



# Fueling Futures: The Impact of Career-Focused Academies on High School Motivation

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## Abstract

This study rigorously examines the effects of career-oriented programs on public high school students' academic motivation, a crucial factor in educational achievement and persistence. Employing a mixed-methods approach with a sample of 61 students from diverse backgrounds, this research assesses the roles of elective courses geared toward career pathways and their intersections with supportive school environments and extracurricular involvement. Findings reveal that when students engage in elective programs aligned with their career aspirations, they display significantly higher motivation, increased engagement, and a deeper investment in learning processes. Further, these programs cultivate autonomy, foster a sense of community, and allow students to draw relevant connections between academic activities and real-world applications. By emphasizing the value of interest-based, student-centered learning experiences, this study contributes to the discourse on career and technical education and advocates for the inclusion of career-oriented academies as a means to bolster motivation and positively influence educational outcomes in public high schools.

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## Introduction

Academic opportunity is a generalized term that refers to a class or sequence of classes that provides advanced or non-standard educational opportunities. As such, this definition can encompass a wide range of academic contexts, ranging from Advanced Placement or Dual Enrollment classes, which provide college-level curricula and instruction to students, to career-oriented programs or academies. The effects of college-level instruction on high school student outcomes and motivation are well documented (Warne et al., 2015; An 2015). However, the effects of career-oriented programs or academies on high school students have not been investigated. As such, academic opportunity will be used to describe those enrolled in an academy providing career-oriented instruction.

It is uniformly recognized that across the nation there exists a problem to motivate high school students (Ford & Roby, 2013). Motivation leads to further academic involvement, which in turn can yield improved academic performance (Al-Said 2023). However, motivation is a highly researched and debated topic (Siemsen et al., 2008). One of its many attributes is its complexity, causing it to vary even among similar environments; one such example is public high schools. Public schools are not funded equitably

(Barnard College, 2023). These divides in funding elicit unequal academic opportunities provided across different public schools. Furthermore, a lack of funding forces schools to pick and choose their academic offerings. Most efforts to introduce new academic offerings focus on college-level classes rather than electives like career-oriented programs or academies (Harackiewicz & Priniski, 2018). As such, while most schools offer a variety of college-level classes through the form of Advanced Placement or Dual Enrollment, few schools have a variety of career-oriented academies, and many have none.

College-level classes are proven to be an effective intervention to improve student outcomes and motivation. Within college-level classes, the main difference from normal high school classes is the difficulty and pace of material, featuring more and harder information to understand. It is clear to see how previous research found that these classes improve student outcomes as they prepare students for harder coursework later in education and improve student motivation as they feel further challenged while still poised within a high school environment.

Career-oriented academies possess further differences in structure, however. While these academies aren't standardized across schools like many popular college-level class offerings (e.g. Advanced Placement courses), they often still feature increased class rigor, but phrased within a more unconventional classroom environment; for instance, a scientific research academy, which can be found in many public schools across the country, deviates from the standard model of daily teacher-to-student instruction, and instead mainly comprises student-independent activity guided by teachers. They may also feature more interaction with peers, more definitions of success outside of a class or exam grade, or an increased sense of community within a multi-year program as compared to a year- or semester-long class. Finally, they might help students determine what future career path they want to take, providing in-depth glimpses into a certain profession. As such, career-oriented academies offer an elevated level of potential to improve student motivation in public high school students. Many of these factors have been identified to improve student motivation in motivation literature. According to Ford and Roby, students exhibit increased motivation when class structure allows students to have autonomy, feel a sense of belonging, see their peers succeed, feel adequately challenged, and draw connections from the classroom to their lives (Ford & Roby, 2013). Many of these strategies to improve student

motivation can be found within career-oriented programs.

