

Research Report

2022-09

Examining the Efficacy of Career & College Clubs

Documenting Increases in Skills and Postsecondary Education Knowledge

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About This Study

This study was done in collaboration with the National Council for Community and Education Partnerships (NCCEP) and Alliance College-Ready Public Schools (Alliance). This report, the second in our series, Examining the Efficacy of Career & College Clubs, explores how changes in the college readiness areas of social and emotional skills, knowledge of postsecondary education, and education intentions were related to growth in cumulative student grade point average (GPA) in 11th-grade students. The students in this study come from a cohort of over 900 Alliance students enrolled in Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP) who have taken the Career & College Clubs (CCC) curriculum beginning in 9th grade.

So What?

Findings from the current study demonstrate that growth in social and emotional skills, as well as knowledge of postsecondary education, is predictive of higher student GPA when controlling for prior grades. The skills that positively predicted 11th grade cumulative GPA were extensively taught in the CCC curriculum, providing additional efficacy evidence of the CCC curriculum as part of GEAR UP programming.

Now What?

The results of this study demonstrate that the college readiness skills learned in the CCC curriculum increased significantly in students during their first three years of high school and predicted student GPA. This evidence, combined with results from the first report, Examining the Efficacy of Career & College Clubs: Initial Results and Implications for Practitioners, provide support of the use of the CCC curriculum in conjunction with GEAR UP programming to help students become better prepared for college after high school.

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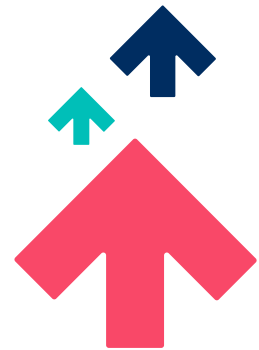
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The authors are part of the Center for Social, Emotional, and Academic Learning (SEAL) in ACT's Research division. The center conducts research on social and emotional skill assessment and development. With expertise across a broad range of psychological disciplines (clinical, educational, industrial-organizational, personality, social, quantitative, and experimental), the team is an active thought leader in the field of social and emotional learning. The team examines ways of improving the measurement and development of social and emotional skills across the elementary–workforce continuum, and has increasingly focused its research on topics that address the needs of students from historically underserved populations.



Executive Summary

ACT, the National Council for Community and Education Partnerships (NCCEP), and Alliance College-Ready Public Schools (Alliance) collaborated to examine the efficacy of NCCEP's Career & College Clubs (CCC) curriculum for increasing college readiness skills in high school students participating in Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP). A brief description of each program is provided in Appendix A at the end of the report. This report is designed with educators, especially GEAR UP practitioners, in mind.

In collaboration with Alliance schools, we conducted multiple waves of survey research with students from seven high schools over the course of three academic years, beginning in the fall of 2018 and continuing through the spring of 2021. The first report in this series, *Examining the Efficacy of Career & College Clubs: Initial Results and Implications for Practitioners*, explored the longitudinal impact of GEAR UP and the CCC curriculum on student development in the following areas: social and emotional skills, knowledge of postsecondary education, and education intentions. This report focuses specifically on those students who completed the first survey in the fall of 2018, before exposure to the CCC curriculum, and who also completed the survey in the spring of 2021, which allowed us to make direct comparisons among the same sample of students.

This report explores the following research questions:

Q1: Have students' social and emotional skills changed significantly after three academic years of CCC instruction?

Q2: Have students' knowledge of postsecondary education changed significantly after three academic years of CCC instruction?

Q3: Have students' education intentions changed significantly after three academic years of CCC instruction?

Q4: How are each of these college readiness areas related to students' cumulative grade point average (GPA)?

Study Background

ACT, NCCEP, and Alliance collaborated to conduct a longitudinal study examining the efficacy of NCCEP's CCC curriculum. This curriculum was provided during GEAR UP programming. The study examined the impact of this programming on college readiness skills in high school students who come from communities that have been historically marginalized and underrepresented in higher education (e.g., students of color, students from low-income households, and/or first-generation college students). CCC is a college and career preparation program for 7th through 12th grade that centers on peer-to-peer learning and mentoring, which involves students guiding each other through a comprehensive, standards-aligned curriculum of engaging activities and projects. The program seeks to increase the number of students who enroll in and complete postsecondary education.

Informed by the ACT® Holistic Framework® (Camara et al., 2015), the CCC contains sequenced lessons and activities for each grade level. These activities prepare students for postsecondary success by developing their knowledge and skills in five research-supported domains (College and Career Preparation and Readiness, Academic Preparation, Leadership Development, Social and Emotional Learning, and Professional Etiquette). Activities emphasize the development of academic skills, social and emotional skills, and the knowledge necessary to successfully apply to, transition to, and succeed in college. Some examples of activities that are designed to prepare students include the following:

- *Identifying Student Skills*, an activity in which students review scenarios and identify the skills and behaviors that support academic success as well as what kinds of behaviors take away from academic success.
- *Conflict Resolutions* teaches about conflict and techniques for peacefully resolving conflict and allows the students to evaluate what the word “conflict” means to them.
- *College Applications Dos and Don'ts*, an activity in which students review the college admissions process and the major components of the college application through role play.

This report is the second in the series Examining the Efficacy of Career & College Clubs. In our *prior report*, we described trends in students' social and emotional learning, knowledge of postsecondary education, and educational intentions over the course of three academic years. This report is focused specifically on students who completed three years of CCC instruction and also completed the survey at Time 1 (fall of 2018) and Time 8 (spring of 2021) to examine if students' knowledge and skills changed significantly during that time.

Social and Emotional Skills

Social and emotional skills include interpersonal, self-regulatory, and task-related behaviors that allow people to be successful in school and work settings; examples include managing emotions, setting and achieving personal goals, and maintaining relationships with others

(Casillas et al., 2015; Collaborative for Academic, Social, and Emotional Learning [CASEL], n.d.).

Postsecondary Education Knowledge

Another key piece of the CCC curriculum is teaching students about their postsecondary options. Information such as how to apply to college and for financial aid, as well as the importance of having an education plan, is consistently taught throughout the curriculum. Additionally, providing students with the skills and knowledge needed to pursue higher education is part of NCCEP's mission (National Council for Community and Education Partnerships [NCCEP], n.d.).

Education Intentions

Two other measures of college readiness in this study are whether students can see themselves attending college and whether they have a plan for higher education. The CCC curriculum includes standards for college and career readiness and provides numerous lessons and activities related to helping students develop a plan for postsecondary education. For example, beginning in 7th grade and continuing through 12th grade, students are asked to create a personal and professional plan, which includes creating their own path to college and considering what kind of degree they will need to pursue a desired career.

Outcome Measure

To understand the relationship between college readiness indicators and additional college readiness outcomes, student cumulative GPA from the spring of 2021 when controlling for first-semester high school GPA was used as an outcome measure. Cumulative GPA includes only grades earned in approved high school courses required by the University of California system to meet minimum admission requirements (University of California, 2022). These requirements include different subject areas (e.g., history, math, foreign language, etc.) and specify the length of time required (e.g., two years). In this sample, cumulative GPA includes grades from students' first three years of high school.

