THE IMPACT OF EXTRACURRICULAR ACTIVITY INVOLVEMENT ON HIGH SCHOOL ACADEMIC ACHIEVEMENT

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PRESENTATION OUTLINE

- Introduction
  - Background
  - Problem Statement
  - Research Questions
  - Significance
  - Limitations
- Review of Literature
- Methodology
  - Sample
  - Instruments
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- Findings
- Conclusion & Implications
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INTRODUCTION: BACKGROUND

- Research has shown that across the nation, students who are actively and continuously engaged in extracurricular activities do better in school and beyond.
- Not only does extracurricular involvement predict academic success in high school and college, but it also predicts personal and professional success in the long run.
- Unfortunately, budget cuts and continued focus on high-stakes testing across the country mean that extracurricular activities (and elective courses, such as art and music) are continually on the chopping block.
- Locally, at a suburban high school in Southeast Massachusetts, proficiency gaps continue to persist despite a multitude of interventions focus on boosting students’ academic abilities.

INTRODUCTION: PROBLEM STATEMENT

- The local proficiency gaps have not been reduced significantly, despite the attention being paid to the problem.
- To add to the situation, it seems that our highest-risk students (including Black/African American, High Needs and Low Income subgroups) are participating in extracurricular activities at lower rates than their counterparts.
- Given the research across the nation pointing toward a number of physical, intellectual, psychological/emotional and social benefits for students involved in programming beyond the school day, a clear problem exists if we are not engaging our lowest-achieving students in these extracurricular programs.
- The school must investigate the underlying conditions that affect participation rates, and find ways to encourage all students to participate in athletic or other activities beyond the school day in an effort to close the proficiency gaps.
INTRODUCTION: RESEARCH QUESTIONS

- The following research questions will be considered, and will frame the data analysis:
  - Is there a significant difference in academic achievement between participants in extracurricular activities and non-participants?
  - Are there significant differences in academic achievement and extracurricular activity participation by gender, race and/or socioeconomic status?
  - Is there a significant linear relationship between the number of hours per week involved in extracurricular activities and academic achievement?
  - Are there increased academic benefits for extracurricular participation (stronger relationship) for minority students and/or students with low-socioeconomic status?
  - Null hypotheses of no significant difference/relationship for each research question above will be tested using t-tests for difference of means and t-tests for slope

INTRODUCTION: SIGNIFICANCE

- The primary beneficiaries of this study will be currently less-engaged students at the local level
- This research benefit all stakeholders in the local community, including School Committee, school administrators, teachers, coaches, advisors, students, parents and other community members
- All will gain an understanding of the state of extracurricular activity participation and their benefits, better preparing all stakeholders to advocate for funding and support to make opportunities available to all students
- On a larger scale, successful investigation of the research questions will position the school and community to propose legislative change at the state level for increased financial support for sports, clubs and other activities
As a non-experimental study, the research is designed only to investigate the relationships between extracurricular activity participation and academic performance—not to establish a casual relationship between the two, as subjects have not been assigned to any particular treatment groups. There may be additional factors influencing academic outcomes not controlled for in the design of the study. The data collected for the study is limited to the population of students at one suburban high school south of Boston, MA—the small sample size may limit the generalizability of the research.

To distinguish between the many types of benefits of extracurricular involvement, Fraser-Thomas, Côté & Deakin (2005) identify four areas of youth development for discussion: Physical, Intellectual, Psychological/emotional & Social.

Physical: Physical activity is crucial for proper child and adolescent development and helps to promote healthy choices and deters risky behaviors.

Intellectual: Extracurricular activities “are linked to better grades, lower rates of truancy, stronger feelings of attachment to a school, and higher rates of college attainment” (Galley, 2000, p. 8); “Students who are involved in clubs and sports go on to earn higher wages, advance further in their careers, and even vote and volunteer more frequently than their less-involved peers” (Snellman, Silva & Putnam, 2015, p. 11).
REVIEW OF LITERATURE

- **Psychological/emotional:** Extracurriculars provide the opportunity to engage in fun, cooperative and challenging activities which promote self-esteem and psychological and emotional development, while decreasing stress.
- **Social:** Extracurriculars help youths to develop relationships with peers and adults, and provides experience working with a team toward a goal.
- **Special Education:** “Through extracurricular activities, students are afforded with natural opportunities for developing and practicing priority skills related to individualized education program (IEP) objectives while having fun in an inclusive environment” (Pence & Dymond, 2015, p. 281)
- Budget cuts and emphasis on high-stakes testing have reduced the number of minority and low-income students participating in extracurriculars, despite the many benefits.

