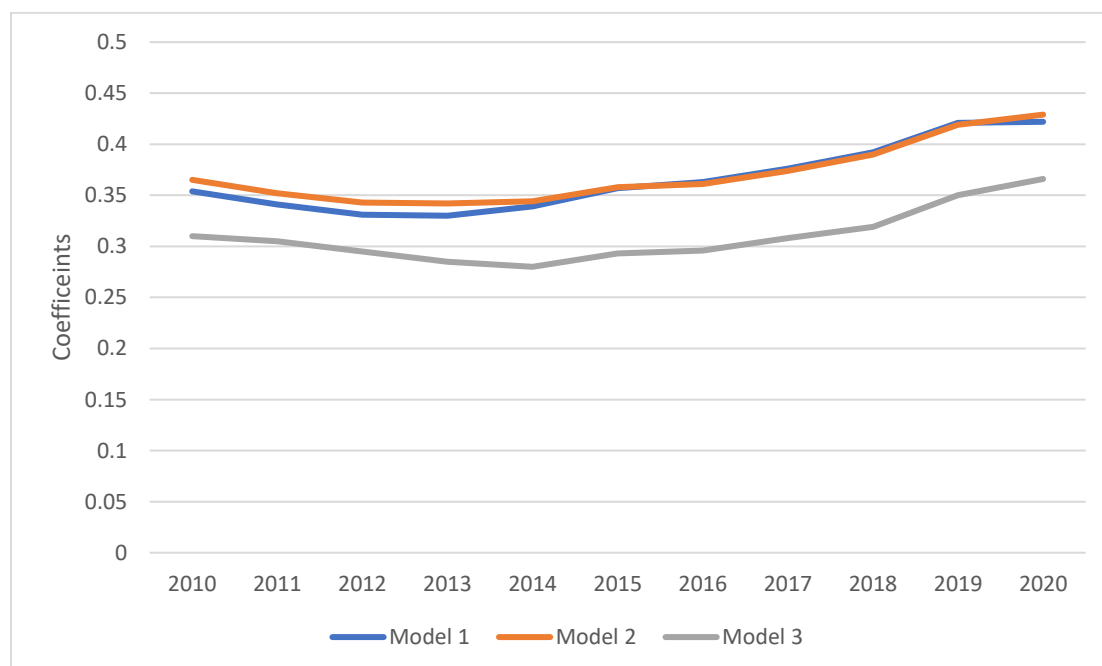
Predictive Validity of High School Data for Students with Four Years or Fewer of High School Data

While we could apply the default placement rules used by the CCCCO to students with complete high school transcript records, colleges implementing placement at the local level do not always have full high school records for every student. The models presented in Graphs 3 and 4 (and Tables 3 and 4 in the Appendix) below explore the utility of using HSGPA and course information for placement when full high school records are not available. Graphs 3 and 4 below include all students with full high school records AND those with fewer than four years of high school data.

English

Results for students with four years or fewer of high school transcript information for English, as displayed in Graph 3 below, followed a very similar pattern to English outcomes for students with four full years of high school transcript data as articulated above. The standardized coefficients in Models 1, 2, and 3 (see Table 3 in Appendix for details) remained stable over a 10-year period from 2010 to 2020. While the population of students whose first course of enrollment was at transfer level increased from around 101,000 students in 2010 to around 156,000 students in 2020, the standardized coefficient remained at around 0.35. In fact, **post AB 705, there was a slight increase in predictive validity of HSGPA in all three models for English, even when four full years of high school data may not be available.**

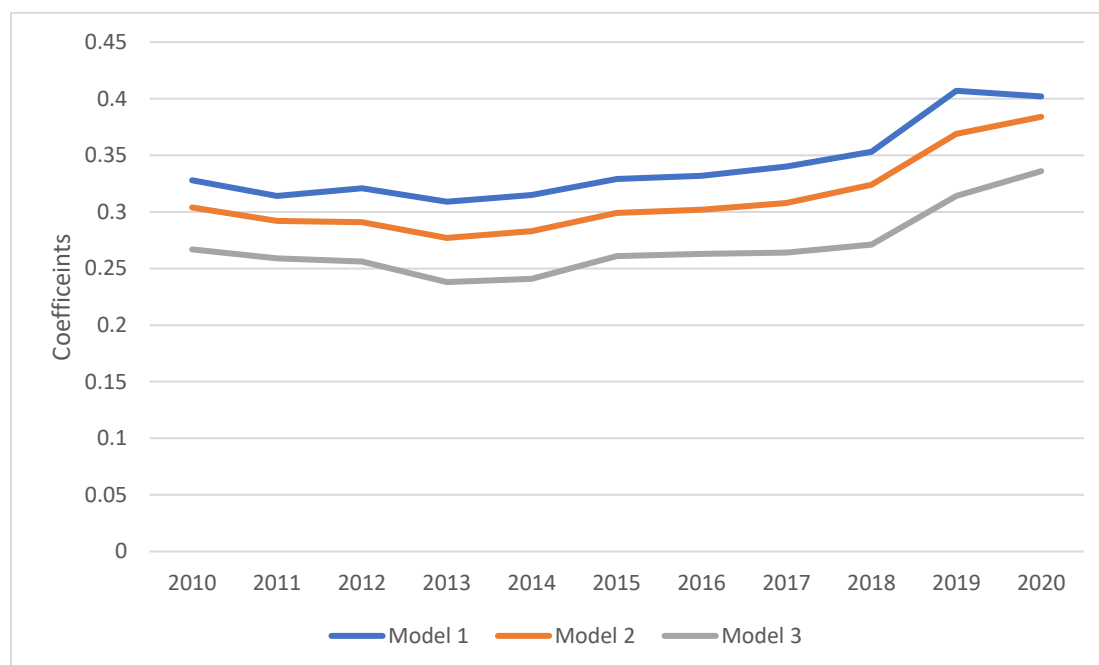
Graph 3. Standardized Coefficients of HSGPA Predicting Course Grades in First Community College Course in English at Transfer Level, Students with Four or Fewer Years of High School Data