Research Questions

The focus of this study was the efficacy of the CCC curriculum within the context of GEAR UP programming in helping students develop skills in three areas: social and emotional skills, knowledge of postsecondary education, and education intentions. Additionally, to help answer the last research question, student cumulative GPA was used as an outcome variable to help us understand the relationship between college readiness skills and high school grades.

Table 1. Survey Focus Areas

Focus area	Survey item and scale descriptions
Social and emotional skills	Scales measuring sustaining effort, getting along with others, growth mindset, maintaining composure, and leadership constructs
Knowledge of postsecondary education	Items related to knowledge of college and career, including processes such as getting accepted to college
Education intentions	Items asking about students' plans and aspirations of their experiences after high school

The following research questions guided the analysis of the data:

- **Q1:** Have students' social and emotional skills changed significantly after three academic years of CCC instruction?
- **Q2:** Has students' knowledge of postsecondary education changed significantly after three academic years of CCC instruction?
- **Q3:** Have students' education intentions changed significantly after three academic years of CCC instruction?
- **Q4:** How is each of these college readiness areas related to the student outcome of grade point average (GPA)?

Study Design

This study was conducted using surveys administered to GEAR UP students at Alliance schools who were receiving the CCC curriculum. As of spring 2021, a total of eight surveys have been administered to this cohort of students. The surveys were administered to students using an online software platform, and students were emailed an individual link to each survey. The surveys contained mostly Likert-type items, with some knowledge questions and open-ended questions included at various points. It took approximately 30 minutes for students to complete each survey.

During the first survey administration (fall of 2018), students were beginning their first year of high school, and they had not yet been exposed to the CCC curriculum. This report explores data up to the spring of 2021, when students had just completed their junior year of high school. Six attention checks were built into each survey to verify that students were reading the questions and not merely clicking through the survey. Students who missed more than two attention checks were excluded from the analysis¹.

¹ While each survey administration varies, an average of 20% of the responses are removed during each survey window due to multiple missed attention checks.

Study Participants

The students in this study include high school students participating in GEAR UP at seven different high schools in the Los Angeles region that are part of Alliance. Beginning in 2018–19, during the students' 9th-grade year, participating students began using the CCC curriculum. They continued to use the CCC curriculum each year, and in 2019–20, Alliance hired “GEAR UP coaches” at each school to help facilitate the curriculum. These GEAR UP coaches are typically Alliance alumni who mentor students and help facilitate the CCC content. As of this writing, students in this cohort have completed their 11th-grade year of high school. We surveyed the same cohort of students multiple times per year during this time to collect data on the efficacy of the curriculum and students' experiences learning during the COVID-19 pandemic.

The first survey, administered in September of 2018, was given prior to students' exposure to the CCC curriculum; students have since completed additional surveys assessing the broad range of knowledge and skills that are the focus of the curriculum. In the first wave of data collection, students were asked for their demographic information. Of the 759 responses, approximately 41% of the students identified as male, 46% identified as female, and 13% declined to answer. Approximately 83% of the students identified as Hispanic or Latino, 4% identified as non-Hispanic or Latino, and 13% declined to answer. Each survey measured students' knowledge of, attitudes toward, and behaviors related to social and emotional learning and college readiness skills.

In March of 2020, Alliance students transitioned to online instruction due to the COVID-19 pandemic. Although the surveys were still administered through email, students have since taken the surveys at home instead of in the school building. As a result of the transition to online instruction, student response rates to the surveys have decreased somewhat; however, there is a subset of students who have taken the surveys multiple times, allowing for an examination of longitudinal trends. While over 900 students are in the cohort, response rates for the surveys have varied between approximately 57% and 88%. In this particular study, only students who completed the survey in the fall of 2018 and the spring of 2021 are included, for a sample of 387 students, or approximately 42% of the cohort². Of these 387 students, 41% identified as male, 58% identified as female, and 1% declined to answer. Additionally, 95% identified as Hispanic or Latino, 4% identified as non-Hispanic or Latino, and 1% declined to answer.

Measured Outcomes

Social and Emotional Skills

The survey included scales designed to measure students' attitudes and behaviors related to social and emotional skills, since much of the content taught in the CCC curriculum falls under

² Students included in this study completed the survey in fall of 2018 and again in spring of 2021. Most of these students also completed additional surveys during the study period, but only completion of these two time points was required for inclusion in this study.

the umbrella of social and emotional skills. For example, in 9th grade, students learn about topics such as relating to others, showing respect, understanding conflict, and finding motivation, so the researchers selected scales that measure these topics.

When considering the following data related to social and emotional skills, be aware that social and emotional development is not linear, especially during adolescence when students are in their middle and high school years, though this study only includes high school students. This means that while individuals tend to build social and emotional skills throughout childhood and adolescence, some of these skills show uneven growth and may even decrease before they improve. For example, some research has shown that social and emotional skills such as self-discipline and agreeableness decrease during early to mid adolescence before increasing in mid to late adolescence and early adulthood (Soto, et al., 2011; Kautz et al., 2021). Other related skills, behaviors, and cognitions have also been shown to decline in adolescence, such as school participation, self-regulated learning, and feelings of belonging at school (Wang & Eccles, 2012). In our first report, we explored the trends in this data and found evidence of non-linear growth in this cohort of students.

Response choices to the survey questions on SE skills are on a six-point Likert scale ranging from “disagree a lot” to “agree a lot.” Sample items and the reliabilities for each scale can be found in Appendix B. Table 2 summarizes the social and emotional skills assessed in the survey. This summary is followed by an examination of the change in each of these skills between the fall of 2018 and the spring of 2021.

Table 2. Surveyed Social and Emotional Skills

Domain	Scale	Definition
Sustaining Effort	Academic Discipline	Degree to which a student is hardworking and conscientious, as evidenced by the amount of effort invested in schoolwork
	Goal Setting	The extent to which a student sets high but achievable goals for self-improvement and advancement
	Study Skills	The extent to which students believe they know how to assess an academic problem, organize a solution, and successfully complete academic assignments
Getting Along With Others	Respect for Others	The extent to which a student considers others' feelings and points of view when communicating
	Interpreting Emotional Reactions	The extent to which a student responds appropriately to emotional reactions from others
	Collaboration	The extent to which a student completes group tasks and achieves group goals by effectively interacting with others
	Conflict Management	The extent to which a student works through conflicts and disagreements productively
Growth Mindset	Growth Mindset	The belief that one's abilities and skills can be developed through dedication and hard work
Maintaining Composure	Worry Management	The extent to which a student does not allow anxiety and fear to impact the completion of daily activities or tasks
	Managing Feelings	The tendency to manage the duration and intensity of negative feelings and to find appropriate ways to express these feelings
Leadership	Advocating for Causes	Promotion of issues that the student cares about
	Effective Communication	Behaviors that promote the successful delivery of information in interpersonal contexts (e.g., speaking clearly, making eye contact)
	Leadership Intentions	Expressing the desire to guide others and/or provide leadership
Self-Knowledge	Promoting Self-Knowledge	Promotion of perceptions of a student's own abilities, interests, skills, values, attitudes, and beliefs that contribute to understanding the self
	Career Exploration	The extent to which students know how to find information and support related to future career interests

Postsecondary Education Knowledge

Students were also asked about their knowledge related to applying to college. Table 3 contains the items asked in the survey that relate to students' knowledge of postsecondary education, as well as the areas they correspond to. These items are yes/no responses. As discussed in *McVey & Casillas (2021)*, some of the questions related to postsecondary knowledge were not introduced in the student survey until the spring of 2019, which means that we do not have a measure of postsecondary knowledge before the students' exposure to the CCC curriculum.

