

## **Online Appendix**

### **More than Dollars for Scholars: The Impact of the Dell Scholars Program on College Access, Persistence and Degree Attainment**

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## **Appendix 1**

### **Dell Scholars Selection Process**

The Dell Scholars Program assesses prospective scholars based on three main criteria referred to as *GPA*: Grit, Potential, and Ambition. In each selection phase, the program scores students numerically along three dimensions: academics, disadvantage, and responsibility. These dimensions along with the eligibility criteria map directly onto the Grit-Potential-Ambition framework. Participating in a college readiness program and having a plan to enroll in a four-year college show an applicant's ambition. The academics dimension, which assesses academic achievements in high school, measures the applicant's potential. The final criterion, grit, is intended to target students who have overcome personal challenges in their lives related to their families, schools or communities. This criterion is assessed with the measures of disadvantage and student responsibility. Each dimension includes several inputs. For example, the academics dimension includes an academic difficulty index, course count, and high school grade point average.

The Dell Scholars Program utilizes applicant scoring algorithms, one for each selection phase, to compute overall scores. We refer to these as the semifinalist algorithm and the scholar algorithm, respectively. See Table A1 for the dimensions of the semifinalist and finalist scoring algorithms and their corresponding weights. The semifinalist algorithm is used to compute a total application score for each student who starts an application. Students are then ranked on this application score, and the top 900 students are selected as semifinalists. Semifinalists are notified on February 1 and are then required to provide additional application materials, including a high school transcript, a Student Aid Report obtained after completing the Free Application for Federal Student Aid (FAFSA), responses to additional short-answer questions, and a letter of

recommendation before March 10. The semifinalists who complete these requirements are referred to as finalists and enter the scholar selection process.

Finalist applications are distributed among and reviewed by a selection committee consisting of approximately 60 members. Each finalist’s full application is reviewed and scored by two readers.<sup>1</sup> Each reader in the pair individually reviews each assigned complete application, including recommendation letters, and scores each item in the application. At the end of March, the readers submit all application reviews, and the scholar algorithm is used to compute a final score for each application.<sup>2</sup> Students are ranked on these scores, and the top 300 finalists are selected as Dell Scholars and announced on April 10.

Table A1

Categories and corresponding weights in the semifinalist and finalist selection algorithms

<b>Category</b>	<b>Semifinalist algorithm</b>	<b>Finalist algorithm</b>
Academics	0.28	0.34
Disadvantage index	0.28	0.34
Responsibility: home	0.18	0.16
Responsibility: work	0.18	0.16
Responsibility: community	0.08	

Source: The Dell Scholars Program database.

## Appendix 2

### Definition of Outcome Variables

In this appendix, we detail the construction of the outcome variables considered, the relevant data sources, and the analyses in which we consider each outcome variable.

Variable name	Description	Data source(s)	Analytic approach		
			RD	DID	FD
Immediate college enrollment	Enrollment in a four-year college in the fall of the year in which the student graduated from high school. We assign a value of 1 if a student was immediately enrolled in college after high school graduation and a value of 0 otherwise.	NSC	✓		
2 <sup>nd</sup> year persistence	For each student in cohort $t$ , enrollment in the fall and spring of year $t$ and in the fall of year $t+1$ . We assign a value of 1 if a student persisted into the second year and a value of 0 otherwise.	NSC; BPS 04/09	✓	✓	
3 <sup>rd</sup> year persistence	For each student in cohort $t$ , enrollment in the fall and spring of year $t$ and $t+1$ , and in the fall of year $t+2$ . We assign a value of 1 if a student persisted into the third year and a value of 0 otherwise.	NSC; BPS 04/09	✓	✓	
On-time BA attainment	Completion of a bachelor's degree within 48 months of initial enrollment. The list of bachelor's degrees that students earned includes, but is not limited to, Bachelor of Arts (BA or AB), Bachelor of Science (BS), Bachelor of Science in Nursing (BSN), Bachelor of Interdisciplinary Study (BIS), Bachelor of Business Administration (BBA), Bachelor of Fine Arts (BFA), Bachelor of Music (BM), Bachelor of Architecture, Bachelor of Education, and Bachelor of Social Work (BSW). We assign a value of 1 if a student earned a bachelor's degree within 48 months of initial enrollment and a value of 0 otherwise.	NSC; BPS 04/09	✓	✓	