Math

Results for students with four years or fewer of high school transcript information for math, as displayed in Graph 4 below, followed a very similar pattern to math outcomes for students with four full years of high school transcript data as shared above. The standardized coefficients in Models 1, 2, and 3 (see Table 4 in Appendix for details) remained stable over a 10-year period from 2010 to 2020. While the population of students whose first course of enrollment was at transfer level increased from around 115,000 students in 2010 to around 139,000 students in 2020, the standardized coefficient remained at around 0.35. Similar to English, **post AB 705, there was a slight increase in predictive validity of HSGPA in all three models for math, even when four full years of high school data may not be available.**

Graph 4. Standardized Coefficients of HSGPA Predicting Course Grades in First Community College Course in Math at Transfer Level, Students with Four or Fewer Years of High School Data



Conclusion

Overall, **there is strong evidence backing HSGPA as a valid measure for community college placement into transfer-level English and math.** The results hold when HSGPA is used alone or in combination with other high school transcript data, including highest math or English course enrolled and grade in highest course. The predictive validity of high school transcript data has remained just as strong a predictor of course success in transferable English and math when used as the only placement measure as when assessment tests were used as the predominant method of placement. This finding is important in the post-AB 705 implementation context, when a significantly higher rate of students started directly in transfer-level courses.

Further, high school transcript data remained a valid measure for placement even when four full years of high school information was not available. These data indicate that the use of high school transcript information continues to be a strong predictor of course success under the parameters of the law, and thus should remain the primary source of placement for students when available. Colleges need to ensure they are collecting high school information from students through various processes, including the common application (OpenCCCApply), the Multiple Measures Placement Service (MMPS), locally collected self-reported data processes, local high school data sharing agreements, or the collection of high school transcripts directly from students – among other locally developed processes. Further, **colleges should ensure they are using high school transcript information for placement, even when a full four years of data are not available.**

Appendix

Table 1. Standardized Coefficients of HSGPA Predicting Course Grades in First Community College Course in English at Transfer Level, Students with Complete Transcript Data, by Year

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
		Pre AB 705									Post AB 705	
Model 1	Coefficient	0.423	0.427	0.412	0.391	0.386	0.409	0.424	0.434	0.451	0.478	0.466
Model 2	Coefficient	0.415	0.419	0.402	0.382	0.378	0.399	0.415	0.422	0.436	0.463	0.464
Model 3	Coefficient	0.351	0.361	0.346	0.317	0.302	0.333	0.338	0.347	0.355	0.388	0.395
Model 1	R^2	0.179	0.183	0.169	0.153	0.149	0.167	0.180	0.189	0.203	0.229	0.217
Model 2	R^2	0.185	0.185	0.172	0.155	0.151	0.170	0.182	0.192	0.208	0.233	0.219
Model 3	R^2	0.193	0.192	0.178	0.164	0.164	0.180	0.196	0.206	0.222	0.245	0.226
Model 1	N	11,323	10,858	10,980	11,744	11,350	15,000	23,696	37,307	60,343	94,933	78,298
Model 2	N	11,323	10,858	10,980	11,744	11,350	15,000	23,696	37,307	60,343	94,933	78,298
Model 3	N	11,303	10,826	10,958	11,728	11,337	14,975	23,672	37,257	60,279	94,815	66,491

Notes: Standardized coefficients of HSGPA predicting first English course grade in the California Community Colleges. Dependent variable is course grade. Year indicates year in which a student enrolled in the first community college course in English at transfer level. Model 1 = HSGPA. Model 2 = HSGPA + highest course completed in high school in English. Model 3 = HSGPA + highest course completed in high school in English + grade in highest course completed in high school in English. Includes only students with four years of high school data whose first course in the community college was a transfer-level English course.

Table 2. Standardized Coefficients of HSGPA Predicting Course Grades in First Community College Course in Math at Transfer Level, Students with Complete Transcript Data, by Year

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
		Pre AB 705									Post AB 705	
Model 1	Coefficient	0.396	0.354	0.364	0.355	0.377	0.400	0.422	0.415	0.411	0.463	0.432
Model 2	Coefficient	0.367	0.326	0.349	0.340	0.358	0.380	0.401	0.387	0.384	0.421	0.400
Model 3	Coefficient	0.320	0.298	0.312	0.288	0.303	0.330	0.347	0.321	0.325	0.371	0.367
Model 1	R^2	0.157	0.125	0.133	0.126	0.142	0.160	0.178	0.172	0.169	0.214	0.186
Model 2	R^2	0.171	0.136	0.141	0.132	0.153	0.170	0.185	0.182	0.178	0.224	0.192
Model 3	R^2	0.178	0.137	0.146	0.140	0.162	0.175	0.191	0.192	0.186	0.230	0.188
Model 1	N	8,046	7,286	7,200	7,980	8,116	9,968	14,753	22,485	34,863	62,468	57,612
Model 2	N	8,046	7,286	7,200	7,980	8,116	9,968	14,753	22,485	34,863	62,468	57,612
Model 3	N	8,003	7,257	7,166	7,942	8,085	9,944	14,724	22,436	34,820	62,359	52,248

Notes: Standardized coefficients of HSGPA predicting first math course grade in the California Community Colleges. Dependent variable is course grade. Year indicates year in which a student enrolled in the first community college course in math at the transfer level. Model 1 = HSGPA. Model 2 = HSGPA + highest course completed in high school in math. Model 3 = HSGPA + highest course completed in high school in math + grade in highest course completed in high school in math. Includes only students with four years of high school data whose first course in the community college was a transfer-level math course.