Table 3. Surveyed Postsecondary Education Knowledge

Area	Items
College Admissions Knowledge	Do you believe you are on track to have enough information about college entrance requirements to apply to college when the time comes? Do you know what to do to get accepted into a four-year college? ³
High School Experiences and Future Education and Career	I understand how my high school experiences connect to my future education and job/career.

Education Intentions

The questions listed in Table 4 were used to determine students' higher education intentions. The first two items listed, "I can see myself attending college" and "I have an idea of what type of school I want to go to after high school," used a six-point Likert scale ranging from "disagree a lot" to "agree a lot." For the other two items, response items were multiple choice and included options ranging from no high school diploma to a doctorate.

Table 4. Surveyed Education Intentions

Area	Items
Education Plans	I can see myself attending college. I have an idea of what type of school I want to go to after high school.
Educational Aspirations	How far would you like to get in your education? What is the highest degree of education you expect to earn?

Change in Student Skills, Knowledge, and Education Intentions

Using survey data from the fall of 2018 and spring of 2021, we examined the change in social and emotional skills, knowledge of postsecondary education, and student education intentions in students who completed the survey at each time point. The social and emotional skills are measured using scales for each area, meaning the average results reported are the sum of the items measuring each skill. Knowledge of postsecondary education and student education intentions were measured using individual items instead of a full scale, so averages are reported as the percentage of students who endorsed each item.

³ While this question specifically asks about knowledge of admittance to a four-year college, GEAR UP also focuses on other avenues to higher education, including two-year, certificate, and other post-high school credentials.

Change in Social and Emotional Skills

The following sections contain information about the change in students' scores on each scale from fall of 2018 to spring of 2021. To compare growth between each scale in the same domain, which have different score ranges, the scales were standardized to the same metric, ranging from 0 to 100, which allows for direct comparisons between the scales. Students' social and emotional skill scores at Time 1 (fall of 2018) and Time 8 (spring of 2021) are compared using paired-samples t-tests with a two-tailed .05 significance level; anything at or below .05 is considered statistically significant. Additionally, an effect size (Cohen's *d*) is also calculated for each result. As *d* increases, so does the magnitude of the effect. In general, an effect size of .20 is considered "small," .50 is "medium," and anything at or above .80 is considered "large." Each domain has an associated table that outlines the mean scores, standard deviations (SD), and results of the paired-samples t-test for students in the fall of 2018 and spring of 2021.

Finally, one important thing to consider when viewing these results is that these only explore differences between the fall of 2018 and spring of 2021. As we explored in the first report, this change has not always been linear, particularly when considering how these skills may have been impacted by the COVID-19 pandemic. In our next report, we will be examining the data through the lens of how the pandemic impacted these results.

Sustaining Effort

The skills in the Sustaining Effort domain significantly improved between 2018 and 2021, with Academic Discipline showing the largest gains. Average scores increased from 65.9 to 74.0 in Academic Discipline, 67.8 to 69.9 in Goal Setting, and 72.9 to 75.6 in Study Skills.

Table 5. Paired Samples t-test Results for Sustaining Effort Domain Scales

Scale	Time	Mean	SD	t	Effect size (<i>d</i>)
Academic Discipline	Fall 2018	65.9	5.8	12.0 [†]	.79
	Spring 2021	74.0	13.2		
Goal Setting	Fall 2018	67.8	10.5	2.8 [†]	.17
	Spring 2021	69.9	13.7		
Study Skills	Fall 2018	72.9	13.6	3.7 [†]	.21
	Spring 2021	75.6	12.5		

Note: *N* = 387.

**p* < .05. [†]*p* < .01.

Getting Along With Others

The Getting Along With Others domain includes the four interpersonal skills of Respect for Others, Collaboration, Conflict Management, and Interpreting Emotions. Each scale significantly improved between fall of 2018 and spring of 2021. Respect for Others grew the most, with average scores increasing from 75.6 to 83.4, followed by Collaboration which grew from 73.4 to

78.6, Conflict Management which increased from 70.4 to 74.2, and Interpreting Emotions which grew from 75.9 to 78.6.

Table 6. Paired Samples t-test Results for Getting Along With Others Domain Scales

Scale	Time	Mean	SD	t	Effect size (<i>d</i>)
Respect for Others	Fall 2018	75.6	9.0	13.8 [†]	.82
	Spring 2021	83.4	9.9		
Collaboration	Fall 2018	73.4	11.0	7.7 [†]	.45
	Spring 2021	78.6	12.1		
Conflict Management	Fall 2018	70.4	12.7	5.2 [†]	.31
	Spring 2021	74.2	12.0		
Interpreting Emotions	Fall 2018	75.9	12.6	4.0 [†]	.22
	Spring 2021	78.6	11.5		

Note: *N* = 387.

**p* < .05. [†]*p* < .01.

Growth Mindset

The Growth Mindset scale showed significant growth between average scores in 2018 and 2021. Average scores on this scale grew from 59.5 to 62.5.

Table 7. Paired Samples t-test Results for Growth Mindset Scale

Scale	Time	Mean	SD	t	Effect size (<i>d</i>)
Growth Mindset	Fall 2018	59.5	15.6	3.3 [†]	.20
	Spring 2021	62.5	14.3		

Note: *N* = 387.

**p* < .05. [†]*p* < .01.

Maintaining Composure

The skills in the Maintaining Composure domain include Worry Management and Managing Feelings. The difference between Worry Management scores in the fall of 2018 and spring of 2021 was nonsignificant, with average scores of 64.1 in the fall of 2018 and 64.3 in the spring of 2021. However, students saw large gains in Managing Feelings, with average scores increasing from 47.5 to 74.2. The effect size of 2.1 indicates that on average, students grew in this skill by about 2 standard deviations between fall 2018 and spring 2021. These results are examined in more detail in the discussion section.

Table 8. Paired Samples t-test Results for Maintaining Composure Domain Scales

Scale	Time	Mean	SD	t	Effect size (d)
Worry Management	Fall 2018	64.1	14.3	-.20	--
	Spring 2021	64.3	12.1		
Managing Feelings	Fall 2018	47.5	11.9	25.0 [†]	2.1
	Spring 2021	74.2	13.2		

Note: N = 387.