By researching this topic, academic offering decisions within public schools with oftentimes limited funding can be aided. It is important to determine if career-oriented programs can improve student motivation before they can be considered as an academic offering worth distributing fundings towards instead of other options. Previous papers failed to explore: how does academic opportunity (in the form of career-oriented programs) improve motivation in public high school students? Therefore, this paper's purpose is to fill this knowledge gap by performing additional investigation in the topic; this study aims to investigate how participation in career-focused academies influences high school students' academic motivation, engagement, and performance compared to traditional AP programs

## Student Motivation

Motivation is defined as one's willingness to complete tasks. Student motivation focuses on a student's motivation to complete tasks related to school, which may include submitting class assignments, studying, and more. Motivation leads to increased class enjoyment, which leads to students learning more readily (Filgona et al., 2020). As such, increasing student motivation can be seen as synonymous with improved student outcomes. Across the United States, high school education is largely compulsory. This forces students into the classroom—a student's presence in the classroom is not a guarantee that they wish to learn. As such, student motivation can be scarce, a consensus agreed upon by many researchers in the field (Ford & Roby, 2013; Legault et al., 2006). As student motivation is a cornerstone to effective high school education, it is immensely important to study, understand, and influence through purposeful action, whether through method of teacher instruction or even course offerings and curricula.

## Motivation Theory

Motivation literature forwards numerous theories relating classroom variables to student motivation. One example is self-determination theory which refers to three psychological needs: autonomy, competence, and relatedness (Ryan & Deci, 2000). Autonomy, more specifically, refers to the learners initiating their actions and a sense of freedom when engaging in a learning activity; competence refers to the learners' feeling of effectiveness

and confidence in attaining their desired outcomes; relatedness refers to the learners' experience of mutually satisfying relationships, featuring trust and closeness (Ryan & Deci, 2000). This theory is immensely popular when considering teaching, student motivation, and course preparation, and has shown to yield positive outcomes (Niemic & Ryan, 2009).

## **Positive Aspects of the Curriculum and Teaching**

Theories for the factors controlling academic motivation all involve the teachers' method of education and student engagement. Subsequently, certain teaching methods can positively or negatively impact motivation. Encouraging independence and autonomy in education for students can improve motivation (Ford & Roby, 2013). Additionally, social support, influenced by teachers, peers, and the academic environment, which promotes autonomy, competence, and relatedness, can improve motivation (Ford & Roby, 2013).

## **High School Context**

Based on previous research, academic opportunities can be scarce within schools with low funding. For this study, therefore, a school with adequate funding was chosen. The chosen high school for this study is Title 1 designated, indicating that they have a large student population in poverty, and subsequently receives more funds. As such, they have a wide range of program offerings. According to the New York City Department of Education, the school has a 70% poverty rate and a 60% economic need index in the 2021-22 school year. Additionally, the high school had an enrollment of over 4,000 students (NYCDOE, 2022). Most critically, according to the Office of Elementary & Secondary Education for the USA, the high school has a per pupil expenditure of approximately \$10,000 (OESE, 2020). The chosen high school also has an abundant minority population; of their student enrollment in the 2021-22 calendar school year, approximately 65% were Asian and approximately 20% were Hispanic (NYCDOE, 2022).

The school offers several career-oriented programs, some lasting four years, such as a research academy, and others lasting three. All surveyed students were enrolled in an Advanced Placement class alongside a career-oriented program, though few students were enrolled in more than one

academy. The research academy in particular mirrors many features of AP coursework, but the commitment to the academy spans four years rather than the typical one-year duration of an AP course. In addition, it would be impractical, using a single school to control variables, to find enough students who take Advanced Placement classes but not in an academy. As such, the students in the research academy can be used as a reference point for the sort of instruction that can be found within Advanced Placement offerings, with the only key difference being the length of commitment (1 year for an Advanced Placement class compared to 4 years for the research academy).

Overall, the effects of academic opportunity on high school student motivation have been researched. However, most studies look at college-level offerings, commonly through Advanced Placement courses. Very few studies investigate alternative academic opportunities, namely career-oriented programs. Therefore, similar tests to measure student motivation should be conducted on high school students enrolled in these programs.

Even with the range of research on various academic interventions to improve student motivation, without research focusing on career-oriented programs, there cannot be fully informed decisions made when introducing new academic offerings meant to improve student outcomes. Therefore, the results of this paper, by looking at how academies affect student motivation, will allow the discussion of the including academic offerings outside of college-level classes when making funding decisions. This research aims to analyze whether participation in a career-oriented program significantly affects high school student motivation.

Based on the findings of previous studies, multiple factors influence student motivation, including autonomy, sense of belonging, sense of capability, interest and energy, and positive experiences with peer models. As these factors can be found in abundance when analyzing career-oriented programs, it was hypothesized that students with increasing commitment to a career-oriented program will show higher levels of these factors, which can then be correlated to higher levels of student motivation.