Table 3. Standardized Coefficients of HSGPA Predicting Course Grades in First Community College Course in English at Transfer Level, Students with Four or Fewer Years of High School Data, by Year

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
		Pre AB 705									Post AB 705	
Model 1	Coefficient	0.354	0.341	0.331	0.330	0.339	0.357	0.363	0.376	0.392	0.421	0.422
Model 2	Coefficient	0.365	0.352	0.343	0.342	0.344	0.358	0.361	0.374	0.390	0.419	0.429
Model 3	Coefficient	0.310	0.305	0.295	0.285	0.280	0.293	0.296	0.308	0.319	0.350	0.366
Model 1	R^2	0.126	0.116	0.110	0.109	0.115	0.127	0.132	0.141	0.154	0.177	0.178
Model 2	R^2	0.140	0.129	0.123	0.123	0.126	0.136	0.140	0.151	0.164	0.188	0.186
Model 3	R^2	0.144	0.132	0.127	0.128	0.133	0.143	0.147	0.158	0.172	0.195	0.188
Model 1	<i>N</i>	101,793	105,361	09,087	126,850	138,424	146,259	157,527	166,689	173,966	191,781	156,437
Model 2	<i>N</i>	92,098	96,637	101,925	116,878	130,643	41,368	54,056	164,056	171,803	189,302	154,438
Model 3	<i>N</i>	91,099	95,778	101,254	116,225	129,954	40,721	153,436	163,380	171,033	187,617	135,998

Notes: Standardized coefficients of HSGPA predicting first English course grade in the California Community Colleges. Dependent variable is course grade. Year indicates year in which a student enrolled in the first community college course in English at the transfer level. Model 1 = HSGPA. Model 2 = HSGPA + highest course completed in high school in English. Model 3 = HSGPA + highest course completed in high school in English + grade in highest course completed in high school in English. Includes students with four years or fewer of high school data whose first course in the community college was a transfer-level English course.

Table 4. Standardized Coefficients of HSGPA Predicting Course Grades in First Community College Course in Math at Transfer Level, Students with Four or Fewer Years of High School Data, by Year

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
		Pre AB 705									Post AB 705	
Model 1	Coefficient	0.328	0.314	0.321	0.309	0.315	0.329	0.332	0.340	0.353	0.407	0.402
Model 2	Coefficient	0.304	0.292	0.291	0.277	0.283	0.299	0.302	0.308	0.324	0.369	0.384
Model 3	Coefficient	0.267	0.259	0.256	0.238	0.241	0.261	0.263	0.264	0.271	0.314	0.336
Model 1	R^2	0.108	0.099	0.103	0.095	0.099	0.108	0.111	0.116	0.125	0.166	0.162
Model 2	R^2	0.130	0.116	0.122	0.118	0.119	0.127	0.126	0.130	0.140	0.184	0.175
Model 3	R^2	0.133	0.118	0.125	0.121	0.122	0.130	0.129	0.133	0.142	0.185	0.169
Model 1	N	115,260	117,238	119,880	140,708	151,532	160,500	168,589	73,055	172,831	163,413	139,411
Model 2	N	99,018	102,736	106,025	123,333	136,915	150,430	160,199	166,754	167,866	159,105	135,840
Model 3	N	97,779	101,630	105,044	122,420	135,932	149,534	159,284	165,581	166,153	156,646	124,887

Notes: Standardized coefficients of HSGPA predicting first math course grade point in the California Community Colleges. Dependent variable is course grade. Year indicates year in which a student enrolled in the first community college course in English at the transfer level. Model 1 = HSGPA. Model 2 = HSGPA + highest course completed in high school in math. Model 3 = HSGPA + highest course completed in high school in math + grade in highest course completed in high school in math. Includes students with four years or fewer of high school data whose first course in the community college was a transfer-level math course.

Table A1. Standardized Coefficients Predicting Course Grades in First Community College Course in English at Transfer Level, by Year

Note: Standardized coefficients with raw coefficients in parentheses. *** $p < .001$, ** $p < .01$, * $p < .05$

		Complete Transcript Data			Incomplete Transcript Data		
		Standardized coefficients (Raw Coefficients)			Standardized coefficients (Raw Coefficients)		
		Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
2010	High School GPA	0.423 (1.133)***	0.415 (1.11)***	0.351 (0.942)***	0.366 (0.813)***	0.383 (0.883)***	0.321 (0.741)***
	Basic English/Language Arts		0.044 (0.144)	0.041 (0.135)		0.102 (0.324)***	0.111 (0.354)***
	English 9		-0.004 (-0.165)	-0.003 (-0.145)		0.045 (0.465)***	0.049 (0.511)***
	English 10		0.016 (0.27)	0.016 (0.268)		0.101 (0.59)***	0.108 (0.627)***
	English 11		-0.041 (-0.341)	-0.037 (-0.312)		0.069 (0.359)***	0.075 (0.389)***
	English 12		0.03 (0.088)	0.025 (0.074)		0.076 (0.255)**	0.084 (0.281)**
	Composition/Expository		0.034 (0.193)	0.033 (0.189)		0.051 (0.331)***	0.055 (0.355)***
	AP English Literature		0.057 (0.263)	0.068 (0.31)		0.096 (0.527)***	0.11 (0.601)***
	AP English Language		0.054 (0.405)	0.061 (0.453)*		0.075 (0.553)***	0.086 (0.632)***
	Latest Course Grade Points			0.109 (0.171)***			0.097 (0.143)***
	R^2		0.179	0.185	0.193	0.134	0.155
N		11323	11323	11303	43120	39159	38856
2011	High School GPA	0.427 (1.142)***	0.419 (1.121)***	0.361 (0.966)***	0.356 (0.773)***	0.369 (0.825)***	0.313 (0.7)***
	Basic English/Language Arts		0.063 (0.221)	0.081 (0.285)		0.079 (0.255)**	0.095 (0.308)***
	English 9		0.011 (0.325)	0.015 (0.455)		0.088 (0.549)***	0.098 (0.612)***
	English 10		0.021 (0.359)	0.026 (0.446)		0.085 (0.427)***	0.097 (0.483)***
	English 11		0.001 (0.009)	0.011 (0.103)		0.06 (0.305)***	0.07 (0.355)***
	English 12		0.102 (0.306)	0.122 (0.366)		0.053 (0.181)*	0.067 (0.228)**
	Composition/Expository		0.048 (0.275)	0.059 (0.337)		0.024 (0.178)*	0.031 (0.225)*
	AP English Literature		0.087 (0.402)	0.111 (0.513)		0.069 (0.411)***	0.085 (0.5)***
	AP English Language		0.058 (0.421)	0.074 (0.535)		0.062 (0.449)***	0.075 (0.543)***
	Latest Course Grade Points			0.104 (0.164)***			0.088 (0.127)***
	R^2		0.183	0.185	0.192	0.127	0.144
N		10858	10858	10826	45155	41617	41333

