## Appendices

Table A1. Measuring the impact of SAILS implementation by ACT math subgroup

| Dependent variable | $\begin{gathered} \text { (1) } \\ \text { ACT Math }<=16 \end{gathered}$ |  | $\begin{gathered} (2) \\ \text { ACT Math }=17 \text { or } 18 \end{gathered}$ |  | $\begin{gathered} \text { (3) } \\ \text { ACT Math } \geq 19 \end{gathered}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Under pre-requisite remediation | Under co-requisite remediation | Under pre-requisite remediation | Under co-requisite remediation | Under pre-requisite remediation | Under co-requisite remediation |
| SAILS participant | $\begin{gathered} 0.406^{* * *} \\ (0.025) \\ {[142176]} \end{gathered}$ | $\begin{gathered} 0.398^{* * *} \\ (0.021) \\ {[142176]} \end{gathered}$ | $\begin{gathered} 0.413^{* * *} \\ (0.026) \\ {[55915]} \end{gathered}$ | $\begin{gathered} \hline 0.435^{* * *} \\ (0.019) \\ {[55915]} \end{gathered}$ | $\begin{gathered} 0.052 * * * \\ (0.007) \\ {[117628]} \end{gathered}$ | $\begin{gathered} 0.028^{* * *} \\ (0.003) \\ {[117628]} \end{gathered}$ |
| High school (HS) graduate | $\begin{gathered} 0.002 \\ (0.006) \\ {[142176]} \end{gathered}$ | $\begin{aligned} & -0.001 \\ & (0.005) \\ & {[142176]} \end{aligned}$ | $\begin{aligned} & -0.005 \\ & (0.006) \\ & {[55915]} \end{aligned}$ | $\begin{gathered} 0.001 \\ (0.004) \\ {[55915]} \end{gathered}$ | $\begin{gathered} 0.004 \\ (0.004) \\ {[117628]} \end{gathered}$ | $\begin{gathered} 0.003 \\ (0.002) \\ {[117628]} \end{gathered}$ |
| Enrolled in any college by spring of 1st year after HS | $\begin{gathered} 0.003 \\ (0.010) \\ {[142176]} \end{gathered}$ | $\begin{gathered} 0.020^{*} \\ (0.011) \\ {[142176]} \end{gathered}$ | $\begin{aligned} & -0.021 \\ & (0.014) \\ & {[55915]} \end{aligned}$ | $\begin{gathered} 0.003 \\ (0.010) \\ {[55915]} \end{gathered}$ | $\begin{gathered} 0.004 \\ (0.007) \\ {[117628]} \end{gathered}$ | $\begin{gathered} 0.016^{* * *} \\ (0.005) \\ {[117628]} \end{gathered}$ |
| Enrolled in two-year college by spring of 1st year after HS | $\begin{gathered} 0.006 \\ (0.010) \\ {[142176]} \end{gathered}$ | $\begin{gathered} 0.013 \\ (0.010) \\ {[142176]} \end{gathered}$ | $\begin{aligned} & -0.011 \\ & (0.012) \\ & {[55915]} \end{aligned}$ | $\begin{gathered} 0.006 \\ (0.011) \\ {[55915]} \end{gathered}$ | $\begin{gathered} -0.011 \\ (0.010) \\ {[117628]} \end{gathered}$ | $\begin{gathered} -0.004 \\ (0.009) \\ {[117628]} \end{gathered}$ |
| Enrolled in TBR CC by spring of 1st year after HS | $\begin{gathered} 0.007 \\ (0.010) \\ {[142176]} \end{gathered}$ | $\begin{gathered} 0.008 \\ (0.009) \\ {[142176]} \end{gathered}$ | $\begin{gathered} -0.009 \\ (0.012) \\ {[55915]} \end{gathered}$ | $\begin{gathered} 0.002 \\ (0.010) \\ {[55915]} \end{gathered}$ | $\begin{gathered} -0.005 \\ (0.009) \\ {[117628]} \end{gathered}$ | $\begin{gathered} 0.002 \\ (0.008) \\ {[117628]} \end{gathered}$ |
| Enrolled in TCAT by spring of 1st Year after HS | $\begin{gathered} -0.000 \\ (0.005) \\ {[142176]} \end{gathered}$ | $\begin{gathered} 0.005 \\ (0.005) \\ {[142176]} \end{gathered}$ | $\begin{gathered} 0.001 \\ (0.005) \\ {[55915]} \end{gathered}$ | $\begin{gathered} -0.002 \\ (0.006) \\ {[55915]} \end{gathered}$ | $\begin{gathered} -0.003 \\ (0.004) \\ {[117628]} \end{gathered}$ | $\begin{gathered} -0.006 \\ (0.004) \\ {[117628]} \end{gathered}$ |
| Enrolled in four-year college by spring of 1st year after HS | $\begin{aligned} & -0.003 \\ & (0.007) \end{aligned}$ | $\begin{gathered} 0.006 \\ (0.007) \end{gathered}$ | $\begin{aligned} & -0.012 \\ & (0.013) \end{aligned}$ $[55915]$ | $\begin{aligned} & -0.005 \\ & (0.010) \end{aligned}$ $[55915]$ | $\begin{gathered} 0.008 \\ (0.010) \end{gathered}$ | $\begin{aligned} & 0.018 * * \\ & (0.009) \end{aligned}$ |
| Outcomes for TN CC enrollees: |  |  |  |  |  |  |
| Took remedial math by spring of 1st year | $\begin{gathered} -0.304 * * * \\ (0.027) \\ {[33824]} \end{gathered}$ | $\begin{gathered} -0.296 * * * \\ (0.021) \\ {[33824]} \end{gathered}$ | $\begin{gathered} -0.248 * * * \\ (0.031) \\ {[15678]} \end{gathered}$ | $\begin{gathered} -0.256 * * * \\ (0.021) \\ {[15678]} \end{gathered}$ | $\begin{gathered} -0.001 \\ (0.004) \\ {[21568]} \end{gathered}$ | $\begin{gathered} -0.002 \\ (0.003) \\ {[21568]} \end{gathered}$ |
| Took remedial math by spring of 2nd year | $\begin{gathered} -0.320 * * * \\ (0.027) \\ {[27509]} \end{gathered}$ | $\begin{gathered} -0.330 * * * \\ (0.025) \\ {[27509]} \end{gathered}$ | $\begin{gathered} -0.268 * * * \\ (0.032) \\ {[12476]} \end{gathered}$ | $\begin{gathered} -0.304 * * * \\ (0.027) \\ {[12476]} \end{gathered}$ | $\begin{gathered} -0.001 \\ (0.004) \\ {[17485]} \end{gathered}$ | $\begin{gathered} -0.004 \\ (0.004) \\ {[17485]} \end{gathered}$ |
| Took college math by spring of 1st year | $\begin{gathered} 0.163 * * * \\ (0.020) \\ {[33824]} \end{gathered}$ | $\begin{gathered} -0.039 * * * \\ (0.014) \\ {[33824]} \end{gathered}$ | $\begin{gathered} 0.103 * * * \\ (0.030) \\ {[15678]} \end{gathered}$ | $\begin{gathered} -0.029 \\ (0.019) \\ {[15678]} \end{gathered}$ | $\begin{aligned} & -0.012 \\ & (0.018) \\ & {[21568]} \end{aligned}$ | $\begin{gathered} -0.050^{* * *} \\ (0.017) \\ {[21568]} \end{gathered}$ |
| Took college math by spring of 2nd year | $\begin{gathered} 0.089 * * * \\ (0.019) \end{gathered}$ | $\begin{gathered} -0.064 * * * \\ (0.016) \end{gathered}$ | $\begin{gathered} 0.032 \\ (0.028) \end{gathered}$ | $\begin{gathered} -0.048^{* *} \\ (0.019) \end{gathered}$ | $\begin{aligned} & -0.013 \\ & (0.018) \end{aligned}$ | $\begin{gathered} -0.038^{* *} \\ (0.017) \end{gathered}$ |

