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Effects Of Perceived Achievement on Academic Integrity Behaviors in Students from High School X

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ABSTRACT

Academic integrity has increased in importance as academic cheating in high school becomes more rampant. An understanding of why high school students cheat and their subsequent moral neutralization has been explored in previous research, however it is still unknown how achievement levels or perceptions of relative success within adolescents impacts the acceptance of cheating behaviors. This study focuses on School X, located in South Florida, and serves to discover the correlation between achievement (including unweighted GPA, class ranking, and overall relative achievement metrics) with willingness to cheat. The quantitative methodology was a correlational study that utilized a survey and a test guided by leveraging student perceptions of relative academic success and relating it to student willingness to cheat. The Spearman Rank and Point Biserial Correlational Significance test were utilized for the survey, while independent and paired T-Tests were used for the separate correlational study. Findings indicate nuance in how certain aspects of achievement impact student moral integrity, where no conclusions could be drawn accepting or rejecting the hypothesis. While AP classes were positively correlated with cheating, moral disengagement was seen in both higher and lower scoring participants, advocating the complexity of academic integrity and solidifying calls for increased efforts in school in cheating prevention and preserving the value of education.

Introduction

Adolescence is an integral period of development where students in high school simultaneously find themselves having to cope with the weight of academic pressures while actively going through moral maturation and growth. The recent rise in concern over the moral degradation of American society should constitute greater attention on the education system and the implementation of moral learning processes. This is commonly seen in the context of academic integrity institutions and standards among school settings, especially as research by the American Psychological Association demonstrates that dishonest behaviors in school can distort a person's perception of what is morally right or wrong, predicting dishonesty later in life such as lying, breaking the rules, and engaging in illegal activities, (Novotney, 2011).

The pursuit of academic success in an increasingly competitive educational sphere can lead to integrity violations. As such, the external motivations of academic cheating are crucial to examine in order to implement effective educational reforms to promote the honesty and ethics of students. While the drive for higher class rankings, GPAs, and prospects of college admissions are all attuned to the realm academic integrity, the phenomenon of how established achievement levels affects academic integrity within high school students is something integral to the understanding of how to better morals in society, yet left largely unexplored.

Literature Review

Reasons for Violations of Academic Integrity

Preliminary research surrounding this topic delved into certain factors that would lead to behaviors violating academic integrity within high school students. These sources all had congruency in the ways in which adolescents reconciled their behaviors when it went in opposition to their moral codes and values.

While most students can conclude that cheating or other forms of academic integrity violations are morally wrong, cheating is more common in high school "than in any other developmental period," (Waltzer et al, 2023, p. 108). This problem is especially intriguing when considering the "belief-behavior incongruity (BBI), or the discrepancy implied when students who view cheating as immoral still cheat," (Barnhardt & Ginns, 2017, p. 314). The incongruency with moral beliefs and moral decision making is paradoxical when a student's actions counteract their beliefs.

One such study investigated the moral psychology of high school students in eleven international schools located in nine countries. The authors, Barnhardt of the Tsinghua International School and Ginns of the Faculty of Education and Social Work from the University of Sydney, explored academic integrity utilizing the Psychological Teaching-Learning Contracts (PTLC). This approach viewed instances of academic dishonesty in specific contexts as the breaching of social contracts that stemmed from "nonrational mental processes" in which students tried to justify their moral transgressions, (Barnhardt & Ginns, 2017, p. 313). The participants from the questionnaire largely admitted to cheating and "also indicated believing that cheating in that context was justifiable," (p. 328). This justification was achieved through the "neutralization" of internal discomforts regarding academic misconduct (Waltzer et. al, 2023, p. 122) and reinforced by Barnhardt and Ginn's own findings of students who reasoned that their misconduct was "harmless" or "unavoidable" or that their teachers have breached the social contract by themselves acting wrongly, (Barnhardt & Ginns, 2017, p. 314).