		Complete Transcript Data			Incomplete Transcript Data		
		Standardized coefficients (Raw Coefficients)			Standardized coefficients (Raw Coefficients)		
		Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
2012	High School GPA	0.412 (1.105)***	0.402 (1.08) ***	0.346 (0.929)***	0.346 (0.743)***	0.361 (0.804)***	0.305 (0.681)***
	Basic English/Language Arts		-0.105 (-0.364)	-0.1 (-0.346)		-0.016 (-0.052)	-0.006 (-0.02)
	English 9		-0.032 (-0.745)	-0.032 (-0.743)		0.027 (0.162)	0.035 (0.21)*
	English 10		-0.02 (-0.339)	-0.02 (-0.329)		0.029 (0.149)	0.036 (0.183)*
	English 11		-0.042 (-0.432)	-0.037 (-0.379)		-0.001 (-0.005)	0.006 (0.029)
	English 12		-0.11 (-0.329)	-0.102 (-0.303)		-0.034 (-0.112)	-0.025 (-0.085)
	Composition/Expository		-0.078 (-0.441)	-0.076 (-0.426)		-0.02 (-0.146)	-0.016 (-0.119)
	AP English Literature		-0.047 (-0.211)	-0.031 (-0.139)		0.03 (0.172)	0.042 (0.242)**
	AP English Language		-0.021 (-0.172)	-0.011 (-0.09)		0.026 (0.202)*	0.035 (0.27)**
	Latest Course Grade Points			0.1 (0.161)***			0.087 (0.126)***
	R^2		0.169	0.172	0.178	0.12	0.139
N		10980	10980	10958	47319	44214	43986
2013	High School GPA	0.391 (1.058)***	0.382 (1.035)***	0.317 (0.859)***	0.347 (0.755)***	0.358 (0.802)***	0.288 (0.648)***
	Basic English/Language Arts		0.173 (0.609)	0.169 (0.596)		0.077 (0.259)**	0.092 (0.308)**
	English 9		0.013 (0.422)	0.011 (0.371)		0.06 (0.413)***	0.071 (0.49)***
	English 10		0.033 (0.635)	0.032 (0.624)		0.067 (0.399) ***	0.078 (0.464)***
	English 11		0.06 (0.613)	0.062 (0.632)		0.06 (0.27)**	0.074 (0.334) ***
	English 12		0.177 (0.53)	0.175 (0.525)		0.043 (0.143)	0.06 (0.198)*
	Composition/Expository		0.084 (0.454)	0.08 (0.432)		0.028 (0.179)	0.035 (0.228)*
	AP English Literature		0.155 (0.677)	0.167 (0.731)		0.079 (0.429)***	0.098 (0.536) ***
	AP English Language		0.093 (0.779)	0.1 (0.838)		0.07 (0.508)***	0.085 (0.618)***
	Latest Course Grade Points			0.114 (0.18)***			0.107 (0.156)***
	R^2		0.153	0.155	0.164	0.12	0.137
N		11744	11744	11728	56852	52994	52775
2014	High School GPA	0.386 (1.048)***	0.378 (1.026)***	0.302 (0.821)***	0.35 (0.777)***	0.356 (0.811)***	0.275 (0.629)***
	Basic English/Language Arts		0.157 (0.591)	0.18 (0.678)		0.003 (0.009)	0.019 (0.068)
	English 9		0.009 (0.286)	0.011 (0.327)		0.013 (0.093)	0.024 (0.175)

Predictive Validity of High School Grade Point Average Before and After AB 705

		Complete Transcript Data			Incomplete Transcript Data		
		Standardized coefficients (Raw Coefficients)			Standardized coefficients (Raw Coefficients)		
		Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
	English 10		0.036 (0.79)	0.039 (0.876)*		0.018 (0.123)	0.028 (0.188)*
	English 11		0.063 (0.701)	0.072 (0.813)*		-0.001 (-0.004)	0.015 (0.061)
	English 12		0.183 (0.558)	0.213 (0.652)		-0.024 (-0.083)	-0.006 (-0.021)
	Composition/Expository		0.121 (0.528)	0.14 (0.609)		-0.005 (-0.026)	0.006 (0.032)
	AP English Literature		0.161 (0.701)	0.198 (0.863)*		0.036 (0.199) *	0.058 (0.315)***
	AP English Language		0.083 (0.748) *	0.1 (0.901)*		0.035 (0.219) *	0.054 (0.338)***
	Latest Course Grade Points			0.136 (0.217)***			0.125 (0.182)***
	R-squared	0.149	0.151	0.164	0.123	0.136	0.145
	N	11350	11350	11337	61934	58754	58525
2015	High School GPA	0.409 (1.105)***	0.399 (1.08)***	0.333 (0.903)***	0.367 (0.832)***	0.368 (0.851)***	0.293 (0.679)***
	Basic English/Language Arts		-0.079 (-0.292)	-0.071 (-0.262)		0.046 (0.163)	0.056 (0.2)*
	English 9		-0.02 (-0.61)	-0.023 (-0.725)		0.018 (0.137)	0.025 (0.194)*
	English 10		-0.014 (-0.276)	-0.014 (-0.268)		0.021 (0.11)	0.032 (0.169)
	English 11		-0.017 (-0.182)	-0.012 (-0.125)		0.006 (0.027)	0.015 (0.073)
	English 12		-0.147 (-0.461)	-0.135 (-0.424)		0.004 (0.014)	0.014 (0.05)
	Composition/Expository		-0.101 (-0.374)	-0.093 (-0.342)		0.007 (0.031)	0.015 (0.068)
	AP English Literature		-0.056 (-0.241)	-0.033 (-0.141)		0.055 (0.283)**	0.073 (0.375)***
	AP English Language		-0.04 (-0.356)	-0.028 (-0.25)		0.034 (0.233)*	0.048 (0.327)***
	Latest Course Grade Points			0.118 (0.186) ***			0.117 (0.172)***
	R ²	0.167	0.17	0.18	0.134	0.145	0.153
	N	15000	15000	14975	67349	65222	64989
2016	High School GPA	0.424 (1.13)***	0.415 (1.107)***	0.338 (0.9)***	0.376 (0.863)***	0.373 (0.867)***	0.296 (0.688)***
	Basic English/Language Arts		0.054 (0.195)	0.079 (0.282)		0.047 (0.167)	0.071 (0.252)**
	English 9		0.003 (0.111)	0.001 (0.022)		0.016 (0.111)	0.032 (0.219)*
	English 10		0.015 (0.246)	0.02 (0.33)		0.024 (0.148)	0.04 (0.248)**
	English 11		0.022 (0.252)	0.03 (0.338)		0.013 (0.076)	0.03 (0.171)
	English 12		0.012 (0.038)	0.04 (0.129)		0.003 (0.01)	0.026 (0.09)
	Composition/Expository		0.022 (0.076)	0.048 (0.164)		0.001 (0.003)	0.019 (0.083)