## Methods

To assess the relationship between academic opportunity and student motivation, an anonymous online survey was conducted via Google Forms.

Given the study’s sensitive topics, such as motivation and cultural pressures, an online survey was deemed more appropriate than interviews to encourage honest responses.

The survey included multiple-choice questions and 28 Likert scale items, with options ranging from “Strongly Disagree” (1) to “Strongly Agree” (7). The survey gathered demographic information, academic program involvement, and responses to statements on autonomy, belonging, competence, interest, and peer models. Upperclassmen were targeted to reduce the influence of external factors, such as transitioning into high school, and teachers of advanced courses were asked to distribute the survey. This could explain the higher proportion of Science Research academy participants and above-average GPA among respondents. Data was quantitatively analyzed post-collection, which included data categorization. The survey instrument was adapted from validated motivational scales used in prior studies on student motivation (Niemic & Ryan, 2009). The survey was distributed via Google Forms, made available for a two-week period, and shared through teachers of advanced courses to ensure a representative sample. The sample size of 61 was determined based on feasibility and availability of students within the school. While not large, it provides preliminary insights into motivation trends among different academic programs. A copy of the survey questions has been added as an appendix for transparency.

## Results

Table 1. Percentage of respondents by academy grouping at each rating. All = Top Left, No Academy = Bottom Left, Research Academy = Top Middle, All Excluding Research Academy = Bottom Middle, 4-Year Academy = Top Right, 3-Year Academy = Bottom Right.

Question	Strongly Disagree		Disagree		Slightly Disagree		Neutral		Slightly Agree		Agree		Strongly Agree	
[1] I am in charge of my own decisions.	0	0	0	2	3	0	3	6	0	11	3	13	34	39
	0	0	0	0	0	0	0	0	0	17	20	33	33	30
	11	3	13	34	39	38	25	26	38	25	23	13	0	23
[2] I decide what happens with my	0	0	0	0	0	2	0	0	13	19	0	18	16	25
	38	42	38	30	23	38								



academic path.

[3] I chose to be (and stay) in my academic program.

0	0	0	2	0	0	0	0	0	5	0	0	18	23	13	21	32	13	54	45	75
0	0	0	17	3	0	0	0	0	17	10	0	17	13	22	17	10	0	33	63	78

[4] The work I do in my academic program gives me autonomy.

2	0	0	0	0	0	3	3	0	18	16	25	18	16	13	21	32	13	38	32	50
17	3	0	0	0	0	0	3	11	17	20	11	33	20	22	17	10	11	17	43	44

[5] I feel capable of succeeding in my academic program.

2	0	0	2	0	13	5	0	0	5	0	13	16	19	13	36	55	25	34	26	38
17	3	0	0	3	0	0	10	22	17	10	11	33	13	0	17	17	11	17	43	56

Table 1 (continued)

[6] I belong in my academic program.	3	0	0	0	0	0	3	3	0	16	16	25	15	13	38	26	39	13	36	29	25
	1	7	1	0	0	0	0	3	0	17	17	11	17	17	0	17	13	22	33	43	56
	7		1																		
[7] My work ethic has increased due to joining my academic program.	3	0	1	5	3	0	5	3	1	15	13	13	25	29	25	13	10	13	34	42	25
			3						3												
	1	7	0	0	7	1	0	7	0	17	17	22	33	20	11	17	17	22	17	27	33
[8] My future life path has become clearer due to my academic program.	7					1															
[9] I am preoccupied with other things beyond school.	5	0	1	3	3	1	8	3	1	16	16	38	16	26	0	20	29	13	31	23	13
			3			3			3												
	1	1	1	0	3	0	0	1	1	17	17	11	17	7	0	17	10	0	33	40	67
[10] I realize that I have not done my part to be motivated internally.	7	0	1					3	1												
[11] School is not relevant to my future.	3	3	0	3	3	1	3	6	0	16	13	25	34	26	63	16	26	0	23	23	0
						3															
	0	3	0	0	3	0	0	0	0	17	20	22	17	43	44	17	7	11	50	23	22
[10] I realize that I have not done my part to be motivated internally.	5	0	0	2	2	2	7	6	0	23	32	25	23	10	50	15	23	0	8	6	0
				0	3	5															
	0	1	2	3	1	0	1	7	1	17	13	0	33	37	22	0	7	11	0	10	33
[11] School is not relevant to my future.			0	2	3	7		7	1												
[11] School is not relevant to my future.	5	6	6	1	1	1	1	1	1	7	3	13	3	0	0	2	0	0	2	3	0
	7	5	3	8	6	3	1	3	3												
[11] School is not relevant to my future.	3	5	4	1	2	3	1	1	0	0	10	11	33	7	0	0	3	11	0	0	0