* $p < .05$. [†] $p < .01$.

Leadership

Two of the scales in the Leadership domain, Effective Communication and Leadership Intentions, showed significant change, while Advocating for Causes did not. Average Effective Communication scores increased from 77.3 to 77.9, and average Leadership Intentions scores increased slightly from 71.6 to 73.6. Average scores in the Advocating for Causes scale remain relatively stable, from 71.4 to 72.8.

Table 9. Paired Samples t-test Results for Leadership Domain Scales

Scale	Time	Mean	SD	t	Effect size (d)
Advocating for Causes	Fall 2018	71.4	18.4	1.4	--
	Spring 2021	72.8	16.9		
Effective Communication	Fall 2018	77.3	14.4	3.2 [†]	.18
	Spring 2021	79.7	12.1		
Leadership Intentions	Fall 2018	71.6	19.4	2.0*	.11
	Spring 2021	73.6	17.5		

Note: N = 387.

* $p < .05$. [†] $p < .01$.

Self-Knowledge

Both of the scales in the Self-Knowledge domain, Self-Knowledge and Career Exploration, showed significant growth. Self-Knowledge mean scores increased from 78.6 to 80.1, while Career Exploration scores increased from 72.7 to 79.6.

Table 10. Paired Samples t-test Results for Self-Knowledge Domain Scales

Scale	Time	Mean	SD	t	Effect size (d)
Self-Knowledge	Fall 2018	78.6	15.0	2.1*	.11
	Spring 2021	80.1	12.9		
Career Exploration	Fall 2018	72.7	18.0	7.4 [†]	.45
	Spring 2021	79.6	12.4		

Note: N = 387.

* $p < .05$. [†] $p < .01$.

Change in Postsecondary Education Knowledge

The following section contains information about postsecondary knowledge. This includes college admissions information and the influence of high school experiences on students' future education and careers. Some of the questions related to postsecondary knowledge were not introduced in the student survey until the spring of 2019, which means that we do not have a measure of postsecondary knowledge before the students' exposure to the CCC curriculum. McNemar's test is used for the analyses, which can be used to compare frequencies for matched groups using binary data (e.g., the percentage of students who agree or disagree with a statement at two different time points).

College Admissions Knowledge

Agreement with both of the questions related to college admissions knowledge grew significantly between the spring of 2019 and the spring of 2021. In the spring of 2019, 67.4% of students reported being on track to have enough information about college when they apply, which increased to 81.1% in the spring of 2021. The percentage of students who reported that they knew what to do to get accepted into a four-year college increased from 69.5% to 77.8%.

Table 11. McNemar Test Results for College Admissions Knowledge

Item	Time	Agree	χ^2	Percent change
Do you believe you are on track to have enough information about college entrance requirements to apply for college when the time comes?	Spring 2019	67.4%	10.4 [†]	+ 10.4%
	Spring 2021	77.8%		
Do you know what to do to get accepted into a four-year college?	Spring 2019	69.5%	13.9 [†]	+ 11.6%
	Spring 2021	81.1%		

Note: $N = 384$.

* $p < .05$. [†] $p < .01$.

High School Experiences and Future Education and Career

Students' understanding of how their high school experiences connected to their futures did not significantly change during the study. Though the percentage of students reporting agreement with this statement increased slightly, from 91.5% to 93.8%, this change was not statistically significant.

Table 12. McNemar Test Results for High School Experiences and Future Education and Career

Item	Time	Agree	χ^2	Percent change
I understand how my high school experiences connect to my future education and job/career.	Fall 2018	91.5%	1.5	+ 2.3%
	Spring 2021	93.8%		

Note: $N = 327$.

* $p < .05$. † $p < .01$.

Change in Education Intentions

The questions related to students' education intentions give us a picture of how students see their own educational futures. Students were asked whether they could see themselves in college and how far they wanted to get in their education. As in the previous section, McNemar's test is used for the analyses.

Education Intentions

Agreement did not change significantly to the statement "I can see myself attending college," with 94.6% of students agreeing in fall 2018 and 93.0% agreeing in spring 2021. However, students were more likely to agree with the statement "I have an idea of what type of school I want to go to after high school" in 2021 than in 2018; 70% of students agreed with this statement in the fall of 2018 compared to 85.3% in the spring of 2021.

Table 13. McNemar Test Results for Student Education Plans

Item	Time	Agree	χ^2	Percent Change
I can see myself attending college.	Fall 2018	94.6%	.63	- 1.6%
	Spring 2021	93.0%		
I have an idea of what type of school I want to go to after high school.	Fall 2018	70.0%	32.0 [†]	+ 15.3%
	Spring 2021	85.3%		

Note: $N = 387$.

* $p < .05$. † $p < .01$.

Education Aspirations

The Educational Aspirations part of the survey asked students how far they would like to go in their education. Between the spring of 2019 and spring of 2021, the percentage of students who planned to earn a post-secondary credential of any kind grew significantly, from 90.3% to 94.6%. However, the percentage of students planning to earn a bachelor's degree did not

change significantly; 81.9% of students planned to earn a bachelor's degree or higher in spring 2019 compared to 84.4% in spring 2021.

Table 14. McNemar Test Results for Student Education Aspirations

Item	Time	Agree	χ^2	Percent Change
Student plans to earn a postsecondary credential of any kind	Spring 2019	90.3%	4.8*	+ 4.3%
	Spring 2021	94.6%		
Student plans to earn a bachelor's degree or higher	Spring 2019	81.9%	1.6	+ 2.5%
	Spring 2021	84.4%		

Note: $N = 381$.

* $p < .05$. † $p < .01$.

College Readiness Indicators and Student Cumulative GPA

The following sections explore the relationship with college readiness indicators and student cumulative GPA. While we know that each of the three areas already discussed—social and emotional skills, postsecondary education knowledge, and education intentions—are related to college readiness, GPA is another factor important for college readiness and admissions. In this study, students' cumulative GPAs only include the University of California system's approved classes, so students' grades in GEAR UP are not included in their GPAs. To understand whether and how the college readiness skills learned through the CCC are related to cumulative GPA, a linear regression was performed using the discussed college readiness indicators as predictors. The regression model also controls for students' GPA in the first semester of high school to understand the influence these variables had on any changes in GPA. Linear regression is a method used to determine which independent variables (e.g., social and emotional skills) predict a dependent variable (e.g., student GPA).

In the following sections, we use average student change scores to predict students' cumulative GPA in the spring of 2021 (mean [M] = 3.07, standard deviation [SD] = .59) while controlling for first-semester GPA (M = 2.89, SD = .66). Student change scores are calculated by taking students' scores from the spring of 2021 and subtracting their scores during their first survey. Because we ultimately want to understand how GEAR UP and the CCC curriculum influenced student college readiness, change scores serve as a proxy for how much students grew in these areas between their baseline and after three years of instruction.