Predictive Validity of High School Grade Point Average Before and After AB 705

		Complete Transcript Data			Incomplete Transcript Data		
		Standardized coefficients (Raw Coefficients)			Standardized coefficients (Raw Coefficients)		
		Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
	AP English Literature		0.052 (0.218)	0.091 (0.379)		0.059 (0.291)**	0.087 (0.426)***
	AP English Language		0.026 (0.233)	0.042 (0.38)		0.035 (0.26)**	0.054 (0.399)***
	Latest Course Grade Points			0.139 (0.218)***			0.123 (0.181)***
	R^2	0.18	0.182	0.196	0.142	0.15	0.16
	N	23696	23696	23672	79172	77631	77409
2017	High School GPA	0.434 (1.177)***	0.422 (1.144)***	0.347 (0.941)***	0.383 (0.899)***	0.381 (0.904)***	0.306 (0.728)***
	Basic English/Language Arts		-0.086 (-0.326)	-0.087 (-0.327)		0.001 (0.004)	0.012 (0.043)
	English 9		-0.016 (-0.557)	-0.019 (-0.655)*		-0.001 (-0.01)	0.006 (0.051)
	English 10		-0.012 (-0.208)	-0.014 (-0.247)		0.003 (0.023)	0.011 (0.075)
	English 11		-0.026 (-0.289)	-0.026 (-0.293)		-0.004 (-0.022)	0.004 (0.022)
	English 12		-0.141 (-0.489)	-0.14 (-0.486)		-0.051 (-0.178)*	-0.04 (-0.14)
	Composition/Expository		-0.125 (-0.397)	-0.127 (-0.402)		-0.04 (-0.148)	-0.032 (-0.117)
	AP English Literature		-0.055 (-0.231)	-0.038 (-0.161)		0.029 (0.139)	0.048 (0.229)**
	AP English Language		-0.017 (-0.153)	-0.011 (-0.099)		0.021 (0.16)*	0.032 (0.246)**
	Latest Course Grade Points			0.138 (0.221)***			0.119 (0.179)***
	R^2	0.189	0.192	0.206	0.147	0.157	0.166
	N	37307	37307	37257	95714	94443	94164
2018	High School GPA	0.451 (1.238)***	0.436 (1.199)***	0.355 (0.977)***	0.399 (0.95)***	0.395 (0.949)***	0.318 (0.765)***
	Basic English/Language Arts		0.149 (0.548)**	0.163 (0.6)**		0.042 (0.158)*	0.052 (0.195)**
	English 9		0.008 (0.273)	0.007 (0.238)		0.023 (0.215)**	0.03 (0.28)***
	English 10		0.037 (0.607)**	0.039 (0.642)**		0.026 (0.202)**	0.032 (0.253)***
	English 11		0.039 (0.457)*	0.042 (0.496)*		0.021 (0.131)*	0.029 (0.18)**
	English 12		0.112 (0.388)	0.128 (0.441)*		-0.011 (-0.04)	-0.002 (-0.007)
	Composition/Expository		0.114 (0.372)	0.13 (0.421)*		-0.023 (-0.084)	-0.014 (-0.051)
	AP English Literature		0.143 (0.636)**	0.173 (0.769)***		0.056 (0.277)***	0.076 (0.374)***
	AP English Language		0.067 (0.645)**	0.079 (0.76)***		0.032 (0.268)***	0.043 (0.36)***
	Latest Course Grade Points			0.145 (0.235)***			0.124 (0.189)***

		Complete Transcript Data			Incomplete Transcript Data		
		Standardized coefficients (Raw Coefficients)			Standardized coefficients (Raw Coefficients)		
		Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
	R^2	0.203	0.208	0.222	0.159	0.17	0.18
	N	60343	60343	60279	124351	123109	122682
2019	High School GPA	0.478 (1.227)***	0.463 (1.188)***	0.388 (0.997)***	0.426 (0.962)***	0.424 (0.964)***	0.352 (0.804)***
	Basic English/Language Arts		0.074 (0.272)	0.093 (0.343)*		0.071 (0.27)***	0.079 (0.303)***
	English 9		0.004 (0.111)	0.004 (0.118)		0.032 (0.317)***	0.037 (0.369)***
	English 10		0.022 (0.358) *	0.025 (0.409)*		0.047 (0.369)***	0.054 (0.427)***
	English 11		0.023 (0.271)	0.028 (0.34)*		0.043 (0.274)***	0.05 (0.323)***
	English 12		0.031 (0.107)	0.051 (0.179)		0.026 (0.091)	0.034 (0.12)*
	Composition/Expository		0.035 (0.114)	0.056 (0.186)		0.028 (0.099)	0.036 (0.129)*
	AP English Literature		0.081 (0.4) *	0.11 (0.542)***		0.081 (0.457)***	0.097 (0.544)***
	AP English Language		0.036 (0.373) *	0.048 (0.5)**		0.048 (0.434)***	0.057 (0.519)***
	Latest Course Grade Points			0.131 (0.209)***			0.112 (0.168)***
		R^2	0.229	0.233	0.245	0.182	0.193
	N	94933	94933	94815	178408	176260	174774
2020	High School GPA	0.466 (1.246)***	0.464 (1.239)***	0.395 (1.051)***	0.423 (0.984)***	0.43 (1.009)***	0.366 (0.85)***
	Basic English/Language Arts		0.092 (0.456)**	0.083 (0.399)*		0.035 (0.169)**	0.03 (0.143)*
	English 9		-0.002 (-0.05)	-0.007 (-0.152)		0.02 (0.199) ***	0.021 (0.199)***
	English 10		0.022 (0.388)*	0.016 (0.332)		0.04 (0.322)***	0.043 (0.339)***
	English 11		0.047 (0.544)**	0.038 (0.433)*		0.029 (0.18)***	0.026 (0.158)**
	English 12		0.092 (0.327)*	0.073 (0.26)		-0.012 (-0.046)	-0.02 (-0.075)
	Composition/Expository		0.109 (0.363)*	0.098 (0.328)		0.006 (0.022)	0.007 (0.023)
	AP English Literature		0.061 (0.451)**	0.072 (0.492)**		0.021 (0.173)**	0.027 (0.219)***
	AP English Language		0.028 (0.461)**	0.032 (0.498)**		0.02 (0.221)***	0.025 (0.268)***
	Latest Course Grade Points			0.118 (0.198)***			0.093 (0.144) ***
		R^2	0.217	0.219	0.226	0.179	0.187
	N	78298	78298	66491	152481	150569	132539

