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Second Year Results from Razor C.O.A.C.H.

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Second Year Results from a Random Assignment College Access and Career Coaching Program

(Razor C.O.A.C.H:
Creating **O**pportunities for **A**rkansans' **C**areer **H**opes)

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EXECUTIVE SUMMARY

In this report, we present the results of a random assignment evaluation on Razor C.O.A.C.H. (Creating Opportunities for Arkansan's Career Hopes). During the 2013-14 school year, the Razor C.O.A.C.H. program placed college and career "coaches" to work with students in 16 Northwest Arkansas high schools. As the program started in the 2012-13 school year, this evaluation analyzes the impact of the program in its second year of operation and includes two cohorts of students. The focus of the evaluation is on the impacts of the program on student's academic, short-term non-cognitive, and post-secondary outcomes.

Research Questions

To determine the effectiveness of the Razor C.O.A.C.H. program, we ask three main research questions:

1. What is the impact of being assigned a Razor Coach on non-cognitive outcomes as measured during high school? Non-cognitive outcomes include: attendance, discipline, and self-perception constructs (self-efficacy, future minded, academic responsibility and engagement, grit, and external accountability).

2. What is the impact of being assigned a Razor Coach on high school academic outcomes? Academic outcomes include: overall GPA and core-subject GPA, and credits earned.

3. What is the impact of being assigned a Razor Coach on post-secondary outcomes? Post-secondary outcomes include: ACT performance, FAFSA completion, and graduation rates. In the future, outcomes will also include application to post-secondary institutions and employment or post-secondary education after graduation.

Methods

In order to rigorously evaluate the program, we performed a random assignment lottery, in which applicant students were randomly assigned to treatment (receiving a coach) or control (status quo). By performing a random assignment evaluation, any positive and statistically significant differences between the treatment and control groups can be attributed to the treatment. Coaches worked with treatment students throughout the 2012-13 school year. In year two, the first cohort of Razor C.O.A.C.H. students participated in less frequent "booster" sessions with the schools coach, while a new cohort of full participation Razor C.O.A.C.H. students were chosen at random from all of the applicants in the fall of the 2013-14 school year (year 2).

In order to answer the research questions, we collected administrative data from the high schools on all students' outcomes (years 1 and 2, treatment and control) prior to and after the 2013-14 school year. Additionally, we administered a survey to treatment and control students at the end of the treatment year to address several of our questions related to non-cognitive outcomes. Finally, and perhaps most importantly, we gathered data on actual post-secondary enrollment from the National Student Clearinghouse.

Results

In the first year of the program, we found largely insignificant results overall; therefore, we conclude that while the Razor C.O.A.C.H. program may have had an impact on students, it did not have a systematic measurable impact overall, except in the non-cognitive constructs of external accountability. However, we also conclude that there were positive and statistically significant results at the school-level; therefore, we suggest that some coaches were more effective than others, in terms of impacting measurable outcomes.

Moreover, there was clearly a steep learning curve for the program staff and the coaches as we all co-created this program (essentially) from scratch. Thus, in the summer of 2013, there was good reason to believe that year two of the program would be more successful than was year one.

Predictably, by the end of year two, the results were more positive. We begin with a quick summary of the overall results connected with our research questions:

1. High School Academic Outcomes: Razor C.O.A.C.H. students **did not** have better academic outcomes (GPA, credits, ACT scores) than their control group peers.
2. Non-Cognitive Outcomes: Razor C.O.A.C.H. students exhibited **significantly higher scores** on non-cognitive survey measures than did their control group peers.
3. Post-Secondary Enrollment Outcomes: Razor C.O.A.C.H. students, in the most recent cohort and in the high-implementation school sites, exhibited **significantly higher rates of post-secondary enrollment** than did their control group peers.

Specifically, Razor C.O.A.C.H. students had very positive non-cognitive outcomes based on the end-of-year survey (see Tables 6 and 7 in the text of the report). Razor Coach students in the second cohort had more favorable responses than did their control group peers (students who also applied for Razor Coach but were not chosen in the random lottery) with respect to the following survey themes:

- Razor C.O.A.C.H. students exhibited **higher** levels of academic efficacy; they believed that they could do well in academic pursuits;
- Razor C.O.A.C.H. students exhibited **higher** levels of future-mindedness; they have given more thought to colleges and careers in their future.
- Razor C.O.A.C.H. students exhibited **higher** levels of external accountability (as they did in year 1); they were more likely to believe that an adult at the school would hold them accountable for academic success.
- Razor C.O.A.C.H. students exhibited **higher** levels of external support for college career planning.
- Razor C.O.A.C.H. students exhibited **higher** scores on all survey items regarding college career planning; they had greater knowledge of the steps required in college applications, they exhibited a stronger belief that they would attend college, and they

reported having completed more of the necessary steps toward gaining admission to college.

Finally, at the start of 2015, we have been able to collect National Student Clearinghouse data on the post-secondary activities of Razor C.O.A.C.H. "alumni" and compare these with the post-secondary successes of the randomly-selected control group students. These data are very important as they are the first sources of information on whether the program is actually meeting its long term goal of encouraging more students to enroll in and succeed in post-secondary educational institutions. While data on one more wave of students will soon be available in the fall of 2015, here is what we know so far:

- There are three "levels" of Razor C.O.A.C.H. students who are at the age where we could have expected them to enroll in college:
    - (1) 12th grade students from cohort 1 who enrolled in Razor C.O.A.C.H. in the Fall of 2012 and who could be finishing their second year of college in Spring 2015;
    - (2) 11th grade students from cohort 1 who enrolled in Razor C.O.A.C.H. in the Fall of 2012 and who could be finishing their first year of college in Spring 2015; and
    - (3) 12th grade students from cohort 2 who enrolled in Razor C.O.A.C.H. in the Fall of 2013 and who could be finishing their first year of college in Spring 2015.

- Overall, these data provide lukewarm news: Of the 396 Razor C.O.A.C.H. students in these three cohorts, we estimate that 44% enrolled in college as compared to 42% of the control students.

- However, when these overall results are broken down into appropriate subgroups, a strong positive story emerges:
    - In the most recent cohort, students in the program are more likely to have enrolled in college. Of the 123 Razor C.O.A.C.H. students from cohort 2 (the cohort which received a more fully developed version of the program), we again estimate that **44%** enrolled in college as compared to only **36%** of the control students.
    - Moreover, across both cohorts, we observed that the program was delivered with greater fidelity and with stronger coaches some school sites relative to others. We conducted further analyses in which we separately analyzed the results at high-implementation schools relative to low-implementation schools. Here, the results were even more encouraging:
    - In the schools with cooperative staffs and excellent coaches, students in the program are more likely to have enrolled in college. Within the seven high-implementation sites across both cohort years, of the 254 Razor Coach students, we estimate that **48%** enrolled in college as compared to only **39%** of the control students.

Conclusion

While we did not see overall positive and significant results in the first year of operation, we did see a great improvement in the results after year two. Most importantly, we are now finally at the stage where we can observe one of the ultimate outcomes of this type of program – getting students ***to*** and ***through*** college. While it remains too early to tell whether Razor C.O.A.C.H. students are more likely to make it ***through*** college, we can now begin to assess the program's effectiveness of getting students ***to*** college. Nearly 400 Razor C.O.A.C.H. "alumni" are currently (2015) at the age where they should be enrolling in college classes, and the data show some very positive signs. We will learn more in late 2015 after we gather an additional wave of data on post-secondary enrollment of our Razor Coach "alumni" about whether the good news sustains itself in later cohorts.

I. INTRODUCTION

In this paper, we present the results of a random assignment evaluation on the Razor C.O.A.C.H. (Creating Opportunities for Arkansan's Career Hopes) program. As the program started in the 2012-13 school year, this evaluation analyzes the impact of the program in its second year of operation and includes two cohorts of students. The focus of the comprehensive evaluation is the impacts of the program on students' academic outcomes, short-term non-cognitive outcomes, short-term college and career readiness outcomes, and post-secondary outcomes.

Research Questions

To determine the effectiveness of the Razor C.O.A.C.H. program, in this report, we examine the impact of the program on students' academic, short-term non-cognitive, and post-secondary outcomes. The three main research questions are:

1. What is the impact of being assigned a coach on short-term non-cognitive outcomes as measured during high school? Non-cognitive outcomes include: attendance rates, discipline rates, and self-perception outcomes, including academic self-efficacy, academic responsibility, grit, and future-mindedness.

2. What is the impact of being assigned a Razor Coach on high school academic outcomes? Academic outcomes include: overall high school GPA, core-subject high school GPA, and credits earned in high school.

3. What is the impact of being assigned a Razor Coach on post-secondary outcomes? Post-secondary outcomes include: college and career readiness self-perception outcomes, ACT performance, FAFSA completion, graduation rates, application to post-secondary institutions, and employment or post-secondary education after graduation.

