Mentoring Futures:

*Evaluation of the Be A Middle School Mentor Program Through its 7th Year of Implementation*

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Executive Summary

The Be a Middle School Mentor program (BAMS M) was instituted in 2009 to help middle grades students develop career aspirations that provide motivation for academic excellence and leave middle school with academic, behavioral, and attendance levels that position them for eligibility for the Pittsburgh Promise. The program is a partnership among the Pittsburgh Public Schools (PPS), the United Way of Allegheny County (UWAC), and various agencies. The program was first implemented with 225 6th graders. Over the years since 2009, some students who were mentored in 6th grade continued in the program into 7th and some into 8th grades. Thus, at full implementation, the program serves 6th-8th grade students across 13 sites. In the 2015-2016 school year the program served 298 students through partnerships with three core agencies and another 60 children through a separate structure with the Urban League. This evaluation focused exclusively on BAMSM programming in which UWAC oversees three agency partners to implement the program. This evaluation, while being disseminated during the 2016-2017 program year, reflects findings from the first 7 program years.

Guiding Evaluation Questions

1. How has the BAMS program design and implementation evolved during its first 7 years?
2. What is the current program theory of action?
3. What conditions attract and retain mentors?
4. In what ways, if at all, do parents of participating students think that the mentoring influences their child?
5. In what ways, if at all, does the program affect mentees’ awareness of careers and their educational pathways, their understanding of the purpose and value of schooling, and their school attendance and academic performance?
6. In what ways, if at all, has mentoring supported student transitions from 5th to 6th grades and 8th to 9th grades?
7. Are there appreciable differences in quality of implementation or impact on students for mentoring carried out over lunch compared to after school?

Key Data Sources

- Mentor and youth demographic data (e.g., participation years, race and gender)
- End of Year 7 program surveys for current and past mentors (n=306), current youth participants (n=173), and parents of 7th and 8th grade participating youth (n=40)
- Interviews with highly engaged mentors (n=10 who participated 3 years or more)
- Focus groups with 6th grade students (n=24); 9th grade focus groups not able to be conducted
- Interviews with agency partners and UWAC program leadership (n= 9 people across UWAC and three agency partners)
- PPS data for BAMSM students and all other non-participants in the same cohort. Data points include: school enrollment, attendance, grade point average (GPA), disciplinary incidents, PSSA Reading and Math scores, Keystone exams, and graduation for 5th grade through most recent grade enrolled
Program Participation Demographics

✓ Program youth are predominantly low-income and African American
  • 1,429 mentoring relationships from program inception to 2014-15 school year
  • 74% of youth were African American
  • 93% were eligible for FRPL
  • 57% were female

✓ Mentors are predominantly White females with a college degree or higher
  • 80% are white
  • 75% female
  • 56% were raised in middle to upper or upper income households
  • 88% have a Bachelor’s degree or higher
  • While 79% have at least a moderate level of past experience working with youth, only 40% have experience working with “at risk” youth

Conclusions

Overall, the program is highly valued by participating youth, with large majorities reporting satisfaction with their relationship with their mentor, learning about a broader range of career possibilities, and developing a greater understanding of how schooling is linked to their futures. Impact assessments using rigorous Propensity Score Matching and regression methodologies suggest statistically significant effects of program participation on middle school GPA, attendance, and PSSA Math scores. These effects are generally not sustained after children stop participating (either aging out of the program or only participating for 1 or 2 years), suggesting that the active mentoring relationship is critical to the observed benefits.

Although the full evaluation included study of the program’s evolution, mentor and parent experiences and perspectives, the program’s impact on transitions, and the merits of the two implementation models (lunch vs. afterschool), this Executive Summary highlights only the key findings regarding targeted student outcomes. Readers can find broader treatment in the full report.

✓ Mentors and mentees report high relationship satisfaction
  • About 85% of mentors and youth were satisfied with the match.
  • 75% of youth rate interactions as highly positive, youth-centered, stimulating and encouraging.
  • Shared interests, respect, and sense of caring emerged as most critical for relationship building.

✓ Students report greater awareness of careers and pathway to get there
  • About 78% of youth reported agreement or strong agreement that they learned more career possibilities and the education needed to get there.
  • 59% felt it helped them identify a career interest.
• About 75% identified realistic or somewhat realistic career interests; Nearly half could accurately describe the educational pathway to get there.

✓ **Youth say the program helped them see the purpose and value of schooling**
  • About 80% of youth say the program helped them see why school matters for them and 73% agreed that it inspired them to do well in their classes.
  • Fewer (about half) report doing homework more or following school rules more as a result of participating.

✓ **BAMSM participants had higher school attendance than comparison peers**
  • BAMSM and comparison peers were matched based on pre-program criteria.
  • For each year that students participated in BAMSM, they had better attendance than the comparison peers and these differences were statistically significant.
  • For students who participated in BAMSM for 3 years, their attendance was also better than their comparison peers in 9th grade.
  • There was no statistically significant difference between BAMSM and comparison peers for unexcused absences, although all of the means trended toward more positive outcomes for BAMSM participants.

✓ **Program had no discernable systematic effect on disciplinary incidents**
  • In school suspension data were inconsistent to analyze.
  • There were no differences between program and comparison youth for out of school suspension.

✓ **BAMSM participants had higher GPAs than comparison peers for each year in which they participated in the program**
  • We find consistent and statistically significant differences between the GPAs for participants and matched non-participants for 6th-8th grades when BAMSM students are participating. This differences in means range between .14 and .21.
  • When we examine GPA effects over the middle school years regardless of whether BAMSM students participated for a 2nd or 3rd year, we find statistically significant differences only for the 6th grade year in which all students participated. This suggests that active mentoring (rather than spillover effects for subsequent years) is critical to sustaining the positive effects.

✓ **BAMSM participants performed better on PSSA Math (but not Reading) than their matched comparison peers**
  o We observed higher PSSA Math scores for 6th and 8th grade BAMSM students that are statistically significant. Scores for 7th grade participants are higher than their matched comparison peers, but these differences are not statistically significant.
  o PSSA Reading scores are higher for BAMSM students than comparison peers but these are not statistically significant.

✓ **Trend data suggests that participation in BAMSM is associated with moving from Promise ineligibility in 5th grade to eligibility during the middle school**
years. Although only a descriptive (and not causal) trend, a larger share of participants than matched comparison children moved from “ineligible” Promise status in 5th grade to “eligible” status during the years they participated in the program.

An exploratory look at a range of high school academic and behavioral variables were considered to better understand how the program's middle school outcomes might relate to later outcomes beyond the program's direct touch.

- Due to attrition rates from the PPS for both the participant and comparison groups and the fact that only one cohort of BAMS M participants had reached 12th grade, sample sizes were too low and lacked the necessary variability to permit meaningful analyses of high school variables such as Keystone Exams, graduation, and health and human services involvement. We estimate that 3-5 more cohorts of BAMSM students would create sufficient sample sizes.

Implications for program improvement

- Ensure that data systems allow accurate tracking and archiving of all youth and mentor participants.
- Areas to strengthen implementation include a timelier and more consistent approach to communicating to mentors about mentee absence and program changes, additional support for mentors who perceived their mentees as uninterested, and strategies to mitigate effects of personnel turnover.
- Recently, the program has increased by 5 sites. It is unclear whether this has resulted in a substantially larger number of students being served or if it has added communities without substantially increasing the total students served. One consideration is whether the value-added of including additional sites exceeds the costs of establishing, maintaining, and operating more sites.
- There is evidence of systematic program impact on middle school GPA and attendance when student are actively participating in the mentoring. We do not see, however, consistent spillover into high school years when students are no long participating in mentoring. Given the observed positive impacts on middle school GPA and attendance, the program and its stakeholders may want to consider how to increase the number of students participating in the program for the full three years of middle school and how to support the transition to high school to maximize carryover effects. A hypothesis might be that ongoing mentoring during 9th-12th grades may allow students to sustain the observed improvements in these critical Promise criteria.
- Linkages between the observed middle school outcomes targeted by the program and later outcomes such as high school completion, Promise eligibility and use rates, college enrollment, and involvement with DHS outcomes could be evaluated more definitively in 3-5 years when more cohorts of BAMS M students reach the end of their compulsory education. Given the observed impacts on middle school GPA and attendance, such analyses may be useful in understanding the long-term impacts of the middle school mentoring.
**Introduction**

The Be a Middle School Mentor program (BAMSM) was instituted in 2009 to help middle grades students develop career aspirations that provide motivation for academic excellence and support eligibility for the Pittsburgh Promise academic, behavioral, and attendance criteria. The program is a partnership among the Pittsburgh Public Schools (PPS), the United Way of Allegheny County (UWAC), and three mentoring agencies which pairs students who are deemed by school staff as “at risk but likely to benefit from the program” with adult mentors from the community. The program seeks to develop a positive relationship between mentors and mentees that can lead to the development of career interests and goals, an awareness of a pathway to get there, improved attitudes toward school, improved in-school behavior and attendance, and improved academic performance that helps students leave middle school poised for success in high school. Ultimately, the program seeks to support these students in becoming eligible for the Pittsburgh Promise scholarship, a place-based financial scholarship for post-secondary education. The program was first implemented with 225 6th graders. Over the years since 2009, some students who were mentored in 6th grade continued in the program into 7th and some into 8th grades. Thus, at full implementation, the program serves 6th-8th grade students across 13 sites. In the 2015-2016 school year, the program served 298 students with its three agency partners and an additional 60 students through the Urban League. This evaluation focused exclusively on the first seven years of BAMSM programming in which UWAC oversees three agency partners to implement the program.