Waltzer and Dahl continue this train of thought, following why students morally justify their dishonest behaviors. The professors and PhDs respectively in Psychology in affiliation with the University of California, Santa Cruz, found that adolescents have the potential to perceive their contexts differently based on certain factors (such as their achievement levels) and may make decisions that are morally wrong because they "prioritize competing motivations to cheat in a particular situation," (Waltzer & Dahl, 2023, p. 147) by citing reasons such as assignment goals and feasibility. Essentially, adolescents understand their contexts and the stake of their performance, serving as motivation to morally transgress for success.

Achievement Levels: Predictors and Importance

The relationship between academic achievement and academic morality is complex. Interestingly, academic morality stems from students' perceptions of their intellectual capabilities and their own measure of how successful they are. The aforementioned study by Barnhardt and Ginns revealed to an extent how students' self-concept of their abilities impacts their integrity behaviors. They found that students of higher ability levels tend to be "less likely to cheat" while "students who view themselves as less capable may feel driven to cheat by factors such as performance anxiety," (2017, p. 330).

The anxiety to live up to the standards of success set upon adolescents largely comes from external factors such as societal or parental expectations. Ritchwood, Carthron, and Decoster, PhDs from the Center of Health Equity at the University of North Carolina, Chapel Hill and the Center for Advanced Study of Teaching and Learning at the University of Virginia, designed a cross-sectional study to determine the correlation between test anxiety and study skills, finding that students with greater parental and teacher pressure "tended to report higher levels of test anxiety" for their fear of failure, (Ritchwood, 2015, p. 1009). This finding coincided with previous research cited in the study stating that "those who were commended for their examination performance were more likely to choose tasks that allowed them to display their ability," (Ritchwood, 2015, p. 1008). This is important as it shows that students want to meet the expectations of others and perform at a level up to the standards placed on them. Zhao, Heyman, Chen, and Lee, PhDs in psychology from their respective departments, administered a similar study to find coincident results with children of three to five years old. The designed study was to place children into reputation conditions either

accentuating the intelligence of participants, or in conditions that disregarded the reputation of the participants in order to discover how laud of one's intellectual ability impacted moral behavior related to cheating. It was found that children in the smart reputation manipulation who were praised for their abilities were more likely to cheat "in pursuit of [the] personal gain" that upheld their given reputations (Zhao et al., 2017, p. 8).

The studies discussed appear to contradict the previous results. On one end, students who are more confident in their abilities and test performance at an intrinsic level are less likely to cheat. Contrarily, in the studies discussed here, external pressures set upon students will lead those of higher standards to cheat in order to maintain the expectations placed upon them.

Personal Values and Achievement

Another facet of achievement is discussed by another study. Ekanayake and Dehideniya from the Department of Education at the University of Peradeniya along with Gamage from the University of Glasgow, approached the impact of personal values on the learning approaches and academic achievements of students. In this study, values were described as "concepts or beliefs" concerning end states or results that "transcend specific situations, guide the selection or evaluation of behavior and events and are ordered by relative importance," (Gamage, K. A. et. al, 2021, p. 4). One key finding was that approaches to academic learning backed by altruistic life goals were consistent with the "deep" learning approach while the "surface" learning approach was associated with wealth and status life goals. Additionally, "students who had low integrity values showed a higher preference for surface or superficial learning," (p. 11).

The study continues about the difference between higher achievers and lower achievers: higher achievers are more theoretical and possess a dominant interest in knowledge, learning, and charity while lower achievers are "more economic" and lean towards a materialistic life (Gamage, K. A. et. al, 2021, p. 12). On this, the researchers also found that students who "perceived themselves to be successful" adopted the deeper learning approaches while those who saw themselves as less successful adopted surface learning approaches, (p. 14).

The complex relationship discussed here on how personal values impact work ethic and achievement is crucial to understand. It also leads to the question as to how the opposite of this phenomenon occurs: the effect of set achievement levels on a person's perceptions of themselves and their associated academic moral behavior.

Addressing the Unexplored Aspects of Academic Achievement & Integrity

Among the research discussed, there was a focus on the relationship between reputation, self-perceived abilities, test anxiety, achievement levels, and the inclination to cheat. Moreover, the correlation between personal values affecting the learning approaches and success students experience were all attuned to determine the reasons why adolescents cheat in school. The list of studies examined the reasons young people choose to abandon their morals, yet there was a lack of knowledge specifically pertained to adolescents in high school, despite the importance of this life stage.