Table A1. Measuring the impact of SAILS implementation by ACT math subgroup

| Dependent variable | (1) <br> ACT Math $<=16$ |  | $\begin{gathered} (2) \\ \text { ACT Math }=17 \text { or } 18 \end{gathered}$ |  | $\begin{gathered} \text { (3) } \\ \text { ACT Math } \geq 19 \end{gathered}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Under pre-requisite remediation | Under co-requisite remediation | Under pre-requisite remediation | Under co-requisite remediation | Under pre-requisite remediation | Under co-requisite remediation |
| Passed college math by spring of 1st year | [27509] | [27509] | [12476] | [12476] | [17485] | [17485] |
|  | 0.072*** | -0.063*** | 0.057** | -0.042** | -0.026 | $-0.069 * * *$ |
|  | (0.014) | (0.013) | (0.025) | (0.020) | (0.021) | (0.017) |
| Passed college math by spring of 2nd year | [33824] | [33824] | [15678] | [15678] | [21568] | [21568] |
|  | 0.031* | -0.066*** | 0.017 | -0.064*** | -0.019 | -0.071*** |
|  | (0.016) | (0.017) | (0.025) | (0.021) | (0.022) | (0.020) |
| Total credits earned by spring of 1st year | [27509] | [27509] | [12476] | [12476] | [17485] | [17485] |
|  | 1.099*** | 0.000 | 0.926* | 0.384 | -0.574 | 0.101 |
|  | (0.302) | (0.332) | (0.546) | (0.448) | (0.533) | (0.453) |
| Total credits earned by spring of 2nd year | [28292] | [28292] | [14106] | [14106] | [19858] | [19858] |
|  | 2.609*** | 0.056 | 1.937* | 1.600 | -0.948 | 0.497 |
|  | (0.657) | (0.766) | (1.082) | (1.220) | (0.968) | (1.024) |
| Retook ACT | [23037] | [23037] | [11302] | [11302] | [16106] | [16106] |
|  | -0.015 | -0.026* | -0.040 | -0.003 | 0.017 | 0.020 |
|  | (0.021) | (0.015) | (0.029) | (0.019) | (0.028) | (0.016) |
| Return for 2nd year of college | [33824] | [33824] | [15678] | [15678] | [21568] | [21568] |
|  | 0.001 | -0.026 | -0.029 | 0.005 | -0.006 | 0.018 |
|  | (0.017) | (0.016) | (0.023) | (0.020) | (0.018) | (0.017) |
| Earned associate's degree within 2 years | [27509] | [27509] | [12476] | [12476] | [17485] | [17485] |
|  | 0.001 | -0.006 | 0.004 | -0.002 | -0.007 | -0.003 |
|  | (0.007) | (0.005) | (0.013) | (0.011) | (0.013) | (0.012) |
| Earned certificate within 2 years | [27509] | [27509] | [12476] | [12476] | [17485] | [17485] |
|  | 0.006 | -0.003 | 0.012 | -0.003 | 0.008 | -0.021 |
|  | (0.008) | (0.007) | (0.013) | (0.012) | (0.011) | (0.014) |
|  | [27509] | [27509] | [12476] | [12476] | [17485] | [17485] |

Note: We estimate equation (1) separately for the three subgroups of students by ACT math score (as reflected in the column headings). For the outcome in each row, we report coefficients on two indicators: one for attending a SAILS high school during a period of pre-requisite remediation (i.e., those graduating in 2013-14) and another for attending a SAILS high school during co-requisite remediation (those graduating after 2013-14). The excluded category represents students attending non-SAILS schools in that year. The sample consists of students with junior year ACT math scores below 19 , who were high school seniors in a public high school between 2010-11 and 2015-16. All specifications include high school fixed effects and demographic controls for race, ethnicity, and sex. In the second panel, the sample is limited to students enrolling in a Tennessee community college by the spring of 1 year after high school, regardless of degree intention. The sample size for outcomes 2 years after graduation are smaller because they are not available for the 2015-16 cohort of seniors. The count of total credits is missing for approximately $13 \%$ of the sample. Heteroskedastic-robust standard errors are clustered by high school and are reported in parentheses ( ${ }^{*} \mathrm{p}<.10 ;{ }^{* *} \mathrm{p}<.05 ;{ }^{* * *} \mathrm{p}<.01$ ).