3 0 4 7 0 3 7 0

Table 1 (continued)

[12] I can't seem to invest the effort that is required.	15	10	25	20	16	38	20	23	25	13	16	0	20	23	13	3	6	0	10	6	0	
	17	20	22	17	23	11	17	17	11	0	10	1	33	17	22	0	0	0	17	1	2	
												1								3	2	
[13] I don't have the energy to study.	11	6	25	5	0	0	8	10	13	16	16	1	26	32	13	1	1	2	18	1	1	
												3					5	6	5		9	3
	17	17	11	0	10	11	0	7	11	17	17	1	33	20	22	0	1	2	33	1	1	
[14] I'm a bit lazy.												1										
												3										
	0	0	0	3	0	0	15	6	38	20	23	1	21	19	25	2	2	2	21	2	0	
[15] My school work is not stimulating.												3					0	3	5		9	
	0	0	0	0	7	11	33	23	11	0	17	2	33	23	22	0	1	1	33	1	2	
												2						7	1		3	2
[16] I believe it's always the same thing every day.	7	6	13	10	10	0	11	16	0	31	32	2	20	16	38	1	1	2	7	3	0	
												5					5	6	5			
	17	7	0	0	10	22	0	7	22	33	30	2	33	23	11	0	1	1	17	1	1	
[17] I don't like studying.												2						3	1		0	1
	7	3	13	8	6	0	10	10	0	16	19	1	18	16	13	1	1	5	23	2	1	
												3					8	6	0		9	3
[18] I find that studying is boring.	0	10	11	50	10	0	0	10	33	33	13	1	17	20	22	0	2	1	0	1	1	
												1						0	1		7	1
	5	6	13	11	3	25	5	3	13	15	16	0	16	26	13	1	2	0	33	1	3	
[19] I don't like studying.																	5	6		9	8	
	0	3	0	50	20	11	0	7	0	0	13	1	0	7	11	0	3	0	50	4	6	
												1									7	7
[20] I find that studying is boring.	10	10	13	7	3	13	3	0	0	10	10	1	25	35	13	1	2	1	30	1	3	
												3					6	3	3		9	8
	17	10	11	33	10	0	0	7	11	0	10	0	17	13	11	0	1	0	33	4	6	
																	0			0	7	

Table 1 (continued)

[19] The tasks demanded of me surpass my abilities.	13	10	0	20	26	13	20	19	50	21	16	38	18	13	0	7	13	0	2	3	0
	17	17	2	17	13	11	0	20	0	33	27	11	33	23	5	0	0	0	0	0	0
			2												6						
[20] I'm not good	20	16	1	16	19	13	26	32	13	20	16	25	13	10	2	2	0	1	3	6	0
			3												5			3			