Variable name	Description	Data source(s)	Analytic approach		
			RD	DID	FD
Six-year BA attainment	Completion of a bachelor's degree within 72 months. We assign a value of 1 if a student earned a bachelor's degree within 72 months and a value of 0 otherwise.	NSC; BPS 04/09	✓	✓	
First-year loan borrowing	We investigate types of loan borrowing: federal loans, Parent PLUS loans, and private loans. We assign a value of 1 if a student takes on that type of loan. Federal loans include Stafford and Perkins loans.	BPS 04/09; Dell administrative dataset			✓
Credits earned, cumulative	Cumulative credits earned in an academic year. We adjusted the raw number of credits using enrollment intensity data and information in the IPEDs datasets that reports the number of credits that are required for students to be considered full-time enrollees. The number of cumulative credits that a subject earned were adjusted using this information to allow for analysis of student progress across a common scale. Students were enrolled full-time and on-track if they had 32, 64, 96 and 128 adjusted cumulative credits earned in their first, second, third and fourth years of enrollment, respectively.	BPS 04/09; Dell administrative dataset			✓
Earned less than <3/4 credits attempted, years 1-4	Drawing on term-level academic performance data, we assign a value of 1 if a student earned less than three-quarters of the credits they attempted in any term within the first four years after initial enrollment.	BPS 04/09; Dell administrative dataset			✓
Cumulative GPA	We use term-level academic performance data to construct the cumulative grade point average for each of the first four years of enrollment. The cumulative grade point average is the mean of the reported grade point averages for each term leading to the time point of interest. For example, the second year cumulative GPA is the mean of the GPAs reported in the first four terms of enrollment. Missing term-level grade point averages are included in mean. For example, if a student only stopped out during the third expected term of enrollment, the cumulative GPA for year two is the mean of the GPAs reported in the first, second, and fourth terms.	BPS 04/09; Dell administrative dataset			✓

Variable name	Description	Data source(s)	Analytic approach		
			RD	DID	FD
GPA < 2.0 during years 1-4	Drawing on term-level academic performance data, we assign a value of 1 if a student earned less than a 2.0 GPA in any term within the first four years after initial enrollment	BPS 04/09; Dell administrative dataset			✓

### Appendix 3

#### Supplementary Tables

Table A3-1

Threshold scores and assignment of scholars by year

<b>Year</b>	<b>Threshold score</b>	<b>N Non Scholars with score below threshold</b>	<b>N Non Scholars with score above threshold</b>	<b>N Scholars with score below threshold</b>	<b>N Scholars with score above threshold</b>	<b>N Scholars</b>
2009	505	343	0	0	300	300
2010	522	505	5	6	295	301
2011	518	457	4	4	295	299
2012	526	496	8	8	293	301

Source: The Dell Scholars Program database.

Table A3-2

Relationship between scholar selection and covariates at threshold of selection

Outcome	$\mu$	Treatment effect estimates across bandwidths				Range of optimal bandwidth
		Full sample	Intermediate bandwidth (+/-100)	Narrow bandwidth (+/-40)	Optimal bandwidth	
Female	0.762	-0.022 (0.029) [3,019]	-0.008 (0.033) [2,585]	-0.038 (0.050) [1,372]	-0.069 (0.054) [1,209]	35
Age	18.277	0.015 (0.032) [3,019]	0.053 (0.036) [2,585]	0.063 (0.054) [1,372]	0.105* (0.063) [1,049]	30
Black / Hispanic	0.707	-0.007 (0.015) [3,019]	-0.009 (0.017) [2,585]	-0.036 (0.025) [1,372]	-0.031 (0.025) [1,448]	43
White / Asian	0.273	0.001 (0.016) [3,019]	-0.006 (0.018) [2,585]	-0.025 (0.026) [1,372]	-0.017 (0.026) [1,425]	42
ACT equivalent score	20.369	0.025 (0.204) [3,019]	0.006 (0.237) [2,585]	-0.011 (0.361) [1,372]	-0.033 (0.387) [1,176]	34
Scaled GPA	0.904	0.002 (0.006) [3,019]	0.007 (0.007) [2,585]	-0.002 (0.010) [1,372]	0.001 (0.012) [1,049]	30
Free/reduced lunch	0.966	-0.007 (0.011) [3,019]	-0.017 (0.013) [2,585]	-0.019 (0.018) [1,372]	-0.013 (0.021) [948]	27
First-generation	0.761	-0.003 (0.025) [3,019]	-0.027 (0.030) [2,585]	0.010 (0.045) [1,372]	0.007 (0.046) [1,049]	39

\*p&lt;.10 \*\*p&lt;.05 \*\*\*p&lt;.01

Source: The Dell Scholars Program database and the National Student Clearinghouse.