II. LITERATURE ON COLLEGE ACCESS AND PREPARATION PROGRAMS

In 2008, Senator Hilary Clinton submitted a bill to amend the National and Community Service Act of 1990 and create a program to provide college coaches to low- and middle-income high-achieving high school students (SB-3027, 2008).[1] While Clinton's proposed bill, titled "Coaching Our Adolescents for College Heights" Act (COACH), did not pass, it highlights that there is a recognized need for college access and preparation programs. In fact, the word "COACH" has been used as an acronym in a number of different ways for such programs (for example, a Boston program defines COACH as "College Opportunity and Career Help"). According to Domina, based on the Educational Longitudinal Survey of 2002, 5% of students in public high schools participate in college outreach designed for disadvantaged students.[2] However, since that point in time, a number of college access and preparation programs have opened, including the National College Advising Corps, which started in 2005 and serves low-income students in 14 states.[3] Despite the growing number of programs, there is not a large base of research regarding the effectiveness of college access and preparation programs.

College access and preparation programs

There are a number of different types of programs that focus on college access, including school-based programs in high schools (and middle schools), community-based or partner-based programs or fellowship programs (with many different types of partners), and summer programs (including summer bridge programs after a student's senior year in college). Additionally, these programs may have a range of focuses, including academic achievement, test preparation, applying to college and post-secondary options, and matriculating and persisting in college and post-secondary options. Therefore, when researching college access programs, a number of different outcomes can be measured: academic outcomes in high school and college; non-cognitive outcomes including college-going mindsets and persistence mindsets; and long-term outcomes, such as college graduation and earnings.

Review of research on college access and preparation programs

In a 2001 report by NCES, Gandara & Bail concluded that "although thousands of early intervention programs exist across the nation, data about whether they work, or for whom and under what circumstances, are generally sparse."[4] Gandara & Bail suggest that there is data on program participation and services, but a lack of focus on measuring outcomes has led to little evidence on outcomes. Then, in a 2009 report, Domina provides a similar conclusion; and in a small, one and a half page table, Domina is able to summarize the most rigorous research examining college access and prep programs.[5] By 2009, Domina finds five quasi-experimental or experimental evaluations of four college access or prep programs. In Table 1 below, Domina's review of literature is expanded by including all experimental or quasi-experimental

[1] https://www.govtrack.us/congress/bills/110/s3027/text
[2] http://epa.sagepub.com/content/31/2/127.full.pdf+html
[3] http://advisingcorps.org/our-work/mission-history/
[4] http://nces.ed.gov/pubs2001/2001205.PDF
[5] http://epa.sagepub.com/content/31/2/127.full.pdf+html

that have been published by 2015. It is important to note that studies have been excluded that are comparison in nature and do not include quasi-experimental methods (including Coleman, 2011; AVID, 2014) or are simply descriptions of programs (College Advising Corps). Additionally, excluded in this review are non-published studies, including the evaluation in this paper. Lastly, it is important to point out that there are other studies on college access and preparation. For instance, Kirabo Jackson[6] examines the role of teacher training and incentives in Advanced Placement courses on college access and preparation and Hoxby & Turner[7] examine the role of information in college enrollment; however, this literature review includes only specific college access and preparation programs.

[6] http://www.nber.org/papers/w17859
[7] http://educationnext.org/expanding-college-opportunities/

Table 1. A review of experimental or quasi-experimental published research on college access and preparation programs, adopted and updated from Domina (2009)

Study	Program	Method	Results
Hahn et al. (1994); Schrim et al. (2003)	Quantum Opportunities Program	Experimental	• In 1994, impact on high school graduation; by 2003, no impact on high school graduation • Limited, positive impact on college enrollment, but no impact on 4-year college enrollment (by 2003)
Myers et al. (2004); Seftor et al. (2009)	Upward Bound	Experimental	• No impact on high school academic outcomes • No overall effect on college enrollment or completion
Chaplin et al. (2009)	Roads to Success	Experimental	• No overall impacts on students ambitions, motivations, or perceptions
Constantine et al. (2006)	Talent Search	Quasi-experimental	• Inconsistent impact on college enrollment (but positive on in-state college enrollment) • Positive impact on completing financial aid applications
Standing et al. (2007)	GEAR UP	Quasi-experimental	• No impact on high school academic outcomes • No effect on college enrollment • Impacts on student and parent knowledge about college
Stephan & Rosenbaum (2013)	Chicago Public Schools coaching program	Quasi-experimental	• Positive impacts on the types of colleges that attend • Positive impacts on students complete college prep tasks

From Table 1, it becomes evident that the limited research on college access and preparation programs finds limited results at best. These limited results can be explained for a number of different reasons. For example, Chaplin et al. discuss the role of contamination of treatment in school-based programs, where treatment students interact and share information with non-treatment students. Additionally, other national programs, such as Upward Bound, are so expansive that it is difficult to undergo a program evaluation that does not bend to the mean. In addition, large-scale national programs face issues, including program adherence and other implementation concerns. Gandara discusses the lack of evidence on academic outcomes for college access and preparation programs.[8] Gandara explains that many of these programs are

[8] **http://nces.ed.gov/pubs2001/2001205.PDF**

peripheral to school and are not able to "fundamentally change the way schools interact with students," which may be necessary when working to change behaviors and patterns in low-income, low-performing schools. Lastly, the lack of evidence supporting college completion can be explained by many factors. Often, low-income students face challenges in college that non-low-income students can more easily overcome (whether financial or social) due to family and social capital reasons. Therefore, recently, more college access programs have combined the focus on preparation for students to graduate college. For instance, the KIPP Charter School Network has a college access and preparation program titled KIPP Through College (KTC).[9]

[9] http://www.kipp.org/our-approach/kipp-through-college

III. THE RAZOR C.O.A.C.H. PROGRAM

Razor C.O.A.C.H. (Creating Opportunities for Arkansans' Career Hopes) was established as a pilot initiative in July 2012 and is a collaborative program between the University of Arkansas' College of Education and Health Professions, the Northwest Arkansas Council, the Walton Family Foundation and Northwest Arkansas school districts and service cooperative. The program was designed to provide services to disadvantaged and/or low-performing students on graduating high school, college access, and post-secondary success. Currently the program places career coaches in 13 NWA school districts (15 high schools) and has served 1,064 students in its three years. For the most recent school year (2014-2015) the program provided services to 615 participating students.

The Razor C.O.A.C.H. program aims to Create Opportunities for young Arkansan's Career Hopes. The stated mission of the Razor C.O.A.C.H. program is to motivate and support NWA students in grades 10-12, in order to increase their knowledge of and access to career and educational opportunities beyond high school. Razor C.O.A.C.H. interventions are focused on facilitating development of pro-academic behaviors, increasing self-awareness, exploring career and/or college options, and establishing future goals. All interventions are aimed to increase graduation rates, increase post-secondary enrollment, and improve the quality of the NWA workforce.

Description of High Schools and Target Population Students

Throughout the first three years of the program, the planning team has maintained strong relationships with Northwest Arkansas school districts, in order to place Razor C.O.A.C.H. "coaches" in high schools. Currently, during the 2014-15 school year, Razor C.O.A.C.H. operates in 15 high schools in Northwest Arkansas: Fayetteville (Fayetteville SD), Lincoln (Lincoln SD), Springdale (Springdale SD), Har-Ber (Springdale SD), Elkins (Elkins SD), Rogers High (Rogers SD), Heritage (Rogers SD), West Fork (West Fork SD), Greenland (Greenland SD), Gentry (Gentry SD), Pea Ridge (Pea Ridge SD), Siloam Springs (Siloam Springs SD), Decatur (Decatur SD), Prairie Grove (Prairie Grove SD), and Bentonville (Bentonville SD).

Table 2 highlights the 15 high schools that exist in the 13 partner districts and the demographic and academic characteristics of the schools. The high schools vary in size, student characteristics, and student performance.

Table 2: Partnering schools demographic and academic data

School (District)	Grades Served	School Enrollment	% FRL	% Minority	%Proficient /Advanced: Grade 11 Literacy EOC	School GPA*
Bentonville High School	9-12	4,144	24%	25%	92%	3.26
Decatur High School	7-12	222	78%	42%	57%	2.56
Elkins High School	9-12	363	42%	12%	58%	2.68
Fayetteville High School	9-12	1,895	34%	28%	82%	2.69
Gentry High School	9-12	435	55%	31%	73%	2.97
Greenland High School	8-9	534	33%	9%	69%	2.73
Har-Ber High School	10-12	1,794	39%	38%	81%	2.57
Lincoln High School	8-12	518	68%	17%	71%	2.7
Pea Ridge High School	9-12	525	40%	7%	84%	2.99
Prairie Grove High School	9-12	592	38%	5%	81%	2.88
Rogers Heritage High	9-12	2,019	59%	49%	73%	2.81
Rogers High School	9-12	2,145	50%	48%	85%	2.96
Siloam Springs HS	9-12	1,291	48%	36%	80%	3.03
Springdale High School	10-12	2,238	66%	67%	78%	2.76
West Fork High School	9-12	406	58%	6%	75%	2.83

*This measure is an average of Algebra, Geometry, Literacy, and Biology End of Course Exam GPAs. GPA is a measured created that assigns a 4.0 to an advanced score, 3.0 to proficient, 2.0 to basic, and 1.0 to below basic.