**Evaluation Context**

The Evaluation for Learning project (EFL) at the University of Pittsburgh's Learning Research and Development Center (LRDC) completed an evaluation of the Be a 6th Grade Mentor (former name of the current BAMSM program) in 2011. In February 2015 the EFL was asked by a UWAC staff member to submit an evaluation proposal to assess program impact in its 7th year of operation (See Appendix A for full proposal). This proposal was accepted and work began in August 2015. The data that were needed to conduct some of the originally proposed analyses were not available. These limitations to available data are noted in the *Evaluation Methodology* section of this report and further discussed in Appendix B.

Over the last 6 months, the EFL has prepared analyses and presentations for program leadership and agency partners for subsets of the data that directly inform program design and implementation. Although those communications centered on formative findings about
program implementation, this report is focused primarily on the findings of the outcomes evaluation.

Guiding Evaluation Questions
The UWAC was most interested in understanding the impact of the mentoring program on participating youth after 7 years of implementation. Thus, the evaluation questions were predominantly geared toward assessment of specific outcomes for mentees rather than a comprehensive program implementation evaluation. The following questions guided the design and execution of the evaluation:

1. How has the BAMS program design and implementation evolved during its first 7 years?
2. What is the current program theory of action?
3. What conditions attract and retain mentors?
4. In what ways, if at all, do parents of participating students think that the mentoring influences their child?
5. In what ways, if at all, does the program affect mentees’ awareness of careers and their educational pathways, their understanding of the purpose and value of schooling, and their school attendance and academic performance?
6. In what ways, if at all, has mentoring supported student transitions from 5th to 6th grades and 8th to 9th grades?
7. Are there appreciable differences in quality of implementation or impact on students for mentoring carried out over lunch compared to after school?

Evaluation Methodology

In this section, we describe the overall evaluation approach, design, and data collection strategies. The design was intended to provide a mixed-methods examination of program impact. This particular evaluation design was heavily contingent upon the availability of data from the PPS and UWAC and access to 9th grade students via PPS high schools. We note below where the original design was modified to adapt to unrealized contingencies.

Key design elements

Table 1 shows the key design components originally proposed for investigating the guiding evaluation questions and the modifications necessary due to constraints in data availability.
**Table 1:** Proposed evaluation design and enacted modifications

<table>
<thead>
<tr>
<th>Evaluation Questions</th>
<th>Design Element</th>
<th>Modifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1: Program design and implementation change</td>
<td>✓ Interviews with UWAC program leaders ✓ Review of cross-year program documents</td>
<td>✓ None</td>
</tr>
<tr>
<td>#2: Theory of action</td>
<td>✓ Theory of action development sessions with UWAC program leadership ✓ Validation checks via interviews with 3-5 core BAMSM partners, mentors, and/or funders selected by UWAC leadership</td>
<td>✓ None</td>
</tr>
<tr>
<td>#3: Attract and retain mentors</td>
<td>✓ Survey of all current and former mentors ✓ Interviews with subset of mentors (Sample those who participated for 1 year only and those who participated 3+years)</td>
<td>✓ None</td>
</tr>
<tr>
<td>#4: Parent views of impact</td>
<td>✓ Phone interviews with a strategic sample of mentee parents (target n=60) whose students participated in the program in its 6th and 7th years. Sample will include students who participated for 1 year and those that participated for 2 or 3 years. Interviewees will receive $25 for participating.</td>
<td>✓ Conducted surveys with a set of parents of youth who participated for either 2 or 3 years at recommendation of program leadership</td>
</tr>
<tr>
<td>#5: Impact of participation on targeted mentee outcomes</td>
<td>✓ BAMSM student and mentor participation, pairing, and program attendance data from all programmatic years ✓ Focus group data (described above) ✓ Survey of all current and former mentors ✓ Survey of all current 9th graders who participated in the program for 2 years (transitions, impact on career awareness) ✓ Student academic (PSSA reading and math and Grade Point Average), behavioral (in- and out-of-school suspensions), school attendance, grade promotion data (8th to 9th grades), Promise eligibility, and on-time high school graduation for all BAMSM cohorts and matched sets of non-participating students for each cohort ✓ We will examine impact by comparing BAMSM participants to non-participants and by examining outcomes in relation to “dosage” (how many years a student</td>
<td>✓ No data collection from 9th graders due to access issues. ✓ Program data on weekly attendance was not recorded and archived consistently over the program’s first 7 years and so analyses requiring detailed attendance data were not possible. ✓ We added collaboration with DHS to explore the possibility of measuring the</td>
</tr>
<tr>
<td>Evaluation Questions</td>
<td>Design Element</td>
<td>Modifications</td>
</tr>
<tr>
<td>----------------------</td>
<td>----------------</td>
<td>---------------</td>
</tr>
<tr>
<td></td>
<td>participated in BAMSM</td>
<td>impact of program participation on involvement with the juvenile justice system and alcohol and drug services.</td>
</tr>
</tbody>
</table>
| #6: Mentoring impact on student transitions | ✓ Focus groups with 16 sixth-grade students who are currently participating in the BAMSM program (representing 2 sites) in order to learn about transition issues  
✓ Focus groups with 24 ninth-grade students who participated in the BAMGM program for at least 2 years (representing 2 sites) and with 24 matched ninth-grade students who did not participate in the program  
✓ Mentor survey questions  
✓ Mentor interview responses  
✓ Comparison of PPS academic, attendance, and behavioral data near transitions (6th and 9th grades) for BAMGM and matched set of non-participants | ✓ Focus groups with 9th grade students were not executed. Principals at targeted sites did not respond to EFL and PPS central office requests to participate. |
| #7: Lunch vs after school | ✓ Analysis of student outcome data comparing those in lunch versus after school condition | ✓ Site differences of the groups limited ability to conduct analyses |

**Study Participants**

In this section, we summarize the participants in the evaluation study. We detail which youth are included in the overall data set, the population involved in analyses that compare participants to non-participants, who participated in surveys, interviews and focus groups, and the demographic characteristics of program mentors.

**Who is included in the master quantitative data set?**

The data set supplied by the PPS included all students in the cohort for those in 6th grade from 2009-10 school year to 2015-16 school year. This includes students who participated in BAMSM as well as all other PPS students in the same cohort who did not participate. The non-participating students were included so that we could create a counterfactual (comparative) group to understand whether changes observed in participants can be attributed to program participation.

The PPS supplied information for 13,457 students. These data specifically included:

- **Demographic**
Gender, race, Free or Reduced Price Lunch
- Enrollment by year
  - Grade code
  - School enrolled
  - Feeder school assigned
  - Enrollment and withdrawal dates
  - Membership days, unexcused/excused absences
- Academic
  - Annual GPA
  - High school GPA
  - PSSA and Keystone scaled scores and performance levels
  - Graduation status
  - 12th grade Promise eligibility status
- Behavioral
  - OSS and ISS days
- Program Participation
  - Site participated
  - Agency assigned to site
  - Years participated

Who were the BAMSM participants?

Table 2 shows the number of BAMSM participants by year and grade level, as well as some basic demographic characteristics for 2009-2014, the cohorts that were included in the quantitative impact analyses. In the 2015-2016 program year the United Way reports 298 youth being served. Thus, in the last several years, the program has served between 280-300 students per year, with the largest group being 6th graders each year. There are more female than male mentees and more African-American than Caucasian mentees. Almost all of the mentees come from families with economic hardship as measured by FRPL eligibility.

**Table 2: BAMSM Participation Statistics**

<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>6th graders</td>
<td>223</td>
<td>126</td>
<td>148</td>
<td>117</td>
<td>121</td>
<td>142</td>
<td>877</td>
</tr>
<tr>
<td>7th graders</td>
<td>96</td>
<td>107</td>
<td>103</td>
<td>76</td>
<td>95</td>
<td>477</td>
<td></td>
</tr>
<tr>
<td>8th graders</td>
<td>78</td>
<td>59</td>
<td>71</td>
<td>54</td>
<td>262</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>223</td>
<td>223</td>
<td>334</td>
<td>280</td>
<td>301</td>
<td>291</td>
<td>1652</td>
</tr>
<tr>
<td>Female</td>
<td>108</td>
<td>128</td>
<td>191</td>
<td>157</td>
<td>172</td>
<td>168</td>
<td>816</td>
</tr>
<tr>
<td>African-American</td>
<td>141</td>
<td>155</td>
<td>231</td>
<td>210</td>
<td>241</td>
<td>219</td>
<td>1056</td>
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<tr>
<td>Caucasian</td>
<td>62</td>
<td>54</td>
<td>76</td>
<td>47</td>
<td>35</td>
<td>52</td>
<td>264</td>
</tr>
<tr>
<td>FRPL</td>
<td>192</td>
<td>202</td>
<td>307</td>
<td>257</td>
<td>278</td>
<td>260</td>
<td>1304</td>
</tr>
</tbody>
</table>

*The number of participants by grade is produced using the Gradecodes variable in the PPS data for a given year of participation. Grade level at time of participation was not consistently available in program
documents. Any differences in the value in the “Total” row and the sum of 6th, 7th and 8th grade values are the students whose Gradecode in the PPS dataset may not have been accurate.

