Impact of the Pittsburgh Admissions Collaboration Program in Low-Income Middle School Students of Higher Achievement

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Abstract

Pittsburgh Admissions Collaboration Program (PAC) is a partnership between Pittsburgh Public Schools, the Community College of Allegheny County (CCAC), and the University of Pittsburgh. The program offers mentoring, college programming, and university tours beginning in middle school. This program has partnered up with Higher Achievement, an after-school academy program for low-income middle school students, with the goal of closing the opportunity gap and increase enrollment in higher education. The hypothesis of this research is that the partnership of Higher Achievement with PAC will greatly increase the exposure of these students to college by providing them the opportunity to attend motivational lessons on a college campus. This research evaluates the impact of this new partnership through pre- and post-program surveys and observation of the mentoring sessions.

Introduction

It's been over 60 years since the *Brown v. Board of Education of Topeka* case. In 1954, the Supreme Court ruled unanimously that racial segregation of children in public schools was unconstitutional. This was one of the foundations of the civil rights movement (United States Courts, n.d.) Although this was the very first step towards equality, much still needs to be changed and done in order to fully overcome remaining education barriers towards access, equity, and opportunities.

Public education is intended to act as an equalizer of economic opportunities in the US by providing social mobility. However, 46 percent of Americans who grew up in low-income families and failed to earn a college degree stayed in the lowest income quintile, as opposed to 16 percent for those who earned a college degree. From very early on, children of parents who earn less than $15,000 a year have a 20 percent lower pre-primary enrollment in comparison to parents earning more than $50,000 a year. This in turn has a snowball effect, since students who participated in preschool education were 31 percent less likely to repeat a grade and 32 percent less likely to drop out of high school (Friedman, 2012). This vicious cycle also affects the school district and the quality of the school in which residents of poorer areas will attend. Due to the use of property taxes to pay for local schools, a poorer district will most likely have less money for education, which in turn will result in worse schools and therefore less opportunities for its students. According to the US Department of Education, high-poverty districts spend 15.6 percent less per student than low-poverty districts do. A 20 percent increase in their budget could lead to an additional year of completed education for students, 25 percent higher earning, and a 20 percent point reduction in the incidence of poverty in adulthood, according to the National Bureau of Economic Research (Semuels, 2016). The educational system today contradicts its own

premise upon which it was founded and rather than acting as an equalizer, it perpetuates social inequalities.

According to recent data released by the U.S. Department of Education, in 2016 only 76 percent of black students and 79 percent of Hispanic students graduated on time, compared to 88 percent of white students and 91 percent of Asian/Pacific Islander students (Balingit, 2017). In 2015, the percentage of high school dropout among persons 16-25 years old was 5.9 percent. White students present a lower percentage than the national average, at 4.6 percent, while black and Hispanic students have a higher percentage than the national average, at 6.5 and 9.2 percent, respectively (National Center for Education Statistics, 2016). This pattern is also seen in college completion statistics done in 2010, in which white and Asian students completed their programs at similar rates, 62 and 63.2 percent, respectively, while Hispanic and black students graduated at rates of 45.8 and 38 percent, respectively (Shapiro et al., 2017). These numbers represent a significant opportunity gap and the academic stratification and inequalities still present today.

The relationship between social economic status and selective college attendance has been strongly established. A modernization and massive expansion of higher education would have been expected to narrow the opportunity gap by offering more opportunities for students to attend college. However, underprivileged high school graduates don't proportionally benefit from this expansion, as when privileged groups reach a saturation point at a certain level of education, inequality shifts upward to the next level of attainment, which preserves the inequality rather than close it by expanding it to the lower socioeconomic status levels (Alon, 2009).

This stratification is notably seen in the rates of not only college enrollments, but also students' attendance destinations. Since the 1960s, there has been strong disparities in which students from low socioeconomic backgrounds have been much more likely to attend two-year colleges, while their white counterparts enroll at more prestigious four-year universities (Alon, 2009).

Context of Study

Pittsburgh is ranked in the top 30 for poverty rate in the nation. In its metropolitan area, about one in eight residents (284,000 people) had incomes below the official US poverty level in 2012 with an additional 192,000 people just above the poverty threshold (Friedman, 2012). In light of these numbers, Pittsburgh Admissions Collaboration Program has partnered up with Higher Achievement, an after-school academy program, with the goal of closing the opportunity gap in order to break the cycle of poverty through education. This program targets middle school students, since these are critical years that serve as a basis for the upcoming high school years. Research has shown that children who possess resources that they can rely on during the transition from middle school to high school, are better equipped for a successful transition than students who don't (Alon, 2009). Targeting students at such an early age may have a more significant long-lasting impact in their decision of pursuing higher education.

Higher Achievement is an after-school program that aims to close the opportunity gap during the critical middle school years. The organization acts as an after-school academy, where students receive homework coaching, dinner, mentoring, seminars, and guidance throughout the transition between middle school and high school. The organization is committed to the principles of the four social justice pillars, which are voice, freedom, justice, and solidarity [8]. I

have been a volunteer at Higher Achievement for the past two years and have seen first-hand the incredible impact this organization has on the students. Higher Achievement's centers are located in three high-poverty areas in Pittsburgh, as shown in the poverty and race intersection map in Fig.1.