## Table A2. Event study

| Dependent Variable | 5 years preSAILS | 4 years preSAILS | 3 years preSAILS | $\begin{gathered} 2 \text { years } \\ \text { pre- } \\ \text { SAILS } \end{gathered}$ | 1st SAILS year | 2nd SAILS year | 3rd SAILS year | N |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SAILS participant | $\begin{gathered} 0.040 * * * \\ (0.012) \end{gathered}$ | $\begin{aligned} & 0.026^{* *} \\ & (0.012) \end{aligned}$ | $\begin{gathered} 0.013 * * \\ (0.005) \end{gathered}$ | $\begin{gathered} 0.004 \\ (0.003) \end{gathered}$ | $\begin{gathered} 0.386^{* * *} \\ (0.019) \end{gathered}$ | $\begin{gathered} 0.450 * * * \\ (0.023) \end{gathered}$ | $\begin{gathered} 0.493 * * * \\ (0.032) \end{gathered}$ | 198,091 |
| High school (HS) graduate | $\begin{aligned} & -0.013 \\ & (0.016) \end{aligned}$ | $\begin{gathered} 0.009 \\ (0.006) \end{gathered}$ | $\begin{gathered} 0.004 \\ (0.007) \end{gathered}$ | $\begin{gathered} 0.007 \\ (0.006) \end{gathered}$ | $\begin{gathered} 0.002 \\ (0.006) \end{gathered}$ | $\begin{gathered} 0.005 \\ (0.006) \end{gathered}$ | $\begin{gathered} 0.002 \\ (0.008) \end{gathered}$ | 198,091 |
| Enrolled in any college by spring of 1st year after HS | $\begin{aligned} & -0.029 \\ & (0.019) \end{aligned}$ | $\begin{gathered} 0.005 \\ (0.012) \end{gathered}$ | $\begin{aligned} & -0.006 \\ & (0.009) \end{aligned}$ | $\begin{aligned} & -0.001 \\ & (0.007) \end{aligned}$ | $\begin{gathered} 0.003 \\ (0.007) \end{gathered}$ | $\begin{gathered} 0.022 * * \\ (0.011) \end{gathered}$ | $\begin{aligned} & 0.026^{*} \\ & (0.014) \end{aligned}$ | 198,091 |
| Enrolled in two-year college by spring of 1st year after HS | $\begin{aligned} & -0.003 \\ & (0.017) \end{aligned}$ | $\begin{gathered} 0.016 \\ (0.011) \end{gathered}$ | $\begin{gathered} 0.009 \\ (0.008) \end{gathered}$ | $\begin{gathered} 0.005 \\ (0.007) \end{gathered}$ | $\begin{gathered} 0.008 \\ (0.007) \end{gathered}$ | $\begin{gathered} 0.015 \\ (0.010) \end{gathered}$ | $\begin{gathered} 0.034^{* *} \\ (0.013) \end{gathered}$ | 198,091 |
| Enrolled in TBR CC by spring of 1st year after HS | $\begin{aligned} & -0.006 \\ & (0.013) \end{aligned}$ | $\begin{gathered} 0.013 \\ (0.009) \end{gathered}$ | $\begin{aligned} & 0.012 * \\ & (0.007) \end{aligned}$ | $\begin{gathered} 0.006 \\ (0.006) \end{gathered}$ | $\begin{gathered} 0.007 \\ (0.006) \end{gathered}$ | $\begin{gathered} 0.013 \\ (0.009) \end{gathered}$ | $\begin{gathered} 0.035^{* * *} \\ (0.012) \end{gathered}$ | 198,091 |
| Enrolled in TCAT by spring of 1st year after HS | $\begin{aligned} & -0.009 \\ & (0.011) \end{aligned}$ | $\begin{gathered} -0.002 \\ (0.007) \end{gathered}$ | $\begin{aligned} & -0.005 \\ & (0.005) \end{aligned}$ | $\begin{aligned} & -0.004 \\ & (0.003) \end{aligned}$ | $\begin{gathered} 0.001 \\ (0.004) \end{gathered}$ | $\begin{gathered} -0.002 \\ (0.006) \end{gathered}$ | $\begin{gathered} -0.006 \\ (0.007) \end{gathered}$ | 198,091 |
| Enrolled in four-year college by spring of 1st year after HS | $\begin{gathered} -0.027^{* *} \\ (0.013) \end{gathered}$ | $\begin{gathered} -0.010 \\ (0.009) \end{gathered}$ | $\begin{gathered} -0.015^{* *} \\ (0.006) \end{gathered}$ | $\begin{aligned} & -0.005 \\ & (0.005) \end{aligned}$ | $\begin{gathered} -0.005 \\ (0.005) \end{gathered}$ | $\begin{gathered} 0.005 \\ (0.007) \end{gathered}$ | $\begin{gathered} -0.010 \\ (0.010) \end{gathered}$ | 198,091 |
| Outcomes for TN CC enrollees: |  |  |  |  |  |  |  |  |
| Took remedial math by spring of 1st year | $\begin{gathered} -0.043 \\ (0.028) \end{gathered}$ | $\begin{gathered} -0.023 \\ (0.021) \end{gathered}$ | $\begin{gathered} -0.013 \\ (0.015) \end{gathered}$ | $\begin{gathered} \hline-0.002 \\ (0.011) \end{gathered}$ | $\begin{gathered} \hline-0.272^{* * *} \\ (0.016) \end{gathered}$ | $\begin{gathered} \hline-0.305 * * * \\ (0.022) \end{gathered}$ | $\begin{gathered} \hline-0.322 * * * \\ (0.027) \end{gathered}$ | 49,502 |
| Took remedial math by spring of 2nd year | $\begin{gathered} -0.013 \\ (0.025) \end{gathered}$ | $\begin{gathered} -0.007 \\ (0.019) \end{gathered}$ | $\begin{gathered} -0.002 \\ (0.014) \end{gathered}$ | $\begin{gathered} 0.001 \\ (0.011) \end{gathered}$ | $\begin{gathered} -0.301^{* * *} \\ (0.020) \end{gathered}$ | $\begin{gathered} -0.333 * * * \\ (0.027) \end{gathered}$ | $\begin{gathered} 0.000 \\ (0.000) \end{gathered}$ | 39,985 |
| Took college-level math by spring of 1st year | $\begin{gathered} 0.037 \\ (0.028) \end{gathered}$ | $\begin{gathered} 0.044 * * \\ (0.018) \end{gathered}$ | $\begin{gathered} 0.019 \\ (0.014) \end{gathered}$ | $\begin{aligned} & -0.007 \\ & (0.013) \end{aligned}$ | $\begin{gathered} 0.034^{* * *} \\ (0.013) \end{gathered}$ | $\begin{aligned} & -0.011 \\ & (0.015) \end{aligned}$ | $\begin{gathered} -0.036^{*} \\ (0.019) \end{gathered}$ | 49,502 |
| Took college-level math by spring of 2nd year | $\begin{gathered} 0.018 \\ (0.028) \end{gathered}$ | $\begin{aligned} & 0.037 * * \\ & (0.019) \end{aligned}$ | $\begin{aligned} & 0.024^{*} \\ & (0.014) \end{aligned}$ | $\begin{gathered} 0.017 \\ (0.012) \end{gathered}$ | $\begin{gathered} 0.019 \\ (0.013) \end{gathered}$ | $\begin{gathered} -0.042 * * \\ (0.017) \end{gathered}$ |  | 39,985 |
| Passed college-level math by spring of 1st year | $\begin{aligned} & 0.038^{*} \\ & (0.022) \end{aligned}$ | $\begin{gathered} 0.037 * * \\ (0.015) \end{gathered}$ | $\begin{aligned} & 0.021^{*} \\ & (0.011) \end{aligned}$ | $\begin{gathered} 0.000 \\ (0.009) \end{gathered}$ | $\begin{aligned} & -0.005 \\ & (0.011) \end{aligned}$ | $\begin{gathered} -0.033^{* *} \\ (0.013) \end{gathered}$ | $\begin{gathered} -0.075^{* * *} \\ (0.018) \end{gathered}$ | 49,502 |
| Passed college-level math by spring of 2nd year | $\begin{gathered} 0.039 \\ (0.027) \end{gathered}$ | $\begin{gathered} 0.039 * * \\ (0.018) \end{gathered}$ | $\begin{gathered} 0.028^{* *} \\ (0.013) \end{gathered}$ | $\begin{gathered} 0.018 \\ (0.011) \end{gathered}$ | $\begin{gathered} -0.009 \\ (0.012) \end{gathered}$ | $\begin{gathered} -0.055^{* * *} \\ (0.017) \end{gathered}$ |  | 39,985 |
| Total credits earned by spring of 1st year | $\begin{aligned} & 1.096^{* *} \\ & (0.537) \end{aligned}$ | $\begin{aligned} & 1.003^{* *} \\ & (0.399) \end{aligned}$ | $\begin{gathered} 0.329 \\ (0.274) \end{gathered}$ | $\begin{gathered} 0.176 \\ (0.231) \end{gathered}$ | $\begin{gathered} 0.514^{* *} \\ (0.235) \end{gathered}$ | $\begin{gathered} 0.442 \\ (0.353) \end{gathered}$ | $\begin{gathered} 0.545 \\ (0.420) \end{gathered}$ | 42,398 |
| Total credits earned by spring of 2 nd year | $\begin{gathered} 1.764 \\ (1.183) \end{gathered}$ | $\begin{gathered} 1.693 * * \\ (0.747) \end{gathered}$ | $\begin{gathered} 0.844 \\ (0.545) \end{gathered}$ | $\begin{gathered} 0.371 \\ (0.459) \end{gathered}$ | $\begin{gathered} 1.440 * * * \\ (0.509) \end{gathered}$ | $\begin{gathered} 1.020 \\ (0.833) \end{gathered}$ |  | 34,339 |