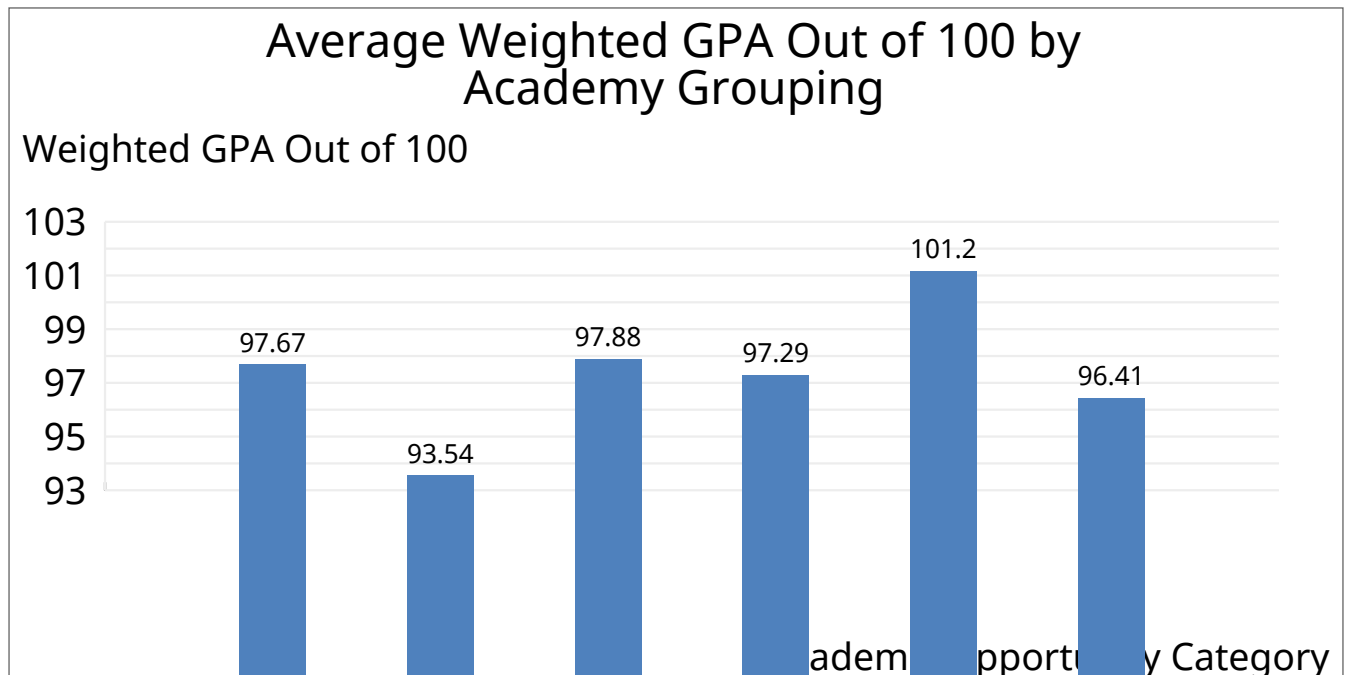
at school.

	33	23	3	0	13	11	17	20	33	33	23	11	17	17	1	0	3	0	0	0	0
			3												1						
[21] I don't have the knowledge required to succeed in school.	36	39	2	33	32	50	15	10	0	10	19	0	5	0	1	2	0	1	0	0	0
			5												3		3				
	50	33	3	17	33	22	17	20	33	0	0	0	17	10	1	0	3	0	0	0	0
			3												1						
[22] I don't have what it takes to do well in school.	38	39	3	26	26	13	21	23	25	5	3	0	7	6	1	3	3	1	0	0	0
			8												3		3				
	33	37	3	33	27	22	17	20	33	17	7	0	0	7	1	0	3	0	0	0	0
			3												1						
[23] Studying is not important to me.	44	55	2	23	16	50	11	10	25	10	6	0	3	3	0	7	10	0	2	0	0
			5																		
	33	33	3	17	30	33	17	13	0	33	13	11	0	3	1	0	3	0	0	3	1
			3												1					1	
[24] School holds no interest.	31	26	3	28	42	13	18	23	13	15	6	25	7	0	1	0	0	0	2	3	0
			8												3						
	33	37	3	17	13	11	0	13	33	33	23	11	17	13	1	0	0	0	0	0	0
			3												1						
[25] My peers have similar academic goals as me.	0	0	0	5	3	13	7	3	0	16	13	13	34	35	1	2	23	6	1	2	0
															3	5		3	3	3	
	0	0	0	0	7	0	17	10	11	17	20	22	33	33	5	1	27	1	1	3	0
															6	7		1	7		

Table 1 (continued)

[26] I see my peers succeed and learn from them.	0	0	0	2	0	0	5	6	0	20	13	25	26	29	13	34	42	50	13	10	13
	0	0	0	0	3	1	0	3	0	50	27	11	17	23	44	0	27	22	33	17	11
							1														
[27] I feel at home at [name] High School	7	3	1	3	6	0	8	6	2	34	42	0	26	23	25	10	10	13	11	10	25
			3						5												
	0	1	1	0	0	0	0	1	0	50	27	22	33	30	44	0	10	11	17	13	11
		0	1					0													
[28] I can come to my teachers with any issues or concerns.	1	1	1	8	1	1	0	0	0	18	19	0	31	32	13	18	19	25	15	6	38
	0	3	3		0	3															
	1	7	0	0	7	0	0	0	0	33	17	11	17	30	67	0	17	11	33	23	11
	7																				

Figure 1. Student weighted GPA by academy grouping.