    In August 2017, Higher Achievement partnered with the University of Pittsburgh in a program called "Pittsburgh Admissions Collaboration", or PAC, where 7th and 8th grade scholars travel to the University of Pittsburgh twice each month to receive on-campus mentoring related to college readiness, life skills, financial aid information, and college awareness programming (Higher Achievement, 2017). Pitt provides the transportation, mentors, and the curriculum of classes and the students have the opportunity to learn what it is like to take classes on a college campus. This is a great way to encourage students to seriously consider college opportunities in the future. Higher Achievement does an outstanding job in closing the education gap and increasing the number of middle school students who pursue further education in high school and college. 95% of Higher Achievement scholars advance to top academic high schools and 93% of scholars go on to college (Higher Achievement, 2017). This research will evaluate the efficacy of this new partnership through pre- and post- program surveys and observation of the mentoring sessions.
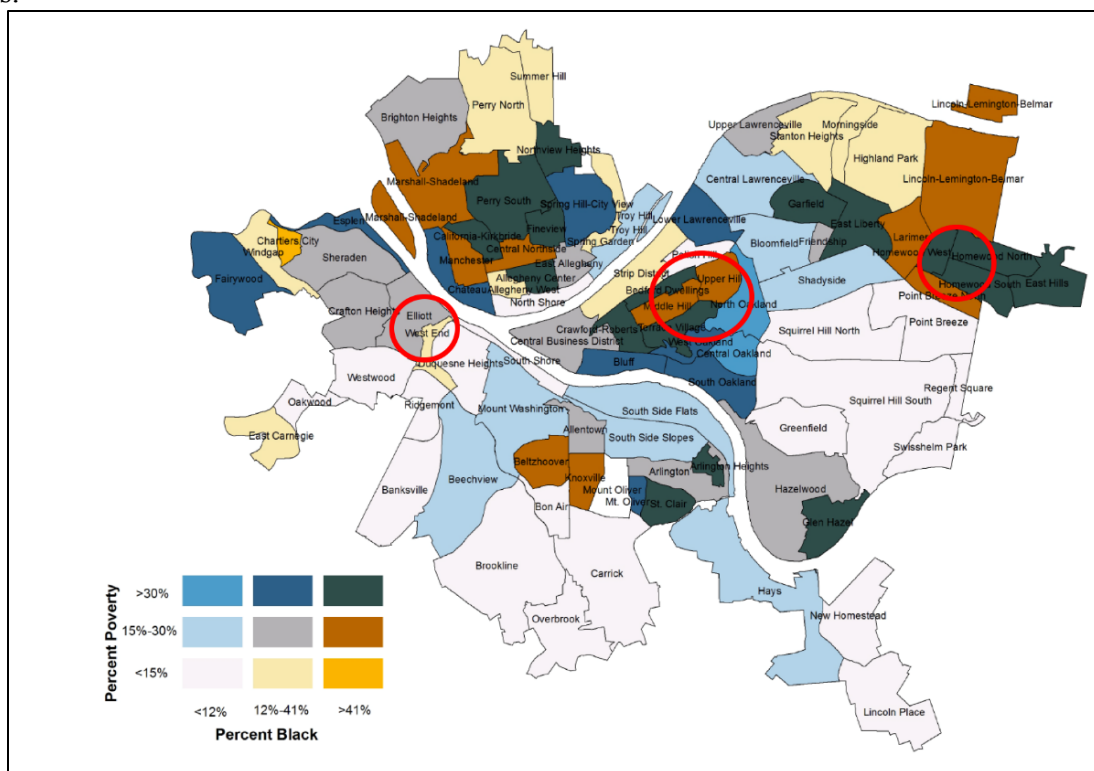

Figure 1. This map displays the intersection of poverty and race in Pittsburgh. The lightest colors reflect low levels of poverty and black population, while the darkest colors represent the highest concentrations of both poverty and black population. The red circles represent the Higher Achievement locations in Pittsburgh (Teixeira and Zuberi, 2016).

Methods

Pre-Surveys

The first step of this project was to conduct an initial student survey in order to assess the initial expectations and thoughts on the program. It is important to note that in actuality, this could be considered a mid-survey since the program started in the Fall 2017 and the survey was performed in the beginning of the Spring 2018.

The pre-survey included the following questions:

1. I identify my gender as:
    a. Male
    b. Female
    c. Other
    d. Prefer not to answer
2. Which of these do you identify as your ethnic origin?
    a. American Indian or Alaska Native
    b. Asian
    c. Black or African American
    d. Hispanic or Latino
    e. Native Hawaiian or Other Pacific Islander
    f. White
    g. Other
3. Why did you want to participate in the program?
4. In your opinion, what do you expect to gain from the PAC program?
5. What do you want to be when you grow up?
6. On a scale of 1-5, how much do you know about what needs to be done to get accepted into college?
7. On a scale of 1-5, how much do you know about financial aid to help pay for college?
8. On a scale of 1-5, how much information do you have about college entrance requirements?
9. Do you intend to go to college after high school?
10. If you do want to go to college, what would you want to major in?
11. Has anyone at your school or Higher Achievement ever spoken with you about college entrance requirements?
12. Has anyone at your school or Higher Achievement ever spoken with you about the availability of financial aid to help you pay for college?