This evaluation only includes the sites that are run by United Way funded agency partners and does not include Urban League, Student Achievement, or other similar agencies that may be running a similar version of the program. Initially begun in 8 sites serving 223 students, the program now serves 298 students across 13 sites (see Table 3) and 60 additional students through the Urban League. As new sites have been added, the overall number of students has remained relatively consistent since 2010, indicating that the program has spread to more sites without serving more students. Agencies suggest that this is due to difficulty recruiting mentors to serve more students.

**Table 3:** Number of BAMSM Students by Site

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Allegheny</td>
<td>49</td>
<td>58</td>
<td>84</td>
<td>66</td>
<td>46</td>
<td>37</td>
<td>27</td>
</tr>
<tr>
<td>Arsenal</td>
<td>33</td>
<td>28</td>
<td>48</td>
<td>31</td>
<td>32</td>
<td>42</td>
<td>26</td>
</tr>
<tr>
<td>Classical</td>
<td>10</td>
<td>10</td>
<td>23</td>
<td>18</td>
<td>19</td>
<td>18</td>
<td>14</td>
</tr>
<tr>
<td>Rooney</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Schiller</td>
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<td>34</td>
<td>37</td>
<td>29</td>
<td>28</td>
<td>18</td>
</tr>
<tr>
<td>South Brook</td>
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<td>24</td>
<td>28</td>
<td>19</td>
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<td>10</td>
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<td>South Hills</td>
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<td>23</td>
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<td>12</td>
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<tr>
<td>Sterrett</td>
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<td>54</td>
<td>57</td>
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<tr>
<td>King</td>
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<td>32</td>
<td>27</td>
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<tr>
<td>Sci-Tech</td>
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<td>9</td>
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</tr>
</tbody>
</table>

We do not have complete data on whether those noted as “in the program” actually completed the program or dropped out. Thus, some students may have participated in the program for only a few sessions but are counted as have participated the entire year.

**Who participated in data collection activities?**

Post-program surveys were administered at the end of Year 7 of the program.

<table>
<thead>
<tr>
<th>Participant group</th>
<th>Total targeted for participation</th>
<th>Total survey responses</th>
<th>Response rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAMSM youth</td>
<td>298*</td>
<td>173</td>
<td>58%</td>
</tr>
<tr>
<td>Mentors (current and former)</td>
<td>1,756 email addresses**</td>
<td>306 (146 past, 160 current)</td>
<td>17%</td>
</tr>
<tr>
<td>Parents</td>
<td>105</td>
<td>40</td>
<td>38%</td>
</tr>
</tbody>
</table>
*This is the total number of students who enrolled in the program, some of whom may have dropped out of the program and were not present when the survey was administered at the end of the year. Thus, the response rate is likely higher than what is presented here.

**Many of these addresses were for individuals who expressed interest in the program but who never became mentors. There was no separate database of names and contact information for only those who became mentors. Thus, the response rate listed here is likely much lower than the actual response rate from those who served as mentors.

We also conducted interviews and focus groups with program and agency leadership, a subset of mentors, and 6th grade students.

<table>
<thead>
<tr>
<th>Data Collection</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interviews with UW and agency partners</td>
<td>9 people total across all 3 agency partners and UWAC BAMSM leadership</td>
</tr>
<tr>
<td>Interviews with mentors</td>
<td>10 mentors who had served as mentors in the program for 3 years or more</td>
</tr>
<tr>
<td>Focus groups with 6th grade students</td>
<td>24 students- 13 non-participants at 2 sites; 11 participants across 2 sites</td>
</tr>
</tbody>
</table>

*What is known about the mentors?*

- The mentor group is predominantly white (80%) and female (75%).
- Current mentors who completed the survey indicated how many years they had served as a mentor. About 37% were completing their first year as a mentor while another 27% were completing their 2nd year. A full 16% reported participating for 5 years or more.
- Nearly half (48%) of all mentors are age 51 and older.
- More than half of the mentors identify themselves as having grown up in Middle to Upper (48%) or Upper income (8%) brackets.

![Mentor Childhood Economic Status](chart1)

- The education background of mentors suggests a highly educated group with half having an advanced degree.

![Mentor Degree Attainment](chart2)
- About 79% of mentors report having moderate or extensive experience in working with youth but only 40% reported having that level of background experience with youth who are considered “at risk.”

### Mentor background in working with youth

<table>
<thead>
<tr>
<th>Experience Level</th>
<th>Youth in general</th>
<th>At-risk youth</th>
</tr>
</thead>
<tbody>
<tr>
<td>No prior experience</td>
<td>5%</td>
<td>7%</td>
</tr>
<tr>
<td>Minimal</td>
<td>34%</td>
<td>26%</td>
</tr>
<tr>
<td>Moderate</td>
<td>41%</td>
<td>22%</td>
</tr>
<tr>
<td>Extensive</td>
<td>38%</td>
<td>18%</td>
</tr>
</tbody>
</table>

- There are no demographic differences between former and current mentors.
- Current mentors indicated how many years they had mentored the student from the current year. Most had mentored the student only during the current year (57%), while about a 1/3 had mentored the same student for 2 years. Only 12% reported mentoring the same student for 3 years.
- About 40% of mentors had no prior experience serving as a mentor, suggesting the BAMS has served as a tool for recruiting new professionals into mentoring.
- The most prevalent mentor career fields include education, business, law, non-profit, and finance/accounting.

**Quantitative Analysis**

Appendix B provides a detailed technical overview of the quantitative analysis methodologies. The general approach utilized propensity score matching (PSM) to construct comparison groups that permit us to determine whether any changes in outcome variables observed for the program participants are attributable to the program. This is a
rigorous analytic model that allows us to make claims about causality that we cannot make from descriptive or correlational approaches. We note where we use this more rigorous approach and were our findings are based on descriptive analyses.

Limitations of the Study

- Not all of the desired data were available so some proposed analyses were not conducted or were modified. Key limitations centered on the lack of consistent program attendance and drop out data. The program weekly attendance data was inconsistently recorded and archived by agency providers so we are unable to assess the extent to which participation in a program year reflects substantial program exposure. The data do not include reliable indications of those who dropped out of the program so impact assessments may be less sensitive as those who actually did not receive the full program may still be included in analyses. This is likely to overestimate data on satisfaction, program recommendations, and matching quality. It is likely to underestimate effects on targeted student outcomes as students who had little to no program exposure could still be in the "program group" data. In addition, there was some missing data within the PPS data set, some of which we were able to utilize imputation and others which required us to drop cases from the analyses.
- The comparison group was matched using propensity scores, which incorporated race, gender, economic, pre-program academic performance, school stability and need, and parent choice variables. Despite our use of best practices for PSM to create equivalent groups, the program participants may differ because they were identified by school staff as "being at-risk" or "having the potential to benefit from mentoring." Selecting "at risk" youth may mean that they have more challenges than demographically matched peers. On the other hand, school staff identified those likely to benefit from mentoring and so the students recruited might have some other intangible "capital" that similar peers do not and for which we did not have a variable to include in the PSM model.

FINDINGS: How has the program model and implementation changed since program inception?

Program Theory of Action

At the outset of the 2011 evaluation, the EFL constructed a program theory of action (see Figure 1). This is a visual display of how the program is intended to function in order to bring about the desired outcomes. Such a depiction is used to help frame evaluation design and measurement tools. The original theory of change developed in 2011 was updated/during this current evaluation (see Figure 2). What one notices is that the program originally was viewed very mechanistically but has evolved to a more nested model with
more clearly defined roles and relationships among the key organizations and stakeholders.

**Figure 1:** 2011 BAMSM Theory of Action depiction
Figure 2: 2016 BAMSM Theory of Action depiction
Key Program Design Changes

Interviews with UWAC program leadership and agency partners provided insights about how the program has evolved since its inception. Here, we highlight the changes that these program leaders view as most significant.