## Table A2. Event study

| Dependent Variable | $\begin{gathered} 5 \text { years } \\ \text { pre- } \\ \text { SAILS } \end{gathered}$ | $\begin{gathered} 4 \text { years } \\ \text { pre- } \\ \text { SAILS } \\ \hline \end{gathered}$ | 3 years preSAILS | 2 years preSAILS | 1st SAILS year | $\begin{gathered} \text { 2nd } \\ \text { SAILS } \\ \text { year } \end{gathered}$ | 3rd SAILS year | N |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Retook ACT | $\begin{gathered} 0.043 \\ (0.027) \end{gathered}$ | $\begin{gathered} 0.037 * * \\ (0.018) \end{gathered}$ | $\begin{gathered} 0.011 \\ (0.014) \end{gathered}$ | $\begin{gathered} 0.019 \\ (0.012) \end{gathered}$ | $\begin{aligned} & -0.016 \\ & (0.012) \end{aligned}$ | $\begin{gathered} -0.009 \\ (0.016) \end{gathered}$ | $\begin{aligned} & -0.016 \\ & (0.020) \end{aligned}$ | 49,502 |
| Returned for 2nd year of college | $\begin{gathered} 0.061 * * * \\ (0.020) \end{gathered}$ | $\begin{aligned} & 0.028^{*} \\ & (0.015) \end{aligned}$ | $\begin{gathered} 0.017 \\ (0.011) \end{gathered}$ | $\begin{aligned} & 0.025^{* *} \\ & (0.010) \end{aligned}$ | $\begin{aligned} & -0.008 \\ & (0.012) \end{aligned}$ | $\begin{gathered} -0.012 \\ (0.015) \end{gathered}$ |  | 39,985 |
| Earned associate's degree by 2 nd year | $\begin{gathered} 0.016 \\ (0.013) \end{gathered}$ | $\begin{gathered} 0.000 \\ (0.008) \end{gathered}$ | $\begin{gathered} 0.007 \\ (0.006) \end{gathered}$ | $\begin{gathered} 0.001 \\ (0.006) \end{gathered}$ | $\begin{gathered} 0.000 \\ (0.005) \end{gathered}$ | $\begin{aligned} & -0.005 \\ & (0.007) \end{aligned}$ |  | 39,985 |
| Earned certificate by 2 nd year | $\begin{gathered} -0.001 \\ (0.014) \\ \hline \end{gathered}$ | $\begin{gathered} -0.008 \\ (0.011) \\ \hline \end{gathered}$ | $\begin{gathered} -0.005 \\ (0.007) \end{gathered}$ | $\begin{aligned} & -0.004 \\ & (0.005) \\ & \hline \end{aligned}$ | $\begin{gathered} 0.004 \\ (0.006) \\ \hline \end{gathered}$ | $\begin{gathered} -0.008 \\ (0.007) \\ \hline \end{gathered}$ |  | 39,985 |

Notes: Estimates in each row come from estimating equation 1, but exchanging the two main indicators of SAILS under traditional remediation and SAILS under co-requisite remediation for a set of binary variables indicating the years relative to when a student's school adopted SAILS (e.g., an indicator for one year before SAILS was adopted, two years before SAILS was adopted, etc. up to five years before SAILS was adopted and an indicator for whether it was the first year of using SAILS, second year of using SAILS or third year of using SAILS). The excluded category represents students attending non-SAILS schools in that year. The sample consists of students with junior year ACT math scores below 19, who were high school seniors in a public high school between 201011 and 2015-16. Heteroskedastic-robust standard errors are clustered by high school and are reported in parentheses ( ${ }^{*} \mathrm{p}<.10 ;{ }^{* *} \mathrm{p}<.05 ;{ }^{* * *} \mathrm{p}<.01$ ).