These questions served as a framework to gauge the interest the students had in the program and in their long-term goals.

Observations

Ten PAC sessions throughout the Spring 2018 semester were observed in order to primarily assess the engagement level of the students, the content of the weekly PAC sessions, and the impact the lessons had on students.

Post-Survey

Finally, a post-survey at the end of the semester was given to students to assess the overall impact the program had on students. The survey included the same questions as the pre-survey, with the following additional questions:
1. On a scale of 1-5, did the program improve your studying habits?
2. On a scale of 1-5, did your participation in the program help you get better grades?
3. On a scale of 1-5, how helpful were your mentors?
4. Do you intend to go to college after high school?
5. What was your favorite and least favorite part of the program?
6. What did you learn from PAC?

The data analysis for the quantitative items is represented in the results section through means and percentages, while the analysis of the open-ended questions was performed through grouping similar responses into broader categories that encompasses similar themes.

Results

Curriculum and In-class Observations

PAC lessons with the middle school students of Higher Achievement first started in October, 2017. However, this research did not start until the beginning of 2018 with observation and surveys which we called pre-survey, although they would most closely be classified as mid-surveys. The topic for each month can be found in Fig.2. Every Thursday afternoon around six to eight students from one of the different Higher Achievement centers arrived at 5:15 PM to the Cathedral of Learning or Alumni Hall at the University of Pittsburgh, where the sessions were held. For the first three weeks of the month the lesson topic held for each different Higher Achievement center group was exactly the same. During the fourth week, all students from all three centers met at Alumni Hall, where a different speaker would come in each month. The weekly lessons were designed by PAC, while the speakers at the fourth week was usually a member of the Pittsburgh community who volunteered to speak.

A total of ten sessions were observed throughout the semester and observations regarding the level of engagement and participation of students were noted. Overall, students seemed to be engaged, attentive, and participative throughout the lessons. Students participated, answered questions, and seemed to enjoy the topics learned each week. Students engaged the most whenever questions or topics related more closely to their own universe. During the month of February, for example, the theme arts was explored in the context of Pittsburgh neighborhoods where students were from. Murals around the city were displayed and students seemed excited about the fact that they were familiar with those. An important thing to note is that students seemed extremely shy whenever asked to speak in front of the class. Not a single student

voluntarily chose to present their work in front of the class whenever they were asked to. Students also seemed to be least participative during some of the speakers' events, in which they were less engaging and participative.
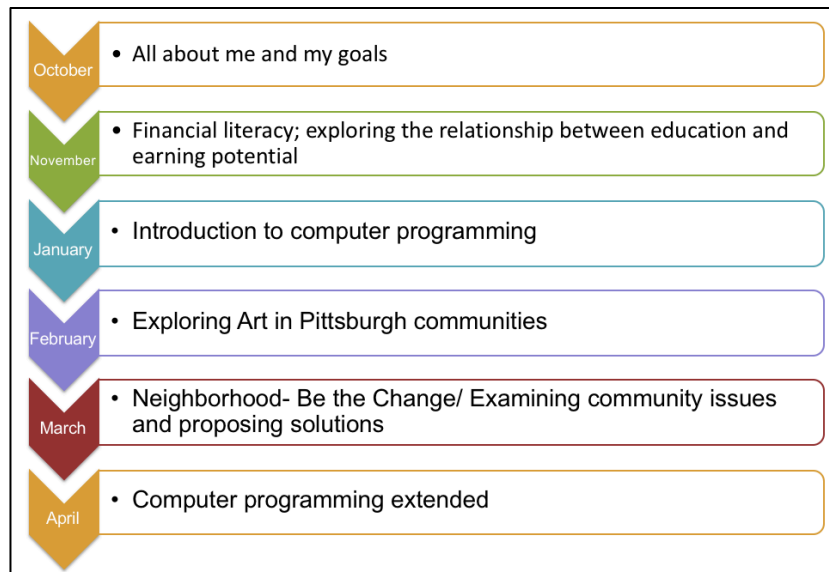

Figure 2. PAC Curriculum for Higher Achievement students during the 2017-2018 school year.

The participant demographics were included in the first two questions of both pre and post surveys. A total of 20 students filled out the pre-survey, in which eleven of those identified themselves as females, nine as males, and 100% of those identified themselves as African Americans. The post-survey was filled out by 16 students, including ten females, six males, and 100% identified themselves as African Americans as well.