Table A2. Standardized Coefficients Predicting Course Grades in First Community College Course in Math at Transfer Level, by Year

Note: Standardized coefficients with raw coefficients in parentheses. *** $p < .001$, ** $p < .01$, * $p < .05$

		Complete Transcript Data			Incomplete Transcript Data		
		Standardized coefficients (Raw Coefficients)			Standardized coefficients (Raw Coefficients)		
		Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
2010	High School GPA	0.396 (1.181)***	0.367 (1.095)***	0.32 (0.955)***	0.368 (0.941)***	0.364 (0.957)***	0.305 (0.804)***
	Pre-Algebra		-0.009 (-0.705)	-0.011 (-0.871)		-0.007 (-0.289)	-0.006 (-0.242)
	Algebra I		0.001 (0.012)	0.002 (0.031)		0.007 (0.058)	0.011 (0.093)
	Algebra II		-0.019 (-0.191)	-0.012 (-0.124)		0.006 (0.033)	0.018 (0.101)
	Geometry		-0.101 (-0.363)*	-0.078 (-0.281)		-0.009 (-0.031)	0.018 (0.06)
	Statistics		-0.008 (-0.038)	0.004 (0.02)		0.021 (0.146)	0.031 (0.212)*
	Pre-Calculus		-0.07 (-0.222)	-0.036 (-0.115)		0.01 (0.036)	0.045 (0.153)
	Calculus I		0.034 (0.121)	0.067 (0.238)		0.078 (0.303)**	0.109 (0.428)***
	Calculus II		0.024 (0.203)	0.035 (0.298)		0.056 (0.505)***	0.067 (0.604)***
	Missing		-0.015 (-0.13)	-0.014 (-0.122)		0.004 (0.037)	0.009 (0.081)
	Latest Course Grade Points			0.089 (0.124)***			0.097 (0.136)***
	R^2		0.157	0.171	0.178	0.136	0.155
N		8046	8046	8003	29289	26578	26398
2011	High School GPA	0.354 (1.06)***	0.326 (0.976)***	0.298 (0.893)***	0.342 (0.865)***	0.338 (0.88)***	0.294 (0.768)***
	Pre-Algebra		-0.013 (-0.661)	-0.013 (-0.7)		-0.008 (-0.369)	-0.006 (-0.298)
	Algebra I		-0.033 (-0.448)	-0.029 (-0.396)		-0.013 (-0.086)	-0.004 (-0.026)
	Algebra II		-0.043 (-0.426)	-0.042 (-0.426)		-0.028 (-0.129)	-0.009 (-0.043)
	Geometry		-0.157 (-0.576)**	-0.148 (-0.542)**		-0.063 (-0.212)*	-0.033 (-0.11)
	Statistics		-0.068 (-0.362)	-0.064 (-0.344)		-0.016 (-0.121)	-0.004 (-0.032)
	Pre-Calculus		-0.125 (-0.399)*	-0.109 (-0.349)		-0.027 (-0.095)	0.009 (0.031)
	Calculus I		-0.052 (-0.184)	-0.037 (-0.13)		0.036 (0.149)	0.069 (0.284)**
	Calculus II		0.008 (0.061)	0.012 (0.1)		0.031 (0.304)**	0.042 (0.407)***
	Missing		-0.037 (-0.296)	-0.035 (-0.279)		0.006 (0.048)	0.015 (0.12)
	Latest Course Grade Points			0.051 (0.072)***			0.072 (0.101)***
	R^2		0.125	0.136	0.137	0.117	0.133
N		7286	7286	7257	28861	26296	26137
2012	High School GPA	0.364 (1.075)***	0.349 (1.03)***	0.312 (0.926)***	0.36 (0.892)***	0.35 (0.895)***	0.308 (0.789)***
	Pre-Algebra		-0.005 (-0.309)	-0.005 (-0.289)		0.002 (0.08)	0.004 (0.138)
	Algebra I		-0.007 (-0.106)	0.002 (0.037)		-0.017 (-0.107)	-0.009 (-0.058)