Social and Emotional Skills and Student GPA

Change scores for each social and emotional skill were created by subtracting the standardized scores for baseline (fall of 2018) from the scores in the spring of 2021. Positive values indicate that students' scores increased, while negative values indicate that scores decreased. As

shown in Table 15, students' average change ranged from .27 (Advocating for Causes) to 19.27 (Managing Feelings). Notice that the standard deviations for some skills (such as Self-Knowledge and Managing Feelings) are quite large, suggesting large variability in change between students.

Table 15. Mean Social and Emotional Change between Fall 2018 and Spring 2021

Variable	Mean Change	SD
Academic Discipline	5.48	8.86
Goal Setting	1.06	8.56
Study Skills	1.83	10.04
Respect	4.63	6.53
Collaboration	2.31	5.41
Conflict Management	1.81	6.67
Interpreting Emotions	1.26	6.12
Worry Management	3.05	5.74
Managing Feelings	19.27	15.11
Growth Mindset	.50	3.22
Advocating for Causes	.27	3.52
Effective Communication	.61	3.51
Leadership Intentions	.33	3.38
Self-Knowledge	1.74	16.43
Career Exploration	1.17	3.20

Postsecondary Knowledge and Education Intentions and Student GPA

To have an idea of how students' growth in postsecondary knowledge and education intentions potentially impacted cumulative GPA, only variables that had response options on a Likert scale were used due to the ease of creating change scores, which meant removing items with only yes/no response options. Table 16 summarizes the postsecondary knowledge and education intentions data used in this regression analysis.

Table 16. Mean Change in Postsecondary Knowledge and Education Intentions Between Fall 2018 and Spring 2021

Area	Variable	Mean Change	SD
Postsecondary Knowledge	I understand how my high school experiences connect to my future education and job/career.	-.10	1.18
	Education Intentions		
Education Intentions	I can see myself attending college.	-.14	1.21
	I have an idea of what type of school I want to go to after high school.	.31	1.60
	How far would you like to get in your education?	-.20	1.24

Note: $N = 387$. Change scores can range from -5 to 5.

College Readiness Indicators and Student GPA Linear Regression

Many of the skills included in this analysis are significantly correlated with GPA (see Appendix C). Table 17 displays the results of the regression analyses using social and emotional change scores to predict cumulative GPA when controlling for students' first-semester grades. To see which variables contributed to cumulative GPA, a stepwise regression method was used, which tells the computer to iteratively add and remove variables to find the variables that predict the outcome of interest. Using the stepwise model, first-semester GPA and four variables accounted for 74.2% of the variance in explaining cumulative student GPA in the spring of 2021. First-semester grades accounted for most of the variance in the model (69.4%), though the additional social and emotional variables and one postsecondary education knowledge variable combined explained nearly an additional 5%. These variables included, in order of weight, changes to Academic Discipline (4%), Collaboration (.4%), Growth Mindset (.2%), and the question "I understand how my high school experiences connect to my future education and job/career" (.2%).

Table 17. Linear Stepwise Regression of College Readiness Skills Change and GPA

Model		B	SE	t-value	Adjusted R Square
1	Intercept	.905	.077	--	.694
	Fall 2018 GPA	.749	.026	28.778 [†]	
Final (5)	Intercept	.921	.072	--	.742
	Fall 2018 GPA	.711	.025	28.776 [†]	
	Academic Discipline Change	.013	.002	6.227 [†]	
	Collaboration Change	.008	.003	2.472 [*]	
	Growth Mindset Change	.012	.005	2.320 [*]	
	"I understand how my high school experiences connect to my future education and job/career" change	-.030	.014	-2.123 [*]	

Note: $N = 364$.

* $p < .05$. [†] $p < .01$.

Study Discussion

This study focused on Alliance students who completed three years of CCC instruction and who also completed the survey at Time 1 (fall of 2018) and Time 8 (spring of 2021). Scores were compared at baseline during 9th grade and again at the end of 11th grade to see if knowledge and skills changed significantly during that time. Although not explored in this study, the emergence of the COVID-19 pandemic likely influenced these results and will be the focus of our next report. A discussion of each of the research questions examined in this study follows.

Q1: Have students' social and emotional skills changed significantly after three academic years of CCC instruction?

On average, students in this study experienced significant growth in 13 out of 15 social and emotional skills measured in this study; all skills that are taught as part of the CCC curriculum. Effect sizes ranged from $d = .11$ (a very small change) to $d = 2.1$ (a very large change). The skills that grew the most included Managing Feelings ($d = 2.1$), Respect for Others ($d = .82$), and Academic Discipline ($d = .79$). Since the survey was designed to measure the skills taught in the CCC curriculum, the areas surveyed are taught all three years. However, the three skills areas that saw the most growth are heavily emphasized in the CCC curriculum. Throughout all three years, skills that fall into the Academic Discipline scale are taught and reinforced, such as coming to class on time, paying attention, and turning in assignments regularly. Units on respect are taught in both the 9th-grade and 11th-grade years, and in 10th grade, there are several units related to managing emotions.

As we explored in the last report, many of these social and emotional skills saw the most dramatic growth during the first year of CCC instruction, suggesting that the curriculum contributed to students' growth in these skills. In addition, there is research that suggests that some of these social and emotional skills could also have been influenced by other factors as a part of normal human development. In psychology, researchers have explored how personality characteristics and social-emotional skills develop during the lifespan. As people get older, they tend to show increases in certain characteristics, which is called the maturity principle (Schwaba et al., 2022). However, adolescence in particular can be a time of substantial change, and the results of this study show similarities to research in the areas of personality and social-emotional skills. Though some characteristics and skill levels tend to decline in early adolescence, they begin to rebound and increase as individuals mature.

For example, several studies examining personality changes during adolescence found that average levels of Agreeableness tended to increase over the course of mid to late adolescence (Klimstra et al., 2009; Van Dijk et al., 2020). Individuals high in Agreeableness tend to be kind and polite to others, similar to the social and emotional skills measured in this survey through the Getting Along With Others domain. Each scale in this domain—Respect for Others, Conflict Management, Collaboration, and Interpreting Emotions—showed increases during this study.

Similarly, the skills associated with the Sustaining Effort domain have a lot in common with the personality characteristic of Conscientiousness. Someone who is high in Conscientiousness tends to be organized, responsible, and good at making and following through with plans. Likewise, a student who scores highly on the Sustaining Effort scales (which include Academic Discipline, Goal Setting, and Study Skills) would also be likely to share these behaviors as related to schoolwork. Studies show that, on average, Conscientiousness tends to increase in mid to late adolescence (Roberts et al., 2006; Soto et al., 2011).

Managing Feelings, in the Maintaining Composure domain, is another area where students' scores increased that is also associated with the maturity principle. Some studies have shown that Emotional Stability, or the tendency to remain calm in the face of negative or stressful events, tends to increase during the same period of adolescence as Agreeableness and Conscientiousness (Klimstra et al., 2009; Roberts et al., 2006). While this aligns with existing research on the Managing Feelings scale, this does not account for the changes seen in the Worry Management scale, which showed considerable drops after the COVID-19 pandemic began in 2020 and has slowly improved. While the paired t-test did not show differences between Time 1 and Time 8 in Worry Management, this skill showed considerable variation throughout the years, as discussed in the first report (see McVey & Casillas, 2021 for discussion).