Pre-Survey Results
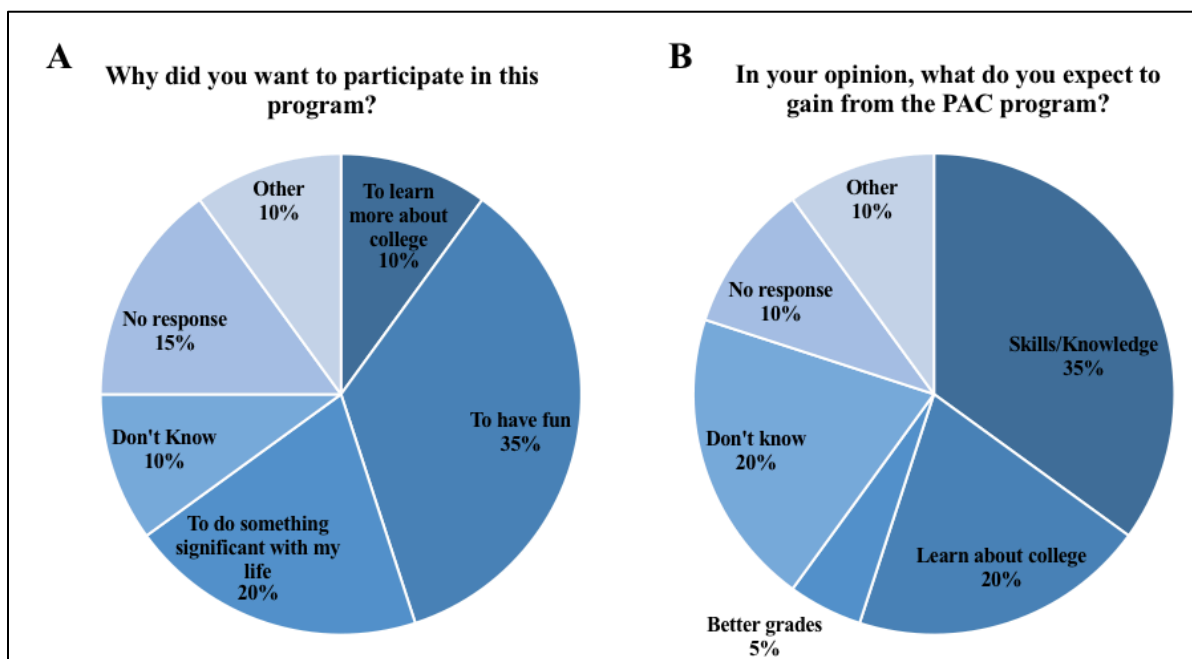
The pre-survey was administered in order to understand students' motivation toward the program and students' awareness regarding financial aid and college entrance requirements. The surveys demonstrate that there was a strong interest in coming to this program in order to learn more about college, enjoy their time at Pitt, with the goal of acquiring new skills, as shown in Fig. 3. Students also seem to have a general understanding of college entrance requirements from their lessons at Higher Achievement and PAC, as shown in Fig. 4.

Figure 3. Pre-Survey results regarding (A) students' motivation toward the program, as well as their (B) expectations from PAC. (n=20)

College Awareness Initial Data

■ No ■ Yes

Has anyone at your school or HA ever spoken with you about the availability of financial aid to help you pay for college? — 45% / 55%

Has anyone at your school or HA ever spoken with you about college entrance requirements? — 35% / 65%
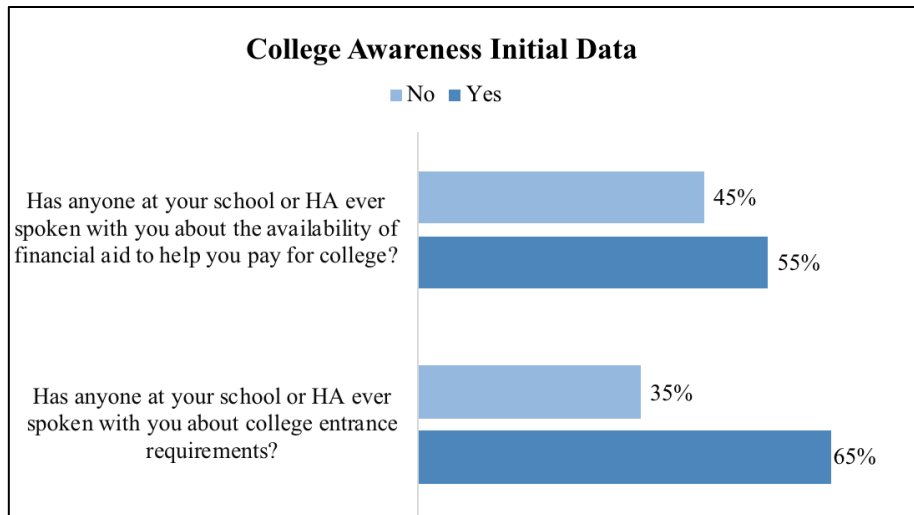
Figure 4. Pre-Survey results regarding student's knowledge about financial aid and college entrance requirements. (n=20)