A total of 61 high school students completed the survey, providing valid data for analysis. Demographic data revealed that 43 respondents were Asian or Pacific Islander, 7 were Hispanic or Latino, and 5 were White or Caucasian. The racial distribution was consistent with the school's demographic profile. Students were also grouped based on their academic program involvement.

For question 1, those in no academy felt significantly more in charge of their own decisions than any other group, and those in 3-Year Academies felt more in charge than those in 4-Year Academies. Question 2 sees similar patterns, but with percentage increases for all groups. In question 3, there is a similarity between 4- and 3-Year Academies, of which are larger than those in the Research Academy. The same pattern is seen in question 4, albeit with lower levels of agreement across the categories.

Question 5 saw those in 3-Year Academies as feeling the most capable of succeeding, while the Research Academy was the lowest academy category. Those in 3-Year Academies also felt a higher sense of belonging as shown through question 6, and those in the Research Academy felt the most as their work ethic had increased due to their academy as shown through question 7. Those in 3-Year Academies most significantly felt their life path becoming clearer due to their opportunity, while the Research and 4-Year Academies had drastically low agreement in comparison for question 8.

Question 9 showed that those not within an academy were preoccupied the most with things outside of school, while those in academies held less of a strong opinion, and those in 4-Year Academies heavily disagreeing. Question 10 shows an interesting pattern, where those in 3-Year Academies were the dominant group at both strongly agree and strongly disagree, where the other groups skew towards the middle. Question 11 saw those in Research and 4-Year Academies most believing school to be relevant to their future, while those without an academy felt more of the opposite. For question 12, similar patterns for 3-Year Academies in question 10 are again shown, which is also analogous for those without an academy. Those in 4-Year Academies felt the most capable of investing effort.

Question 13 shows students in 4-Year Academies having the most energy to study, while those in no academy having the least. Question 14 shows the same pattern, with 0% of 4-Year Academy students 33% of No Academy students rating Strongly Agree. Those in 4-Year Academies found their schoolwork to be the most stimulating preceding those in No Academy, who are found at both ends of the scale, but skewed towards Slightly Agree in question 15. Most surprisingly, those in academies felt that their days were the most repetitive, while those without an academy were skewed towards Disagree in question 16.

Question 17 shows a universal dislike of studying but found the least in the Research Academy by a large margin, also replicated in question 18. Questions 19 and 20 both show patterns, with those in 3-Year Academies feeling the most capable in their abilities. The response percentages for all groups stay similar across questions 21 through 24 and show No Academy students disagreeing the most with not having the required knowledge to succeed or do well in school. Those in the Research Academy felt it the most important to study, and a high interest in school, skewing towards Disagree.

Question 25 showed that those in the Research Academy most believed their peers to have similar academic goals, but those in No Academy saw them succeed the most. Those in 4-Year academies felt the most at home at High School through question 27. Finally, question 28 showed that those in 4-Year Academies and those in No Academy both felt the most connection with their teachers.

Students were asked to self-report an estimate of their weighted GPA out of 100. In figure 1, those in no academy had lower weighted GPAs than all

other categorizations, while those in 4-year academies had higher weighted GPAs than all other categorizations. Specifically, all respondents had an average weighted GPA of 97.7, and excluding those in the research academy, an average weighted GPA of 97.3. Those in no academy had an average weighted GPA of 93.5, while those in the research academy had an average weighted GPA of 97.9. Finally, those in the 4-year academies had an average weighted GPA of 101.1 while those in the 3-year academies had an average weighted GPA of 96.4.