In the case of the two social and emotional skills in the Maintaining Composure domain, it is likely that COVID-19 played a role in the development of these skills during students' 10th and 11th grades, including the spring of 2020 and the full 2020–21 school year. Some existing research has found that adolescents had reduced feelings of well-being and increases in negative emotions during the COVID-19 pandemic (Flanagan et al., 2021; Rogers et al., 2021), but they may also have experienced growth in being able to manage some of these feelings (Walton & Murano, 2020). We will explore the question of what potential impact COVID-19 had on each college readiness indicator in a following report.

While we have focused on the three social and emotional skills that showed the most growth over the course of the study, we believe all of the social and emotional skills that increased during this time period largely increased due to the concepts taught and reinforced in GEAR UP through the CCC curriculum. As we noted in the *first report of this series*, "Students experienced the largest gains in social and emotional skills during their first year of the CCC curriculum, suggesting that the curriculum may have been a catalyst in building students' skills."

Q2: Has students' knowledge of postsecondary education changed significantly after three academic years of CCC instruction?

Two out of the three questions related to students' knowledge of postsecondary education saw significant growth between the time students were first asked the question and the spring of 2021. Both the questions that had a larger share of students answer affirmatively in the 11th grade related to having information about college admissions. The percentage of students responding "yes" to the question "Do you believe you are on track to have enough information

about college entrance requirements to apply for college when the time comes?” grew by 10.4% between the spring of 2019 and the spring of 2021. The percentage of students affirmatively answering the question “Do you know what to do to get accepted into a four-year college?” increased by 11.6% in this time. The percentage of students who answered affirmatively to the question “I understand how my high school experiences connect to my future education and job/career” did not grow any more than one could expect to see from chance, meaning it was unchanged statistically speaking. However, students already reported they agreed with this statement at a very high rate in the fall of 2018, at 91.4%. Both GEAR UP and the CCC curriculum spend a good deal of time teaching students about college, which includes in-depth information about the application process and college requirements. Though the majority of students reported knowing this information in the spring of 2019 (at that time, 67.4% said they were on track to apply and 69.5% said they knew what to do to be accepted to college), the significant increase in the percentage of students who agreed with these questions suggests that GEAR UP and the CCC curriculum may have been able to successfully teach and/or reinforce these concepts to students. Research has shown that students who are supported by school staff and receive information about how to prepare academically for college are more likely to apply to and be accepted by a college with selectivity levels that match their qualifications and subsequently enroll (Roderick et al., 2011). In a review of best practices on college readiness strategies, Perna (2007) found that many parents and students are not well-informed on college knowledge such as the academic qualifications needed to enroll in college, and that this lack of information could have a negative impact on planning in high school and subsequent enrollment in postsecondary institutions, highlighting the importance of providing this information to students, particularly to those from historically underrepresented and underserved communities, such as first-generation college students.

Q3: Have students’ education intentions changed significantly after three academic years of CCC instruction?

Two out of the four questions related to students’ education intentions grew significantly during this study. These questions included “I have an idea of what type of school I want to go to after high school,” which saw an increase in agreement by 15.3%, and students planning to earn a postsecondary credential of any kind, which increased by 4.3%. Though more students agreed they would like to earn a postsecondary credential after high school, the number of students that indicated they wanted to earn at least a bachelor’s degree remained relatively unchanged during this time. The percentage of students who felt they could see themselves at college also remained flat.

CCC devotes numerous lessons each year of the high school curriculum to helping students understand their interests and their educational pathway choices. For example, each year, students are asked to complete and/or update a personal and professional plan that asks them to reflect on questions such as what type of college they would like to attend and where and what courses in high school they need to take to make this happen. The two questions that showed significant increases relate to these lessons. A research study by Radcliffe and Bos (2013) found that students who have these kinds of future academic goals showed increased

perseverance in high school coursework as well as increased positive achievement and goal orientation, and other studies have found that having postsecondary plans can help students increase in motivation and effort (Domina et al., 2011; McMahon et al., 2017). Without this kind of instruction, students underrepresented in higher education are more likely to apply for colleges with selectivity levels below their qualification levels (Roderick et al., 2011). As students become more informed about higher education options and think about what kind of path they would like to take after high school, they are more likely to know and understand what kind of school they need to attend to make that happen. Additionally, it is likely that as students begin to make more solid plans, they may realize that they need a postsecondary credential to achieve their goals.

Q4: How are each of these college readiness areas related to student cumulative grade point average (GPA)?

First-semester GPA from fall 2018 explained most of the variance in explaining cumulative GPA in spring 2021. Given that 9th-grade GPA is an important predictor of success in high school (Easton et al., 2017), this finding makes sense. Additionally, many of the skills measured in the study are behaviors that are associated with doing well in school (e.g., Study Skills), and it is likely they all played a role in students' grades, as nearly all of them are significantly correlated with cumulative GPA (see Appendix C). While the skills significantly associated with grades likely influenced GPA through students earning higher grades, increases in Academic Discipline, Collaboration, and Growth Mindset predicted increases in student GPA even when accounting for prior grades.

Most important of these skills was Academic Discipline, which measures many of the behaviors that are associated with academic success (Noftle & Robins, 2007; Poropat, 2009), such as turning in assignments, putting in effort, and staying on task. These behaviors are also covered extensively in the CCC curriculum. In the 9th-grade curriculum, there is a unit titled "Succeeding in High School" (Career & College Clubs, 2017a) that provides detailed information about what makes a person successful in high school, including things like studying and preparing for class, turning in all homework, following directions, etc. In the 10th-grade curriculum, there are several units that reinforce and extend this learning, including "Making the Most of High School," and "Doing Well in School" (Career & College Clubs, 2017b). Finally, in the 11th-grade curriculum, students are given strategies to persevere through academic (and life) challenges through things like growth mindset and considering your strengths and supports. While Academic Discipline is taught and reinforced throughout each year of the CCC curriculum, it is also likely that these behaviors are reinforced in students' other classes, which may help explain the particularly robust relationship this skill has with student grades.

The increase in the Collaboration scale accounted for .4% of the variance explaining students' cumulative GPAs. This scale measures students' behaviors related to getting along with other people and working well in groups. This skill is associated with higher odds of success in the transition from high school to college (Parker et al., 2006). Like Academic Discipline, Collaboration is covered extensively in each year of the CCC curriculum. For example, in 9th

grade alone, students complete the following units, all of which relate to Collaboration: “Becoming a Team,” “Relating to Others,” and “Team Work” (Career & College Clubs, 2017a). In addition to learning about and practicing these behaviors in the CCC curriculum, it is likely that students also used Collaboration skills in their other courses, which may help explain why this skill helped predict overall GPA.