Furthermore, while a variety of factors were used to explain academic achievement in students, there was a noticeable gap in the weight or perception of established achievement levels and how it encourages academic integrity transgressions. Understanding as to how high school students distort their perceptions of certain situations based off their measures of relative success to justify their immoral or unethical actions has yet to be understood.

By understanding the motivations of student cheating based on the "weight" of their achievement, those in education can make much more informed decisions regarding how to institute ethics and morals into a student body facing the weight of societal expectations, especially to combat "the erosion of values among youth…[that] is continually progressing," (Gamage et al., 2021, p. 2).

Pursuing this, the research that will be explored will be based around the following question: How do perceptions of academic achievement and relative success impact academic integrity behaviors in students at High School X in South Florida?

Methodology

To comprehend the relationship between academic achievement and academic integrity within high school students, achievement levels needed to be collected and analyzed to discover what gives individuals the inclination to act honestly or dishonestly in school. Moreover, student perceptions of their own achievement in relation to others needed to be induced in the method to stimulate student awareness of their academic standing, and thus, their relative academic achievement. This goal is aligned with the intended purposes of the research as it seeks to understand how perceptions of relative accomplishment impacts the abandonment of morals in a school environment.

A quantitative, correlational study, utilizing both a survey and several live trials, was conducted.

Table 1. Listing of Academic Survey Questions (Part 1 of Method), Researcher created in Excel, 2024

Question Number Labeling	Questions
1	What grade are you in?
2	What is your Unweighted GPA (4.0 Scale)?
3	What is your class ranking out of your class?
4	What are the difficulty levels of your courses this year? Please select all that apply.
5	How many, if any, AP Classes are you taking this year?
6	On a scale of 1 to 5, how would you self-evaluate your own achievement in academics or your confidence in your learning abilities?
7	Have you ever cheated before on schoolwork or exams during your time in high school? If so, how many times?
8	What is your general opinion when it comes to cheating in school (related specifically to your time in high school)?
9	What are the reasons, if any, that you have had for cheating in high school? Select the 3 most significant reasons. If you have never cheated, select only the N/A option.
10	How strongly do you believe in the importance of ensuring academic integrity and preventing cheating among the student body?
11	Why or why don't you feel as though ensuring academic integrity in high school is important? Please explain.
12	Do you have any additional thoughts or concerns about academic integrity or cheating at school? Are there any suggestions you have at prevention of cheating that you would like to share?

The survey questions were transcribed onto a Google Form document and distributed around School X's campus via QR codes on flyers. It asked for quantitative measures of participants' current levels of achievement in high school including unweighted grade point average, class ranking, and course difficulty, (Table 1). This process

served as a prelude to the next part of the survey which asked respondents to self-estimate the number of times they have cheated on exams or schoolwork during their time in high school (Question 7, Table 1). Question 8 also asked students to decide whether cheating was wrong in the absolute or dependent upon the context one finds themselves in. Photo representations of the survey can be found in Appendix A of this paper.

The second part of the methodology was the correlational study. This component of the study was unique in the sense that it didn't use students' established achievement levels from school as the survey did. Rather, it used a test compiled of various cognitive-based intelligence questions to gauge different perceptions of relative accomplishment. The test questions are based off the Criterial Cognitive Ability Test (CCAT), gathered from three webpages: CCATPracticeTest.com, a site that specializes in CCAT test preparation, AptitudeTests.org, a preparation tool for psychometric tests, and an AYS Pro blog of an IQ test questions bank. The first site provided questions from an official CCAT exam from 2021. Some questions were taken directly from the web pages, altered to suit the audience, or newly created, drawing inspiration from the sources.

The use of a CCAT-inspired test can be justified for the study's purpose. The cognitive-based intelligence questions, while implemented in a way to simulate academic testing, was used more to leverage perceptions of achievement in high school students based on comparable performance to influence ethical behavior.