## Discussion

This study's results indicate a relationship between career-oriented academies and student motivation. This conclusion was consistent in the average weighted GPA across academy categorizations, with those in 4-year academies averaging 3.4% higher than all respondents, or 7.6% higher than those in no academy. This conclusion was also supported by the results organized in Table 1. Questions 1-4 all concerned autonomy and showed that those in academies felt higher levels of autonomy, though without significant distinction overall between the three academy categorizations. Questions 5 and 19-22 all concerned a sense of capability and showed that those in 4-year academies felt slightly more overwhelmed and those in 3-year academies felt more capable, hinting at the possibility of a balance between these two academies categories to allow students to feel capable while not overwhelming them. Questions 6 and 27-28 all concerned student belonging, and showed that those in 3-year academies felt more belonging in their academy, while those in 4-year academies felt more belonging in the high school itself and connection to their teachers (possibly due to outside factors, such as that students ambitious enough to take on a 4-year academy would be more likely to take on more school-related extracurricular activities like student government, clubs, etc.). Questions 7-18 and 23-24 all concerned student interest and energy and showed that those in the Research Academy found their general classwork and studying to be more interesting but more repetitive. Interestingly, those in the Research Academy found themselves to be much more lazy than other groups though less than those in no academy, yet those in 4-year and 3-year academies found themselves to dislike studying more. Finally, questions 25 and 26 all concerned positive peer model experiences, showing those in 3-year academies to feel the least like they can learn or have shared academic goals with their peers, while those in the Research

Academy showed significantly largely feelings in the opposite way (possibly as peer successes are celebrated throughout the class while exam grades in a normal class aren't uniformly shared, and collaboration being baked into the research process while normal classes contain far less group work).

This answers the research question as it collects data from those in career-oriented programs and their levels of motivation as inferred by their responses to statements regarding key facets of motivation. These results show that, in general, those in career-oriented programs experience higher levels of motivation than those not, and that key variations exist when considering different academy lengths or instructional styles.

These results support previous research and the initial hypothesis. Niemiec & Ryan (2009) concluded from their study in that the three main components to improve motivation proposed through self-determination theory by Ryan & Deci (2000)—specifically autonomy, relatedness, and competence—to be applicable in real educational practice. Because of this and other research, it was hypothesized that career-oriented programs would improve motivation, as they exhibit these 3 facets and other key factors to improve motivation as identified by Ford & Roby (2013). Likewise, this improved motivation was shown throughout their higher levels of agreeance (or dis-agreeance if statements were written in the negative sense) with statements discussing autonomy, sense of belonging, sense of capability, interest and energy, and peer models. The findings offer practical implications for educational policy, particularly in structuring curriculum offerings that align with student motivation frameworks like Self-Determination Theory (SDT).

## Limitations

This study contained limitations. For instance, the sample size was unideal, only including 61 respondents. In addition, there was an uneven gender balance within respondents, possibly skewing data as previous studies have shown that gender plays a role in motivation and other socioemotional factors (Meece et al., 2009). While the study highlights important trends, its generalizability is limited due to the small sample size and the demographic homogeneity of the respondents, predominantly from a single high school. Additionally, reliance on self-reported GPA data introduces potential biases, and the cross-sectional nature of the study prevents causal conclusions.

## Future Research

Future research should replicate a version of this study with a focus on comparisons between different academic opportunities. This would include direct comparisons between motivation in those given college-level classes versus those given career-oriented programs. Results from such a study could help fortify the importance of career-oriented programs when making aid decisions, as it is still unclear if these programs yield more benefits than the current solution of college-level classes.

## Conclusion

This study aimed to investigate the relationship between academic opportunity and motivation in public high school students. My hypothesis that academic opportunity in the form of career-oriented programs would improve motivation levels was supported. Many students reported improved levels of self-belonging, sense of capability, weight GPA and work ethic correlated to participation in an academic opportunity. However, there was a weaker correlation between increased participation (4-year versus 3-year) and increased motivation. The implications of this study show that larger sample sizes and comparisons directly against other possible academic interventions need to be addressed in future studies. Additionally, the feasibility of incorporating academies over college-level classes still needs to be determined. These findings suggest that funding allocations should consider career-focused academies as a means to boost student engagement, particularly in underfunded schools where alternative academic opportunities are scarce. It is also important to acknowledge that pre-existing differences in student interests, abilities, or self-selection bias may contribute to differences in motivation and GPA observed between AP and career academy students. While this study suggests a positive relationship between career academies and student motivation, further longitudinal research is necessary to establish causality.