		Complete Transcript Data			Incomplete Transcript Data		
		Standardized coefficients (Raw Coefficients)			Standardized coefficients (Raw Coefficients)		
		Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
	Algebra II		-0.035 (-0.318)	-0.023 (-0.213)		-0.029 (-0.127)	-0.013 (-0.055)
	Geometry		-0.114 (-0.415)*	-0.069 (-0.251)		-0.041 (-0.142)	-0.016 (-0.053)
	Statistics		-0.066 (-0.367)*	-0.041 (-0.231)		-0.016 (-0.12)	-0.006 (-0.048)
	Pre-Calculus		-0.131 (-0.428)*	-0.074 (-0.243)		-0.017 (-0.063)	0.014 (0.051)
	Calculus I		-0.038 (-0.134)	0.015 (0.052)		0.055 (0.215)*	0.084 (0.33)***
	Calculus II		-0.006 (-0.044)	0.016 (0.128)		0.053 (0.469)***	0.064 (0.567)***
	Missing		-0.049 (-0.341)	-0.029 (-0.207)		-0.004 (-0.03)	0.005 (0.046)
	Latest Course Grade Points			0.073 (0.103)***			0.07 (0.097)***
	R ²	0.133	0.141	0.146	0.13	0.149	0.153
	N	7200	7200	7166	29595	27208	27060
2013	High School GPA	0.355 (1.044)***	0.34 (0.999)***	0.288 (0.85)***	0.35 (0.886)***	0.336 (0.873)***	0.283 (0.739)***
	Pre-Algebra		0.005 (0.315)	0.007 (0.405)		0.01 (0.496)	0.012 (0.557)*
	Algebra I		0.014 (0.191)	0.013 (0.185)		-0.013 (-0.088)	-0.002 (-0.012)
	Algebra II		0.035 (0.305)	0.055 (0.488)*		-0.002 (-0.012)	0.02 (0.101)
	Geometry		-0.015 (-0.054)	0.044 (0.16)		-0.031 (-0.109)	0.007 (0.025)
	Statistics		0.022 (0.133)	0.053 (0.321)		0 (-0.001)	0.016 (0.119)
	Pre-Calculus		0.02 (0.067)	0.094 (0.308)		0.015 (0.053)	0.062 (0.215)*
	Calculus I		0.068 (0.235)	0.142 (0.489)**		0.079 (0.3)**	0.123 (0.469)***
	Calculus II		0.03 (0.256)	0.058 (0.492)*		0.056 (0.5)***	0.073 (0.646)***
	Missing		-0.006 (-0.038)	0.025 (0.163)		-0.008 (-0.069)	0.007 (0.059)
	Latest Course Grade Points			0.097 (0.137)***			0.085 (0.118)***
	R ²	0.126	0.132	0.14	0.122	0.142	0.147
	N	7980	7980	7942	34789	32230	32090
2014	High School GPA	0.377 (1.131)***	0.358 (1.074)***	0.303 (0.912)***	0.351 (0.9)***	0.341 (0.893)***	0.287 (0.755)***
	Pre-Algebra		0.001 (0.125)	0.002 (0.221)		0.004 (0.177)	0.003 (0.15)
	Algebra I		0.027 (0.452)	0.025 (0.432)		0.015 (0.126)	0.019 (0.156)
	Algebra II		0.017 (0.154)	0.026 (0.238)		0.001 (0.006)	0.013 (0.07)
	Geometry		-0.051 (-0.19)	-0.013 (-0.05)		-0.031 (-0.111)	-0.006 (-0.023)
	Statistics		-0.03 (-0.172)	-0.009 (-0.053)		0 (0.001)	0.01 (0.068)
	Pre-Calculus		-0.036 (-0.12)	0.022 (0.072)		0.014 (0.049)	0.049 (0.166)
	Calculus I		0.038 (0.132)	0.093 (0.322)		0.085 (0.317)***	0.118 (0.44)***
	Calculus II		0.048 (0.357)	0.07 (0.52)**		0.057 (0.486)***	0.07 (0.589)***

		Complete Transcript Data			Incomplete Transcript Data		
		Standardized coefficients (Raw Coefficients)			Standardized coefficients (Raw Coefficients)		
		Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
	Missing		0.004 (0.027)	0.024 (0.157)		0.013 (0.11)	0.022 (0.184)
	Latest Course Grade Points			0.102 (0.14)***			0.087 (0.12)***
	R^2	0.142	0.153	0.162	0.123	0.144	0.15
	N	8116	8116	8085	38946	36806	36654
2015	High School GPA	0.4 (1.2)***	0.38 (1.142)***	0.33 (0.995)***	0.366 (0.972)***	0.358 (0.967)***	0.302 (0.817)***
	Pre-Algebra		0.003 (0.201)	0.003 (0.215)		0.011 (0.45)*	0.01 (0.424)*
	Algebra I		0.025 (0.378)	0.023 (0.367)		0.017 (0.147)	0.021 (0.179)
	Algebra II		0.012 (0.114)	0.02 (0.188)		-0.004 (-0.021)	0.01 (0.053)
	Geometry		-0.066 (-0.272)	-0.047 (-0.193)		-0.034 (-0.124)	-0.011 (-0.04)
	Statistics		-0.024 (-0.136)	-0.012 (-0.07)		0.003 (0.022)	0.014 (0.091)
	Pre-Calculus		-0.034 (-0.114)	0.002 (0.006)		-0.003 (-0.011)	0.029 (0.101)
	Calculus I		0.031 (0.103)	0.07 (0.234)		0.076 (0.279)**	0.109 (0.401)***
	Calculus II		0.029 (0.219)	0.045 (0.334)*		0.058 (0.48)***	0.07 (0.577)***
	Missing		-0.037 (-0.249)	-0.026 (-0.176)		0 (-0.001)	0.006 (0.057)
	Latest Course Grade Points			0.087 (0.12)***			0.09 (0.125)***
	R^2	0.16	0.17	0.175	0.134	0.154	0.159
	N	9968	9968	9944	43039	41359	41227
2016	High School GPA	0.422 (1.252)***	0.401 (1.188)***	0.347 (1.029)***	0.38 (1.037)***	0.365 (1.008)***	0.31 (0.857)***
	Pre-Algebra		-0.008 (-0.632)	-0.007 (-0.624)		0 (0.004)	0 (0.017)
	Algebra I		0.016 (0.285)	0.017 (0.292)		-0.001 (-0.009)	0.006 (0.051)
	Algebra II		0.01 (0.108)	0.02 (0.225)		0.008 (0.042)	0.023 (0.127)
	Geometry		-0.029 (-0.126)	0 (0.002)		-0.018 (-0.069)	0.008 (0.031)
	Statistics		0.005 (0.024)	0.026 (0.134)		0.006 (0.034)	0.02 (0.12)
	Pre-Calculus		0.002 (0.006)	0.051 (0.174)		0.01 (0.035)	0.047 (0.167)*
	Calculus I		0.056 (0.187)	0.112 (0.371)***		0.079 (0.282)***	0.119 (0.423)***
	Calculus II		0.047 (0.325)**	0.07 (0.482)***		0.06 (0.486)***	0.075 (0.602)***
	Missing		-0.005 (-0.038)	0.012 (0.093)		0.005 (0.044)	0.015 (0.131)
	Latest Course Grade Points			0.093 (0.129)***			0.091 (0.127)***
	R^2	0.178	0.185	0.191	0.144	0.16	0.166
	N	14753	14753	14724	48832	47299	47171
2017	High School GPA	0.415 (1.274)***	0.387 (1.188)***	0.321 (0.986)***	0.387 (1.086)***	0.364 (1.036)***	0.302 (0.861)***
	Pre-Algebra		0.001 (0.039)	0.002 (0.129)		0.002 (0.094)	0.003 (0.119)