- Increased parent outreach through UWAC-orchestrated “Meet & Greets” in which parents, mentors, mentees, colleges, and Promise representatives meet and mingle.
- Increased focus on helping students and families understand and navigate the PPS magnet options in light of their interests and emergent career aspirations.
- More open and active partnership with PPS, including access to data.
- At the outset of the BAMSM program, UWAC served as funder and recruiter. Over time, UWAC has taken on additional roles of content expert (infusing best practices), mediator, troubleshooter, coordinator (across agencies and organizations), quality control mechanism, and supporter. In particular, the advent of the UWAC family engagement specialist role has resulted in a more hands-on and on-the-ground presence of UWAC in the BAMSM program, which is valued by agencies.
- Initially, UWAC handled all of the mentor recruitment efforts. More recently, the responsibility for mentor recruitment has been shifted to the agency partners with UWAC support. Ideally, the agencies have very different constituencies and supporters and leveraging their own relationships for the work is viewed as an approach to mentor diversity and scaling.
- There have been a series of shifts in the “curricular” materials and expectations for their use in response to agency, mentor, and mentee feedback. As was true in the 2011 evaluation findings, there are tensions with focal areas, how prescriptive the “curriculum” should be, and the nature of the activities. In the most recent program year, UWAC offered key topics that should be addressed each month but grants agency partners flexibility in how to address.
- An advisory committee for the program was formed to offer input and guidance on key program design and implementation issues.
- There has been a general shift in program structure toward the afterschool model over the lunch model. Space limitations during the school day have been the biggest driver of this push because it affects how conducive the experience is to developing a meaningful relationship. On the other hand, school leaders still have choice in this and some prefer the lunch time slot to avoid conflicts with afterschool programming.
- The program at PPS Science & Technology is trying out a model that recruits STEM professionals to mentor the participating students. This is a move to a more explicitly career-interest match that will be important to follow over time.
- The UWAC has made the Elements of Effective Practices for mentoring an explicit focus of its work with agencies (See Table 4). This model codifies research-based effective practices for mentoring programs that BAMSM seeks to infuse in its design and implementation.
### Table 4: Elements of Effective Practice

<table>
<thead>
<tr>
<th>Practice Domain</th>
<th>Standard</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Recruitment</td>
<td>Recruit appropriate mentors/mentees by realistically describing program aims and expected outcomes.</td>
<td>Unfulfilled expectations can lead to early termination of mentoring relationship.</td>
</tr>
<tr>
<td>2. Screening</td>
<td>Screen prospective mentors to determine whether they have the time, commitment, and personal qualities to be an effective mentor.</td>
<td>Screening should include state and national background checks, face-to-face interviews, and reference checks. These help ensure that the mentor is the right person to begin a mentor relationship. Prematurely ended mentoring relationships can result in negative child outcomes.</td>
</tr>
<tr>
<td>3. Training</td>
<td>Train prospective mentors in the basic knowledge and skills needed to build an effective mentoring relationship.</td>
<td>Mentor training should include: program rules, goals and expectations of mentor relationship, obligations and appropriate roles, relationship development and maintenance, ethical issues, effective closure, and sources of assistance available. Training materials should be evidence-based. Training for mentees should also be available. Perceptions of the mentor-mentee relationship can influence the positive outcomes and longevity of the relationship. Training helps mentor feel more prepared for the relationship.</td>
</tr>
<tr>
<td>4. Matching</td>
<td>Match mentors/mentees along dimensions likely to increase the odds that mentoring relationships will endure.</td>
<td>Matching mentors and mentees based on common characteristics, like age, gender, race and ethnicity, and interests is recommended. However, research has shown few differences in the quality of the mentor relationship for heterogeneous mentor/mentee matches. Matching based on mentor skills and common interest should be priority over matching solely on race.</td>
</tr>
<tr>
<td>5. Monitoring and support</td>
<td>Monitor mentoring relationship milestones and support mentors with ongoing advice problem solving support and training opportunities for the duration of the relationship.</td>
<td>Program offers frequent and consistent opportunities for support to mentors and also maintains consistent contact with the main caregiver in the mentee’s life.</td>
</tr>
<tr>
<td>6. Closure</td>
<td>Facilitate bringing the match to closure in a way that affirms the contributions of both the mentor and the mentee and offers both individuals the opportunity to assess the experience.</td>
<td>Closure practices should be in place to ensure the relationships ends in a positive way for both the mentor and mentee, regardless of the reason for the closure.</td>
</tr>
</tbody>
</table>
Critical Program Elements

We asked UWAC BAMSM leadership and agency partners to identify the most critical elements of the program for realizing the targeted outcomes so that we may tap the accrued “on-the-ground” knowledge of those most immersed in the design and implementation. Through these conversations, four essential elements were identified.

✓ **Relationships**- The critical importance of relationships was highlighted by all of the interviewees. The obvious importance of the mentor-mentee relationship was highlighted but also noted was the importance of the relationships between school-agency and companies-agency. The quality, strength and consistency of the relationships are the heart of the program. In particular, leaders noted that the relationships must be positive, strong, and consistent and guided by clear expectations and ongoing problem-solving routines. Matching is viewed as a foundational element for good quality relationships but interviewees also noted the importance of relationship management and feedback loops.

✓ **Coaching and support for mentors**- While being an effective mentor may come naturally to some, for many, it requires a shift in thinking about what mentoring means, new understandings around different life experiences and backgrounds, and practical information related to career awareness and the connections to schooling. Interviewees note that in addition, there is a need for constant support and coaching to help mentors navigate and manage their relationships with their mentees to achieve the best outcome possible.

✓ **Use of Elements of Effective Practice**- The UWAC strongly believes that adhering to research-based program practices is one of the most powerful ways to ensure the integrity of the model and its implementation. There is no mystery about what makes for effective mentoring and these tried and true principles are viewed as the core of the quality assurance approach for the UWAC.

✓ **Agencies are supported**- It is also clear that the work of the agencies demands continuous support from the UWAC for funding, recruiting, program quality assurance, and troubleshooting to name a few. Without these supports, agencies would not be able to sustain the work with children.

Key Program Implementation Challenges

✓ **Personnel turnover**- School-based personnel such as the principal and an identified Building Champ are critical to the agencies’ ability to implement a high quality program. Unfortunately, turnover of school personnel happens often and agencies must build new relationships and routines with the new staff.

✓ **School-specific adaptations**- The program necessarily must be adapted to each school’s context—culture, logistics, leader vision. These adjustments require constant problem-solving cycles that can, at times, feel unwieldy. However, interviewees were quick to point out that a “one-size-fits-all” model could not work. Thus, the agencies and the UWAC try to build systems and routines for accommodating this ongoing adaptation.
- **Difficulty recruiting enough mentors for each youth served**- As the agencies took on more children, some were not able to recruit an equivalent number of mentors. As a result, some sites are using a group mentoring model. This is a challenge because it does alter the nature of the intervention and means that the program experience is significantly different for participating youth.

- **Scaling of program to more sites does not appear have resulted in an equal increase in youth served**- In some ways, the increase in sites appears to have spread the program and made it available in more communities, but without an equivalent increase in the total number of students served. Spreading the program across more sites creates availability, but also adds logistical challenge to agency partners. Is the goal of adding sites to expand the program in terms of availability in communities or total children served?

- **Racial and gender mismatch between mentee and mentor pool**- The pool of mentors continues to be comprised of more white females than the group of mentees with whom they are matched. Although powerful mentoring does not require gender or race matching, some agency leaders believe that more mentors of color and more male mentors of color would be an important model for the children.

- **Shaping mentor expectations**- Mentors often enter in to the work with unrealistic expectations of what mentoring is and what results from a good mentoring experience. As one agency leader noted, “The mentor role is to guide, encourage, and support. It is NOT to fix, change, or solve.” One particular challenge is how to help mentors have concrete ways to evaluate their own success with the mentee over time. What can they observe and notice as indicators of successful mentoring within their weekly work with children? Another noted, “Some mentors come in thinking that because of who they are and what they’ve done they are going to be the savior and that gets stripped away through their interactions with the kids. The kids don’t see all of that, they see a person who wants to be there for them and help them.”

- **Adaptive use of program guidebook**- The program has settled on an approach to using the core materials that allows significant agency and mentor discretion. This is done to respond to the desire for the relationships to be able to be built more responsively and organically while also maintaining some consistent focal areas related to career development and planning. While this is potentially an asset to the program, it also poses challenges in articulating what can be counted as systematically implemented across the sites and in sharing effective practices.

- Providing **ways for school leaders to understand and communicate the value of the program** to broader school staff. Agency partners believe that a critical role for school leaders is in spreading the message within the school about the availability and value-added of the program but have struggled to provide accessible, concise, and powerful ways to communicate this.
FINDINGS: What conditions attract and retain mentors?

What attracts mentors?

- Individuals may be drawn to mentoring for a variety of reasons including social justice principles, compassion, personal development/identity, compliance, self-advancement, and the like. BAMSM mentors are mostly attracted to the program out of concern for the students that the program serves and out of compassion for others. The mentors are drawn to the opportunity to improve conditions and outcomes for the students served by the program.
- Secondarily, mentors seek the opportunity to learn and grow themselves through new experiences and interactions with others.
- Given the model for mentor recruitment which includes partnerships with employers, we offered mentor survey respondents the opportunity to indicate whether they were motivated by a desire to please their employer. This compliance motivation was not reported as a factor for the mentors that we surveyed, a positive finding.

What retains mentors?

There is a range of conditions that function to keep mentors committed to the program despite the time commitment. Key conditions include mentors’ own sense of investment and commitment to the program, characteristics of the mentor-mentee relationship, program support, and the mentors’ sense of efficacy.

- Mentor investment in the program- Many mentors feel a sense of responsibility to remain committed to the program and their relationship to their mentee because at the outset they understood the importance of continuity. This sense of commitment helped mentors remain engaged even when their other expectations for the program or relationship may have not been met.
- Mentee expressions of interest and engagement- Mentors noted whether their mentee seemed to want to spend time with them, seemed connected and invested in the relationship, and seemed to value the relationship. Indicators that mentors attended to included talkativeness during meetings, overt expressions of enthusiasm/appreciation/happiness, regular program attendance, and perceived attitude during the program.