Notes: Robust standard errors in parentheses.  $\mu$  indicates the average fitted value for finalists within a bandwidth of 10 below the cohort-specific thresholds. Number of observations in the brackets where applicable. To obtain the optimal bandwidth, we use a first-order polynomial, a uniform kernel, and bandwidth selector of Calonico, Cattaneo, and Titiunik (2014).

Table A3-3

Falsification tests on socio-demographic and high school academic covariates as the outcome variable, 2009-2012 cohorts

	Female	Black or Hispanic	Parent Income	First Generation	English Language	HSGPA 2.0 – 2.49	HSGPA 2.5 – 2.99	HSGPA 3.0 – 3.49	HSGPA 3.5 – 4.0
Above x Dell	0.001 (0.029)	-0.000 (0.030)	-1397.461 (845.724)	-0.001 (0.013)	-0.001 (0.033)	0.000 (0.003)	-0.000 (0.013)	-0.000 (0.024)	0.001 (0.027)
Above	0.003 (0.023)	-0.053* (0.022)	-813.696 (634.482)	-0.001 (0.008)	-0.050 (0.026)	-0.001 (0.002)	-0.016 (0.009)	-0.131*** (0.017)	0.149*** (0.019)
Dell	0.000 (0.019)	-0.000 (0.019)	-503.303 (558.421)	0.000 (0.009)	-0.000 (0.022)	0.000 (0.002)	-0.000 (0.010)	0.000 (0.019)	-0.000 (0.020)
Average rate for BPS students matched to non-scholar finalists	0.751	0.698	20971.800	0.934	0.510	0.004	0.063	0.285	0.648
N	7923	7923	7923	7923	7923	7923	7923	7923	7923
R <sup>2</sup>	0.000	0.003	0.004	0.000	0.003	0.000	0.001	0.024	0.026
<b>Students attending less selective institutions</b>									
Above x Dell	0.002 (0.038)	-0.001 (0.038)	-2112.277 (1106.320)	-0.000 (0.019)	-0.002 (0.045)	0.000 (0.006)	-0.000 (0.025)	-0.002 (0.038)	0.003 (0.042)
Above	0.023 (0.028)	-0.074** (0.026)	-764.554 (759.911)	-0.012 (0.011)	0.012 (0.033)	0.000 (0.004)	0.011 (0.017)	-0.122*** (0.026)	0.110*** (0.030)
Dell	-0.000 (0.025)	-0.000 (0.022)	388.256 (701.805)	0.001 (0.011)	-0.000 (0.028)	0.000 (0.004)	-0.000 (0.014)	0.001 (0.026)	-0.000 (0.027)
Average rate for BPS students matched to non-scholar finalists	0.745	0.736	19116.667	0.936	0.532	0.007	0.091	0.384	0.518
<b>Students attending more selective institutions</b>									
Above x Dell	0.000 (0.043)	-0.000 (0.046)	-96.185 (1253.929)	-0.001 (0.019)	0.000 (0.050)	--	-0.000 (0.011)	0.001 (0.026)	-0.001 (0.028)
Above	-0.016 (0.034)	-0.004 (0.035)	-2495.281** (954.310)	0.009 (0.012)	-0.075 (0.040)	--	-0.012 (0.008)	-0.049** (0.019)	0.060** (0.020)
Dell	0.001 (0.029)	-0.000 (0.032)	-1927.294* (882.585)	0.000 (0.014)	-0.001 (0.036)	--	0.000 (0.009)	-0.001 (0.021)	0.001 (0.023)
Average rate for BPS students matched to non-scholar finalists	0.760	0.637	23935.657	0.931	0.474	--	0.019	0.126	0.855
N	7923	7923	7923	7923	7923	7923	7923	7923	7923
R <sup>2</sup>	0.753	0.678	0.687	0.933	0.495	0.007	0.086	0.303	0.752

\*p&lt;.10 \*\*p&lt;.05 \*\*\*p&lt;.01

Source: The Dell Scholars Program database and the BPS:04/09.

Notes: Robust standard errors in parentheses.