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## Appendix

### How Does Academic Opportunity in the Form of Career-Oriented Programs Affect Motivation in Public High School Students?

Research Question: How does access to academic opportunity affect motivation in public high school students?

[Switch account](#)

\* Indicates required question

Email \*

☐ Record  as the email to be included with my response

**Purpose + Eligibility to Participate** \*

This survey is anonymous, and will only take approximately 10 minutes to complete.

This research aims to determine to extent to which specific academic opportunities affect motivation in public high school students. To participate in this research, you must be aged 13-18 attending [x] High School as a freshmen, sophomore, junior, or senior. If you meet these requirements, you **MAY** proceed. Otherwise, you can kindly exit this survey.

☐ I give my consent, and I am eligible to participate in this research.

Informed Consent Form + Confidentially Agreement + Parent Consent Form

**Confidentiality**  
Your survey answers will be sent to [email address] and data will be stored in a password protected electronic format. This survey is anonymous, and will not collect identifying information such as your name; your gmail address is collected, but it will not be shared publicly and kept confidential.  
  
Your responses will remain anonymous. No one will be able to identify you or your answers, and no one will know whether or not you participated in this study.

**Benefits and Risks**  
There are no expected risks elicited from participation in this study, as well as no direct benefits. However, participation in this study will help inform my research on motivation and academic opportunity, which could help inform future funding or educational decision-making aimed at improving student outcomes in public high schools.

**Participation**  
Your completion of this survey is voluntary. You may choose to leave and stop this survey for any reason, and close the survey without penalties. Surveys that are not submitted at the end will not be accessible or collected for study data. Participation will take approximately 10 minutes.

**For participants under 18** \*  
By checking the "yes" option, I confirm that my parent/guardian has given permission for me to participate in the study described above. In addition, the study's general purposes, particulars of involvement, and benefits/risks have been explained satisfactory to my parent/guardian and I, and that my parent/guardian can discontinue my participation at any time.

☐ Yes, my parent/guardian understands and consents to my participation in this study.  
☐ I am 18

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Survey Questionnaire - Demographics + Personal Information

Answer all questions to the best of your ability.

Which of the following best describes your gender identity? \*  
Please select one answer

☐ Male  
☐ Female  
☐ Other  
☐ Prefer not to say

Which of the following best describes you? \*  
Please select one answer

☐ Asian or Pacific Islander  
☐ Black or African American  
☐ Hispanic or Latino  
☐ Native American or Alaskan Native  
☐ North African or Middle Eastern  
☐ White or Caucasian  
☐ Multiracial or Biracial  
☐ A race/ethnicity not listed here

What grade level are you? \*

Please select one answer

☐ Freshman (9th grade)  
☐ Sophomore (10th grade)  
☐ Junior (11th grade)  
☐ Senior (12th grade)

Which of the following categories best describes your year household income?

Please select one answer; best estimate or, optionally, skip

☐ Less than \$30,000  
☐ \$30,000 - \$50,000  
☐ \$50,000 - \$70,000  
☐ \$70,000 - \$80,000  
☐ \$80,000 - \$100,000  
☐ \$100,000 - \$200,000  
☐ More than \$200,000

In order to accurately respond to the following question, please see what qualifies as an "academic opportunity" or "academic track" using the school website link below. If you are unsure whether your track is a four-year program or a three-year program, please double check using your tracks website available through the link below.

[link to chosen high school academy page]

Additional not included on the website: Sports Medicine

Which academic track(s) are you enrolled in at [x] High School? \*

Please select all that apply

☐ Science Research  
☐ Other four-year program  
☐ A three-year program  
☐ Not currently enrolled in any

What is your *weighted* overall grade/average for the most recent term? (Best estimate is fine; this question is optional)

Your answer

[Back](#)
[Next](#)
[Clear form](#)

## Survey Questionnaire

Respond with your level of agreement to each phrase based on your personal life experiences.

I am in charge of my own decisions. \*

	1	2	3	4	5	6	7	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

[Every Likert Scale question was presented in this same manner. As such, the entirety of the Survey Questionnaire is omitted for brevity.]