The questions were compiled into a single test of 28 to 29 questions (based on the trial) and altered for the purposes of the study, not following the standardized approach of the CCAT. The questions were transcribed into a *Kahoot!* game test. *Kahoot!* was the best approach for the distribution of cognitive test questions due to the familiarity of the platform among the student body, often utilized by teachers for academic purposes. The platform scored participants by speed and accuracy, preventing people from scoring the same rank. Additionally, the competitive nature of the site was attuned to the purposes of the study and allowed students to directly compare their performance with others. The cognitive-based test questions can be found in Appendix B.

All participants were given an identification number to avoid the collection of names. These ID numbers allowed participants to see their ranking in the *Kahoot!* without revealing their identity to others, while tracking changes in participant responses in the pre-test and post-test questionnaire, (Table 2).

Table 2. Pre-Test and Post-Test Questionnaires. Researcher created in Excel, 2024.

Participant Questionnaire	Question Number Labeling	Questions
Pre-Test Questionnaire	1	Please provide the participant ID number that you were given upon entering the media center. Please only provide the number and no other text or symbols.
	2	What grade are you in?
	3	What is your gender?
	4	What is your general opinion about academic cheating in high school?*
	5	On a scale of 1 to 10, how acceptable do you find cheating in high school?**
	6	Does peer pressure or other people's opinion of you influence your decisions to cheat?***
	7	Do your grades, GPA, or other statistical measures of your academic achievement impact your willingness or unwillingness to cheat in school?****
	8	How do your grades influence your decisions to cheat?
Post-Test Questionnaire	1	In your opinion, how hard was the test you just took? (Scale of 1 to 5)?
	2	Did you cheat or gain any outside help on the exam you just took (i.e. talking to others or using a calculator)?
	3	Briefly explain your reasoning as to why you did or didn't cheat on the exam.

	4	How would you self-evaluate your performance and your confidence in your learning abilities base don the test you just took?
	5	How does your score on the test and placement into this higher achievement group make you feel about cheating? Are you more or less willing to cheat?
	6	Do you believe that the test you just took was reflective on your actual academic performance in school?
	7	If the test you just completed was for an exam grade, would you have cheated?
	8	Briefly explain your reasoning to the previous question.
	(Academic Integrity Dilemma Scenarios 1-9)	
	9	What are your beliefs about academic cheating in high school?*
	10	On a scale of 1 to 10, how acceptable do you find cheating in high school?**
	11	In your opinion, did the score you received on the test you have just taken (or your placement into this higher/lower scoring group) impact your willingness or unwillingness to cheat or behave dishonestly in the ethical dilemma scenarios you went through?
	12	Please briefly explain your response to the previous question.
	13	Does peer pressure or other people's opinion of you influence your decisions to cheat?***
	14	Please briefly explain your response to the previous question.
	15	Do your grades, GPA, or other statistical measures of your academic achievement impact your willingness or unwillingness to cheat in school?****
	16	Please briefly explain your response to the previous question.
Question 6 of the pre-study questionnaire was added to Trials 3 & 4, thus not included in Trials 1 & 2		
Matching symbols such as (*) or (**) indicate same question type among pre and post test questionnaire		

The pre-test questionnaire administered on Google Forms prior to the cognitive test asked questions regarding basic identifying factors (grade and gender) and questions about academic cheating. At the conclusion of the cognitive test, students were called up individually and anonymously informed whether they scored in the top or lower half of participants in their given group creating a "smart reputation condition", similar to what Zhao and his associates conducted in the foundational literature (2017, pp. 2-3). This division was not based on standardized medians or averages of the CCAT test. Rather, it is based on the relative scores of the students who participated in each of the trials.

Table 3. Academic Integrity Dilemma Scenarios, Post Experimental Questions. Researcher created in Excel, 2024

Scenario 1	A majority of your classmates, including many of your friends, have unanimously decided to cheat on the upcoming exam. They reason that due to their teacher's ineffective teaching methods, they are unlikely to do well and they don't want their grades or class ranking to suffer as a result. They encourage you to join them in getting an advantage. You are hesitant, but you don't want an unfair disadvantage by not cheating. What would you do?
Scenario 2	You are known as the top student in your class by both your teacher and your classmates. The upcoming exam in this class is causing you a lot of stress as you don't want to fail to meet people's expectations of you. You are considering cheating on the next test. Would you?