Table A3-4

Falsification tests on institutional covariates as the outcome variable, 2009-2012 cohorts

	<b>4-Year Institution</b>	<b>Public Institution</b>	<b>Elite</b>	<b>Highly Selective</b>	<b>Very Selective</b>	<b>Selective</b>	<b>Less Selective</b>
Above x Dell	0.000 (0.011)	-0.000 (0.026)	-0.000 (0.021)	-0.001 (0.030)	0.001 (0.027)	0.001 (0.030)	-0.000 (0.024)
Above	0.019* (0.008)	-0.084*** (0.020)	0.090*** (0.017)	0.071** (0.025)	0.039 (0.021)	-0.107*** (0.023)	-0.093*** (0.018)
Dell	-0.000 (0.008)	0.000 (0.015)	-0.000 (0.008)	0.000 (0.018)	-0.000 (0.016)	-0.001 (0.021)	0.001 (0.018)
Average rate for BPS students matched to non-scholar finalists	0.952	0.842	0.039	0.169	0.177	0.388	0.227
N	7923	7923	7923	7923	7923	7923	7923
R <sup>2</sup>	0.002	0.011	0.027	0.008	0.002	0.012	0.014
<b>Students attending less selective institutions</b>							
Above x Dell	0.000 (0.022)	-0.000 (0.025)	--	--	--	0.001 (0.042)	-0.001 (0.042)
Above	0.007 (0.016)	-0.016 (0.016)	--	--	--	0.046 (0.030)	-0.046 (0.030)
Dell	-0.000 (0.013)	0.000 (0.014)	--	--	--	-0.002 (0.027)	0.002 (0.027)
Average rate for BPS students matched to non-scholar finalists	0.922	0.905	--	--	--	0.631	0.369
<b>Students attending more selective institutions</b>							
Above x Dell	-0.000*** (0.000)	-0.001 (0.045)	-0.000 (0.037)	-0.001 (0.052)	0.002 (0.049)	--	--
Above	0.000 (0.000)	-0.077* (0.035)	0.118*** (0.030)	-0.028 (0.042)	-0.090* (0.039)	--	--
Dell	0.000*** (0.000)	0.001 (0.029)	-0.000 (0.020)	0.001 (0.037)	-0.001 (0.035)	--	--
Average rate for BPS students matched to non-scholar finalists	1.000	0.741	0.102	0.439	0.459	--	--
N	7923	7923	7923	7923	7923	7923	7923
R <sup>2</sup>	0.961	0.820	0.185	0.425	0.416	0.646	0.356

\*p&lt;.10 \*\*p&lt;.05 \*\*\*p&lt;.01 Source: The Dell Scholars Program database and the BPS:04/09.

Notes: Robust standard errors in parentheses.

Table A3-5

RD impacts on two-year college enrollment and completion, reduced-form specification

Outcome	$\mu$	Treatment effect estimates across bandwidths					Cohorts
		Full sample	Intermediate bandwidth (+/-100)	Narrow bandwidth (+/-40)	Optimal bandwidth	Range of optimal bandwidth	
Immediate enrollment	0.052	-0.013 (0.014) [3019]	-0.016 (0.015) [2585]	0.009 (0.023) [1372]	0.003 (0.026) [1019]	+/-29	2009-12
Associate's degree attainment	0.065	-0.025* (0.013) [3019]	-0.012 (0.015) [2585]	-0.030 (0.022) [1372]	-0.041* (0.024) [1117]	+/-32	2009-12

\*p&lt;.10 \*\*p&lt;.05 \*\*\*p&lt;.01

Source: The Dell Scholars Program database and the National Student Clearinghouse.

Notes: Robust standard errors in parentheses.  $\mu$  indicates the average fitted value for finalists within a bandwidth of 10 below the cohort-specific thresholds. Number of observations are in the brackets where applicable. The impact coefficients of being selected as a scholar are estimated using an instrumental variable estimation, where scholar status is instrumented by the assignment rule. All models estimated using baseline covariate controls, including age, scaled GPA, ACT equivalent score, state of residence, gender, race / ethnicity dummies, parents' income (in \$1,000), parental education, free or reduced-lunch eligibility, receipt of food stamps, receipt of federal health insurance, and receipt of Medicaid. Models also include cohort dummies, and slopes of the relationship between the outcome and assignment score are allowed to vary by cohort. We impute zero values and include dummies for missingness where students are missing valid values for covariates. To obtain the optimal bandwidth, we use a first-order polynomial, a uniform kernel, and bandwidth selector of Calonico, Cattaneo, and Titiunik (2014).