Participation

Students are targeted in the recruitment process based on student demographics and characteristics: low GPA, eligible for free-or-reduced lunch (FRL), failed End-of-Course state exam, repeated grade(s), minority student, poor attendance rates, teenage pregnancy/mother, and potential first generation college students. Program staff work closely with school administrators, faculty and staff to determine what criteria to use when building target list.

Table 3: Criteria for Determining if a Student is Eligible for the Program

Eligible for free or reduced lunch (FRL)	Low GPA (+/-2.5)
First in their family to attend college (1st Generation College student)	Minority (African-American, Hispanic, Marshallese, American Indian, Indian)
Lower number of credit hours than what is needed to graduate (Credit Recovery)	Repeated a grade
Failed/below Proficiency on EOC exams	Lack of Credits for Graduation (Credit Recovery)

With the assistance of teachers, counselors, and administrators, coaches distributed applications to targeted students in grades 10 – 12. Target criteria guided recruitment, and in some schools, teachers, counselors, and/or administrators worked to recruit more particular sub-sets of students, such as first generation college students. Therefore, the student applicant demographics varied across the schools to an extent.

Coaches recruited students to apply to Razor C.O.A.C.H. during a three to four week period at the start of the year. Students were required to complete and return an application, in order to be considered as an applicant. In the second year program staff and school administrators worked together to shorten the application yet still collect the necessary data as well as consent from both the student and parent.

General Services Provided to High School Students

Once students have been accepted into Razor C.O.A.C.H., Career and College Coaches provide a number of services to participating students. For example, some of the services that are provided include, but are not limited to:

- Exploration of career options
- Exploration of post-high school education options
- Assistance completing and submitting college/vocational school applications
- Assistance obtaining and completing financial aid information
- Assistance enrolling in ACT/SAT/Compass prep courses
- Connecting to additional tutoring the student might need
- Motivating students to design and maintain focus on a formal graduation plan
- Encouraging parent/community involvement while connecting parents and students with appropriate school and community resources
- Encouraging student academic self-efficacy
- Assisting students develop understanding of relevancy of school success (graduation & post-secondary education) to future earnings
- Provision of "homework" activities designed to facilitate engagement in post-secondary resource exploration

Razor C.O.A.C.H. revolves around a needs-based intervention plan, in which coaches seek to meet the needs of individual students. The interventions are guided by the Social Cognitive Career Theory, which focuses on four areas: academic self-efficacy, outcome expectations, perceived barriers, and goals. At the beginning of the semester, coaches administer a social cognitive intake interview to students, created by the coaches and program professors, in order to learn more about their assigned students. Coaches use this survey, information from students' applications, and information from students' teachers and counselors to initially guide the intervention. As the semester progresses, coaches tailor interventions to individual students (and groups of students). Factors such as grade-level and academic background and needs, play a role in the type of interventions students receive. Interventions include, but are not limited to: examining post-secondary options, career exploration, ACT/SAT test taking strategies and practice, financial aid and FAFSA support, career assessments and skill building, teaching time management skills, and teaching study/test-taking skills and other pro-academic skills. Coaches shared resources throughout the year; however, given that the curriculum was needs-based, the intervention varies by coach and by student.

Student Enrichment Events

To supplement the intervention the program host a number of events designed to enhance the services it provides. These events focus on educating students and their families and are facilitated by the coaches. These events include:

- College Experience Day
- FAFSA Night
- ACT Camps
- Career Fair & Expo

Description of the Coaches

College and Career Coaches employed by the program in its second year were again graduate students enrolled in the Counselor Education graduate programs at the University of Arkansas. The Coaches, who come from undergraduate programs both in and out of state, have professional experience in a high school and/or higher education environment, are well prepared to actively engage, educate, train, motivate, support and encourage students in order to facilitate (and, in many cases, refocus) efforts to graduate and attend post-secondary institutions or secure successful employment in their selected field. The positions are supported through part time graduate assistantships and will provide financial support for students earning their graduate degrees in the counseling field.

The 15 coaches received a graduate assistantship to participate in the program. About half of the coaches were first year students in graduate school, and again most of these coaches were recruited and attracted to the university based on the Razor C.O.A.C.H. program. In the second year the program added a more diverse coaching staff which included a male coach, African American, Hispanic and American Indian. This diversity helped meet the diverse student populations at each school. Again, the program had two coaches who identified as being proficient in Spanish.

The program provides each school with a Coach that has the skills, knowledge, and abilities necessary to facilitate career development and build relationships while remaining cognizant of specific mental health issues, family/interpersonal relationships, and/or disabilities that could affect the individual student's career and post-secondary experiences and attainment. Coaches provide a myriad of services, yet are cognizant of their presence as positive personal, academic, and career role models.

Coaches work 20 hours per week and are at their assigned school(s) at least three days. Each Coach will be assigned to a designated school(s) to ensure continuity, positive working relationships with school personnel and students, and best serve the students in need. The program director and principal investigator provide supervision and monitoring of the coaches (graduate assistants), oversight related to collection, analysis, and reporting of data, and training/professional development.
Prior to the 2013-14 school year, the coaches received between 60 – 64 hours of training, The training covered topics including: working with at-risk students, post-secondary options, ACT/SAT testing, financial aid and FAFSA, career exploration, career assessments and skill building, teaching time management skills, teaching study/test-taking skills, and using a Social Cognitive Career Theory to guide interventions. Training was administered by program faculty, the program director and outside experts. Coaches meet bi-weekly with program leadership to receive supervision, training and peer mentoring. Furthermore, coaches are required to submit weekly documentation of their time in school(s) and progress reports on students. As the coaches work varied, the reports provide evidence of the various interventions performed by the coaches.

In a typical week, each Coach may do the following:

Monday:	• Weekly meeting with school personnel (counselor, principal, etc.) (1 hour) • Individual sessions on site with students (4-5 hours)
Tuesday:	• Individual and small group sessions on site with students (3-4 hours) • After school financial aid workshop with students/parents (1-2 hours)
Wednesday:	• Weekly supervision with Program Director and collaboration (1 hour)
Thursday:	• On site individual and large group sessions (4-5 hours) • Parent night at school sharing information and resources (2-3 hours)
Friday:	• Data entry of services delivered that week and other data collection if needed (1 hour)

The coaches were initially placed at a high school but final placements were based on the number of applicants at the school. Each coach was assigned between 20-25 new students in addition to "booster" students. Booster student loads varied between 0 – 20 per coach.

IV. RESEARCH METHODS

In order to rigorously evaluate the program, because there were more applicants than the program could serve, we performed a random assignment lottery. Students were targeted to apply to the program based on student demographics and characteristics; and then applicant students were randomly assigned to treatment (receiving a coach) or control (status quo). Because the students were assigned randomly to the intervention, those in the treatment group were no different (on average) than those in the control group; thus, any differences between the treatment and control groups can be attributed to participation in the program.

Tables A and B in the Appendix highlight the random assignment process in 2012-13 and 2013-14. Treatment students in cohort one received the full intervention throughout the 2012-13 school year and a "booster" (or follow-up) intervention throughout the 2013-14 school year, where students met with coaches at least twice a month. Treatment students in cohort two received the full intervention throughout the 2013-14 school year, where students met with coaches at least once a week. The number of treatment spots depended upon the number of applications in the school. Therefore, the probability of being selected into the program varied by school, because the number of applicants varied by school.

Tables C and D in the Appendix display the demographic information of the randomly selected treatment and control students from cohort one and cohort two. The lottery results in similar, but not identical, treatment and control groups. As the differences are not based on selection, any differences can be attributed to random selection.

V. DATA AND INSTRUMENTS

In order to answer the research questions, we collected administrative data from the high schools on students' academic outcomes from the 2011-12, 2012-13, and 2013-14 school years. Additionally, we administered a survey to cohort one and two treatment and control students at the end of the 2013-14 year.

VI. RESULTS

1. Short-term non-cognitive outcomes

To examine non-cognitive outcomes, the end of year survey instrument used sixty-nine questions to measure eleven constructs: academic self-efficacy, academic responsibility, grit, future-mindedness, college preparation – beliefs, college preparation – facts, college preparation – actions, career awareness, external accountability, external support, and external college and career support. In the table below, a reliability check of the constructs is provided. Table 4 defines each construct and presents a sample item for each construct. Table 5 shows that nine of the eleven constructs have reliabilities above 0.6, which we consider appropriate and desirable.