“The main reason [I continued] is because my mentee is invested. She always showed up. A lot of kids were chronically absent, but she wasn’t. I felt we were there for each other.” ~ Mentor 3+ years

“She is just so enthusiastic about everything that we did. Her enthusiasm made me want to be there too.” ~ Mentor 3+ years
Mentors noted that some mentees are reluctant to open up and may show fewer outward expressions of their feelings about the program and their mentor. Mentors might misinterpret variation in mentees’ comfort with and ability to emote as an indicator of the mentees’ investment in the relationship. Mentors perceive single word answers, inconsistent program attendance, lack of participation in the day’s activities, and flat affect or negative facial expressions as disinterest in the relationship.

“It’s hard to get the connection when they don’t want it. They don’t want to open-up.” ~ Mentor 3+ years

“In previous relationships they were quiet and would answer with one word. [They] were only in the program for a year.” ~ Mentor 3+ years

✓ **Conceptions of the mentor role**- The majority of long-time mentors who were interviewed believe that their role as encourager and supporter was most important to their mentees’ development. Understanding that they are to be positive and responsive rather than proscriptive seemed a common thread among those who persisted in the mentor role.

✓ **Sense of efficacy**- Mentors who had participated for three or more years indicated that they took note of whether the mentee appeared to be benefitting from the program by way of improving indicators of mood, academics, connectedness in the relationship, attendance, and the like. Even small, but concrete examples of positive effect boosted their sense of efficacy.

“I’m not looking at changing the world, but the reward and satisfaction of helping someone else is great.” ~ Mentor 3+ years

**What caused past mentors to stop participating?**

✓ About half of the mentors who completed the mentor survey were no longer participating in the program. When asked why they no longer serve as a mentor, about 50% indicated that changes in their job or personal life made it impossible to continue. These are factors out of the control of the program. Table 5 presents the proportion of former mentors who cited other reasons for not continuing to participate.
Table 5: Reasons for past mentors ending program participation

<table>
<thead>
<tr>
<th>Reason cited for not continuing as a mentor</th>
<th>% Past Mentor Survey Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>I did not think that the program was having the intended impact.</td>
<td>10%</td>
</tr>
<tr>
<td>I was not satisfied with the relationship with my mentee.</td>
<td>8%</td>
</tr>
<tr>
<td>I did not like the curricular materials.</td>
<td>8%</td>
</tr>
<tr>
<td>I had planned to serve only one year and did so.</td>
<td>6%</td>
</tr>
<tr>
<td>Being a mentor was not what I expected.</td>
<td>4%</td>
</tr>
<tr>
<td>School Personnel made it difficult to be the kind of mentor I thought I should be.</td>
<td>2%</td>
</tr>
<tr>
<td>Program personnel made it difficult to be the kind of mentor I thought I should be.</td>
<td>2%</td>
</tr>
<tr>
<td>Being a mentor was more of a commitment than I expected.</td>
<td>1%</td>
</tr>
</tbody>
</table>

While the program is not going to be a long-term fit for all mentors, program and agency leadership may want to consider whether some of this attrition is preventable. To what extent are mentors offered powerful and regular information about the impact that the program is having on their mentee? Are early match issues carefully monitored and adjusted?

FINDINGS: How do mentors and mentees experience the program?

- When asked about their early experience of learning about the program and considering whether to get involved, **96% of mentors felt that they were given adequate information to make an informed decision about program participation.**
- In addition, 98% felt that the training to prepare them to build a relationship with their mentee was adequate, reflecting a 10-percentage point increase over the 2011 evaluation findings.
- However, about a third of mentor respondents indicated that the training to prepare them to use the program guidebook was inadequate.
- About 20% of mentors felt that the information supplied about mentees was inadequate to achieve program goals, an improvement over the 2011 evaluation findings.
- **Mentor ratings of the quality of the match with their mentee were generally high with about 90% indicating satisfaction.** For this data point it is important to note that those who dropped out of the program are not included in this statistic as this was an end of year survey. Presumably, those who did not persist in the program would have different perspectives about the quality of the match.
✓ On average, **2/3 of mentors report a strong relationship with mentees** (top two points on a 6-point response scale).

![Proportion of mentors indicating "Agreement" or "Strong Agreement"

- **I feel close to my mentee**: 66%
- **I am satisfied with my relationship with my mentee**: 71%
- **We have found some interests that we have in common**: 71%

✓ **About 25% of mentors reported participating in at least one off-site field trip with their mentee.** Of these mentors, about half felt that these trips were “very important” or “absolutely critical” in building a strong relationship with their mentee. Some mentors suggested that the field trips provided a much-needed opportunity to get out of the school building and engage with the youth around authentic activities.

✓ **About 60% of mentors who responded to the survey were satisfied or “very satisfied” with the mentoring program guidebook, a 24-percentage point improvement over the 2011 evaluation findings.**

✓ **About 20% of mentors felt that they did not have adequate resources to support their work with the mentee.**

✓ **When asked about the ways that they interacted with their mentors, **85% or more of the youth indicated positive, youth-centered, stimulating, and encouraging interactions.** The two areas with slightly lower levels of agreement had to do with talking about things that matter to the youth and the mentor doing more of the talking during the meetings.
**FINDINGS: How do parents think that the mentoring influences their child?**

Parents of mentees who had participated in the program for 2 or 3 years were asked to respond to a paper and pencil survey. The findings below are drawn from those surveys.

- For all outcome areas assessed, between 82%-100% of parents agreed that the program had resulted in improvements. This suggests that parents overwhelmingly view the program as impactful for their child and the outcomes with the most agreement related to the child’s affect about and behavior in school.

Table 6: Parent assessments of program impact on child

<table>
<thead>
<tr>
<th>As a result of participating in BAMSM does your child…</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Get into less trouble at school?</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>Seem more responsible?</td>
<td>97%</td>
<td>3%</td>
</tr>
<tr>
<td>Seem better behaved at home?</td>
<td>97%</td>
<td>3%</td>
</tr>
<tr>
<td>More positive about school?</td>
<td>94%</td>
<td>6%</td>
</tr>
<tr>
<td>Feel better about him/herself?</td>
<td>93%</td>
<td>7%</td>
</tr>
<tr>
<td>Have better school attendance?</td>
<td>93%</td>
<td>7%</td>
</tr>
<tr>
<td>Do better in school?</td>
<td>91%</td>
<td>8%</td>
</tr>
<tr>
<td>Talk more about career interests?</td>
<td>89%</td>
<td>11%</td>
</tr>
<tr>
<td>Talk more about his/her future?</td>
<td>86%</td>
<td>14%</td>
</tr>
<tr>
<td>Do homework more often?</td>
<td>84%</td>
<td>16%</td>
</tr>
<tr>
<td>Complete homework more willingly?</td>
<td>82%</td>
<td>18%</td>
</tr>
</tbody>
</table>

- About 95% of parent respondents indicated that participating in the program had benefitted their child. When asked to describe the most significant way that their child had benefitted, the most frequent response was that it had helped with the child’s personal development and given them a role model. Parents described improvements in children’s confidence, problem-solving skills, and openness to new experiences and ideas.

“She has a more positive attitude about the future and more self-confidence.”

“She has learned to be more respectful, driven and confident.”

“He looks towards career interests and talks about setting goals, and believing it is possible.”
When asked what changes parents would like to see to the program the only responses had to do with more time with the mentor (either in school, outside of school, or with family members).

**FINDINGS: How does program participation affect targeted youth outcomes?**

In this section, we report key findings for each of the targeted program outcomes based on a range of data sources, including quantitative analyses of the PPS data set. The outcome areas assessed include youth awareness of careers and the pathway to get there, understanding and valuing of schooling to reach career goals, school attendance, school behavior, and academic performance.

**Outcome #1: Awareness of careers and the pathway to get there**

Similar proportions of youth and mentors agreed that the program had a positive impact on their understanding of career possibilities, identification of career interests, and understanding the pathways to get there. Lower levels of agreement on identifying a career interest are to be expected given that these are middle school students who may not settle on a career interest for some time.

![Proportion of youth and mentors indicating "Agreement" or "Strong Agreement"](image)
Youth were asked to list a career that they might be interested in and what type of education or training is needed to get there. These data were then analyzed in two ways. First, mentees’ career interests were rated for how realistic they are. This rating was guided by the prevalence of those careers in the US population. For instance, very few people are employed successfully as singers. According to the US Bureau of Labor Statistics only 29,090 people were employed as singers in 2010. This compares to 3 million people being employed as teachers. Mentee careers were rated on a scale of 1-3 with a “1” being unrealistic (or very few people employed in these professions) and “3” being realistic (many people employed). We recognize that this is a limited measure in that although few people holding a particular job does not equate to a given student being unable to find success in pursing such careers. However, a common theme among middle school students is to bank on highly unlikely careers such as professional athletics or recording artists. The goal here was to examine this to see how many youth have realistic goals. Second, the education pathway that they specified was analyzed to determine how accurate it was for realizing the career goal. **The data suggest that 3/4 of students are identifying realistic careers but only about half of students can articulate an accurate educational pathway to get to their desired career.**

The accuracy of mentees’ articulated education pathways was evaluated by comparing their responses to the typical education experiences needed for the career of interest. For example, a mentee interested in becoming a doctor who indicated they needed to go to college for 4 years, then medical school, and then complete a residency was recorded as “exact.” A mentee interested in being a lawyer that indicated they needed to go to college for a long time was recorded as “close.” A mentee interested in being a teacher who indicated that they needed to get good grades or stay in school was recorded as “not close.”
Outcome #2: Understand the purpose and value of schooling for their own lives

✓ On measures of program impact on mentees’ valuing of and engaging with schooling, similar proportions of youth and mentors were positive with the exception of program impact on doing homework, in which a greater proportion of mentors than youth were positive.