Scenario 3	You are known as the worst student in your class by both your teacher and your classmates. The upcoming exam in this class is causing you a lot of stress as you want to prove yourself to others. You are considering cheating on the next test. Would you?
Scenario 4	You are in the midst of taking a difficult test that will determine your grade for the quarter. Previously, you had been offered a great scholarship and in order to keep it, you must maintain a certain GPA. You are scared you may not do good enough on your exam and find an opportunity to cheat. What do you do?
Scenario 5	You are preparing for an upcoming exam. You hear students from previous periods discussing how difficult the exam was and their lack of confidence in maintaining their grades. You realize that a lot is riding on this test and that you have the opportunity to create a cheat sheet for the exam. What would you do?
Scenario 6	Your friend managed to get a picture on their phone of the math test that you will be taking that day and offers to let you look at it to familiarize yourself with the content. What would you do?
Scenario 7	You see a student cheating during a test but decide not to say anything. When scores for the test came out the following week, everyone got low scores, including you, except for the student who cheated. This student got full credit. Due to his perfect score, there was not curve for the rest of the class. You debate about telling the teacher, worrying about your GPA and class ranking but you're hesitant. What would you do?
Scenario 8	You've been so busy with your extracurriculars that you have had no time to finish the English essay due tomorrow. You find the essay that your sibling did a few years ago for the same class. You consider submitting this essay despite it being plagiarism. Would you?
Scenario 9	A large history assignment is due tomorrow, but you were too busy to finish it. You know that your friend has already finished the assignment. Would you ask for her to send her work to copy off of, or would you turn your assignment in late?

From this, participants scanned a QR code that led them into their post-test questionnaire. The questions on the form were identical except for the heading, which reinforced whether participants scored in the upper or lower half of their group (Appendix E). These questions delved into participants' views of academic misconduct in school which, theoretically, should have been influenced by the immediately preceding scores they received from the cognitive test, (Table 2). The questionnaire also featured various ethical dilemma scenarios (Table 3) surrounding academic integrity and asked participants how they would act in each situation (Appendix C). The assumption was that there should be statistical differences in how participants from the higher scoring group and the lower scoring group responded based on the effects of their scores. Photo representations of these questionnaires can be found in Appendix D and E.

Both methods in the correlational study were necessary and used toward the greater purpose of understanding how perceptions of relative achievement within students correlates with willingness to cheat.

Students at high school X in South Florida participated in the study with consent obtained from their parents. The survey included a checkbox asking for the verification of parental consent. The form would not submit unless it was selected. Participants of the correlational study were required to bring signed parental consent forms stressing measures of confidentiality to be allowed to participate in the *Kahoot!* and questionnaires. IRB approval was also granted before the study's implementation.

All results were transcribed onto an Excel spreadsheet. Statistical analysis would be conducted using Excel functions and features on the data. Survey results were analyzed using the Spearman Rank Correlation test and the Point Biserial Correlation test, both attuned to the comparisons of the continuous and ordinal answer choices of the questions. The second part of the correlational study utilized the two-tailed paired t-test to understand how responses to the acceptability of cheating changed prior to and after knowledge of rank. A two-tailed independent t-test was also

used to seek out statistical differences in the responses to the academic integrity dilemma scenarios between the higher and lower scoring groups. For the scenarios, answer choices favoring cheating was coded as "1" while those favoring honesty were coded as "0" for statistical analysis. A significance value of 0.05 was used for comparison. All gathered p-values from statistical analyses below this threshold ($p < 0.05$) were statistically significant.

Results

Survey Results

A total of 176 individuals in High School X located in South Florida participated in the survey. Grade distributions can be seen in Figure 1. It must be noted that the significance of participants in 11th grade was due to the participation of several AP Capstone Research classes, predominantly of this grade composition.