The last social and emotional skill that helped predict cumulative GPA was Growth Mindset. Haimovitz and Dweck (2017) demonstrated that increases in growth mindset are associated with increases in academic performance. Learning to develop a growth mindset is covered briefly in the 9th-grade CCC curriculum but is covered most extensively in 11th grade. In 11th grade, students have three lessons on growth mindset that teach concepts such as learning from failure, using mistakes as a way to promote growth, and exercising the brain like a muscle. Students also have a lesson on encouraging their peers to develop a growth mindset (Career & College Clubs, 2017c).

One change to a postsecondary knowledge question helped to predict student cumulative GPA. However, unlike the social and emotional skills in the final regression model, growth on the question “I understand how my high school experiences connect to my future education and job/career” was negatively associated with GPA. This result is not clear, but there are a few ideas as to why this might be the case. One is that the students in this sample were already highly motivated to attend college (as evidenced by the high rates of agreement to the questions related to education intentions), and so any changes to understanding college fit that occurred did not have an impact on the amount of effort they put into earning or maintaining a good GPA. If students believed they did not need to earn very high grades to get into their chosen college or career, this could have had an impact on their desire to earn higher grades. Finally, it could be that, while understanding how high school and college relate and knowing what kind of school you want to attend after high school can help students make decisions about their future, it is not especially impactful on student effort in high school, at least in terms of what is captured by GPA in this sample.

Study Limitations

There are several limitations to this study. One important limitation is that without a comparison group, we could not isolate the impact of the CCC curriculum on any of the skills discussed in this report. It is also not possible to isolate the impact that other GEAR UP programming may have had on the results. Since GEAR UP programs also heavily emphasize college and career readiness skills, they also likely had an impact on student skill development. Additionally, the maturity principle in psychology may also have had an impact on students’ social and emotional growth in particular, though the large growth that students experienced during their first year of the curriculum suggests that CCC played an important role in this development.

In addition, the sample included in this study is a subset of the full sample. While over 900 students are in the full cohort, this study included only students who have valid survey results from the fall of 2018 and spring of 2021. This means that fewer than 400 students were included

in this study and may not be fully representative of the entire GEAR UP cohort. Another limitation, and one that was impossible to control for, is the extent that the COVID-19 pandemic influenced these results. As we explore this topic in another planned report, we may have a more informed answer to this question.

Study Implications

The results presented in this report provide further evidence that the CCC curriculum, within the context of GEAR UP programming, can increase students' college readiness by supporting and building students' social and emotional skills, postsecondary knowledge, and education intentions. During their first three years of high school, students in this study experienced increases in their social and emotional skills, postsecondary knowledge, and their education intentions. As discussed in the previous report, these skills are important for not only academic success (Poropat, 2009; Mammadov, 2022; Simpkins et al., 2020), but also for positive outcomes in other areas of life, such as students' eventual workplaces (Topino et al., 2021) and personal lives (Spengler et al., 2018; Taylor et al., 2017). In that first report, we saw that students' skills did not always progress in a linear fashion, but the results of the current study confirm that students ultimately experienced statistically significant and meaningful growth in most of the measured skills. Additionally, some of these skills helped to predict student cumulative high school GPA, which is an important aspect of college readiness.

References

- Camara, W., O'Connor, R., Mattern, K., & Hanson, M. A. (2015). *Beyond academics: A holistic framework for enhancing education and workplace success* (Research Report No. 2015-4). Iowa City, IA: ACT.
- Career & College Clubs. (2017a). 9th grade curriculum. National Council for Community and Education Partnerships.
- Career & College Clubs. (2017b). 10th grade curriculum. National Council for Community and Education Partnerships.
- Career & College Clubs. (2017c). 11th grade curriculum. National Council for Community and Education Partnerships.
- Casillas, A., Way, J. D., & Burrus, J. (2015). Behavioral skills. In W. J. Camara, R. O'Connor, K. Mattern, & M. A. Hanson (Eds.), *Beyond academics: A holistic framework for enhancing education and workplace success* (pp. 25–38). Iowa City, IA: ACT.
- Collaborative for Academic, Social, and Emotional Learning (CASEL). (n.d.). Fundamentals of SEL. <https://casel.org/fundamentals-of-sel/>
- Domina, T., Conley, A., & Farkas, G. (2011). The link between educational expectations and effort in the college-for-all era. *Sociology of Education*, *84*(2), 93–112.
- Easton, J.Q., Johnson, E., & Sartain, L. (2017). *The predictive power of ninth-grade GPA*. Chicago, IL: University of Chicago Consortium on School Research. <https://consortium.uchicago.edu/publications/predictive-power-ninth-grade-gpa>
- Flanagan, S. K., Margolius, M., Pileggi, M., Glaser, L., Burkander, K., Kincheloe, M., & Freeman, J. (2021). Where do we go next? Youth insights on the high school experience during a year of historic upheaval. America's Promise Alliance. <https://www.researchforaction.org/wp-content/uploads/2021/06/gradnation-final.pdf>
- Haimovitz, K. & Dweck, C. S. (2017). The origin of children's growth and fixed mindsets: New research and a new proposal. *Child Development*, *88*(6), 1849–1859.
- Kautz, T., Feeney, K., Chiang, H., Lauffer, S., Bartlett, M., & Tilley, C. (2021). Using a survey of social and emotional learning and school climate to inform decision making (No. 34e434508fe24859b54434e73fc9fa81). Mathematica Policy Research.
- Klimstra, T., Hale III, W., Raaijmakers, Q. & Branje, S., & Meeus, W. (2009). Maturation of personality in adolescence. *Journal of Personality and Social Psychology*, *96*, 898–912. <https://doi.org/10.1037/a0014746>
- Mammadov, S. (2022). Big Five personality traits and academic performance: A meta-analysis. *Journal of Personality*, *90*(2), 222–255.