Table 4: End-of-year survey, Non-cognitive constructs

Non-cognitive Construct	Operational Definition; Item Example
Academic self-efficacy	• Operational definition: Belief in self and self-ability • Example item: "I feel good about who I am as a student."
Academic responsibility	• Operational definition: Displays obligation to academic matters and shows knowledge about academic performance and standing • Example item: "I know my current GPA."
Grit	• Operational definition: Able to persist for long-term goal; does not easily give up • Example item: "Setbacks don't discourage me." (Duckworth)
Future-mindedness	• Operational definition: Extent to which future actions and goals reflect current choices and actions • Example item: "Working hard in high school matters for success in the work force."
External accountability	• Operational definition: Extent to which another individual at school holds student responsible for academic performance • Example item: "There are adults in this school who check in with me about my grades."
External support	• Operational definition: Extent to which another individual at school values the student • Example item: "There are adults in this school who care about me."
College preparation – beliefs	• Operational definition: The extent to which student believes they can attend college • Example item: "I have an idea of what I could major in during college."
College preparation – fact based	• Operational definition: Extent to which student has knowledge about preparing for and applying to post-secondary institutions • Example item: "I can only take the ACT one time."
College preparation – actions	• Operational definition: Extent to which student has taken actions to prepare for post-secondary institutions • Example item: "I know what GPA I need to get into a college."
Career awareness	• Operational definition: Extent to which student has thought about a future career • Example item: "I have at least one future job in mind."
External college and career support	• Operational definition: Extent to which a student receives assistance at school for post-secondary preparation • Example item: "How often has an adult at your school discussed what you want to do after high school?"

Table 5: End-of-year survey, descriptive statistics

Construct	# of items	Cronbach's Alpha	N
Academic self-efficacy	6	0.748	738
Academic responsibility	4 (15 sub-items)	0.804	712
Grit	8	0.638	737
Future-mindedness	5	0.683	735
College preparation – beliefs	3	0.417	737
College preparation – facts	7	0.442	705
College preparation – actions	11	0.720	735
Career awareness	4	0.512	755
External accountability	3	0.756	759
External support	3	0.836	752
External college and career support	1 (11 sub-items)	0.939	746

The end-of-year survey was administered in May of 2014. Tables B1-B4 in the Appendix highlight the survey sample. In cohort one, 62% of the sample responded to the survey (66% of treatment students and 57% of control student). In cohort two, 83% of the sample responded to the survey (85% of treatment students and 81% of control students). Overall, there are no major discrepancies between the survey respondents and the sample in the treatment and control groups.

Table 6 presents the results from the 2013-14 end-of-year survey. Results are presented for cohort one and cohort two separately, as the treatment students in these groups received different treatments in the 2013-14 school year.

The results reveal that there are statistically significant differences between treatment and control students in cohort two (in which treatment students received full intervention in the 2013-14 school year). These students were more likely to respond positively on three constructs measuring non-cognitive outcomes: academic self-efficacy, academic responsibility, and future-mindedness. Cohort two treatment students were also more likely to respond positively on accountability and support constructs. These differences suggest that students in the treatment group are more likely than students in the control group to have another person in their lives to holds them responsible for their actions in high school and in making future plans. Lastly, cohort two treatments students responded positively and significantly different than control students on college and career readiness constructs. These results suggest that the coaches are working with treatments students on preparing for college and careers; and control students are not receiving similar instruction. Table 6 highlights the differences between treatment and control students on the constructs found to be significantly different.

In cohort one, treatment students were significantly more likely to respond that they are held accountable and supported for their actions. These results mirror the results found in the first year evaluation of cohort one students, where the major finding was that treatment students felt more accountable for their actions in school.

Table 6: End-of-year survey constructs, Regression adjusted[10] comparisons, ***Cohort one and two****, 2013-14*

	Cohort 1		Cohort 2	
	N	**Treatment**	**N**	**Treatment**
Non-Cognitive Constructs				
Academic self-efficacy	218	0.022 (0.058)	472	0.077** (0.038)
Academic Responsibility	207	0.045 (0.059)	456	0.062 (0.039)
Future-Mindedness	218	0.068 (0.071)	468	0.103** (0.042)
Grit (Duckworth)	213	0.053 (0.077)	474	0.011 (0.049)
Accountability & Support Constructs				
External Accountability	224	0.381*** (0.100)	483	0.516*** (0.062)
External Support	220	0.270*** (0.102)	480	0.064 (0.060)
External -- College/Career Support	215	0.363*** (0.107)	480	0.600*** (0.063)
College & Career Readiness Constructs				
College Awareness/Preparation - Fact based questions	205	-0.009 (0.023)	454	0.042*** (0.015)
College Awareness/Preparation - Beliefs	216	0.162** (0.077)	472	0.212*** (0.053)
College Awareness/Preparation - Action based questions	215	0.030 (0.045)	469	0.105*** (0.029)
Career Awareness	219	0.018 (0.051)	487	0.062* (0.035)

Table 7 shows a breakdown of the end of year survey results for cohort two in a more easily interpretable format. The results show that Razor C.O.A.C.H. students answered more positively than control students on all constructs. The first four constructs compare the percent of Razor C.O.A.C.H. students who answered agree/strongly agree, as compared to the percent of control students who responded similarly. The bottom four constructs compare the percent of RC students who answered above the mean of all respondents compared to the percent of control students who responded similarly. Of note in these results, Razor C.O.A.C.H. students feel that they have received support in making future plans for college (external college support construct), including applying for college, understanding admissions requirements, and paying for college, while control students did not respond as positively when asked if they have received support for making future plans for college.

[10]*All estimates are regression adjusted based on ordinary least squares regression models.*

*Table 7: End-of-year survey constructs, Treatment and control comparisons, **Cohort Two**, 2013-14*

	Treatment	Control	Difference
Academic Self-Efficacy: % Agree/Higher	82%	81%	+1%
Future-Mindedness: % Agree/Higher	86%	80%	+6%
External Accountability: % Agree/Higher	41%	17%	+23%
External College Support: % Agree/Higher	61%	27%	+34%
Career Awareness: % Above Mean	59%	50%	+9%
College Preparation-Beliefs: % Above Mean	40%	24%	+16%
College Preparation-Actions: % Above Mean	34%	26%	+8%
College Preparation-Facts: % Above Mean	76%	67%	+9%

In addition to the end of year survey, coaches administered an intake and outtake interview with each treatment student of the new cohort. When looking at differences between the intake and outtake survey for Razor C.O.A.C.H. treatment students from cohort 2, there were several significant changes in terms of student's self-efficacy and confidence levels. Table 8 below shows all the results from the comparisons on the intake and outtake survey.

Treatment students showed significant increases in their beliefs that there are people they can reach out to for help implying that they feel supported by their Razor Coach and they are aware of human resources that can help them achieve goals. Treatment students also showed a significant increase in their confidence related to the following: being accepted to college, being able to pay for college, ability to be successful at college entrance exams, ability to ask questions, and ability to reach out to others. Treatment students also reported being more comfortable looking up post-secondary information, searching for colleges, and with their ability to plan for the future.

Table 8: Descriptive statistics of intake/outtake interviews

Variable	Intake Mean	Outtake Mean	N	t-value	P value
Work hard	3.94	3.91	232	1.68	0.09
Study	3.50	3.50	236	0.07	0.94
Others are Helpful	3.55	3.70	175	2.34	**.02****
Ask for Help	3.60	3.90	234	4.26	**.0001*****
Prioritizing Homework	3.81	3.72	233	1.33	0.19
Meeting Deadlines	2.71	2.63	234	2	**.046***
Grades	3.98	4.07	248	1.3	0.196
Focusing	2.36	2.37	232	0.27	0.79
Talking in class	1.84	1.90	234	0.61	0.54
Answering questions	2.30	2.29	232	1.03	0.3
Ask questions	3.70	4.00	228	3.31	**.0011*****
On task	2.67	2.66	234	0	1
Confidence in test taking	3.26	3.57	222	4.53	**.0001*****
Effort	3.82	3.85	238	0.59	0.56
Career knowledge	4.01	4.28	239	4.25	**.0001*****
Money outcomes	1.59	1.54	234	0.65	0.52
Money confidence	3.32	3.75	233	5.81	**.0001*****
College goals	3.90	3.86	236	1.32	0.19
College resources	3.94	4.26	228	4.63	**.0001*****
Getting in to college	3.75	4.15	237	6.1	**.0001*****
Future plan	3.83	3.80	245	1.38	0.17
Five year plan	3.43	3.58	237	1.72	0.09
One year plan	4.08	4.25	197	2.04	**.04***
Weekly goals	4.21	4.33	180	1.14	0.26
Smart goals	2.64	2.78	247	3.14	**.002*****

Note: * significant at the p <.05 level; *** significant at the p < .005 level

2. High school academic outcomes

To examine outcomes on high school academics we obtained Triand report and/or transcripts for all students in Cohorts 1 & 2. Results are presented for cohort one and cohort two separately, as the treatment students in these groups received different treatments in the 2013-14 school year. We present difference-in-difference mean comparisons of overall GPA, core-subject GPA, and course credits of the treatment and control groups. That is, we compare the treatment to control students' changes in overall GPA, core-subject GPA, and course credits from the year prior to the Razor C.O.A.C.H. intervention (2012-13) to the year of the intervention (2013-14). We present t-tests on the difference-in-difference means comparison to determine if there are any statistically significant differences. Results are disaggregated by grade-level to examine any differences between the groups of students at each grade-level.

Appendix Table C1 shows the difference-in-difference in GPA, core GPA, and credits earned in the 2011-13 and 2012-14 school years for cohort 1. For all three areas, the difference-in-difference estimator is not statistically significant; there, there is no statistical difference in the growth of the two groups.