"Over the course of our time she has strived to be a better student. We did see a noticeable improvement in her grades and teacher feedback. She has a better understanding of education and its influence on her longer term goals she has for herself." ~ Mentor

Outcome #3: School attendance

School attendance has been an area of focus for Pittsburgh Public Schools as well as the UWAC, especially since the data on rates of chronic absenteeism were released several years ago. Children cannot benefit from instruction or co-curricular/extra-curricular programming if they are not present. Likewise, the Pittsburgh Promise sets a cumulative high school attendance rate of 90% for scholarship eligibility. While the BAMS program
does not have direct efforts to target school attendance, it is hypothesized that one effect of having a caring adult that the student sees at school is that the child will want to come to school more often. However, it should be noted that school attendance is not something that the child, alone, controls. Thus, there is a difference between wanting to attend school and actually being able to attend school.

✓ Two-thirds of mentees surveyed agreed that the program made them want to come to school more often. Mentors were less sure of the impact, primarily because they did not feel that they had enough information to judge.

✓ We examined the impact of the program on actual attendance rates utilizing our comparative sample. We find consistently positive impacts of program participation on student attendance rates in the middle school years that carry over to the 9th grade year (the first year in which the students are no longer being actively mentored through the program). Interestingly, the mean school attendance rates for the program participants in the 9th and 10th grade years hover just around Promise eligibility thresholds, suggesting that active mentoring in the high school years could provide the nudge for some students to meet Promise attendance requirements. In Table 7 below and in subsequent tables reporting findings from the comparative analyses, the “p value” indicates whether the observed differences between the treatment and comparison means are likely due to chance alone. A p-value at or below .05 is considered statistically significant. These will be highlighted in green. P-values nearing significance will be highlighted in orange.

Table 7: BAMSM program participation impact on school attendance

<table>
<thead>
<tr>
<th>Attendance Rate Outcome Year*</th>
<th>Treatment Mean</th>
<th>Comparison Mean</th>
<th>Significance (p value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6th grade</td>
<td>92.7%</td>
<td>92.1%</td>
<td>.05</td>
</tr>
<tr>
<td>7th grade</td>
<td>94.5%</td>
<td>93.1%</td>
<td>.011</td>
</tr>
<tr>
<td>8th grade</td>
<td>95.5%</td>
<td>93.8%</td>
<td>.059</td>
</tr>
<tr>
<td>9th grade</td>
<td>91.4%</td>
<td>87.8%</td>
<td>.032</td>
</tr>
<tr>
<td>10th grade</td>
<td>89.9%</td>
<td>89.2%</td>
<td>.836</td>
</tr>
</tbody>
</table>

A p value <= .05 is considered statistically significant.

✓ We also examined the impact of the program on unexcused absences. We find isolated impacts on the frequency of unexcused absences for those in the program for 2 years (and moderate significance for those in the program for 3 years). These effects appear to fully wash out by 10th grade when students have not had active mentoring through the program for 2 years.
Table 8: BAMSM program participation impact on frequency of unexcused absences

<table>
<thead>
<tr>
<th>Unexcused Absences</th>
<th>Treatment Mean</th>
<th>Comparison Mean</th>
<th>Significance (p value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outcome Year*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6th grade</td>
<td>4.63</td>
<td>4.82</td>
<td>.399</td>
</tr>
<tr>
<td>7th grade</td>
<td>4.24</td>
<td>6.07</td>
<td>.001</td>
</tr>
<tr>
<td>8th grade</td>
<td>4.47</td>
<td>5.94</td>
<td>.077</td>
</tr>
<tr>
<td>9th grade</td>
<td>7.83</td>
<td>9.67</td>
<td>.144</td>
</tr>
<tr>
<td>10th grade</td>
<td>9.49</td>
<td>9.87</td>
<td>.919</td>
</tr>
</tbody>
</table>

A p value <= .05 is considered statistically significant.

Outcome #4: Disciplinary incidents

We also examined the PPS disciplinary data to ascertain whether program has had an impact on rates of disciplinary incidents. The PPS captures rates of in-school suspension (ISS) and out-of-school suspension (OSS). The ISS data were inconsistent and thus, could not be used in analyses.

✓ The OSS data were examined and we found **no detectable systematic program effects** on this disciplinary indicator.

Table 9: BAMSM program impact on out-of-school suspension days

<table>
<thead>
<tr>
<th>OSS Days Outcome</th>
<th>Treatment Mean</th>
<th>Comparison Mean</th>
<th>Significance (p value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6th grade</td>
<td>.918</td>
<td>.921</td>
<td>.790</td>
</tr>
<tr>
<td>7th grade</td>
<td>.953</td>
<td>1.008</td>
<td>.969</td>
</tr>
<tr>
<td>8th grade</td>
<td>.705</td>
<td>.766</td>
<td>.908</td>
</tr>
<tr>
<td>9th grade</td>
<td>.686</td>
<td>.960</td>
<td>.254</td>
</tr>
<tr>
<td>10th grade</td>
<td>.656</td>
<td>.897</td>
<td>.524</td>
</tr>
</tbody>
</table>

A p value <= .05 is considered statistically significant.

Outcome #5: Academic performance

To understand how program participation might influence targeted middle school academic performance and explore the transition to high school, the evaluation examined grade point averages (GPA) from 6th-10th grades, PSSA Math and Reading scores from 6th-8th grades, Keystone Exams for Biology, Algebra, and Literature, and high school graduation. In the analyses presented here, we utilize a model in which the treatments students for outcomes in grades 6, 7, and 8 include only those actively participating in the program. Thus, students who participated in 6th grade but not 8th grade are not included in the calculation of 8th grade GPA and PSSA outcomes. For exploratory outcomes that occur in high school, we included in the treatment group only those who participated in the program for 3 years, thus, assessing the impact of the program in its highest dosage.
GPA

✓ We find consistent and statistically significant positive impacts of program participation on GPA for the targeted middle school years. The positive trend of GPA means for the treatment compared to the control continues into 9th and 10th grades, but these differences are not statistically significant. It is also important to note that the treatment students are no longer receiving the treatment in 9th and 10th grades and these are exploratory high school outcomes.

Table 10: BAMSM program participation impact on GPA

<table>
<thead>
<tr>
<th>GPA Outcome Year</th>
<th>Treatment Mean</th>
<th>Comparison Mean</th>
<th>Significance (p value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6th grade</td>
<td>2.62</td>
<td>2.48</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>7th grade</td>
<td>2.70</td>
<td>2.52</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>8th grade</td>
<td>2.81</td>
<td>2.60</td>
<td>.034</td>
</tr>
<tr>
<td>9th grade</td>
<td>2.24</td>
<td>2.09</td>
<td>.341</td>
</tr>
<tr>
<td>10th grade</td>
<td>2.50</td>
<td>2.31</td>
<td>.474</td>
</tr>
</tbody>
</table>

A p value <= .05 is considered statistically significant.

✓ When we examine impact on academic outcomes for all who participated in the program (even if only for 1 year), we find statistically significant effects in 6th grade that wash out for later grades. This suggests that ongoing, active mentoring sustains the observed GPA effects.

PSSA

We examined PSSA scores for Reading and Math across the middle grades.

✓ We find no statistically significant effects for PSSA Reading scores, although the means trend positively for those who participated in the program. We find statistically significant or moderately significant positive impacts on PSSA Math across the grades. We hypothesize that observed impacts of program participation on attendance might be particularly helpful for mathematics achievement since math is sequential and missing instruction due to absence could influence understanding of later topics.¹

**Table 11:** BAMSM program participation impact on PSSA

<table>
<thead>
<tr>
<th>PSSA Outcome Year*</th>
<th>PSSA Content Area</th>
<th>Treatment Mean</th>
<th>Comparison Mean</th>
<th>Significance (p value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6th grade</td>
<td>Reading</td>
<td>1179.88</td>
<td>1166.91</td>
<td>.120</td>
</tr>
<tr>
<td>7th grade</td>
<td>Reading</td>
<td>1217.06</td>
<td>1207.311</td>
<td>.229</td>
</tr>
<tr>
<td>8th grade</td>
<td>Reading</td>
<td>1283.15</td>
<td>1236.12</td>
<td>.119</td>
</tr>
<tr>
<td>6th grade</td>
<td>Math</td>
<td>1255.40</td>
<td>1225.09</td>
<td>.014</td>
</tr>
<tr>
<td>7th grade</td>
<td>Math</td>
<td>1269.87</td>
<td>1245.48</td>
<td>.091</td>
</tr>
<tr>
<td>8th grade</td>
<td>Math</td>
<td>1264.89</td>
<td>1186.98</td>
<td>.006</td>
</tr>
</tbody>
</table>

A p value <= .05 is considered statistically significant.