Table A3: Difference-in-differences covariate balance check (ACT Math < 19)

| Dependent Variable | $(1)$ <br> Under traditional <br> remediation | Under co-requisite <br> remediation | Mean values for <br> seniors from non- <br> SAILS schools <br> (ACT $<$ 19) |
| :--- | :---: | :---: | :---: |
| Female | 0.000 | $0.010^{*}$ | 0.52 |
| Black | $(0.008)$ | $(0.006)$ |  |
|  | $[198091]$ | $[198091]$ | 0.41 |
| White | 0.000 | $(0.005$ |  |
|  | $(0.005)$ | $[198091]$ | 0.51 |
| Hispanic | $[198091]$ | -0.000 | $(0.006)$ |
|  | -0.002 | $[198091]$ | 0.05 |
|  | $(0.005)$ | -0.001 |  |

Notes: For the outcome in each row, we report coefficients on two indicators: one for attending a SAILS high school during a period of pre-requisite remediation (i.e., those graduating in 2013-14) and another for attending a SAILS high school during co-requisite remediation (those graduating after 2013-14). The excluded category represents students attending non-SAILS schools in that year. The sample consists of students with junior year ACT math scores below 19, who were high school seniors in a public high school between 2010-11 and 2015-16. Sample sizes are included in brackets. Control means are the means for students with ACT math scores below 19 in non-SAILS high schools. Heteroskedastic-robust standard errors are clustered by high school and are reported in parentheses ( ${ }^{*} \mathrm{p}<.10 ;{ }^{* *} \mathrm{p}<.05 ;{ }^{* * *} \mathrm{p}<.01$ )

Table A4. RD covariate balance tests, full sample 2015-16

|  | SAILS schools |  |  |  |  | Non-SAILS schools |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | BW25, | BW15, | BW35, | Control | BW25, | BW15, | BW35, | Control |  |
| controls |  |  |  |  |  |  |  |  |  | \(\left.\begin{array}{c}mean <br>

controls <br>
controls <br>
controls <br>
mean\end{array}\right)\)

[^0]Table A5. RD covariate balance tests (posttest sample, 2015-16)

| Dependent Variable | BW25, <br> controls | BW15, <br> controls | BW35, <br> controls | Control <br> mean |
| :--- | :---: | :---: | :---: | :---: |
| PLAN math score | 0.130 | 0.437 | 0.151 | 17.59 |
|  | $(0.259)$ | $(0.389)$ | $(0.236)$ |  |
| PLAN ELA score | $[3598]$ | $[1709]$ | $[5683]$ |  |
|  | -0.166 | -0.332 | -0.059 | 17.78 |
| PLAN composite score | $(0.247)$ | $(0.367)$ | $(0.223)$ |  |
|  | $[3598]$ | $[1709]$ | $[5681]$ |  |
|  | -0.032 | 0.056 | 0.019 | 17.97 |
| English language learner | $(0.155)$ | $(0.251)$ | $(0.137)$ |  |
|  | $[3597]$ | $[1708]$ | $[5679]$ |  |
|  | -0.007 | -0.005 | 0.005 | 0.04 |
| IEP | $(0.012)$ | $(0.018)$ | $(0.011)$ |  |
|  | $[3851]$ | $[1833]$ | $[6131]$ |  |
|  | 0.014 | 0.014 | -0.000 | 0.01 |
| Male | $(0.011)$ | $(0.017)$ | $(0.009)$ |  |
|  | $[3851]$ | $[1833]$ | $[6131]$ |  |
|  | -0.043 | -0.075 | -0.045 | 0.53 |
| Black | $(0.039)$ | $(0.058)$ | $(0.034)$ |  |
|  | $[3851]$ | $[1833]$ | $[6131]$ |  |
|  | $0.037 *$ | $0.063 * *$ | 0.026 | 0.11 |
| White | $(0.021)$ | $(0.028)$ | $(0.018)$ |  |
|  | $[3851]$ | $[1833]$ | $[6131]$ |  |
|  | -0.039 | -0.040 | -0.031 | 0.87 |
| Hispanic | $(0.024)$ | $(0.032)$ | $(0.021)$ |  |
|  | $[3851]$ | $[1833]$ | $[6131]$ |  |
|  | -0.013 | -0.006 | -0.000 | 0.04 |
|  | $(0.015)$ | $(0.022)$ | $(0.015)$ |  |
|  | $[3851]$ | $[1833]$ | $[6131]$ |  |

Notes: For the outcome in each row, we report the discontinuity at the remediation cut-off of 19 . We assume a linear relationship between the outcome and ACT score (the running variable), although we allow for different slopes above and below the cut-off. (We used a rescaled version of the ACT with finer-grained scale.) All regressions also include high school fixed effects and demographic controls for race, ethnicity, and sex. The sample includes all high school seniors in 2015-16 who took the post-test and have a math score in the specified bandwidth (BW) noted in the column heads (e.g., $+/-4$ points, $+/-3$ points, $+/-5$ points). Control means are the mean outcomes for students within 10 points above the cut-off on the rescaled measure. Heteroskedastic robust standard errors are clustered by high school and included in parentheses ( ${ }^{*} \mathrm{p}<0.10 ; * * \mathrm{p}<0.05 ; * * * \mathrm{p}<0.01$ ).

Table A6. SAILS and non-SAILS school RD estimates, 2015-16, all high school and post-secondary outcomes