Post Survey Results

At the end of the semester, a final survey was given to students in order to analyze the impact of the PAC program and any changes in students' behavior and/or motivation towards college. A comparison between students' answers before and after the end of the semester is shown in Fig.5.
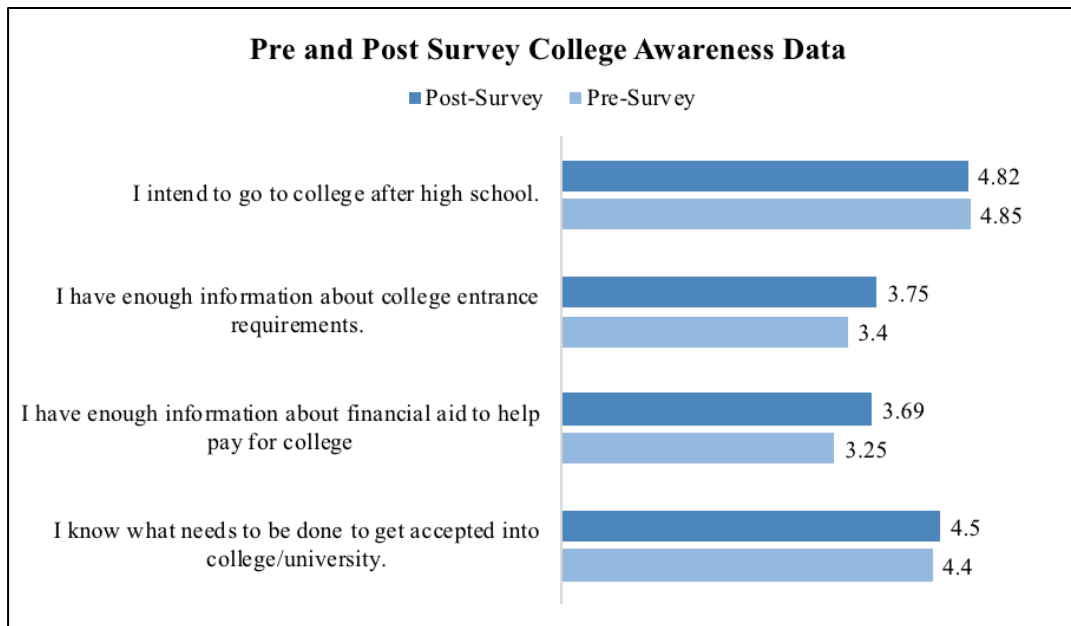
Figure 5. Means for pre- and post-survey questions regarding college awareness were compared at the end of the semester on a scale of 1-5, with 1 being "strongly disagree" and 5 being "strongly agree". (n=20 for pre-survey, n=16 for post-survey)

It is important to note that because this research study started in the Spring semester, this pre-survey is in fact a mid-survey that was performed halfway through the school year during the PAC program. Although this is a limitation of the study, it can be predicted that had an actual initial survey been performed, the comparison between the initial and final surveys would have been more significant than the ones reported in this research. The post survey results included questions regarding students' professional interests and a final evaluation of the program. As shown in Fig.6, 85% of students seem to have a general idea of what they intend to do in their future. The goal of this question was primarily to assess whether or not these students are starting to think about setting professional goals, even if they change several times in the near future. Research shows that when students set their own goals, they tend to be more proactive and to take more responsibility of their own goals. This self-determined behavior of goal setting is correlated to an increase in intrinsic motivation and higher achievement (Turkay, 2014). The final evaluation of the program is also shown in Fig.6, where students answered their favorite and least favorite part of the program as well as what they learned from it. The survey results indicate that their favorite part of the program was the social aspects of it (making friends) and attending lectures at a university campus. 50% of students did not have any negative feedback about the program, while 35% responded to this question with a specific topic or lesson learned throughout the semester. Students' main lesson from the program seem to be information about college as well as technology skills. Finally, Fig.7 demonstrates the results for the questions regarding the impact of the program on their academic life, as well as an evaluation of the mentors. The answers were generally positive and ranged from 3.5-4.8.
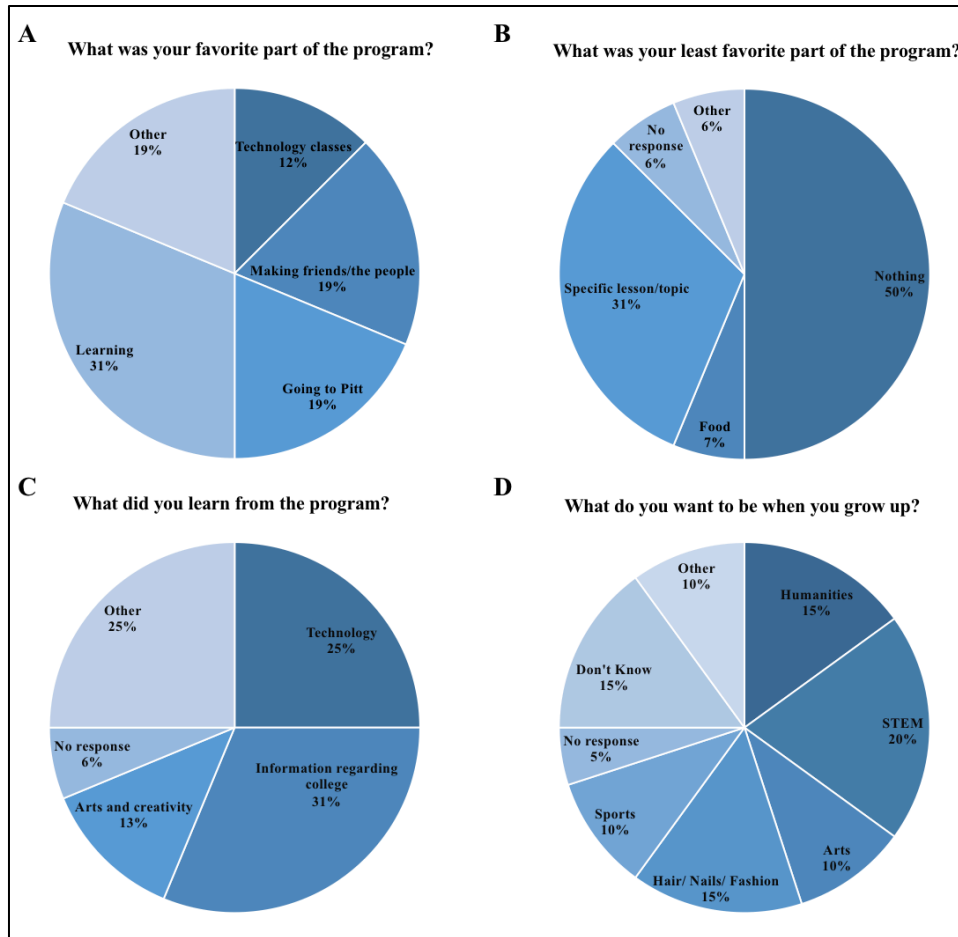
A What was your favorite part of the program?