**Transition to High School and Beyond**

- We examined on-time 8th to 9th grade transitions but found that in both the BAMSM and comparison group there was too little variability to discern any differences.
- The 2015-2016 BAMSM students were surveyed at the end of the year and asked about how sure they were that they would graduate from high school. Ninety-six percent of mentees indicated that they were mostly or very sure that they would finish high school. This speaks to students’ aspiration and confidence.
- Although we could not utilize rigorous approaches that allow us to attribute differences to program effects, we did examine descriptive trends with regard to promise eligibility. In Table 12, we show the proportions of 5th grade students in both the BAMSM and comparison groups who were NOT eligible for the Promise. We then show the proportion of each group of 5th grade ineligible students who became eligible in 6th, 7th, or 8th grades. A greater proportion of program participants than matched non-participants who were NOT Promise eligible in 5th grade moved to eligibility in 6th, 7th, and 8th grades. The reader should keep that these trends do not show causality.

**Table 12:** Descriptive trends in Promise eligibility status change

<table>
<thead>
<tr>
<th>Grade level</th>
<th>Promise Eligibility Status</th>
<th>Treatment</th>
<th>Comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>5th grade</td>
<td>Not Eligible</td>
<td>450</td>
<td>43%</td>
</tr>
<tr>
<td>6th grade</td>
<td>Became Eligible</td>
<td>169</td>
<td>38%</td>
</tr>
<tr>
<td>7th grade</td>
<td>Became Eligible</td>
<td>79</td>
<td>40%</td>
</tr>
<tr>
<td>8th grade</td>
<td>Became Eligible</td>
<td>28</td>
<td>36%</td>
</tr>
</tbody>
</table>

For the treatment group the denominator changes to reflect the correct number of students who participated during that grade and who had previously NOT been Promise eligible in 5th grade.
✓ When asked on the end-of-year survey, **90% of the 2015-2016 mentees indicated that they were mostly or very sure that they would go on to college** or pursue some other training after high school.

✓ **About 80% of these mentees were mostly or very sure that they would utilize the Pittsburgh Promise** in their postsecondary pursuits.

**Exploration of Carryover High School Effects**

We explored whether program participation influenced high school outcomes, beyond program participation, such as Keystone Exam performance, 12th grade Promise eligibility, and high school graduation.

✓ Analyses utilizing our matched comparison had **too few program participants and too little variability between the program and comparison to produce definitive results.** Since only one cohort of BAMSM participants had reached the point of high school graduation, the treatment students who graduated totaled 76. This low number combined with our inability to attribute reasons to student departures from the system (e.g., moved to another district, stopped out) means that we cannot discern program impact on rates of persistence in the system and graduation at this time. We did examine rates of leaving the PPS system for both the BAMSM and non-participant samples and found roughly equivalent rates (about 66% departure rate from 8th-12th grades). Given the rates of attrition, 3-4 more graduating cohorts will be needed before the samples will be large enough to analyze meaningfully.

**FINDINGS: In what ways, if at all, has mentoring supported student transitions?**

✓ **The 6th grade students with whom we spoke indicated that the transition from 5th to 6th grades is stressful.** Weighing heavily on these students before they started 6th grade were fears about their social network (existing friends being at the same school, meeting new friends) and peer culture, concerns about increasing demand of academics and new responsibilities, expectations that the school rules would be more stringent, and a general sense of apprehension about moving into “the unknown.” Although many of their biggest fears were not realized once they began 6th grade, some transition struggles did occur. **The most common struggle was difficulties with their peers and problems with students’ behavior in class.** The academic concerns fell away and were not noted as the most difficult aspect of transitioning to 6th grade. One student noted, “The kids are meaner in 6th grade” and this seemed to be evident in much of what the students shared. How to navigate “drama” among their peer group, the frustration experienced when other students regularly act out in class and disrupt instruction, and figuring out how to fit in are the top issues among the students who talked with the evaluation team.
We conducted comparative focus groups with those who were participating in BAMSM and those who were not. We learned that the most powerful ways that students found for handling the difficult transition issues that did arise were support, advice, and comfort from the adults in their lives, especially family members and teachers. In fact, the adult supports were the only things mentioned when students were asked what helped them get through the transitions. The 6th grade students with mentors have an additional, regular adult to turn to for support and when asked directly, the students indicated that their mentor’s advice and support was valued and helpful.

Surveys of mentees’ views about their relationships with their mentors shows that 95% of mentees think that their mentor has a lot of good ideas about how to solve a problem and 92% agree that they talk with their mentor about things that matter to them. This suggests that mentor-mentee relationships are focused on responding to the mentees’ needs and interests.

Another way to think about whether and in what ways program participation affects transitions is to examine whether students who participate in the program have better grades and behavior in the transition years than their non-participating peers. As presented in the previous key finding on student outcomes, students who participated in the program during their 6th grade year had statistically significant higher GPAs than their non-participating peers (and this difference on average had non-participants below the Promise eligibility threshold and participants above it), had statistically significant higher scores on the PSSA Mathematics, and had higher attendance rates. There were not statistically significant differences for PSSA Reading, unexcused absences, or out of school suspension days but all of data showed trends favoring the program participants. This suggests that the program was indeed helpful in supporting student transitions from 5th to 6th grades. The transition from 8th to 9th grades evidence statistically significant positive effects of three years of program participation on 9th grade attendance only, although the non-significant GPA trend favored program participants. The less intensive impact of the program on 9th grade transitions is likely explained by the lack of active mentoring occurring in 9th grade, but relies on lasting effects of mentoring from earlier years.

**FINDINGS: How do participants and stakeholders evaluate the program overall?**

**Parents**

✓ When asked about overall satisfaction with the program, 100% of parent respondents were satisfied (95% satisfied, 5% a little satisfied)
✓ When asked whether they would recommend the program to other parents, 100% of parent respondents indicated that they would (88% definitely would recommend, 12% probably would recommend).
Mentors

✓ When asked about how effective they felt, personally, as a mentor in supporting students in developing career aspirations and understanding how education connects to those goals, **75% of mentors felt “Effective” or “Very Effective”** which is 8 percentage points higher than in the 2010 evaluation.

✓ When asked about how successful overall they felt the program was in helping students explore careers and the educational pathways to get there **57% of mentors felt that the program was “Successful” or “Very Successful”** (top 2 ratings on a 5-point scale), up 20 percentage points from the 2010 evaluation findings.

✓ About **83% of mentors were “Satisfied” or “Very satisfied” with their experience** as a mentor, up 13 percentage points from the 2010 evaluation.

Mentees

✓ When asked to rate how they felt about participating in the program, **79% of youth said the experience was “Very Good”** (top rating on a 4-point scale). Another 11% indicated that the experience was “Good.”

✓ **When youth were asked whether they would recommend participating in the program to their friends, 92% said, “Yes.”** There were no significant demographic differences.

✓ When asked how the program affected them, **mentees indicated that it gave them access to new perspectives, motivated them to try harder, and made them feel valued.**

> “She helped me feel more at peace with myself and others.”
> ~Mentee

> ”It helped me do better in school because I had somebody to talk to.”
> ~Mentee

> “Made me feel like there is one more person who cares about me.”
> ~ Mentee

> ”I feel like she is another person there to help me through life that I can trust and count on.” ~Mentee

> ”It made me feel stronger and that I’m actually worth it.”
> ~Mentee

Overall, parent, mentor, and mentee satisfaction is very high and has increased since the 2010 evaluation. The program enjoys significant support from its key stakeholders.
FINDINGS: Does the time of day for mentoring (lunch vs. afterschool) affect outcomes?

✓ Analyses of PPS data to understand whether the time of day for the mentor-mentee meetings are inconclusive because of the significant school level differences between those that use lunch and afterschool models and because only 4 of the 13 sites employed lunchtime mentoring for the years included in the analyses. We are unable to create enough equivalence among the analytic sample to ensure that observed differences are attributable to the model rather than to characteristics of the schools.

✓ Mentee survey data were analyzed by comparing views on the mentoring experience between those who participated in lunch or afterschool. Overall, these data do not show any systematic difference in student perspectives based on the time of day.

✓ Qualitative data suggests some trade-offs between the two approaches:

<table>
<thead>
<tr>
<th>Model</th>
<th>Pros</th>
<th>Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lunch</td>
<td>▪ Student attendance more consistent</td>
<td>▪ Mentor-mentee time together is more constrained</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Space is limited since school is in session</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(creates some noise levels noted by some mentors as not conducive to relationship building)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Requires routines for moving students to and from mentoring within school day</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Students are also eating their lunch while engaging with mentor</td>
</tr>
<tr>
<td>After school</td>
<td>▪ More space available to create quieter environment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ More likely to have full 45 minutes to 1 hour for matches to meet</td>
<td>▪ May compete with other after school activities</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Students may have less consistent attendance</td>
</tr>
</tbody>
</table>

While lunchtime meetings clearly bring some challenges, it is also true that some building leaders prefer it and for some student populations it may be the most effective model for achieving sustained student attendance. Given the current distribution of the use of lunch time and after school mentoring, we would have to
conduct a prospective, random assignment study to be able to provide definitive quantitative analyses of the impact of the models on outcomes such as student GPA and school attendance.

**FINDINGS: What is the feasibility of using DHS data to assess the program’s impact on system involvement?**

We explored with DHS staff the feasibility of evaluating the program's impact on alcohol and drug services as well as involvement with the Juvenile Probation Office (JPO). The hypothesis was that participation in mentoring might reduce incidences of student involvement with these services.