Appendix Table C2 shows the difference-in-difference in GPA, core GPA, and credits earned in the 2012-13 and 2013-14 school years for cohort 2. For all three areas, the difference-in-difference estimator is not statistically significant; there, there is no statistical difference in the growth of the two groups. However, there are positive, significant results for two grade-level subgroups (10^{th} and 12^{th} grades) for credits earned.

Graduation/Promotion Outcomes

To examine outcomes on high school graduation rates, we collected from Triand reports, transcripts and/or school reporting systems (APSCAN; eSchool). Records were gathered for all students in Cohorts 1 & 2 that are at the level we would have expected them to graduate. Results are presented for three separate groups of students:

- Cohort 1 (2012-13) seniors,
- Cohort 1 (2012-13) juniors,
- Cohort 2 (2013-14) seniors.

Tables D1-D3 in the Appendix show results for each of these groups. In total, there is no statistically significant different between treatment and control students' graduation rates, as 99% of treatment students graduated on time compared to 94% of control students. However, for juniors in Cohort 1, 97.7% of treatment students graduated compared to 91.5% of control students. As a result, in future analysis it will be important to look at those students who have been in the program multiple years. It is important to note that graduation rates for all groups of students were relatively high indicating that there may not be much room for improvement.

College Entrance Exams Outcomes

To examine outcomes on college entrance exams we provide a number of different measures. For this report, we specifically look at outcomes related to the ACT test. Appendix Tables C3-C4 highlight scores reported from schools regarding composite test scores. It is important to note that results regarding difference in difference between treatment and control group scores only includes those students that pre and post data was collected on. As a result, some measures only take into account a very small sample size of students. Moving forward, the collection of Triand reports from all schools will provide more complete data for this comparison. The results of this analysis show an impact on Treatment students in Cohort 2, with 11th grade students increasing scores +.85 points more than Control students. For the same Cohort, 12th grade treatment students scored an average of +.80 points higher than Control students.

Additionally, from the end of year survey we also analyzed completion rates and number of times taken. For all students in Cohort 2 who completed the survey, 74% of treatment students reported having taken the ACT as compared to 68% of Control students. At the school level significant impacts were seen regarding the number of times treatment students took the test when compared to control students, however no significant results were revealed at the program level.

3. Post-secondary outcomes

Application for Financial Aid Outcomes

Appendix Tables E1-E3 highlight the results of treatment and control 12th grade students, as reported on the end-of-year survey that applied for financial aid opportunities. These tables show both program totals and school levels totals where significant results were revealed. For this measure we look at three types of financial aid: Free Application for Federal Student Aid (FAFSA), Arkansas YOUniversal Application (AR Academic Challenge, also known as the Scholarship Lottery), and applications for other scholarships outside of the two previously mentioned. With the survey being administered in May, there is a possibility that more students completed applications for financial aid after the survey. The results show a significant positive difference between treatment and control students' applications for the AR Academic Challenge. For this measure, 53% of treatment students compared to 43% of control students reported applying for the AR Academic Challenge. The AR Academic Challenge Program provides scholarships to Arkansas residents pursuing a higher education. Funded in large part by the Arkansas Scholarship Lottery, the Academic Challenge Scholarship is available to students regardless of their academic status, whether just graduating from high school, currently enrolled in college, enrolling in college for the first time, or re-enrolling after a period of time out of college. It is also important to note that wildcard students, those that schools were allowed to automatically be chosen for the program, reported very significant positive outcomes in each category. This may suggest that specifically targeting students who are deemed at risk but show characteristics that make them a good fit for the program could be a recommendation for recruiting in future years of the program. We would also like to note that underclassmen were asked about their plans to apply for financial aid in each of the same categories listed

above. On each, a higher number of treatment students reported planning to apply for financial aid when compared to control students, suggesting positive outcomes in future analyses.

Post-Secondary Enrollment Outcomes

Results for this outcome are presented on three groups of students: 2012-13 seniors, 2013-13 juniors, and 2013-14 seniors. For this analysis, we have generated three different outcomes related to post-secondary enrollment:

- Enrolled Ever = students who have enrolled at any point following high school,
- Enrolled 1st Eligible = students who enrolled during the first term following high school, and
- Enrolled All Terms = students who have enrolled in all terms since graduation high school.

Data analyzed for these purposes were collected from the National Student Clearinghouse and include both 2 & 4 year institutions. The NSC data does not include enrollment status for technical schools or training programs. The data are presented in detail in Appendix Tables F1-F4. In our discussion of post-secondary outcomes, we focus on the "enrolled ever" outcome. In future evaluations, we will be able to consider completion of multiple years of post-secondary education.

Appendix Table F1 presents overall results for college enrollment for all students in cohorts 1 & 2. Roughly 44% of Treatment students enrolled in some sort of post-secondary institution following high school graduation, whereas 42.5% of Control students enrolled in a post-secondary institution. Appendix Tables F2-F3 show the breakdown of each cohort of students. Results for Cohort 1 show no significant difference between treatment and control students for all three enrollment statuses, however, Cohort 2 did show significant results. For Cohort 2, Treatment students enrolled in college at a rate of 43.9%, while Control students enrolled at a rate of 35.59%. For students enrolling in the first term following high school, the Treatment group enrolled at a rate of 43.09% and the Control group enrolled at a rate of 34.75%. Treatment students enrolled in all terms at a rate of 34.96% and Control students enrolled at a rate of 27.12%.

Finally, Appendix Table F4 shows the results of college enrollment based on groups of schools with high levels of program implementation compared to those with low levels of implementation. Schools that had a high level of implementation saw approx. 10% more Treatment students enroll in college compared to Control students. At the schools with high levels of implementation Treatment students also enrolled at a higher percentage during the first eligible semester as well as in all terms.

Furthermore, School-by school breakdowns showed positive results for Har-Ber, Heritage, and Lincoln showed positive results for their programs. Treatment students in Cohort 2 at Har-Ber enrolled in college at a rate of 61.7%, compared to 41.94%of Control students. Heritage School saw 11th Graders of Cohort 1 enroll in college at higher rates than their Control counterparts (36%vs. 15%, seniors were slightly lower (50%vs. 53%).

A summary of the results of our analysis of post-secondary enrollment is presented in Table 9 below.

Table 9: Post-Secondary Enrollment Rates for Various Cohorts of Razor Coach Students and Control Group Peers, As of May 2015

Sample of Students	**Treatment**	**Control**	**Diff**
Full Sample of Razor C.O.A.C.H. Students (N=396, scheduled to graduate high school by June 2014)	43.9%	42.5%	+1.4 pts
Razor C.O.A.C.H. Students who participated in Year Two, 2013-14 (N=123, 12th graders scheduled to graduate high school by June 2014)	43.9%	35.6%	+8.3 pts
Razor C.O.A.C.H. Coach Students who participated in high-implementation School Sites in Cohorts One and Two (N=254, 12th graders from 2013-14 school year and both 11th and 12th graders from 2012-13 school year)	48.0%	38.7%	+9.3 pts

VI. CONCLUSION

The results from the random assignment evaluation of the second year of Razor C.O.A.C.H. suggest that the program is impacting students' preparedness for post-secondary life. The non-cognitive results suggest that the program's theory of action is working: students feel more accountable for their actions in school, display higher levels of self-efficacy and responsibility in school, and are preparing for post-secondary life more than students not in the program.

When examining students' academic performance, there is no evidence to suggest that the program is impacting students' academic outcomes. While the survey results show that students feel more accountable and display higher rates of academic self-efficacy, based on one-year academic growth, there are null results. The null academic results are consistent with evaluations of other college and career coaching programs.

Furthermore, it is important to recognize the positive and statistically significant differences of outcomes that were revealed at the school-level and on post-secondary related outcomes. These findings lead us to believe that the program's impact is increasing with each year. Despite no significant impact on academics, the results of post-secondary enrollment and application for financial aid of the second cohort of students show that treatment students are taking the necessary actions to pursue education beyond high school.

We believe that the variation in effectiveness at the school level can be attributed to reasons that include coaches' access to students, implementation levels at schools, and performance of the coach. At some schools, coaches were restricted to the amount of time and access they had to students each week while other schools allowed for unlimited access to students. This was also consistent in terms of access to data, support from school administration and engagement levels of students. Some coaches had more limited access/time to students and knowledge about students, while other coaches had unlimited access to students.

With the outcomes stated in this report, we see that the program improved in its second year and have reason to believe that will continue in its third/current year. We have reason to believe that a more systematic curriculum in the second year, better implementation at the school level and improved training/support of coaches has proven valuable in the progress of the program. We predict that more positive and significant results will be revealed in the program's third year evaluation and we are preparing now to effectively measure these outcomes.