METHODOLOGY: SAMPLE

- The sample will consist of 100 high school students from a suburban high school south of Boston, MA of nearly 1000 students.
- The school is comprised of 62% White, 25% Black/African American, 6% Asian and 4% Hispanic students. Further, 21% of the students are identified as High Needs, while 11% are considered economically disadvantaged.
- Over 60% of students currently participate in at least one extracurricular activity.
- All students enrolled in the school will have an equal chance of selection to be a part of the study (Simple Random Sample).
METHODOLOGY: INSTRUMENT

- Three instruments will be used to collect the necessary data: AdminPlus Database, Edwin Analytics & Extracurricular Participation Survey
  - **AdminPlus**: This instrument will be used to collect gender, grade level, race, socioeconomic status (free/reduced lunch statue), grade point average (GPA), and attendance rate (the total number of days present divided by the total number of school days for each student during their high school careers)
  - **Edwin Analytics**: This instrument will be used to collect English Language Arts (ELA), Mathematics and Science, Technology and Engineering (STE) MCAS scores
  - **Extracurricular Participation Survey**: This instrument is a short survey about extracurricular participation to separate students into two groups (participants and non-participants) and determine the average number of hours per week devoted to these extracurricular activities

DATA ANALYSIS

- To test the null hypothesis that there is no significant difference in the academic achievement of extracurricular participants and non-participants, multiple t-tests will be run using the means of three different measures of academic achievement: GPA, attendance rate and MCAS performance
  - The data will be explored further by investigating differences between genders, grade level, race and socioeconomic status.
  - To test the null hypothesis that there is no significant relationship between extracurricular activity rate (number of hours per week) and academic achievement (GPA, attendance rate, MCAS scores), regression analyses and t-tests for slope will be completed
**FINDINGS**

- **Research Question 1**
  - Significant difference in GPA (P=.024) & attendance rate (P=.013)
  - Significant difference in Total MCAS score (P=.007) & GPA (P=.002)

<table>
<thead>
<tr>
<th>Plays School Sport (N=78)</th>
<th>Does Not Play School Sport (N=27)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>Std. Deviation</td>
</tr>
<tr>
<td>Total MCAS</td>
<td>760.6576</td>
</tr>
<tr>
<td>GPA</td>
<td>3.1564</td>
</tr>
<tr>
<td>Abs &amp; Tardies</td>
<td>6.8630</td>
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</table>

<table>
<thead>
<tr>
<th>Participates in School Club (N=50)</th>
<th>Does Not Participate in School Clubs (N=50)</th>
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</thead>
<tbody>
<tr>
<td>Mean</td>
<td>Std. Deviation</td>
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<tr>
<td>Total MCAS</td>
<td>769.2000</td>
</tr>
<tr>
<td>GPA</td>
<td>3.3398</td>
</tr>
<tr>
<td>Abs &amp; Tardies</td>
<td>6.6200</td>
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</table>

- **Research Question 2**
  - Tests determine that females have a significantly higher mean GPA (P=.012) and a significantly higher participation rate in school clubs (P=.004)

<table>
<thead>
<tr>
<th>Male (N=44)</th>
<th>Female (N=56)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>Std. Deviation</td>
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<tr>
<td>Total MCAS</td>
<td>724.9091</td>
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<td>GPA</td>
<td>2.6096</td>
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<tr>
<td>Abs &amp; Tardies</td>
<td>9.2035</td>
</tr>
<tr>
<td>Hours spent on Sports &amp; Clubs</td>
<td>8.2045</td>
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<tr>
<td>Sports</td>
<td>7.145</td>
</tr>
<tr>
<td>Clubs</td>
<td>3.409</td>
</tr>
</tbody>
</table>
FINDINGS

- Research Question 2

Tests conclude that White students outperform minority students on Total MCAS score (P=.004), GPA (P=.007) and attendance rates (P=.004).