Table A3-6

RD impacts of scholar selection on immediate college enrollment, persistence and completion outcomes: fuzzy RD estimates

Outcome	2009 – 2012 cohorts						2009 – 2010 cohorts					
	$\mu$	Full sample	Intermediate bandwidth (+/-100)	Narrow bandwidth (+-40)	Optimal bandwidth	Range of optimal bandwidth	$\mu$	Full sample	Intermediate bandwidth (+/-100)	Narrow bandwidth (+-40)	Optimal bandwidth	Range of optimal bandwidth
Immediate enrollment	0.854	0.016 (0.023)	0.023 (0.026)	0.026 (0.041)	0.016 (0.039)	44 [1,482]	0.852	0.032 (0.031)	0.039 (0.036)	0.069 (0.056)	0.107* (0.059)	36 [602]
2 <sup>nd</sup> year persistence rate	0.753	0.024 (0.026)	0.040 (0.031)	0.036 (0.049)	0.028 (0.047)	44 [1,482]	0.753	0.035 (0.036)	0.056 (0.043)	0.078 (0.066)	0.112 (0.069)	38 [631]
3 <sup>rd</sup> year persistence rate	0.677	0.048* (0.028)	0.064* (0.034)	0.092* (0.053)	0.128** (0.056)	36 [1,240]	0.661	0.068* (0.039)	0.093** (0.046)	0.132* (0.071)	0.202*** (0.076)	36 [602]
BA attainment, in 4 years	0.287	0.064** (0.029)	0.060* (0.035)	0.074 (0.056)	0.068 (0.062)	34 [1,176]	0.271	0.082** (0.040)	0.099** (0.047)	0.110 (0.077)	0.100 (0.090)	31 [530]
BA attainment, in 6 years	--	--	--	--	--	--	0.635	0.061 (0.041)	0.058 (0.049)	0.101 (0.077)	0.176* (0.092)	30 [512]
Total Observations		3,019	2,585	1,372				1,454	1245	668		

\*p&lt;.10 \*\*p&lt;.05 \*\*\*p&lt;.01

Source: The Dell Scholars Program database and the National Student Clearinghouse.

Notes: Robust standard errors in parentheses.  $\mu$  indicates the average fitted value for finalists within a bandwidth of 10 below the cohort-specific thresholds. Number of observations are in the brackets where applicable. The impact coefficients of being selected as a scholar are estimated using an instrumental variable estimation, where scholar status is instrumented by the assignment rule. All models estimated using baseline covariate controls, including age, scaled GPA, ACT equivalent score, state of residence, gender, race / ethnicity dummies, parents' income (in \$1,000), parental education, free or reduced-lunch eligibility, receipt of food stamps, receipt of federal health insurance, and receipt of Medicaid. Models also include cohort dummies, and slopes of the relationship between the outcome and assignment score are allowed to vary by cohort. We impute zero values and include dummies for missingness where students are missing valid values for covariates. To obtain the optimal bandwidth, we use a first-order polynomial, a uniform kernel, and bandwidth selector of Calonico, Cattaneo, and Titiunik (2014)

Table A3-7

Sensitivity analyses of RD estimates using different optimal bandwidths, 2009-2012 cohorts

Outcome	Treatment effect estimates across bandwidths						
	Full	Intermediate	Narrow bandwidth h (+-40)	Optimal bandwidth (CCT, Uniform)	Optimal bandwidth (CCT, triangular)	Optimal bandwidth (CCT, Epanechnikov)	Optimal bandwidth (IK, uniform)
Immediate enrollment	0.016 (0.023) [3019]	0.023 (0.026) [2585]	0.026 (0.041) [1372]	0.016 (0.039) [1482]	0.027 (0.032) [1765]	0.024 (0.033) [1667]	0.041 (0.039) [1240]
2 <sup>nd</sup> year persistence rate	0.024 (0.026) [3019]	0.040 (0.031) [2585]	0.0356 (0.049) [1372]	0.028 (0.047) [1482]	0.033 (0.038) [1736]	0.042 (0.040) [1642]	0.052 (0.046) [1306]
3 <sup>rd</sup> year persistence rate	0.048* (0.028) [3019]	0.064* (0.034) [2585]	0.092* (0.053) [1372]	0.126** (0.056) [1240]	0.082* (0.045) [1512]	0.081* (0.047) [1425]	0.113** (0.050) [1278]
BA attainment, in 4 years	0.064** (0.029) [3019]	0.060* (0.035) [2585]	0.074 (0.056) [1372]	0.068 (0.062) [1176]	0.038 (0.049) [1482]	0.068 (0.051) [1392]	0.052 (0.052) [1342]

\*p&lt;.10 \*\*p&lt;.05 \*\*\*p&lt;.01

Source: The Dell Scholars Program database and the National Student Clearinghouse.