APPENDIX

Appendix Tables A1 – A4: Demographics and Characteristics of Study Sample

Appendix Tables B1 – B4: Information on Administration and Completion of End-of-Year Surveys

Appendix Tables C1 – C4: Detailed Tables on Academic Outcomes

Appendix Tables D1 – D3: Detailed Tables on High School Graduation Rates

Appendix Tables E1 – E3: Detailed Tables on Post-Secondary Preparation Outcomes

Appendix Tables F1 – F4: Detailed Tables on Post-Secondary Enrollment from National Student Clearinghouse

*Table A1: Razor COACH, **Cohort One**, By School, 2012-13 and 2013-14*

School	N Applications Returned	Probability of Selection in Lottery	N Coaches	2012-13 Treatment	2012-13 Control	2013-14 "Booster" Treatment	2013-14 Control
Bentonville High School	74	50%	1.5	37	37	20	23
Decatur High School	21	52%	0.5	11	10	7	9
Elkins High School	25	48%	0.5	14	11	12	13
Fayetteville High School	31	81%	1	25	6	3	-
Gentry High School	25	52%	0.5	13	12	7	5
Gravette High School	23	52%	0.5	13	10	-	-
Greenland High School	18	56%	0.5	10	8	7	7
Lincoln High School	24	58%	0.5	14	10	8	5
Pea Ridge High School	41	61%	1	25	16	9	4
Prairie Grove High School	42	62%	1	26	16	26	15
Heritage High School	56	45%	1	25	31	13	17
Rogers High School	93	54%	2	50	43	48	40
Springdale High School	37	68%	1	25	12	13	10
Har-Ber High School	64	58%	1.5	37	27	-	-
Siloam Springs High School	25	60%	1	15	10	14	8
West Fork High School	39	64%	1	25	14	18	14
Total	638	57%	15	365	273	205	170

*Table A2: Razor COACH, **Cohort Two**, By School, 2013-14*

School	N Applications Returned	Probability of Selection in Lottery	N Coaches	Treatment	Control
Bentonville High School	46	54%	1	25	21
Decatur High School	18	56%	0.5	10	8
Elkins High School	34	62%	1	21	13
Fayetteville High School	40	63%	1	25	15
Gentry High School	26	58%	0.5	15	11
Greenland High School	23	65%	0.5	15	8
Lincoln High School	43	58%	1	25	18
Pea Ridge High School	68	54%	1	37	31
Prairie Grove High School	16	75%	1	12	4
Heritage High School	61	41%	1.5	25	36
Rogers High School	103	49%	2	50	53
Springdale High School	46	54%	1	25	21
Har-Ber High School	69	55%	1.5	38	31
Siloam Springs High School	50	50%	1	25	25
West Fork High School	9	56%	0.5	5	4
Total	652	54.1%	15	353	299

*Table A3: Razor COACH, **Cohort One**, Demographics, 2013-14, "Booster" and Control Students*

	N Treatment	% Treatment	N Control	% Control	Total Sample N	% Total Sample
Total	**N=205**	**55%**	**N=170**	**45%**	**N=375**	
Gender						
Male	91	44%	56	33%	147	39%
Female	114	56%	114	67%	228	61%
Grade						
Grade 10	-		3	2%	3	1%
Grade 11	52	28%	42	29%	94	29%
Grade 12	131	72%	101	69%	232	71%
Race/Ethnicity						
African American	6	3%	4	2%	10	3%
Hispanic	77	38%	73	43%	150	40%
White	107	52%	76	45%	183	49%
Other	15	7%	17	10%	32	9%
Language at Home						
English	139	68%	106	62%	245	66%
Spanish	47	23%	49	29%	96	26%
More than one language	13	6%	12	7%	25	7%
Other	4	2%	3	2%	7	2%
Parent Education						
At least one parent graduated from college	17	9%	19	12%	36	10%
No parent graduated from college	180	91%	146	88%	326	90%

*Table A4: Razor COACH, **Cohort Two**, Demographics, 2013-14*

	N Treatment	% Treatment	N Control	% Control	Total Sample N	% Total Sample
Total	**N=353**	**54%**	**N=299**	**46%**	**N=652**	
Gender						
Male	142	41%	127	44%	269	42%
Female	206	59%	164	56%	370	58%
Grade						
Grade 10	30	9%	24	8%	54	9%
Grade 11	201	58%	183	64%	384	61%
Grade 12	115	33%	81	28%	196	31%
Race/Ethnicity						
African American	13	4%	7	2%	20	3%
Hispanic	108	31%	117	41%	225	36%
White	168	49%	119	42%	287	46%
Other	56	16%	41	14%	97	15%
Language at Home						
English	251	72%	188	65%	439	69%
Spanish	75	21%	73	25%	148	23%
More than one language	14	4%	15	5%	29	5%
Other	11	3%	12	4%	23	4%
Parent Education						
At least one parent graduated from college	49	15%	50	18%	99	16%
No parent graduated from college	283	85%	226	82%	509	84%

*Table B1: End-of-year Survey, **Cohort One**, 2013-14, By School*

School	Treatment			Control			Total Sample		
	N Completed Survey	N Treatment	Response Rate	N Completed Survey	N Control	Response Rate	N Completed Survey	N Total Sample	Response Rate
Bentonville High School	10	20	50%	7	23	30%	17	43	40%
Decatur High School	6	7	86%	6	9	67%	12	16	75%
Elkins High School	9	12	75%	13	13	100%	22	25	88%
Fayetteville High School	0	3	0%	-	-	-	0	3	0%
Gentry High School	6	7	86%	5	5	100%	11	12	92%
Greenland High School	5	7	71%	5	7	71%	10	14	71%
Har-Ber High School	-	-	-	-	-	-	-	-	-
Lincoln High School	7	8	88%	4	5	80%	11	13	85%
Pea Ridge High School	6	9	67%	3	4	75%	9	13	69%
Prairie Grove High School	11	26	42%	7	15	47%	18	41	44%
Rogers High School	42	48	88%	26	40	65%	68	88	77%
Rogers Heritage High School	10	13	77%	12	17	71%	22	30	73%
Springdale High School	6	13	46%	3	10	30%	9	23	39%
Siloam Springs High School	9	14	64%	0	8	0%	9	22	41%
West Fork High School	9	18	50%	6	14	43%	15	32	47%
Total	**136**	**205**	**66%**	**97**	**170**	**57%**	**233**	**375**	**62%**

*Table B2: End-of-year Survey Completion, **Cohort One**, 2013-14, By Demographics*

	Treatment			Control			Total Sample		
	N Completed Survey	N Treat-ment	Response Rate	N Completed Survey	N Control	Response Rate	N Completed Survey	N Total Sample	Response Rate
Gender									
Male	57	91	63%	33	56	59%	90	147	61%
Female	79	114	69%	64	114	56%	143	228	63%
Grade									
Grade 10	-	-	-	-	-	-	-	-	-
Grade 11	41	52	79%	31	42	74%	72	94	77%
Grade 12	95	131	73%	57	96	59%	152	227	67%
Race/Ethnicity									
African American	4	6	67%	1	4	25%	5	10	50%
Hispanic	61	77	79%	41	73	56%	102	150	68%
White	64	107	60%	48	76	63%	112	183	61%
Other	7	15	47%	7	17	41%	14	32	44%

*Table B3: End-of-year Survey, **Cohort Two**, 2013-14, By School*

	Treatment			Control			Total Sample		
School	**N Completed Survey**	**N Treat-ment**	**Response Rate**	**N Completed Survey**	**N Control**	**Response Rate**	**N Completed Survey**	**N Total Sample**	**Response Rate**
Bentonville High School	19	26	73%	15	21	71%	34	47	72%
Decatur High School	9	10	90%	4	8	50%	13	18	72%
Elkins High School	20	21	95%	11	13	85%	31	34	91%
Fayetteville High School	21	25	84%	12	14	86%	33	39	85%
Gentry High School	13	15	87%	9	10	90%	22	25	88%
Greenland High School	12	14	86%	4	8	50%	16	22	73%
Har-Ber High School	26	36	72%	23	31	74%	49	67	73%
Lincoln High School	20	26	77%	11	14	79%	31	40	78%
Pea Ridge High School	32	36	89%	22	31	71%	54	67	81%
Prairie Grove High School	9	13	69%	3	4	75%	12	17	71%
Rogers High School	47	48	98%	49	53	92%	96	101	95%
Rogers Heritage High School	20	25	80%	30	36	83%	50	61	82%
Springdale High School	22	28	79%	18	21	86%	40	49	82%
Siloam Springs High School	24	24	100%	22	25	88%	46	49	94%
West Fork High School	5	5	100%	3	4	75%	8	9	89%
Total	**299**	**352**	**85%**	**236**	**293**	**81%**	**535**	**645**	**83%**

*Table B4: End-of-year Survey Completion, **Cohort Two**, 2013-14, By Demographics*

	Treatment			Control			Total Sample		
	N Completed Survey	**N Treat-ment**	**Response Rate**	**N Completed Survey**	**N Control**	**Response Rate**	**N Completed Survey**	**N Total Sample**	**Response Rate**
Gender									
Male	121	142	85%	100	127	79%	221	269	82%
Female	174	206	84%	134	164	82%	308	370	83%
Grade									
Grade 10	23	30	77%	18	24	75%	41	54	76%
Grade 11	24	201	88%	153	182	84%	330	383	86%
Grade 12	93	114	82%	59	79	75%	152	193	79%
Race/Ethnicity									
African American	12	13	92%	6	7	86%	18	20	90%
Hispanic	97	108	90%	107	117	91%	204	225	91%
White	138	168	82%	88	119	74%	226	287	79%
Other	45	56	80%	27	41	66%	72	97	74%