- McMahon, G., Griffith, C., Mariani, M., & Zyromski, B. (2017). School counseling intervention research on college readiness, college access, and postsecondary success: A 10-year content analysis of peer-reviewed research. *Journal of College Access, 3*(2), 7–27.
- McVey, J. & Casillas, A. (2021). *Examining the efficacy of career & college clubs: Initial results and implications for practitioners*. Iowa City, IA: ACT.
- National Council for Community and Education Partnerships (NCCEP). (n.d.). Our mission. [//www.edpartnerships.org/mission](http://www.edpartnerships.org/mission)
- Noftle, E. E., & Robins, R. W. (2007). Personality predictors of academic outcomes: Big five correlates of GPA and SAT scores. *Journal of Personality and Social Psychology, 93*(1), 116–130.
- Parker, J., Hogan, M. J., Eastabrook, J. M., Oke, A., & Wood, L. M. (2006). Emotional intelligence and student retention: Predicting the successful transition from high school to university. *Personality and Individual Differences, 41*, 1329–1336.
- Perna, L. W. (2007). Improving the transition from high school to college in Minnesota: Recommendations based on a review of effective projects. Growth and Justice. https://repository.upenn.edu/gse_pubs/354
- Poropat, A. E. (2009). A meta-analysis of the five-factor model of personality and academic performance. *Psychological Bulletin, 135*(2), 322–338.
- Radcliffe, R. A. & Bos, B. (2013). Strategies to prepare middle school and high school students for college and career readiness. *The Clearing House, 86*, 136–141.
- Roberts, B. W., Walton, K. E., & Viechtbauer, W. (2006). Patterns of mean-level change in personality traits across the life course: A meta-analysis of longitudinal studies. *Psychological Bulletin, 132*(1), 1–25. <https://doi.org/10.1037/0033-2909.132.1.1>
- Roderick, M., Coca, V., & Nagaoka, J. (2011). Potholes on the road to college: High school effects in shaping urban students' participation in college application, four-year college enrollment, and college match. *Sociology of Education, 84*(3), 178–211.
- Rogers, A. A., Ha, T., & Ockey, S. (2021). Adolescents' perceived socio-emotional impact of COVID-19 and implications for mental health: Results from a U.S.-based mixed-methods study. *Journal of Adolescent Health, 68*, 43–52.
- Schwaba T., Bleidorn, W., Hopwood, C. J., Manuck, S. B., Wright, A. G. C. (2022). Refining the maturity principle of personality development by examining facets, close others, and comaturation. *Journal of Personality and Social Psychology, 122*(5), 942–958.
- Simpkins, S. D., Tulagan, N., Lee, G., Ma, T. -L., Zarrett, N., & Vandell, D. L. (2020). Children's developing work habits from middle childhood to early adolescence: Cascading effects for academic outcomes in adolescence and adulthood. *Developmental Psychology, 56*(12), 2281–2292.

- Soto, C. J., John, O. P., Gosling, S. D., & Potter, J. (2011). Age differences in personality traits from 10 to 65: Big five domains and facets in a large cross-sectional sample. *Journal of Personality and Social Psychology, 100*(2), 330–348.
- Spengler, M., Damian, R. I., & Roberts, B. W. (2018). How you behave in school predicts life success above and beyond family background, broad traits, and cognitive ability. *Journal of Personality and Social Psychology, 114*(4), 620–636.
- Taylor, R. D., Oberle, E., Durlak, J. A., & Weissberg, R. P. (2017). Promoting positive youth development through school-based social and emotional learning interventions: A meta-analysis of follow-up effects. *Child Development, 88*(4), 1156–1171.
- Topino, E., Di Fabio, A., Palazzeschi, L., & Gori, A. (2021). Personality traits, workers' age, and job satisfaction: The moderated effect of conscientiousness. *PLoS ONE, 16*(7), 1–14.
- University of California. (2022). *Subject requirement (A-G)*. <https://admission.universityofcalifornia.edu/admission-requirements/freshman-requirements/subject-requirement-a-g.html>
- Van Dijk, M. P.A., Hale, W. W., Hawk, S. T., Meeus, W., & Branje, S. (2020). Personality development from age 12 to 25 and its links with life transitions. *European Journal of Personality, 34*(3), 322–344. <https://doi.org/10.1002/per.2251>
- Walton, K. E., & Murano, D. (2020). *Students have shown significant social and emotional skill development during COVID-19* (Data Byte). Iowa City, IA: ACT.
- Wang, M., & Eccles, J. S. (2012). Adolescent behavioral, emotional, and cognitive engagement trajectories in school and their differential relations to educational success. *Journal of Research on Adolescence, 22*(1), 31–39.

Appendix A

Name	Acronym/Shorthand	Description
Gaining Early Awareness and Readiness for Undergraduate Programs	GEAR UP	A program designed to improve college readiness and attendance in students who come from low-income schools
Alliance College-Ready Public Schools	Alliance	Group of nonprofit public charter schools in Los Angeles, California, that specialize in helping underserved students become college-ready
National Council for Community and Education Partnerships	NCCEP	A national association designed to support underserved students in postsecondary education; also provides training and technical assistance to GEAR UP programs
Career & College Clubs	CCC	A peer-to-peer learning model focusing on college and career readiness, 21st century skills, and community engagement

Appendix B

Domain	Scale	Sample item	Number of items & α^*
Sustaining Effort	Academic Discipline	I stay on task in my classes.	11 items; $\alpha = .90$
	Goal Setting	Each year I commit to pursuing important goals.	10 items; $\alpha = .87$
	Study Skills	I summarize important information in diagrams, tables, or lists.	12 items; $\alpha = .93$
Getting Along With Others	Respect for Others	I treat others with the same respect that I expect for myself.	10 items; $\alpha = .87$
	Interpreting Emotional Reactions	I check in with people if they seem upset.	8 items; $\alpha = .85$
	Collaboration	I like working with others.	7 items; $\alpha = .85$
	Conflict Management	I can compromise to resolve an argument.	8 items; $\alpha = .86$
Growth Mindset	Growth Mindset	It is possible for you to change your level of intelligence.	3 items; $\alpha = .80$
Maintaining Composure	Worry Management	When stressed out, I can usually calm myself down.	7 items; $\alpha = .74$
	Managing Feelings	I'm good at controlling my emotions when I'm angry.	12 items; $\alpha = .85$
Leadership	Advocating for Causes	I talk to people about causes I care about.	3 items; $\alpha = .85$
	Effective Communication	I try to speak clearly when talking with others.	4 items; $\alpha = .83$
	Leadership Intentions	I want to be a leader within my school and/or community.	3 items; $\alpha = .86$
Self-Knowledge	Promoting Self-Knowledge	I have a sense of how my interests and abilities might fit with different jobs.	3 items; $\alpha = .84$
	Career Exploration	I know how to find information about different jobs and careers.	3 items; $\alpha = .86$

*Cronbach's alpha (α) is a measure of internal consistency reliability, meaning how items hold together as a group. The alphas here reflect the reliabilities for the spring 2021 survey. Alphas in the .70s indicate a moderate level of consistency, and alphas in the .80s and .90s indicate a high level of consistency.

Appendix C

Correlations Between Spring 2021 College Readiness Skills and Spring 2021 Cumulative GPA

Skill	Correlation with Cumulative GPA
Academic Discipline	.473 [†]
Goal Setting	.195 [†]
Study Skills	.199 [†]
Respect for Others	.227 [†]
Collaboration	.253 [†]
Interpreting Emotional Reactions	.280 [†]
Worry Management	.091
Managing Feelings	.198 [†]
Growth Mindset	.184 [†]
Advocating for Others	.088
Effective Communication	.193 [†]
Leadership Intentions	.229 [†]
Self-Knowledge	.148 [†]
Career	.116 [*]
I understand how my high school experiences connect to my future education and job/career.	.141 [†]
I can see myself attending college.	.200 [†]
I have an idea of what type of school I want to go to after high school.	.173 [†]
How far would you like to get in your education?	.378 [†]

Note: $N = 381-387$.

* $p < .05$. [†] $p < .01$.



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