Notes: Robust standard errors in parentheses.  $\mu$  indicates the average fitted value for finalists within a bandwidth of 10 below the cohort-specific thresholds. Number of observations are in the brackets where applicable. All models estimated using baseline covariate controls, including age, scaled GPA, ACT equivalent score, state of residence, gender, race / ethnicity dummies, parents' income (in \$1,000), parental education, free or reduced-lunch eligibility, receipt of food stamps, receipt of federal health insurance, and receipt of Medicaid. Models also include cohort dummies, and slopes of the relationship between the outcome and assignment score are allowed to vary by cohort. We impute zero values and include dummies for missingness where students are missing valid values for covariates. We use first-order polynomial for all specifications of the bandwidth selector.

Table A3-8.

Sensitivity analyses of RD estimates using different optimal bandwidths, 2009-2010 cohorts

Outcome	Treatment effect estimates across bandwidths						
	Full	Intermediate	Narrow bandwidth (+40)	Optimal bandwidth (CCT, Uniform)	Optimal bandwidth (CCT, triangular)	Optimal bandwidth (CCT, Epanechnikov)	Optimal bandwidth (IK, uniform)
Immediate enrollment	0.032 (0.031) [1454]	0.039 (0.036) [1245]	0.069 (0.056) [668]	0.098* (0.057) [602]	0.059 (0.052) [736]	0.051 (0.052) [709]	0.098* (0.057) [602]
2 <sup>nd</sup> year persistence rate	0.035 (0.036) [1454]	0.056 (0.043) [1245]	0.078 (0.066) [668]	0.103 (0.067) [631]	0.067 (0.059) [801]	0.075 (0.060) [765]	0.067 (0.061) [736]
3 <sup>rd</sup> year persistence rate	0.068* (0.039) [1454]	0.093** (0.046) [1245]	0.132* (0.071) [668]	0.184** (0.074) [602]	0.132** (0.065) [736]	0.132* (0.067) [709]	0.244*** (0.083) [502]
BA attainment, in 4 years	0.082* (0.040) [1454]	0.099** (0.047) [1245]	0.110 (0.077) [668]	0.090 (0.087) [530]	0.094 (0.074) [696]	0.101 (0.075) [668]	0.098 (0.079) [619]
BA attainment, in 6 years	0.061 (0.041) [1454]	0.058 (0.049) [1245]	0.101 (0.077) [668]	0.158* (0.090) [512]	0.122* (0.073) [723]	0.093 (0.075) [677]	0.087 (0.079) [619]

\*p&lt;.10 \*\*p&lt;.05 \*\*\*p&lt;.01

Source: The Dell Scholars Program database and the National Student Clearinghouse.

Notes: Robust standard errors in parentheses.  $\mu$  indicates the average fitted value for finalists within a bandwidth of 10 below the cohort-specific thresholds. Number of observations are in the brackets where applicable. All models estimated using baseline covariate controls, including age, scaled GPA, ACT equivalent score, state of residence, gender, race / ethnicity dummies, parents' income (in \$1,000), parental education, free or reduced-lunch eligibility, receipt of food stamps, receipt of federal health insurance, and receipt of Medicaid. Models also include cohort dummies, and slopes of the relationship between the outcome and assignment score are allowed to vary by cohort. We impute zero values and include dummies for missingness where students are missing valid values for covariates. We use first-order polynomial for all specifications of the bandwidth selector.

Table A3-9.