*Table C1: Academic Results, **Cohort One**, 2013-14*

	Treatment N	Pre Treatment Mean	Post Treatment Mean	Treatment Mean Difference	Control N	Pre Control Mean	Post Control Mean	Control Mean Difference	Difference in Difference
GPA	136	2.41	2.71	+0.30	119	2.56	2.90	+0.34	-0.04
Core GPA	137	2.04	2.36	+0.32	120	2.22	2.54	+0.32	0.00
Credits Earned	136	6.66	6.55	-0.11	120	6.74	6.73	-0.01	-0.10
Grade Level Analysis									
GPA	137	2.31	2.66	+0.35	89	2.44	2.81	+0.37	-0.02
11th grade	34	2.05	2.43	+0.38	22	2.44	2.70	+0.27	+0.11
12th grade	90	2.45	2.75	+0.30	53	2.57	2.93	+0.36	-0.06
Core GPA	137	1.96	2.28	+0.32	90	2.11	2.53	+0.42	-0.10
11th grade	34	1.69	2.13	+0.44	22	2.07	2.42	+0.35	+0.09
12th grade	90	2.12	2.36	+0.25	53	2.24	2.67	+0.43	-0.18
Credits Earned	137	6.55	6.37	-0.18	90	6.64	6.61	-0.03	-0.15
11th grade	34	6.07	6.43	+0.35	22	6.58	6.57	-0.01	+0.36
12th grade	90	6.83	6.41	-0.42	53	6.83	6.59	-0.23	-0.19

*p < .10, **p < .05, *** p < .01

*Table C2: Academic Results, **Cohort Two**, 2013-14*

	Treatment N	Pre Treatment Mean	Post Treatment Mean	Treatment Mean Difference	Control N	Pre Control Mean	Post Control Mean	Control Mean Difference	Difference in Difference
GPA	272	2.81	2.91	+0.10	253	2.76	2.87	+0.11	-0.01
Core GPA	271	2.52	2.56	+0.04	255	2.44	2.49	+0.05	-0.01
Credits Earned	272	6.82	6.67	-0.15	255	6.87	6.57	-0.30	+0.15
Grade Level Analysis									
GPA	272	2.81	2.91	+0.10	253	2.76	2.87	+0.11	-0.01
10th grade	25	2.94	2.85	-0.09	19	2.94	2.63	-0.31	+0.22
11th grade	150	2.67	2.81	+0.14	154	2.68	2.84	+0.16	-0.02
12th grade	91	3.00	3.10	+0.10	73	2.88	2.98	+0.10	0.00
Core GPA	271	2.52	2.56	+0.04	255	2.44	2.49	+0.05	-0.01
10th grade	25	2.67	2.58	-0.09	19	2.41	2.16	-0.25	+0.16
11th grade	150	2.39	2.44	+0.05	154	2.36	2.44	+0.08	-0.03
12th grade	90	2.74	2.76	+0.02	75	2.58	2.63	+0.05	-0.03
Credits Earned	2.41	2.16	2.41	2.16	2.41	2.16	2.41	2.16	2.41
10th grade	25	6.82	6.92	+0.10	19	6.79	6.39	-0.40	+0.50*
11th grade	150	6.74	6.68	-0.06	154	6.75	6.73	-0.02	-0.04
12th grade	91	6.95	6.65	-0.30	75	7.05	6.27	-0.78	+0.48*

*p < .10, **p < .05, *** p < .01

Table C3: ACT score difference in difference outcomes

Cohort 1	Treatment N	Pre Treatment Mean	Post Treatment Mean	Treatment Mean Difference	Control N	Pre Control Mean	Post Control Mean	Control Mean Difference	Difference in Difference
ACT Composite Score	30	19.47	20.08	+0.67	16	20.22	21.09	+0.87	-0.20
11th grade	2	29.00	28.25	-0.75	1	22.00	24.00	+2.00	-2.75
12th grade	28	18.79	19.49	+0.70	15	20.10	20.90	+0.80	-0.10
Cohort 2									
ACT Composite Score	27	21.68	22.63	+0.95	19	21.04	22.40	+1.36	-0.41
11th grade	10	20.30	22.77	+2.47	7	22.57	24.19	+1.62	+0.85
12th grade	17	22.49	22.55	+0.06	11	20.79	22.06	+1.27	-1.21

Table C4: Post treatment mean ACT scores

Cohort 1	Treatment N	Treatment Mean (Avg. Score Post treatment)	Control N	Control Mean (Avg. Score Post treatment)	Difference in Difference
ACT Composite Score	58	18.74	39	19.83	-1.09
11th grade	13	18.65	10	21.00	-2.35
12th grade	45	18.77	29	19.43	-0.66
Cohort 2					
ACT Composite Score	122	19.91	90	20.1	-0.19
10th grade	3	21.3	2	22.5	-1.20
11th grade	82	19.41	62	20.09	-0.68
12th grade	33	21.2	22	20.4	+0.80

*Table D1: High School Graduation Rates for All Students in Study Sample, Cohort **Two**, 12th Grade Students from 2013-14*

	Treatment			Control			Wildcard			
School Name	**N**	**No. Graduated**	**% Graduated**	**N**	**No. Graduated**	**% Graduated**	**N**	**No. Graduated**	**% Graduated**	**Difference in % Graduated between Treatment and Control groups**
Overall	**99**	**99**	**100.0%**	**79**	**77**	**97.5%**	**19**	**17**	**89.5%**	**2.5%**
Bentonville	1	1	100.0%	1	0	0.0%	2	2	100.0%	100.0%
Decatur	3	3	100.0%	1	0	0.0%	2	2	100.0%	100.0%
Elkins	7	7	100.0%	4	4	100.0%				0.0%
Fayetteville	3	3	100.0%	1	1	100.0%	7	5	71.4%	0.0%
Gentry	13	13	100.0%	9	9	100.0%				0.0%
Greenland	3	3	100.0%	2	2	100.0%				0.0%
Har-Ber	34	34	100.0%	31	31	100.0%	4	4	100.0%	0.0%
Lincoln	5	5	100.0%	3	3	100.0%	1	1	100.0%	0.0%
Pea Ridge	19	19	100.0%	16	16	100.0%	1	1	100.0%	0.0%
Springdale	3	3	100.0%	1	1	100.0%				0.0%
Siloam Springs	6	6	100.0%	7	7	100.0%	2	2	100.0%	0.0%
West Fork	2	2	100.0%	3	3	100.0%				0.0%

*Table D2: High School Graduation Rates for All Students in Study Sample, Cohort **One**, 11th Grade Students from 2012-13*

	Treatment			Control			Wildcard			
School Name	**N**	**No. Graduated**	**% Graduated**	**N**	**No. Graduated**	**% Graduated**	**N**	**No. Graduated**	**% Graduated**	**Difference between Groups**
Overall	133	130	97.7%	118	108	91.5%	23	21	91.3%	6.2%
Bentonville	16	16	100.0%	21	20	95.2%	3	3	100.0%	4.8%
Decatur	3	3	100.0%	4	3	75.0%	1	1	100.0%	25.0%
Elkins	12	12	100.0%	12	12	100.0%	2	2	100.0%	0.0%
Gentry	2	2	100.0%	2	2	100.0%	2	2	100.0%	0.0%
Greenland	3	3	100.0%	2	2	100.0%				0.0%
Lincoln	5	5	100.0%	3	3	100.0%				0.0%
Prairie Grove	11	10	90.9%	7	5	71.4%				19.5%
Pea Ridge	6	6	100.0%	4	4	100.0%	5	4	80.0%	0.0%
Rogers	31	30	96.8%	29	28	96.6%	5	5	100.0%	0.2%
Rogers Heritage	11	11	100.0%	12	11	91.7%				8.3%
Springdale	12	11	91.7%	7	3	42.9%	3	2	66.7%	48.8%
Siloam Springs	13	13	100.0%	8	8	100.0%				0.0%
West Fork	8	8	100.0%	7	7	100.0%	2	2	100.0%	0.0%

*Table D3: High School Graduation Rates for All Students in Study Sample, Cohort **One**, 12th Grade Students from 2012-13*

	Treatment			Control			Wildcard			
School Name	**N**	**No. Graduated**	**% Graduated**	**N**	**No. Graduated**	**% Graduated**	**N**	**No. Graduated**	**% Graduated**	**Difference Between Groups**
Overall	127	125	98.4%	101	95	94.1%	17	17	100.0%	4.4%
Bentonville	13	13	100.0%	15	15	100.0%	6	6	100.0%	0.0%
Decatur	2	2	100.0%	2	2	100.0%	2	2	100.0%	0.0%
Fayetteville	23	22	95.7%	6	5	83.3%				12.3%
Gentry	5	5	100.0%	7	7	100.0%	2	2	100.0%	0.0%
Greenland	3	3	100.0%	3	2	66.7%				33.3%
Har-Ber	34	34	100.0%	27	27	100.0%	4	4	100.0%	0.0%
Lincoln	6	6	100.0%	5	5	100.0%				0.0%
Pea Ridge	16	16	100.0%	12	12	100.0%				0.0%
Rogers Heritage	12	12	100.0%	15	13	86.7%	1	1	100.0%	13.3%
Springdale	3	3	100.0%	1		0.0%				100.0%
Siloam Springs	2	2	100.0%	2	2	100.0%				0.0%
West Fork	7	7	100.0%	5	5	100.0%	2	2	100.0%	0.0%