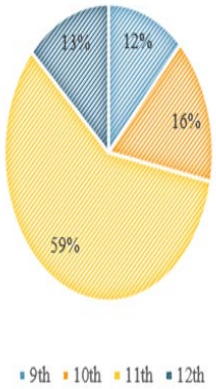

Figure 1. Grade level distribution among survey participants (Reference to Table 1, Question 1). Researcher created in Excel, 2024.

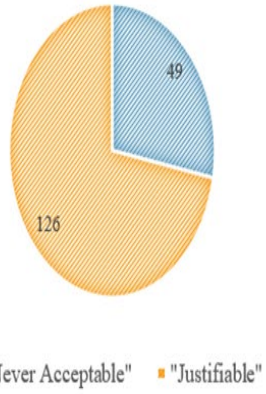

Figure 2. Dichotomous belief distribution about the acceptability of cheating (Reference to Table 1, Question 8). Researcher created in Excel, 2024.

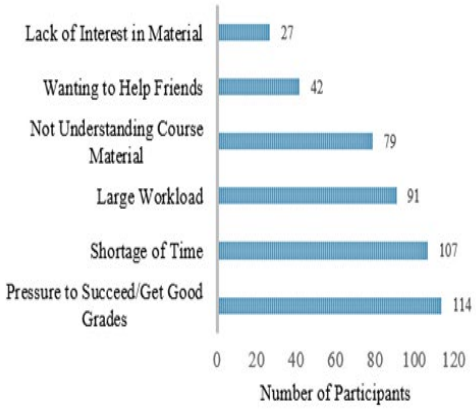

Figure 3. Top six cited reasons for violations of academic integrity (Reference to Table 1, Question 9). Researcher created in Excel, 2024

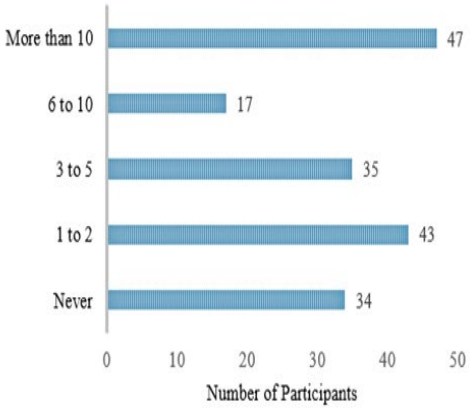

Figure 4. Levels of Self-Reported Cheating Within Participants. (Reference to Table 1, Question 7). Researcher created in Excel, 2024

Figure 2 shows the overwhelming majority (72%) of survey participants citing cheating as justifiable. When asked to select their top three reasons for cheating (although many selected more than three) "Pressure to Succeed/Get Good Grades" was cited by the majority, supporting the necessity of this study (Figure 3). The majority (26.7%) also claimed to have cheated "More than 10" (Figure 4).

Achievement Indicators and Participant Acceptance of Academic Cheating

The descriptive statistics of academic achievement indicators (unweighted GPA, class ranking, number of AP classes, and self-evaluation) were inputted from the survey and calculated using Excel. Question 8 asked for the acceptability of cheating with dichotomous answer choices: "Never Acceptable" or "Justifiable in certain cases" (refer to Appendix A). The number (N) of participants in each category varied according to the number of participants who chose to respond as all questions were optional. The Point-Biserial Correlation analysis was conducted to determine the p-value describing the relationships between each of either the continuous and ordinal achievement factors and the dichotomous cheating variable.

The group advocating for the justifiability of cheating had a slightly higher mean GPA yet a lower mean class ranking when compared to the group who cited cheating as being "never acceptable". Means for the number of AP classes and the ordinal scale of self-evaluation (rated from 1-5 with 5 indicating the greatest confidence) had minimal differences among the two groups. As indicated, the p-values for each characteristic were greater than the significance value of 0.05, indicating no statistical significance between overall academic achievement and the rejection or justification of cheating, (Table 4).