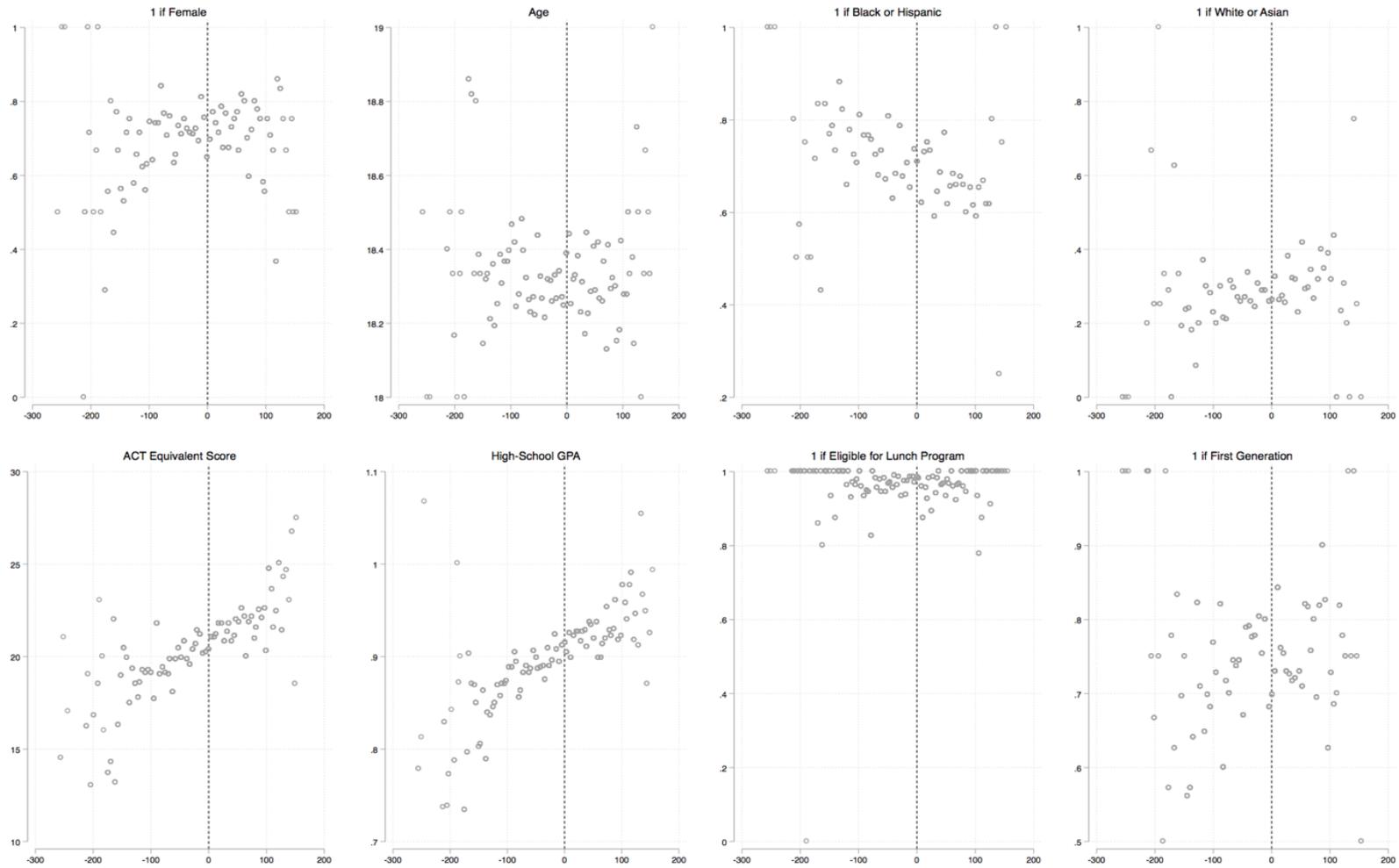
First year financing variables adjusted to 2016 dollars, 2010-2012 cohorts

	<b>Cost of Attendance (COA)</b>	<b>COA minus grants</b>	<b>COA minus grants &amp; Dell grant</b>	<b>COA minus grants, Dell grant, &amp; federal loans (no PLUS)</b>	<b>COA minus grants, Dell grant, &amp; federal loans (with PLUS)</b>
<b>Overall</b>					
Dell Scholar	4021.089*** (414.052)	2531.072*** (456.451)	-677.270 (449.095)	628.684 (460.666)	955.793** (469.458)
Average rate for BPS students matched to Dell Scholars	23736.360	11354.230	11354.230	8860.477	8345.641
N	2465	2465	2465	2465	2465
R <sup>2</sup>	0.603	0.323	0.328	0.289	0.263
<b>Students in less selective institutions</b>					
Dell Scholar	2267.091*** (645.681)	1706.804** (713.283)	-1671.685** (701.626)	-748.124 (719.292)	-545.543 (732.886)
Average rate for BPS students matched to Dell Scholars	17470.435	8266.099	8266.099	6054.779	5720.414
<b>Students in more selective institutions</b>					
Dell Scholar	5231.131*** (536.510)	3099.715*** (592.683)	8.753 (582.996)	1578.511*** (597.675)	1991.529*** (608.971)
Average rate for BPS students matched to Dell Scholars	28045.892	13478.162	13478.162	10790.159	10151.200
N	2465	2465	2465	2465	2465
R <sup>2</sup>	0.898	0.653	0.634	0.542	0.506

\*p&lt;.10 \*\*p&lt;.05 \*\*\*p&lt;.01

Source: The Dell Scholars Program database and the BPS:04/09.