B What was your least favorite part of the program?

C What did you learn from the program?

D What do you want to be when you grow up?

Figure 6. Post survey question results regarding the impact the program had on students. (A) Students answered what their favorite part of the program was, (B) their least favorite, (C) what they learned from the program, and finally (D) what their professional goals are at the end of the program. (n=16).
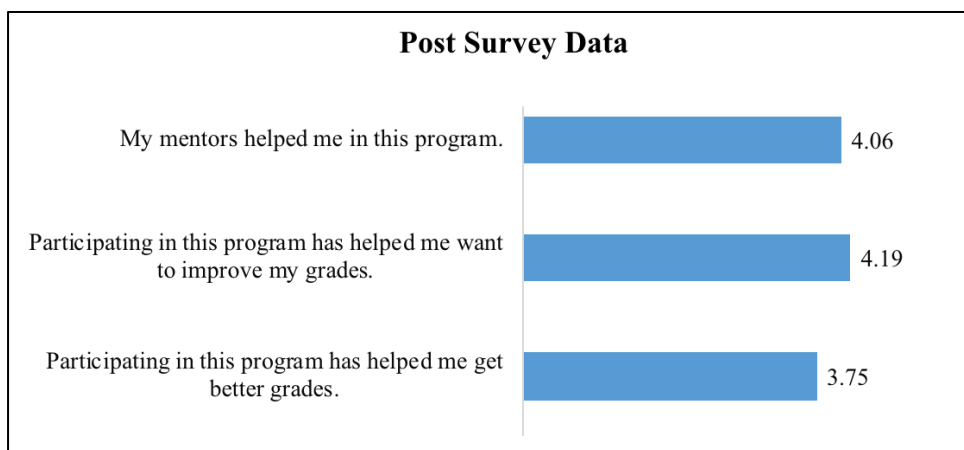
Post Survey Data

My mentors helped me in this program.	4.06
Participating in this program has helped me want to improve my grades.	4.19
Participating in this program has helped me get better grades.	3.75

Figure 7. Means for post-survey regarding the impact this program had in the students' academic life, as well as their opinion on specific aspects about the program, such as

evaluation of their mentors, on a scale of 1-5, with 1 being "strongly disagree" and 5 being "strongly agree". (n=16)

Discussion

In this study, I performed an evaluation of a college awareness program, PAC, attended by low-income middle school students of Higher Achievement in the Pittsburgh area. Higher Achievement is an afterschool Academy that provides middle school students with homework coaching, intensive academic mentoring, and seminars. Higher Achievement has won several awards for its impact in the students and it is nationally recognized as an outstanding mentoring program. Their partnership with the Pittsburgh Admissions Collaboration program in this area has just started in 2017 and the goal of this research was to analyze and evaluate its impact on the Higher Achievement students who attended the PAC sessions. The presented study addresses both students' perceptions of the program as well as the observations during each PAC session in the hopes that programs such as PAC and Higher Achievement can be further developed in Pittsburgh as well as other areas of the country aiming to close the achievement gap.

The research was performed through pre and post surveys given to the students at the beginning and at the end of the semester and observations performed during each lesson. As mentioned previously, the major limitation of this study is that the pre-survey was performed in the middle of the program, rather than at the beginning. The results still show an increase in college awareness and interest in pursuing a secondary education, according to the students. We hypothesize that these differences would have been more significant had we performed a survey at the beginning of the program. Students seemed to enjoy the program and reported that their grades and motivation at school had also increased.

I also noticed a drastic behavioral difference from previous experiences in volunteering with Higher Achievement versus observing the students' behavior in a college campus. They seemed more attentive, willing to engage in the proposed activities, and less disruptive in class time during the sessions held at Pitt. Attending lessons on a college campus could possibly have contributed to this positive shift in their academic and behavioral performance.

Future directions of this research could include a longitudinal research in order to not only evaluate the short-term impact of this program, but especially the long-term impact it has on the students regarding college motivation, enrollment, persistence, and retention rates.