		Complete Transcript Data			Incomplete Transcript Data			
		Standardized coefficients (Raw Coefficients)			Standardized coefficients (Raw Coefficients)			
		Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	
	Algebra I		0.015 (0.228)	0.016 (0.25)*		0.022 (0.192)**	0.029 (0.252)***	
	Algebra II		0.007 (0.082)	0.018 (0.2)*		0.023 (0.14)*	0.04 (0.244)***	
	Geometry		-0.009 (-0.041)	0.021 (0.089)		0.013 (0.052)	0.042 (0.169)**	
	Statistics		0.014 (0.071)	0.035 (0.174)*		0.027 (0.149)*	0.046 (0.249)***	
	Pre-Calculus		0.006 (0.02)	0.059 (0.208)**		0.035 (0.127)*	0.078 (0.285)***	
	Calculus I		0.089 (0.302)***	0.146 (0.496)***		0.122 (0.436)***	0.167 (0.6)***	
	Calculus II		0.072 (0.537)***	0.094 (0.694)***		0.088 (0.706)***	0.106 (0.846)***	
	Missing		0.007 (0.054)	0.021 (0.164)		0.028 (0.239)***	0.039 (0.327)***	
	Latest Course Grade Points			0.118 (0.167)***			0.101 (0.144)***	
	R^2	0.172	0.182	0.192	0.149	0.166	0.172	
	N	22485	22485	22436	57499	56211	56021	
2018	High School GPA	0.411 (1.277)***	0.384 (1.191)***	0.325 (1.012)***	0.392 (1.1)***	0.37 (1.05)***	0.307 (0.873)***	
	Pre-Algebra		-0.015 (-0.891)**	-0.014 (-0.853)**		0 (-0.022)	-0.001 (-0.028)	
	Algebra I		-0.014 (-0.175)*	-0.011 (-0.133)		0.013 (0.111)*	0.02 (0.169)**	
	Algebra II		-0.021 (-0.207)**	-0.009 (-0.082)		0.009 (0.054)	0.025 (0.157)**	
	Geometry		-0.046 (-0.185)**	-0.012 (-0.048)		-0.011 (-0.044)	0.02 (0.076)	
	Statistics		-0.024 (-0.109)	0 (-0.001)		0.004 (0.018)	0.022 (0.114)*	
	Pre-Calculus		-0.028 (-0.101)	0.022 (0.078)		0.019 (0.072)	0.062 (0.228)***	
	Calculus I		0.047 (0.167)**	0.099 (0.355)***		0.097 (0.362)***	0.138 (0.518)***	
	Calculus II		0.039 (0.29)***	0.061 (0.45)***		0.067 (0.551)***	0.084 (0.693)***	
	Missing		-0.013 (-0.101)	0 (0.003)		0.009 (0.07)	0.02 (0.16)**	
	Latest Course Grade Points			0.106 (0.15)***			0.104 (0.146)***	
		R^2	0.169	0.178	0.186	0.154	0.168	0.174
		N	34863	34863	34820	72882	71543	71071
2019	High School GPA	0.463 (1.262)***	0.421 (1.148)***	0.371 (1.012)***	0.435 (1.079)***	0.4 (1.001)***	0.342 (0.857)***	
	Pre-Algebra		-0.005 (-0.187)	-0.005 (-0.183)		0.004 (0.137)	0.004 (0.125)	
	Algebra I		-0.007 (-0.069)	-0.004 (-0.04)		0.016 (0.105)***	0.023 (0.153)***	
	Algebra II		-0.003 (-0.025)	0.009 (0.061)		0.014 (0.075)**	0.029 (0.161)***	
	Geometry		-0.017 (-0.064)*	0.011 (0.041)		0.008 (0.029)	0.036 (0.129)***	
	Statistics		0.007 (0.032)	0.024 (0.105)**		0.02 (0.1)***	0.035 (0.176)***	
	Pre-Calculus		0.019 (0.071)*	0.053 (0.199)***		0.047 (0.184)***	0.079 (0.311)***	
	Calculus I		0.096 (0.393)***	0.127 (0.523)***		0.126 (0.537)***	0.151 (0.649)***	

		Complete Transcript Data			Incomplete Transcript Data			
		Standardized coefficients (Raw Coefficients)			Standardized coefficients (Raw Coefficients)			
		Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	
	Calculus II		0.046 (0.399)***	0.059 (0.509)***		0.059 (0.584)***	0.071 (0.695)***	
	Missing		-0.007 (-0.051)	0 (-0.003)		0 (0.003)	0.006 (0.051)	
	Latest Course Grade Points			0.09 (0.122)***			0.091 (0.124)***	
	R ²	0.214	0.224	0.23	0.189	0.206	0.208	
	N	62468	62468	62359	118316	115890	114525	
2020	High School GPA	0.432 (1.216)***	0.4 (1.127)***	0.367 (1.035)***	0.412 (1.024)***	0.394 (0.987)***	0.347 (0.867)***	
	Pre-Algebra		-0.005 (-0.218)	-0.005 (-0.224)		0.002 (0.072)	0.003 (0.088)	
	Algebra I		0.001 (0.012)	0.004 (0.036)		0.031 (0.2)***	0.036 (0.233)***	
	Algebra II		0.004 (0.026)	0.01 (0.072)		0.03 (0.168)***	0.042 (0.226)***	
	Geometry		-0.002 (-0.007)	0.016 (0.058)		0.034 (0.122)***	0.053 (0.192)***	
	Statistics		0.002 (0.007)	0.004 (0.017)		0.013 (0.073)**	0.018 (0.102)***	
	Pre-Calculus		0.021 (0.085)**	0.04 (0.162)***		0.055 (0.232)***	0.076 (0.324)***	
	Calculus I		0.083 (0.35)***	0.092 (0.397)***		0.107 (0.493)***	0.117 (0.553)***	
	Calculus II		0.027 (0.323)***	0.034 (0.395)***		0.038 (0.516)***	0.047 (0.608)***	
	Missing		0.006 (0.056)	0.009 (0.081)		0.01 (0.099)**	0.014 (0.135)***	
	Latest Course Grade Points			0.054 (0.076)***			0.062 (0.085)***	
		R ²	0.186	0.192	0.188	0.17	0.183	0.177
		N	57612	57612	52248	114330	111883	102598

The Research and Planning Group for California Community Colleges

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