|  | SAILS schools, 2015-16 |  |  |  | Non-SAILS schools, 2015-16 |  |  |  | Difference |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Dependent Variable | BW25, controls | BW15, controls | BW35, controls | Control mean | BW25, controls | BW15, <br> controls | BW35, controls | Control mean |  |
| Took SAILS | $\begin{gathered} 0.340 * * * \\ (0.024) \end{gathered}$ | $\begin{gathered} 0.286^{* * *} \\ (0.028) \end{gathered}$ | $\begin{gathered} 0.385 * * * \\ (0.023) \end{gathered}$ | 0.07 | $\begin{gathered} 0.001 \\ (0.002) \end{gathered}$ | $\begin{aligned} & 0.009 * \\ & (0.005) \end{aligned}$ | $\begin{gathered} 0.001 \\ (0.002) \end{gathered}$ | 0.00 | 0.339 |
|  | [12438] | [5841] | [20306] |  | [5972] | [2934] | [9572] |  |  |
| Took Bridge math | $\begin{aligned} & -0.007 \\ & (0.017) \end{aligned}$ | $\begin{gathered} 0.014 \\ (0.021) \end{gathered}$ | $\begin{aligned} & -0.015 \\ & (0.017) \end{aligned}$ | 0.11 | $\begin{gathered} 0.093 * * * \\ (0.026) \end{gathered}$ | $\begin{gathered} 0.117 * * * \\ (0.035) \end{gathered}$ | $\begin{gathered} 0.094^{* * *} \\ (0.028) \end{gathered}$ | 0.20 | -0.100 |
|  | [12073] | [5663] | [19701] |  | [5806] | [2857] | [9282] |  |  |
| High school graduate | $\begin{gathered} 0.001 \\ (0.007) \end{gathered}$ | $\begin{gathered} 0.004 \\ (0.010) \end{gathered}$ | $\begin{gathered} 0.004 \\ (0.006) \end{gathered}$ | 0.97 | $\begin{gathered} 0.011 \\ (0.013) \end{gathered}$ | $\begin{gathered} 0.028 \\ (0.020) \end{gathered}$ | $\begin{aligned} & 0.023 * * \\ & (0.010) \end{aligned}$ | 0.94 | -0.010 |
|  | [12438] | [5841] | [20306] |  | [5972] | [2934] | [9572] |  |  |
| Enroll in Any College by Spring After HS | $\begin{gathered} 0.020 \\ (0.018) \end{gathered}$ | $\begin{gathered} 0.025 \\ (0.028) \end{gathered}$ | $\begin{aligned} & 0.042^{* *} \\ & (0.016) \end{aligned}$ | 0.71 | $\begin{gathered} 0.038 \\ (0.026) \end{gathered}$ | $\begin{gathered} 0.067 \\ (0.045) \end{gathered}$ | $\begin{gathered} 0.059 * * * \\ (0.021) \end{gathered}$ | 0.69 | -0.018 |
|  | [12438] | [5841] | [20306] |  | [5972] | [2934] | [9572] |  |  |
| Enroll in 2 Yr College by Spring After HS | -0.006 | -0.027 | -0.003 | 0.37 | 0.015 | 0.031 | 0.009 | 0.25 | -0.021 |
|  | (0.018) | (0.027) | (0.016) |  | (0.024) | (0.042) | (0.020) |  |  |
|  | [12438] | [5841] | [20306] |  | [5972] | [2934] | [9572] |  |  |
| Enroll in TN CC by Spring After HS | -0.014 | -0.030 | -0.010 | 0.34 | 0.016 | 0.025 | 0.012 | 0.23 | -0.030 |
|  | (0.017) | (0.026) | (0.016) |  | (0.023) | (0.042) | (0.019) |  |  |
|  | [12438] | [5841] | [20306] |  | [5972] | [2934] | [9572] |  |  |
| Enroll in TCAT by Spring After HS | 0.006 | 0.003 | 0.006 | 0.03 | -0.007 | -0.002 | -0.005 | 0.02 | 0.013 |
|  | (0.007) | (0.009) | (0.006) |  | (0.008) | (0.014) | (0.007) |  |  |
|  | [12438] | [5841] | [20306] |  | [5972] | [2934] | [9572] |  |  |
| Enroll in 4 Yr College by Spring After HS | 0.026 | 0.049* | 0.045*** | 0.36 | 0.024 | 0.032 | 0.045** | 0.45 | 0.002 |
|  | (0.019) | (0.028) | (0.016) |  | (0.024) | (0.045) | (0.020) |  |  |
|  | [12438] | [5841] | [20306] |  | [5972] | [2934] | [9572] |  |  |

## Outcomes for Community College Enrollees:

$\begin{array}{llllllllllll}\text { Took remedial math by spring of } 1 \text { st year } & 0.146^{* * *} & 0.162^{* * *} & 0.146^{* * *} & 0.02 & 0.277^{* * *} & 0.299^{* * *} & 0.301^{* * *} & 0.01 & -0.13\end{array}$

|  | $(0.020)$ | $(0.028)$ | $(0.018)$ |  | $(0.033)$ | $(0.050)$ | $(0.030)$ |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $[3939]$ | $[1854]$ | $[6264]$ |  | $[1553]$ | $[740]$ | $[2427]$ |  |  |
| Took math by spring of 1st year | 0.050 | 0.081 | $0.063^{* *}$ | 0.72 | -0.052 | 0.045 | 0.021 | 0.76 | 0.10 |
|  | $(0.037)$ | $(0.061)$ | $(0.030)$ |  | $(0.054)$ | $(0.083)$ | $(0.042)$ |  |  |
|  | $[3939]$ | $[1854]$ | $[6264]$ |  | $[1553]$ | $[740]$ | $[2427]$ |  |  |
| Pass math by spring of 1st year | $0.080^{*}$ | 0.092 | $0.096^{* * *}$ | 0.50 | -0.011 | 0.007 | 0.052 | 0.59 | 0.091 |
|  | $(0.041)$ | $(0.064)$ | $(0.034)$ |  | $(0.063)$ | $(0.098)$ | $(0.052)$ |  |  |
| Total credits earned by spring of 1st year | $[3939]$ | $[1854]$ | $[6264]$ |  | $[1553]$ | $[740]$ | $[2427]$ |  |  |
|  | -0.288 | -0.206 | -0.158 | 24.78 | 0.775 | -0.880 | 0.460 | 24.05 | -1.063 |
|  | $(0.900)$ | $(1.420)$ | $(0.722)$ |  | $(1.220)$ | $(1.966)$ | $(0.984)$ |  |  |

Notes: For the outcome in each row, we report the discontinuity at the remediation cut-off of 19. We assume a linear relationship between the outcome and ACT score (the running variable), although we allow for different slopes above and below the cut-off. We used a rescaled version of the ACT with a finer-grained scale. All regressions also include high school fixed effects and demographic controls for race, ethnicity, and sex. The sample includes all high school seniors in 2015-16. We use bandwidths (BW) of $+/-25,+/-15$, and $+/-35$ rescaled ACT points. Control means are the mean outcomes for students within 10 points above the cut-off on the rescaled measure. Heteroskedastic robust standard errors are clustered by high school and included in parentheses ( ${ }^{*} \mathrm{p}<0.10 ; * * \mathrm{p}<0.05 ; * * * \mathrm{p}<0.01$ ).

Table A7. RD covariate balance test, full sample 2013-14 (coarsened ACT)

| Dependent variable | SAILS schools |  |  |  |  | Non-SAILS schools |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | BW4, <br> controls | BW3, <br> controls | BW5, <br> controls | Control <br> mean | BW4, <br> controls | BW3, <br> controls | BW5, <br> controls | Control <br> mean |  |
| Female | $0.040^{*}$ | $0.055^{*}$ | $0.037^{*}$ | 0.52 | 0.018 | -0.005 | 0.015 | 0.53 |  |
|  | $(0.023)$ | $(0.032)$ | $(0.022)$ |  | $(0.016)$ | $(0.020)$ | $(0.015)$ |  |  |
| Black | $[11259]$ | $[8246]$ | $[13077]$ |  | $[23287]$ | $[16786]$ | $[27112]$ |  |  |
|  | -0.000 | -0.000 | 0.005 | 0.12 | 0.011 | 0.003 | $0.016^{*}$ | 0.18 |  |
|  | $(0.013)$ | $(0.017)$ | $(0.012)$ |  | $(0.009)$ | $(0.013)$ | $(0.009)$ |  |  |
| White | $[11259]$ | $[8246]$ | $[13077]$ |  | $[23287]$ | $[16786]$ | $[27112]$ |  |  |
|  | -0.013 | -0.005 | -0.012 | 0.82 | $-0.021^{*}$ | -0.004 | -0.015 | 0.73 |  |
|  | $(0.017)$ | $(0.018)$ | $(0.015)$ |  | $(0.011)$ | $(0.015)$ | $(0.010)$ |  |  |
|  | $[11259]$ | $[8246]$ | $[13077]$ |  | $[23287]$ | $[16786]$ | $[27112]$ |  |  |
|  | $0.015^{*}$ | 0.012 | 0.010 | 0.04 | 0.007 | 0.004 | 0.002 | 0.04 |  |
|  | $(0.008)$ | $(0.012)$ | $(0.006)$ |  | $(0.007)$ | $(0.009)$ | $(0.006)$ |  |  |
|  | $[11259]$ | $[8246]$ | $[13077]$ |  | $[23287]$ | $[16786]$ | $[27112]$ |  |  |