![Table 4.7](image)

<table>
<thead>
<tr>
<th></th>
<th>White (N=50)</th>
<th>Minority (N=42)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
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</tr>
<tr>
<td>Total MCAS</td>
<td>768.3448</td>
<td>31.7625</td>
</tr>
<tr>
<td>GPA</td>
<td>3.2372</td>
<td>1.01230</td>
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<tr>
<td>Abs &amp; Tardies</td>
<td>6.0172</td>
<td>6.51177</td>
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<tr>
<td>Hours spent on Sports &amp; Clubs</td>
<td>9.0172</td>
<td>4.73691</td>
</tr>
<tr>
<td>Proportion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sports</td>
<td>.7759</td>
<td>.05523</td>
</tr>
<tr>
<td>Clubs</td>
<td>.4655</td>
<td>.06607</td>
</tr>
</tbody>
</table>

FINDINGS

- Research Question 2

Tests conclude there is a significant difference in academic achievement measures: regular education students have higher Total MCAS scores (P=.000), have higher GPAs (P=.000) and attend school at higher rates (P=.010).

- Regular education students participate in sports at greater rates (P=.012) and spend more time involved in their extracurricular activities (P=.013).

![Table 4.8](image)

<table>
<thead>
<tr>
<th></th>
<th>No IEP/504 (N=85)</th>
<th>IEP/504 (N=15)</th>
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</thead>
<tbody>
<tr>
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</tr>
<tr>
<td>Total MCAS</td>
<td>766.3941</td>
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<tr>
<td>GPA</td>
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<tr>
<td>Abs &amp; Tardies</td>
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<tr>
<td>Hours spent on Sports &amp; Clubs</td>
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<td>5.4333</td>
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<tr>
<td>Proportion</td>
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<td></td>
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<tr>
<td>Sports</td>
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</tr>
<tr>
<td>Clubs</td>
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FINDINGS

Research Question 2

Tests reveal no statistically significant differences between the two groups

Table 4.9: Academic Achievement and Participation Measures by Socioeconomic Status (N=100)

<table>
<thead>
<tr>
<th></th>
<th>No Free/Red. Lunch (N=77)</th>
<th>Free/Reduced Lunch (N=23)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Std. Deviation</td>
</tr>
<tr>
<td>Total MCAS</td>
<td>760.8571</td>
<td>34.88089</td>
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<tr>
<td>GPA</td>
<td>3.0947</td>
<td>1.06517</td>
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<tr>
<td>Abs &amp; Tardies</td>
<td>7.9442</td>
<td>9.02346</td>
</tr>
<tr>
<td>Hours spent on Sports &amp; Clubs</td>
<td>8.5065</td>
<td>5.05138</td>
</tr>
<tr>
<td>Sports</td>
<td>.7273</td>
<td>.05109</td>
</tr>
<tr>
<td>Clubs</td>
<td>.4805</td>
<td>.0731</td>
</tr>
</tbody>
</table>

FINDINGS

Research Question 3

- Significant, positive relationship between GPA and extracurricular involvement (hours)
- \( \beta = .042 \)
- \( P = .048 \)
**FINDINGS**

- **Research Question 3**
  - Significant, negative relationship between attendance rate and extracurricular involvement (hours)
  - $\beta = -.445$
  - $P = 0.014$

![Graph of Number of Hours on Extracurricular Activity vs. Attendance Rate]

**FINDINGS**

- **Research Question 4**
  - Stronger linear relationships exist between academic achievement and extracurricular activity involvement for males (compared to females) and minority students (compared to White students)
  - Appears to be an adverse relationship between academic achievement and extracurricular activity for special education students: more involvement is associated with lower scores and poorer attendance
  - Analysis by socioeconomic status revealed no advantage for either group
CONCLUSION & IMPLICATIONS FOR SCHOOLS AND FUTURE RESEARCH

- This study confirms research showing the academic benefits to participating and in extracurricular activities
- Benefits are especially strong for male and minority students
- Further study is needed to determine the academic outcomes of extracurricular participation for special education students
- Study needs replication in different areas of the country, as well as larger sample sizes to increase generalizability of the results

REFERENCES

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