Table E1: Completion of FAFSA, 12th grade students, reported on end-of-year survey

	Treatment		Control		Wildcard		
School Name	**N**	**% Responded Yes**	**N**	**% Responded Yes**	**N**	**% Responded Yes**	**Difference in % among treatment and control groups**
Overall	*160*	*61.9%*	*132*	*62.1%*	*23*	*78.3%*	*-0.2%*
Schools with significant positive outcomes:							
Decatur	6	50.0%	6	33.3%	3	66.7%	*16.7%*
Har-Ber	21	76.2%	25	48.0%	3	66.7%	*28.2%*
Lincoln	9	88.9%	4	75.0%	1	100.0%	*13.9%*
Rogers	25	44.0%	19	31.6%	4	75.0%	*12.4%*

Table E2: Application for AR Academic Challenge (AR Lottery Scholarship), 12th grade students, reported on end-of-year survey

School Name	Treatment N	Treatment % Responded Yes	Control N	Control % Responded Yes	Wildcard N	Wildcard % Responded Yes	Difference in % among treatment and control groups
Overall	*160*	*52.5%*	*132*	*43.2%*	*23*	*56.5%*	*9.3%*
Schools with significant positive outcomes:							
Decatur	6	50.0%	6	33.3%	3	66.7%	16.7%
Elkins	16	68.8%	16	43.8%	0		25.0%
Fayetteville	3	100.0%	2		2	100.0%	100.0%
Gentry	14	57.1%	10	20.0%	0		37.1%
Greenland	4	20.0%	2		0		20.0%
Lincoln	9	100.0%	4	75.0%	1		25.0%
Pea Ridge	23	91.3%	16	75.0%	2	100.0%	16.3%

Table E3: Application for scholarships (other than AR Academic Challenge); 12th grade students, reported on end-of-year survey

School Name	Treatment N	Treatment % Responded Yes	Control N	Control % Responded Yes	Wildcard N	Wildcard % Responded Yes	Difference in % among treatment and control groups
Overall	*160*	*55.0%*	*132*	*54.5%*	*23*	*60.9%*	*0.5%*
Schools with significant positive outcomes:							
Decatur	6	33.3%	5	16.7%	3	66.7%	16.6%
Elkins	16	62.5%	16	50.0%	0		12.5%
Gentry	14	71.4%	10	60.0%	0		11.4%
Greenland	4	25.0%	2		0		25.0%
Har-Ber	21	71.4%	25	60.0%	3	66.7%	11.4%
Pea Ridge	23	69.6%	16	56.3%	2	100.0%	13.3%
Springdale	5	60.0%	1		0	100.0%	60.0%

Table F1: Actual Enrollment Rates in Post-Secondary Institutions as of May 2015, ***All Eligible Students***

	N	N in NSC	%	Enrolled Ever	%	Enrolled 1st Eligible	%	Enrolled All Terms	%
Overall	742	671	90.43%	321	43.26%	299	40.30%	213	28.71%
Razor Coach Students	396	372	93.94%	174	43.94%	162	40.91%	106	26.77%
Control Students	346	299	86.42%	147	42.49%	137	39.60%	107	30.92%
Wildcard	73	68	93.15%	34	46.58%	32	43.84%	23	31.51%
Difference	50	73		27		25		1	

Table F2: Actual Enrollment Rates in Post-Secondary Institutions as of May 2015, ***Cohort One Students***

Cohort 1	N	N in NSC	%	Enrolled Ever	%	Enrolled 1st Eligible	%	Enrolled All Terms	%
12th Graders from 2012-13 year	233	227	97.42%	128	54.94%	112	48.07%	66	28.33%
Razor Coach Students	131	130	99.24%	70	53.44%	60	45.80%	30	22.90%
Control Students	102	97	95.10%	58	56.86%	52	50.98%	36	35.29%
Difference	29	33		12		8		6	
Wildcard	18	17	94.44%	6	33.33%	5	27.78%	5	27.78%
11th Graders from 2012-13 year	268	264	98.51%	96	35.82%	93	34.70%	70	26.12%
Razor Coach Students	142	142	100.00%	49	34.51%	49	34.51%	31	21.83%
Control Students	126	122	96.83%	47	37.30%	44	34.92%	39	30.95%
Difference	16	20		2		5		8	
Wildcard	35	32	91.43%	14	40.00%	13	37.14%	10	28.57%

Table F3: Actual Enrollment Rates in Post-Secondary Institutions as of May 2015, ***Cohort Two Students***

Cohort 2	N	N in NSC	%	Enrolled Ever	%	Enrolled 1st Eligible	%	Enrolled All Terms	%
12th Graders from 2013-14 year	241	180	74.69%	96	39.83%	94	39.00%	75	31.12%
Razor Coach Students	123	100	81.30%	54	43.90%	53	43.09%	43	34.96%
Control Students	118	80	67.80%	42	35.59%	41	34.75%	32	27.12%
Difference	5	20		12		12		11	
Wildcard	20	19	95.00%	14	70.00%	14	70.00%	8	40.00%

Table F4: Actual Enrollment Rates in Post-Secondary Institutions as of May 2015, ***By Level of Implementation***

Implementation Level	N	N in NSC	%	Enrolled Ever	%	Enrolled 1st Eligible	%	Enrolled All Terms	%
High	471	405	85.99%	206	43.74%	191	40.55%	128	27.18%
Razor Coach Students	254	230	90.55%	122	48.03%	114	44.88%	74	29.13%
Control Students	217	175	80.65%	84	38.71%	77	35.48%	54	24.88%
Difference	37	55		38		37		20	
Wildcard	32	28	87.50%	17	53.13%	17	53.13%	14	43.75%
Low	179	176	98.32%	78	43.58%	75	41.90%	58	32.40%
Razor Coach Students	93	93	100.00%	36	38.71%	34	36.56%	22	23.66%
Control Students	86	83	96.51%	42	48.84%	41	47.67%	36	41.86%
Difference	7	10		6		7		14	
Wildcard	29	28	96.55%	13	44.83%	11	37.93%	7	24.14%

Notes:

- *Schools were identified as high or low implementation based on observations of program staff and researchers before any data on post-secondary enrollment were gathered.*
- *Identification was based on cooperation of school staff, openness of school to hosting coaches, and effectiveness of coaches at the school sites.*
- *For this analysis, we identified the following school sites as high implementation: Rogers, Heritage, Pea Ridge, Greenland, Fayetteville, Prairie Grove, Har-Ber, and Siloam Springs*

References

Chaplin, D., Bleeker, M., & Smither, C. (2009). Rigorous Evaluation of Roads to Success: Design Report. *Washington, DC: Mathematica Policy Research*.

Constantine, J. M., Seftor, N. S., Martin, E. S., Silva, T., & Myers, D. (2006). Study of the Effect of the Talent Search Program on Secondary and Postsecondary Outcomes in Florida, Indiana and Texas. Final Report from Phase II of the National Evaluation. US Department of Education.

Domina, T. (2009). What works in college outreach: Assessing targeted and schoolwide interventions for disadvantaged students. *Educational Evaluation and Policy Analysis*, *31*(2), 127-152.

Gandara, P. (2001). Paving the Way to Postsecondary Education: K-12 Intervention Programs for Underrepresented Youth. Report of the National Postsecondary Education Cooperative Working Group on Access to Postsecondary Education.

Hahn, A. (1994). Evaluation of the Quantum Opportunities Program (QOP). Did the Program Work? A Report on the Post Secondary Outcomes and Cost-Effectiveness of the QOP Program (1989-1993).

Jackson, C. K. (2014). Do College-Preparatory Programs Improve Long-Term Outcomes?. *Economic Inquiry*, *52*(1), 72-99.

Myers, D. E., & Schirm, A. L. (1999). *The impacts of Upward Bound final report for phase I of the national evaluation: final report*. DIANE Publishing.

Schirm, A., Stuart, E., & McKie, A. (2006). The Quantum Opportunity Program Demonstration: Final Impacts. *Mathematica Policy Research, Inc.*

Seftor, N. S., Mamun, A., & Schirm, A. (2009). The impacts of regular upward bound on postsecondary outcomes 7-9 years after scheduled high school graduation. *Washington, DC: US Department of Education, Policy and Program Studies*

Standing, K., Judkins, D., Keller, B., & Shimshak, A. (2008). Early Outcomes of the GEAR UP Program. Final Report. *US Department of Education*.

Stephan, J. L., & Rosenbaum, J. E. (2013). Can high schools reduce college enrollment gaps with a new counseling model?. *Educational Evaluation and Policy Analysis*, *35*(2), 200-219.