Overall, the results of the evaluation of the PAC program are consistent with what I expected. Implementing a college awareness and motivational program on a college campus at an early stage of the students' development can increase the likelihood that these students will consider college in the future. Although there have been dramatic increases in postsecondary enrollment at American colleges and universities, significant gaps still exist in who goes to college and ultimately who succeeds. Low-income, African American, Hispanic, and Native American populations continue to be underrepresented at higher education institutions relative to their representation in the average college-age population (Nettles et al., 1999). We hope that by disseminating the results of the work of Higher Achievement and PAC in Pittsburgh, other locations can adopt similar programs in order to help close the achievement gap and ensure that all students are able to reach their full potential, regardless of their race, class, and ethnicity.

Recommendations

My research examines the benefits of promoting a college awareness and motivational program for low income middle school students. These programs are generally designed to not only improve academic skills, but most importantly, to provide mentoring, support, and career guidance from a young developmental age. The PAC program was exceptionally well-received by the Higher Achievement students, as shown in the results section, in addition to students' increase in college awareness and professional goal-setting. PAC fostered a well-rounded educational program that tackled several important topics for enriching the students' development, such as arts, technology, critical view of the world and changes that we, as individuals, can promote in the world. PAC went beyond the basic college awareness program that I was personally expecting, because most importantly, it gave the students the tools for critical and creative thinking. Cultivating this intellectual curiosity from very early on by providing lessons at a college campus proved to have a strong impact in the way the students think about their future goals in life. The information is also supported by a strong mentoring team that fosters a healthy learning environment and ultimately motivates these students to think bigger and reach higher.

Although PAC is already a strong program with promising results, based on the observations and surveys implemented in this research, PAC can consider implementing the following:

(a) Observations performed in the classroom suggests that an emphasis on public speaking from early on could be extremely beneficial to these students, as they seem particularly shy at this point.

(b) Students seemed particularly more engaged when the connection between the topic of the lessons and their own life experiences was explicitly relevant. Strengthening the connections between the topics and their experiences in order to increase student engagement, such as occurred with the Arts segment, would be extremely beneficial to the students. Students seemed to enjoy learning about arts during the many examples given of art around their own neighborhoods. Following this same strategy with other topics could have a significant impact on the student's learning skills.

(c) The area that could improve the most according to the observations performed, would be the guest speaker sessions. This was the activity in which students seemed to engage the least. I would recommend that guest speakers add dynamic interactions with students, using topics that are familiar to their own universe. Inviting guest speakers with compelling and motivational stories would also be an interesting strategy in order to captivate students' attention.

(d) Lastly, I would recommend that the interaction between the students and the college mentors be strengthened by assigning individual students to designated mentors each week and allowing them longer interaction periods, rather than a blind rotation each week. The role of the mentors in the PAC program could be further expanded to allow the middle school students to develop close relationships with the mentors. This mentoring relationship can serve as a basis for mentees to learn by observation and example in order to maximize their professional potential, develop their skills, and ultimately, become the person they want to be.

Finally, I hope that these recommendations will only add value to the already incredible partnership between Higher Achievement and PAC. The work PAC does will have a significant impact on the lives of these students and we hope that this paper will bring light to the work performed by these organizations in Pittsburgh. Ultimately, the students are given the tools on how to succeed and are empowered to believe in themselves and all the incredible potential each one of them has to offer. These children are tomorrow's leaders and investing in them today will have a significant impact in decreasing the achievement gap for generations to come.

Personal Reflection

I am originally from Brazil and moved to the U.S. right before my freshman year. Coming from a developing country has taught me the importance of community service as I have seen first-hand the incredible impact one can make in someone else's life. As a volunteer at my church in high school, we had food drives every week, where we distributed food to the poorest areas of my city in Rio de Janeiro. Over the years, I realized that although significant, what I was doing was not enough. But how could I systematically help change years' worth of society's stratification and inequalities? Helping these families with food drives was certainly beneficial as we were able to provide them with immediate help for their most basic needs, but it certainly did not solve the root of the problem since Brazil is listed as one of the most unequal countries on the planet. I had slowly come to understand two harsh realities about volunteering: first, that sustainable development isn't necessarily quick or easy; and second, that my volunteering experience was not as selfless as I would've liked to claim.

Volunteering brings out the best in me as well as a sense of self achievement like no other. My heart became full every time I was able to help a family or kid in need. In all honesty, this is one of the hardest truths to admit, even to myself. Was I the embodiment of everything I believed was wrong in relation to the "savior complex"? These children and families ultimately wouldn't ever need me if it weren't for hundreds of years' worth of inequalities, racism, and a system that perpetuates a stratified system with unequal opportunities. This self-realization became even more clear after I started volunteering at Higher Achievement, an after-school academy program for low-income middle school students in Pittsburgh. As a mentor, I was able to connect with these students by helping them with not only homework, but most importantly with motivational support and guidance throughout their transition to high school. As a volunteer at Higher Achievement, I believe I gained far more than I could've ever expected. Although my role was a mentor, I was learning just as much from these students, if not more. I was finally understanding how to be a volunteer in the most humble sense of the word. I wasn't there to lecture them or save them from the "depths of poverty". They didn't need me for that. I was there as a supporter, a learner, and a friend. What was needed from me was to be someone that the students could trust and rely on, and most importantly, support and encourage them in order to empower these kids to think big, believe in themselves, and reach far. The sad reality, as I mentioned, is that sustainable changes are not quick or easy. They take time, effort, and the constraints involved in eliminating the achievement gap are intertwined in every big problem society faces today; from our very own educational system, to the day to day life battles that each one of the students have to face.