Notes: All outcome variables were only observable for the 2010-2012 Dell cohorts. To account for inflation, the dollar amounts for the Dell Scholars and their matched counterparts were adjusted to 2016 dollars. Robust standard errors in parentheses. All models estimated using baseline covariate controls including gender, race / ethnicity, first-generation status, home language spoken, high school GPA, parental income, and indicators for institutional type, sector and selectivity. We impute zero values and include dummies for missingness where students are missing valid values for covariates.



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Figure A3-1

Relationship between student-level baseline covariates and scholar selection score

Source: The Dell Scholars Program database.

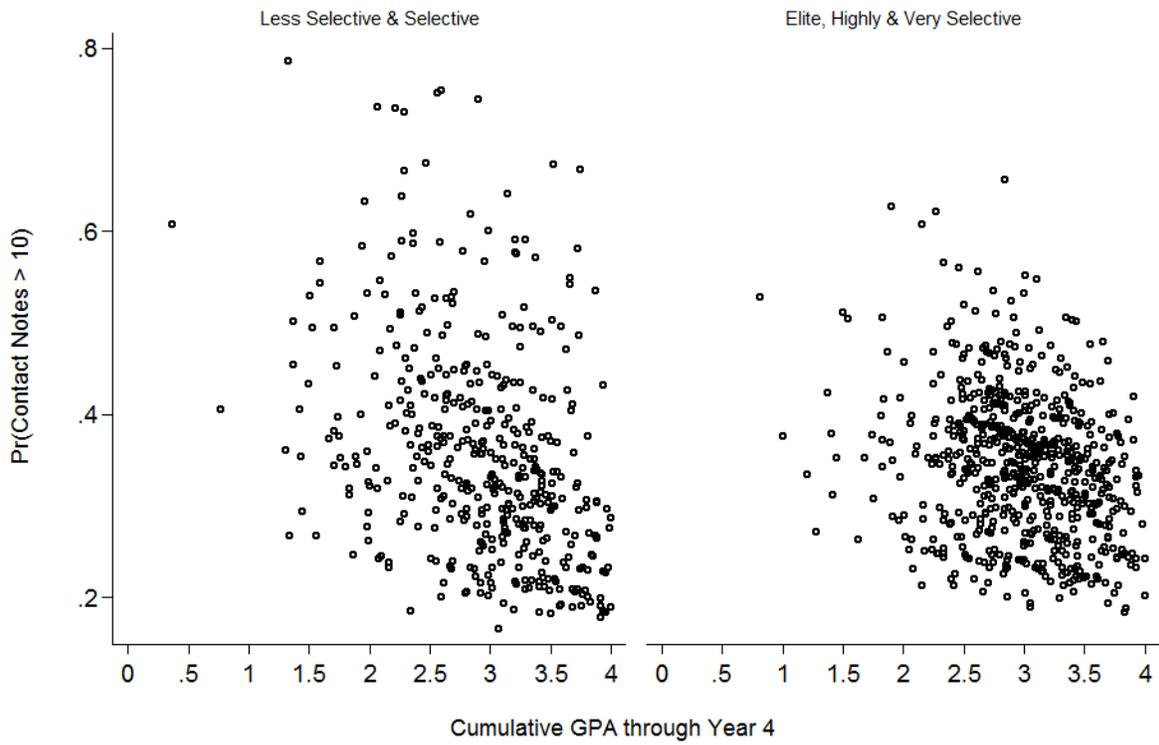


Figure A3-2

Relationship between the probability of Dell Scholars having more than 10 contact notes and cumulative GPA

Source: The Dell Scholars Program database.

Notes: Model estimated using baseline covariate controls including gender, race / ethnicity, first-generation status, home language spoken, high school GPA, parental income, and indicators for institutional type, sector and selectivity.

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<sup>1</sup> This assignment process ensures that both readers in the pair have zip codes different from the finalists they are reviewing.

<sup>2</sup> Super-readers, a subset of readers with extensive experience in scoring applications, review and score applications that need an additional evaluation, such as in cases where the first two readers awarded scores that deviated substantially from each other.