With an increasingly competitive global economy, efforts to increase college readiness and matriculation are attracting more attention as a school reform measure. The literature on these national trends suggests that adolescents’ pursuit of college and professional careers in Science, Technology, Engineering, and Math (STEM) is not deterred by a lack of talent or interest, but rather by students’ inability to transform their interests into realistic strategies (e.g., course selection, targeted extracurricular activities, and college planning) to achieve their career goal.

Findings from these studies have informed the programmatic activities that comprise four tiered intervention components of the College Ambition Program (CAP) model: multi-tiered mentoring, course counseling and advising, college-related activities and workshops, and teacher professional development and instructional support. This poster presents baseline information for a larger project that will test the effectiveness of the CAP intervention model beginning with two experimental schools and two control schools and will evaluate the effectiveness of the overall intervention, as well as each of the four specific programmatic components.

This baseline study will look at specific indicators of college readiness in students: their ambitions in high school and their test score performance, as an initial needs assessment.

**BACKGROUND AND PURPOSE**

- With an increasingly competitive global economy, efforts to increase college readiness and matriculation are attracting more attention as a school reform measure.
- The literature on these national trends suggests that adolescents’ pursuit of college and professional careers in Science, Technology, Engineering, and Math (STEM) is not deterred by a lack of talent or interest, but rather by students’ inability to transform their interests into realistic strategies (e.g., course selection, targeted extracurricular activities, and college planning) to achieve their career goal.
- Findings from these studies have informed the programmatic activities that comprise four tiered intervention components of the College Ambition Program (CAP) model: multi-tiered mentoring, course counseling and advising, college-related activities and workshops, and teacher professional development and instructional support.
- This poster presents baseline information for a larger project that will test the effectiveness of the CAP intervention model beginning with two experimental schools and two control schools and will evaluate the effectiveness of the overall intervention, as well as each of the four specific programmatic components.
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**RESEARCH DESIGN**

The larger study has been described as a pretest-posttest, quasi-experimental, comparison-group, interrupted time-series design. The study compares a treatment group of students who participate in CAP (intervention) at two intervention schools versus students in two comparable schools who do not participate (comparison). Comparison of the college-going probabilities of different student cohorts for each high school grade using a consistent outcome measure during three baseline years before CAP implementation and at least 3 follow-up years. By comparing follow-up student college going behavior to the baseline years (countercalibration), we obtain valid estimates of the intervention's impact. It is assumed that college-going behavior varies randomly across annual student cohorts with no clear sign of a systematic increase or decrease over time. This model can be expressed in the following equation:

\[ Y_i = A_i + \sum_{j=1}^{J} X_{ij} + \varepsilon_i \]

Where:

- \( Y_i \) = the college-going probability for student \( i \)
- \( A_i \) = a constant estimated from baseline college-going probabilities that is used to project the countercalibrated follow-up probability
- \( X_{ij} \) = the coefficient for each student in follow-up year \( j \) represents the average deviation of college-going probabilities from the projected coefficient for that follow-up year
- \( \varepsilon_i \) = a random error term

The model is estimated with logistic regression.

**RESULTS**

**Descriptive Statistics by Gender and Race for Senior Cohort**

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>All Seniors</th>
<th>White</th>
<th>Black</th>
<th>Hispanic</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>51%</td>
<td>53%</td>
<td>42%</td>
<td>31%</td>
<td>32%</td>
</tr>
<tr>
<td>Female</td>
<td>49%</td>
<td>47%</td>
<td>39%</td>
<td>33%</td>
<td>33%</td>
</tr>
<tr>
<td>Race</td>
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<td></td>
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<tr>
<td>Caucasian</td>
<td>50%</td>
<td>53%</td>
<td>4%</td>
<td>9%</td>
<td>39%</td>
</tr>
<tr>
<td>Black</td>
<td>32%</td>
<td>30%</td>
<td>50%</td>
<td>29%</td>
<td>42%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>21%</td>
<td>16%</td>
<td>32%</td>
<td>31%</td>
<td>25%</td>
</tr>
<tr>
<td>Other</td>
<td>4%</td>
<td>4%</td>
<td>9%</td>
<td>7%</td>
<td>55%</td>
</tr>
</tbody>
</table>

**Aligned Ambition**

- Aligned: Students want to go to college and are better prepared for college entrance exams and postsecondary expectations and their current level of readiness as measured by their ACT score.
- Under-aligned: Students have ACT scores greater than or equal to 21, but do not want to attend college.
- Over-aligned: Students have ACT scores less than 21, but want to attend college.
- Unaligned: Students have ACT scores less than 21 and do not want to attend college.

**Multi-Tiered Mentoring**

Prior research shows that students in a treatment group gain knowledge and new career awareness through career path and academic path knowledge necessary to achieve their career goals than those in the control group. A measure of “aligned ambition” was created by matching the students’ self-reported college ambitions with their ACT composite score. An ACT benchmark score of 21 (out of 36) was used as an indicator of “college ready” (ACT, 2010).

**STEM-College Going Activities**

Activities that prepare students for entry and success in STEM fields, begins with appropriate preparation in high school. Students who take rigorous course in Science, Technology, Engineering, or Math (STEM) are better prepared for college entrance exams and postsecondary expectations and their current level of readiness as measured by their ACT score. These activities are better prepared for college entrance exams and postsecondary expectations and their current level of readiness as measured by their ACT score.

**Resources for Principals, Teachers, & Counselors**

This intervention is built on strong partnerships with school counselors and students to develop informed, realistic strategies (e.g., course selection, targeted extracurricular activities, and college planning) to achieve their career goal.

**DISCUSSION**

- Initial analyses of the baseline data suggest that the mechanisms in the high school whereby students engage in postsecondary preparation and support to do so.
- The long-term research project aims to show how CAP and similar initiatives can play a role in increasing college- and career-readiness for adolescents by aligning students’ ambitions with a realistic strategy plan for obtaining a bachelor’s degree.
- We are currently in year one of CAP, and future analysis will seek to examine the effectiveness at each of the treatment schools, as well as using matched national data from the Educational Longitudinal Study 2002 (ELS:2002) to compare the specific components of CAP.