Notes: For the outcome in each row, we report the discontinuity at the remediation cut-off of 19. We assume a linear relationship between the outcome and ACT score (the running variable), although we allow for different slopes above and below the cut-off. (We used the integer value ACT math score.) All regressions also include high school fixed effects and demographic controls for race, ethnicity, and sex. The sample includes all high school seniors in 2013-14 who have a math score in the specified bandwidth (BW) noted in the column heads (e.g., $+/-4$ points, $+/-3$ points, $+/-5$ points). Control means are the mean outcomes for students who are a single point above the cut-off using the integer ACT measure. Heteroskedastic robust standard errors are clustered by high school and included in parentheses ( ${ }^{*} \mathrm{p}<0.10 ; * * \mathrm{p}<0.05 ; * * * \mathrm{p}<0.01$ ).

Table A8. SAILS and non-SAILS school RD estimates, 2013-14, all high school \& post-secondary outcomes

| Dependent Variable | SAILS schools, 2013-14 |  |  |  | Non-SAILS schools, 2013-14 |  |  |  | Difference (BW4) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | BW4, controls | $\begin{aligned} & \hline \text { BW3, } \\ & \text { controls } \end{aligned}$ | BW5, controls | Control mean | BW4, controls | BW3, controls | BW5, controls | Control mean |  |
| SAILS participant | $\begin{gathered} \hline 0.271 * * * \\ (0.035) \end{gathered}$ | $\begin{gathered} 0.221 * * * \\ (0.035) \end{gathered}$ | $\begin{gathered} \hline 0.309 * * * \\ (0.033) \end{gathered}$ | 0.14 | $\begin{gathered} \hline 0.000 \\ (0.000) \\ {[23287]} \end{gathered}$ | $\begin{gathered} 0.000 \\ (0.000) \\ {[16786]} \end{gathered}$ | $\begin{gathered} \hline 0.000 \\ (0.000) \end{gathered}$ | 0.00 | 0.271 |
| Took Bridge Math | $\begin{gathered} -0.030 \\ (0.027) \\ {[11259]} \end{gathered}$ | -0.017 <br> (0.031) <br> [8246] | -0.019 <br> (0.023) <br> [13077] | 0.20 | $\begin{gathered} 0.162 * * * \\ (0.020) \\ {[23287]} \end{gathered}$ | $\begin{gathered} 0.145 * * * \\ (0.022) \\ {[16786]} \end{gathered}$ | $\begin{gathered} 0.191 * * * \\ (0.021) \\ {[27112]} \end{gathered}$ | 0.30 | -0.192 |
| High school (HS) graduate | -0.012 <br> (0.008) <br> [11259] | $\begin{gathered} -0.007 \\ (0.009) \\ {[8246]} \end{gathered}$ | -0.003 <br> (0.006) <br> [13077] | 0.98 | $\begin{gathered} 0.016 * * \\ (0.007) \\ {[23287]} \end{gathered}$ | 0.014 <br> (0.009) <br> [16786] | $\begin{gathered} 0.019 * * * \\ (0.006) \\ {[27112]} \end{gathered}$ | 0.95 | -0.028 |
| Enroll in any college by spring of 1st year after HS | $\begin{gathered} 0.002 \\ (0.020) \\ {[11259]} \end{gathered}$ | $\begin{gathered} 0.003 \\ (0.027) \\ {[8246]} \end{gathered}$ | 0.014 <br> (0.017) <br> [13077] | 0.71 | $\begin{gathered} 0.015 \\ (0.015) \\ {[23287]} \end{gathered}$ | $\begin{gathered} 0.004 \\ (0.018) \\ {[16786]} \end{gathered}$ | $\begin{aligned} & 0.026^{*} \\ & (0.014) \\ & {[27112]} \end{aligned}$ | 0.70 | -0.013 |
| Enroll in four-year college by spring of 1st year after HS | $\begin{gathered} -0.012 \\ (0.020) \\ {[11259]} \end{gathered}$ | $\begin{gathered} -0.046^{*} \\ (0.026) \\ {[8246]} \end{gathered}$ | 0.008 <br> (0.018) <br> [13077] | 0.35 | $\begin{gathered} 0.023 \\ (0.015) \\ {[23287]} \end{gathered}$ | $\begin{gathered} 0.011 \\ (0.018) \\ {[16786]} \end{gathered}$ | $\begin{aligned} & 0.021^{*} \\ & (0.013) \\ & {[27112]} \end{aligned}$ | 0.27 | -0.035 |
| Enroll in two-year college by spring of 1st year after HS | 0.009 <br> (0.024) <br> [11259] | $\begin{gathered} 0.028 \\ (0.029) \\ {[8246]} \end{gathered}$ | 0.003 <br> (0.021) <br> [13077] | 0.40 | -0.010 (0.016) [23287] | $\begin{gathered} -0.007 \\ (0.021) \\ {[16786]} \end{gathered}$ | 0.003 <br> (0.014) <br> [27112] | 0.46 | 0.019 |
| Enroll in TN CC by spring of 1st year after HS | 0.006 <br> (0.021) <br> [11259] | $\begin{gathered} -0.026 \\ (0.026) \\ {[8246]} \end{gathered}$ | 0.015 <br> (0.018) <br> [13077] | 0.30 | 0.019 (0.014) [23287] | $\begin{gathered} 0.010 \\ (0.017) \\ {[16786]} \end{gathered}$ | $\begin{gathered} 0.016 \\ (0.012) \\ {[27112]} \end{gathered}$ | 0.22 | -0.013 |
| Enroll in TCAT by spring of 1st year after HS | $\begin{gathered} -0.012 \\ (0.009) \\ {[11259]} \end{gathered}$ | $\begin{gathered} -0.012 \\ (0.011) \\ {[8246]} \end{gathered}$ | -0.003 <br> (0.008) <br> [13077] | 0.04 | $\begin{gathered} 0.007 \\ (0.007) \\ {[23287]} \end{gathered}$ | $\begin{gathered} 0.005 \\ (0.008) \\ {[16786]} \end{gathered}$ | $\begin{gathered} 0.006 \\ (0.006) \\ {[27112]} \end{gathered}$ | 0.03 | -0.019 |
| Outcomes for TN CC Enrollees: |  |  |  |  |  |  |  |  |  |
| Took remedial math by spring of 1st year | 0.269*** <br> (0.035) <br> [3206] | $\begin{gathered} \hline 0.256 * * * \\ (0.037) \\ {[2434]} \end{gathered}$ | 0.273*** (0.035) [3612] | 0.03 | $\begin{gathered} \hline 0.485 * * * \\ (0.025) \\ {[5232]} \end{gathered}$ | $\begin{gathered} \hline 0.449^{* * *} \\ (0.030) \\ {[3896]} \end{gathered}$ | $\begin{gathered} \hline 0.517 * * * \\ (0.022) \\ {[5907]} \end{gathered}$ | 0.04 | -0.216 |
| Took college-level math by spring of 1st year | -0.062 | -0.067 | -0.072 | 0.69 | -0.138*** | -0.134*** | -0.141*** | 0.67 | 0.076 |