"Corey" is one example. "Corey" was one of my mentees last year. He kept acting out, stealing, getting in trouble in school and he was extremely difficult to work with. Throughout the semester I had trouble working with him, but with time he ended up opening up to me. His brother was in jail for murder. He missed him very much and all he could think of was being with his big brother. Stories like Corey's, are unfortunately not uncommon and they present a sad reality where education may not be these students' main priority when so much is going on at home.

Although volunteering has always been a part of my life, I had never thought about doing research in this field. Dr. Mena was my professor for one of my engineering classes "ENGR 1060- Social Entrepreneurship". This class, although an elective, turned out to be one of the most critical engineering classes I have taken. More important than calculating the energy performance and efficient around reactors like my other chemical engineering classes, I learned that an engineer has the ethical and moral responsibility to be environmentally and socially conscious of their actions and their impact at multiple levels in society. In this class, I learned how to incorporate my engineering background to address social and environmental issues into our product and service.

This research project was an extension to what I had learned in Dr. Mena's class, as I was able to apply my engineering skills to a real-world social issue. Although I was able to take this class and learn more about community-based research opportunities through Holly Hickling, my Honors College advisor, and Dr. Mena, this class is an elective and therefore not required for all engineering students. I strongly believe that a service-learning component course would help students to be aware of their potential assets to their local community as well as in a global scale. The critical thinking and problem-solving mindset instilled in our core engineering classes from very early on can be used in a multitude of problems that expand far beyond our engineering bubble where efficiency and cost are the two major constraints.

With this research study, my goal was to take my role at Higher Achievement a step further and research their new program with Pitt, where middle school students receive on-campus mentoring related to college readiness and awareness. This program is an incredible opportunity to help these students of low-income backgrounds to discover new skills and expand their horizons by attending lessons at a college campus. Closing the opportunity-gap is the very first step towards equality and in order to achieve that we must expose these students to higher education from very early on. Empowering these students can have a long-lasting impact in their futures by breaking the cycle of poverty and making stories, like Corey's, less likely to occur.

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References

United States Courts. n.d. "History- Brown v. Board of Education Re-enactment." Accessed June 3, 2018. http://www.uscourts.gov/educational-resources/educational-activities/history-brown-v-board-education-re-enactment

Friedman, Howard. 2012. "America's Poverty-Education Link." *Huffington Post,* October 29. https://www.huffingtonpost.com/howard-steven-friedman/americas-poverty-education_b_1826000.html

Semuels, Alana. 2016. "Good School, Rich School; Bad School, Poor School*." The Atlantic*, August 25. https://www.theatlantic.com/business/archive/2016/08/property-taxes-and-unequal-schools/497333/

Balingit, Moriah. 2017. "U.S. high school graduation rates rise to new high." *Washington Post,* December 4. https://www.washingtonpost.com/news/education/wp/2017/12/04/u-s-high-school-graduation-rates-rise-to-new-high/?utm_term=.e261a564dc56

National Center for Education Statistics. 2016. "Percentage of high school dropouts among persons 16 to 24 years old (status dropout rate), by sex and race/ethnicity: Selected years, 1960 through 2015*." NCES*. https://nces.ed.gov/programs/digest/d16/tables/dt16_219.70.asp?current=yes

Doug Shapiro, Afet Dundar, Faye Huie, Phoebe K. Wakhungu, Xin Yuan, Angel Nathan & Youngsik Hwang. 2017. "Completing College: A National View of Student Attainment Rates by Race and Ethnicity – Fall 2010 Cohort." *Herndon, VA: National Student Clearinghouse Research Center*. Signature Report No. 12b

Alon, Sigal. 2009. "The Evolution of Class Inequality in Higher Education: Competition, Exclusion, and Adaptation*." American Sociological Review* 74 (5): 731-755.

Higher Achievement. 2017. "Our Program: Rigor, Relationships, Right Time." Accessed June 3, 2018. https://higherachievement.org/our-program/

Higher Achievement. 2017. "Pittsburgh Scholars Go to College!" Accessed June 3, 2018. https://higherachievement.org/blog/pittsburgh-scholars-go-to-college/

Samantha Teixeira & Anita Zuberi. 2016. "Mapping the Racial Inequality in Place: Using Youth Perceptions to Identify Unequal Exposure to Neighborhood Environmental Hazards." *International Journal of Environmental Research and Public Health* 13 (9): 844.

Turkay, S. 2014. "Setting Goals: Who, Why, How?." *Manuscript.* Accessed June 3, 2018. https://hilt.harvard.edu/files/hilt/files/settinggoals.pdf

Michael T. Nettles, Laura W. Perna, Kimberley Edelin Freeman. 1999. "Two Decades of Progress: African Americans Moving Forward in Higher Education." *College Fund/UNCF, Fairfax, VA. Frederick D. Patterson Research Inst. ERIC* Number: ED427642.