- For Drug and Alcohol Services we find too few instances of involvement for the available student cohorts to conduct any meaningful analyses given the current number of BAMS participants who have matriculated to the high school years and beyond (usually the earliest stage when involvement in such services would begin). Such analyses may be possible after several more cohorts of BAMS students complete high school.
- After reviewing the JPO we believe that these data also suffer from low sample sizes. Analyses conducted at this stage would not yield definitive results. We suggest exploring the impact of the program on these outcome areas after 3-5 more cohorts have graduated high school.

**IMPLICATIONS FOR PROGRAM MODIFICATION**

The following implications are drawn from our analyses of the data and our experiences with the evaluation process. We look forward to and expect discussions with United Way staff to sharpen these and to identify other important implications from the evaluation results.

**Program management**

- **Ensure that data systems allow accurate tracking of all youth and mentor participants.** Tracking must be systematic, linked to the PPS IDs, and archived by the UWAC. The data tracking should include the following: program registration, program attendance at weekly meetings (both mentor and mentee), demographic variables, site of participation, mentor name and demographic information, school year of participation, and an indicator of if/when dropped out of program.
- **The program should utilize the attendance tracking templates developed by the evaluation team** in the 2015-2016 program year. These should be collected and archived by the UWAC at the end of each program year.
Program implementation

Although this evaluation was focused on impact assessment rather than implementation assessment, the data collection did yield some implications for program design and implementation.

- Ongoing participation in the program during the middle school years is critical for attaining the program goal of positioning students to be academically and behaviorally poised for high school success. **Efforts to retain more students for the full program dosage of three years** could yield significant payoff given the evaluation findings that participation in the program does indeed have positive effects on students academic and attendance outcome measures.

- Mentors suggested that a **timelier and consistent approach to communicating about mentee absence and program changes** would be appreciated to avoid wasted travel time. We do not have a sense of the frequency of this problem but the issue was raised in both mentor interviews and surveys.

- Mentors and agency partners think that **mentors who perceived their mentees as uninterested need more supports**. **How can mentors be supported to better understand student personalities and life experiences to consider the mentees’ actions (or lack thereof) through a difference lens?**

- A related opportunity is to consider the **ways agency partners might structure and shape the feedback loops between mentors and mentees** to help them better understand one another and interpret each other’s actions.

- Mentors and agency partners mentioned **change in leadership at some sites as disruptive to the flow of the program**. Anytime key program or school-based staff members who help coordinate the program changes, the program gets “rocky” for a period of time. The agency partners and mentors would value approaches that insulate the program operations from such changes or stabilize the staffing.

- Over the last several years, the program has increased by 5 sites. It is unclear whether this has resulted in a substantially larger number of students being served or if it has simply **broadened access to additional communities without increasing total students served**. One consideration is whether the value-added of including additional sites exceeds the costs of establishing, maintaining, and operating more sites.

- Mentors are motivated to participate in the BAMSM program out of a commitment to the students and the cause. Thus, **having a powerful and complete understanding of all of the ways that students are impacted by participation** will be critical for ensuring that the mentors judge their investment to be paying off.

- **Communicating the value of the program in relation to the goals and focus of school-based staff is powerful** for recruitment of students and coordination of program logistics within the school day. Customized, concise, and powerful messages for each school site may increase school level support and advocacy.

- Given the flexible use of the program guidebook by agency partners and mentors, the UWAC may want to **consider ways to document and share the range of**
implementation activities and approaches, both for nurturing rigorous practice among agencies and to ensure that the program retains a clear core focus.

Program outcomes

- **There is strong evidence of systematic program impact on middle school GPA and attendance when students are actively participating in mentoring.** We do not see, however, 8th grade outcomes for students who do not remain involved in the program. In addition, exploratory looks at carryover effects into high school years when students are no longer participating in mentoring suggests that attendance but not GPA may still be influenced in the 9th grade when active mentoring is no longer occurring. This suggests that the program may more fully leverage its benefits by ensuring that as many students as possible receive the full program dosage of three years and considering how to maximize carryover effects into the high school years.

- **The relationship between the targeted middle school outcomes and later high school completion, Promise eligibility and use rates, college enrollment, and involvement with DHS outcomes could be explored more definitively in 3-5 years** when more cohorts of BAMSM students reach the end of their compulsory education. Given the observed impacts on GPA and attendance in middle school, such analyses may yield better insights into how the programs targeted middle school outcomes relate to student experiences and performance in their high school and post-high school years.
APPENDIX A: Proposed Evaluation Design

See separate Appendix A attachment
APPENDIX B: Quantitative Analysis Methodology

General Quantitative Data Structure
After approval from the Pittsburgh Public Schools (PPS) internal IRB, the district provided de-identified academic and behavioral data to the evaluation team. Students were identified to be included in the dataset based on the year they attended PPS as a 6th grader. All PPS students who were in 6th grade from 2009-2015 were included, regardless of whether they participated in BAMSM program or not. Demographic, enrollment, academic, and behavioral variables were provided from students’ 5th grade year to the most recent grade completed. At the time of the data pull, some data fields were not yet available for some students. For example, 7th grade PSSA data were not available for current 7th grade students.

Data regarding program participation was received from the United Way. These data included information on years of participation, program attendance, site, and overseeing agency.

These two data sources were merged to create a comprehensive dataset with information on participant students and non-participant students.

Data Cleaning
To prepare for analysis the dataset underwent a cleaning process in which variables were checked for consistency of entries and missingness. New variables were created from the data in order to be included in analytic models. For example, a variable was created to show student mobility over the course of an academic school year. Additional variables calculated included: on-time promotions, whether school choice was exercised, and cumulative 6-8th grade GPA.

Students with missing data in variables used to match participants with non-participants or for the targeted outcomes cause problems with the match process or with the outcome analysis. To increase the number of matches and cases usable in the analyses, a multiple imputation model was used to correct any missing data within the PPS-provided variables.

Program data were not consistent enough for program attendance rates to be cleaned and utilized for the purpose of this analysis. There were many years and sites that were missing attendance. For this reason, the analysis relied on the years of participation as opposed to weekly attendance.

Propensity Score Matching
A propensity score-matching model (PSM) was used to match program participants to non-participants to create a counterfactual for participation. The purpose of a counterfactual group is to demonstrate how the participant group would have looked on the targeted outcome variables had they not participated in the program.
To ensure that the matched group looked as similar as possible before program participation, many covariates were used to create the matching model. Covariates included in the model were:

- Race
- Gender
- FRPL ever during middle school years
- 5th grade GPA
- 5th grade mobility
- 5th grade attendance rate
- 5th grade PSSA Math and Reading Scaled Scores
- Proportion FRPL students at the school student was enrolled during 6th grade
- Whether or not student attended feeder school during 6th grade

Propensity score matching and covariate balance checking were done in STATA 14, a statistical analyses software package. “PSMatch2” was used to create the model for the calculation of the propensity scores and the matching. Using the above covariates, a model was defined to calculate each student’s propensity score (this can essentially be described as a probability of treatment based on the defined covariates). Participant students were matched to non-participant students based on their propensity scores. The nearest neighbor with replacement method was utilized in the matching process. This means that non-participant students could potentially be matched to more than one participant case if it was the best matched. Each case was assigned a weight that indicated the frequency it was matched.

“PSBal2” (created by J.Hill in 2011) was used to check the balance of the covariates in the model before and after matching. This allowed us to iteratively check the propensity model to ensure the best possible fit.

A propensity score model and groups of matched pairs were needed for each outcome area of interest. When creating the propensity score models and matched pairs, separate sub-samples were used from the comprehensive sample. Descriptions of each can be found below.

**Samples Used**

For each outcome area of interest, a different sample needed to be identified to ensure students were not matched to a student with missing data for the outcome of interest. For example, we would not want 8th grade students matched to 7th grade students when looking at 8th grade outcomes as 7th grade students would not yet have data for these outcomes. In order to accommodate this expected missingness, we restricted the sample of available matches by cohorts and last known enrollment grade.

- 6th grade outcomes
  - Cohorts 2009-2014
  - Program participation at least 1 year for treatment
- 7th grade outcomes
  - Cohorts 2009-2013
  - Program participation at least 2 years for treatment (ensures participation at time of outcome measure)
• **8th grade outcomes**
  - Cohorts 2009-2012
  - Program participation at least 3 years for treatment (ensures participation at time of outcome measure)
  - Attended PPS at least until 8th grade

• **9th grade outcomes**
  - Cohorts 2009-2012
  - Program participation at least 3 years for treatment
  - Attended PPS at least until 9th grade

• **10th grade outcomes**
  - Cohorts 2009-2011
  - Program participation at least 3 years for treatment
  - Attended PPS at least until 10th grade

• **High School outcomes**
  - Cohort 2009
  - Program participation at least 3 years for treatment
  - Attended PPS at least until 12th grade

• **High School Graduation**
  - Cohort 2009
  - Program participation at least 3 years for treatment
  - Attended PPS at least until 8th grade

**Analyses**
Outcome analyses were conducted using regressions with additional covariate adjustments and adjustments for weights. The specific analyses employed depended on the outcome variable in question. Results with a p-value < 0.05 were considered statistically significant. Results with p-values between 0.05 and 0.09 were considered moderately significant.

Results should be interpreted in terms of the counterfactual. For example, the difference in mean for an outcome variable shows the mean of the participants and what the mean could have looked like had they not participated in the program.