Table A8. SAILS and non-SAILS school RD estimates, 2013-14, all high school \& post-secondary outcomes

| Dependent Variable | SAILS schools, 2013-14 |  |  |  | Non-SAILS schools, 2013-14 |  |  |  | Difference (BW4) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | BW4, controls | BW3, controls | BW5, controls | Control mean | BW4, controls | BW3, controls | BW5, controls | Control mean |  |
| Passed college-level math by spring of 1st year | (0.049) | (0.056) | (0.049) | 0.47 | (0.033) | (0.045) | (0.030) | 0.49 | 0.086 |
|  | [3206] | [2434] | [3612] |  | [5232] | [3896] | [5907] |  |  |
|  | 0.008 | 0.031 | 0.000 |  | -0.078** | -0.066 | -0.074** |  |  |
|  | (0.044) | (0.056) | (0.041) |  | (0.036) | (0.046) | (0.031) |  |  |
| Total credits earned by spring of 1st year | [3206] | [2434] | [3612] | 22.31 | [5232] | [3896] | [5907] | 21.84 | 2.757 |
|  | 0.096 | 0.241 | -0.639 |  | -1.797** | -0.883 | -1.948*** |  |  |
|  | (1.108) | (1.385) | (1.074) |  | (0.770) | (1.103) | (0.705) |  |  |
| Took remedial math by spring of 2nd year | [2805] | [2149] | [3156] | 0.03 | [4621] | [3496] | [5194] | 0.04 | -0.220 |
|  | 0.278*** | 0.265*** | 0.282*** |  | 0.498*** | 0.465*** | 0.531*** |  |  |
|  | (0.034) | (0.037) | (0.035) |  | (0.027) | (0.033) | (0.024) |  |  |
| Took college-level math by spring of 2nd year | [3206] | [2434] | [3612] | 0.78 | [5232] | [3896] | [5907] | 0.77 | 0.080 |
|  | 0.014 | 0.018 | 0.001 |  | -0.066** | -0.038 | -0.077*** |  |  |
|  | (0.044) | (0.053) | (0.043) |  | (0.031) | (0.040) | (0.027) |  |  |
| Passed college-level math by spring of 2nd year | [3206] | [2434] | [3612] | 0.58 | [5232] | [3896] | [5907] | 0.57 | 0.077 |
|  | 0.050 | 0.069 | 0.039 |  | -0.027 | 0.020 | -0.028 |  |  |
|  | (0.043) | (0.060) | (0.043) |  | (0.036) | (0.045) | (0.030) |  |  |
| Total credits earned by spring of 2nd year | [3206] | [2434] | [3612] | 36.34 | [5232] | [3896] | [5907] | 35.38 | 1.914 |
|  | -0.282 | 1.444 | -1.494 |  | -2.196 | -0.028 | -2.904** |  |  |
|  | (1.937) | (2.606) | (1.894) |  | (1.623) | (2.140) | (1.461) |  |  |
|  | [2805] | [2149] | [3156] |  | [4621] | [3496] | [5194] |  |  |

Notes: For the outcome in each row, we report the discontinuity at the remediation cut-off of 19 . We assume a linear relationship between the outcome and ACT score (the running variable), although we allow for different slopes above and below the cut-off. We used the integer ACT scores. All regressions also include high school fixed effects and demographic controls for race, ethnicity, and sex. The sample includes all high school seniors in the noted year (2013-14). We present estimates using bandwidths of 3,4 , and 5 integer points. Control means are the mean outcomes for students within 1 point above the cut-off on the rescaled measure.
Heteroskedastic robust standard errors are clustered by high school and included in parentheses ( ${ }^{*} \mathrm{p}<0.10 ;{ }^{* *} \mathrm{p}<0.05 ;{ }^{* * *} \mathrm{p}<0.01$ ).

## Figure A1. Distribution of Rescaled ACT Scores for 12th Graders in 2015-16




Notes: The top panel plots the distribution of rescaled ACT scores (using the fine-grained scale) for the cohort of Tennessee seniors in 2015-16, while the bottom panel limits this to students who also took the posttest. The distribution appears to have three different layered distributions due to differences in when students took the test. The largest distribution represents students who took the ACT test on the statewide test administration day. The second largest distribution represents those who took the ACT on a makeup test date, while the smallest distribution represents students who took the test with an accommodation.

Figure A2. Distribution of Coarse ACT Scores, 12th Graders in 2013-14


Notes: This figure plots the distribution of coarse ACT scores (using the 1-36 scale) for the cohort of Tennessee seniors in 2013-14.


[^0]:    Notes: For the outcome in each row, we report the discontinuity at the remediation cut-off of 19 . We assume a linear relationship between the outcome and ACT score (the running variable), although we allow for different slopes above and below the cut-off (We used a rescaled version of the ACT with finer-grained scale.) All regressions also include high school fixed effects and demographic controls for race, ethnicity, and sex. The sample includes all high school seniors in 2015-16 who have a math score in the specified bandwidth (BW) noted in the column heads (e.g., $+/-25$ points, $+/-15$ points, $+/-35$ points). Control means are the mean outcomes for students within 10 points above the cut-off on the rescaled measure. Heteroskedastic robust standard errors are clustered by high school and included in parentheses ( ${ }^{*} \mathrm{p}<0.10 ; * * \mathrm{p}<0.05 ;{ }^{* * *} \mathrm{p}<0.01$ ).