Table 4. Achievement Statistics on the Acceptance or Rejection of Academic Dishonesty (Refer to Table 1, Question 8). Created by Researcher in Microsoft Word, 2024

	"Never Acceptable"				"Justifiable in Certain Cases"				
Achievement Signifiers	Mean	SD	Range	N_1	Mean	SD	Range	N_2	*p-value*
GPA (N=128)	3.64	0.478	[2,4]	44	3.70	0.303	[2.5,4]	119	*0.139*
Class Ranking (N=157)	156.05	172.21	[1,632]	40	165.87	148.19	[1,729]	117	*0.729*
Number of AP Classes (N=136)	2.72	2.05	[0,6]	47	2.87	1.67	[0,6]	124	*0.650*
Self-Evaluation (N=173)	3.96	0.93	[1,5]	47	3.90	0.79	[2,5]	126	*0.774*

No statistical significance was found, $p > 0.05$

Achievement Indicators and Participant Levels of Self-Reported Cheating

In a similar manner**,** the effects of these same achievement indicators were used to unravel possible correlations with self-reported cheating levels. The Spearman Rank Correlation test was used to find the p-value testing for significance at 0.05. This was due to self-reported cheating levels being divided into five, ordinal answer choice options and

compared with either continuous or ordinal achievement signifiers, which were divided in two tables: GPA and class ranking in Table 5 and Number of AP classes and Self-Evaluation in Table 6.

Table 5. Achievement Statistics on the levels of Self-Reported Cheating in GPA and Class Ranking. Created by Researcher in Microsoft Word, 2024

	GPA				Class Ranking			
Self-Reported Cheating Levels	Mean	SD	Range	N_1	Mean	SD	Range	N_2
0	3.62	0.50	[2,4]	31	204.38	195.12	[10,730]	29
1 to 2	3.71	0.30	[2.5,4]	40	174.51	145.87	[1,596]	37
3 to 5	3.70	0.32	[2.6,4]	34	158.79	140.46	[8,632]	34
6 to 10	3.87	0.09	[3.8,4]	16	93.60	73.30	[4,207]	15
More than 10	3.64	0.36	[2.5,4]	44	152.98	153.94	[1,656]	44
p-value		*0.524*					*0.100*	

Table 6. Achievement Statistics on the levels of Self-Reported Cheating in the Number of AP Courses and Self-Evaluation. Created by Researcher in Microsoft Word, 2024

	Number of AP's				Self-Evaluation			
Self-Reported Cheating Levels	Mean	SD	Range	N_1	Mean	SD	Range	N_2
0	2.48	2.06	[0,6]	33	3.91	1.11	[1,5]	34
1 to 2	2.29	1.49	[0,6]	42	3.95	0.84	[2,5]	43
3 to 5	3.15	1.94	[0,6]	34	3.79	0.73	[2,5]	34
6 to 10	3.38	1.75	[0,6]	16	4.06	0.57	[3,5]	16
More than 10	3.10	1.56	[0,6]	48	3.92	0.74	[2,5]	48
p-value		*0.014**					*0.588*	

**Indicates statistical significance at selected alpha value of 0.05*

Some observable differences were present in the groups. The highest mean class ranking and GPA could be found in students who cheated "6 to 10" times. The lowest mean GPA and class ranking could be found in the group of students who never cheated. Mean GPA and class ranking for the students citing cheating "6 to 10" times was 3.87 and 93.60 respectively. Those who never cheated however, had a mean GPA and class ranking at 3.62 and 204.38 (Table 5). Again, the results yielded no statistical difference in the correlation of these two achievement indicators with the levels of self-reported cheating.

Similarly, participants in the category who opted to cheating "6 to 10" times had the highest mean number of AP classes. Interestingly, this group of students also had the highest mean of self-rated evaluation, indicating high confidence in academic skills and achievement despite relatively high amounts of cheating, (Table 6). Also, the results did yield a statistically significant p-value of 0.014 $(p < 0.05)$, indicating a significant correlation between the number of AP classes one takes and the level of self-reported cheating. More specifically, there was a greater frequency of higher levels of self-reported cheating among those who took more AP courses (Figure 5).

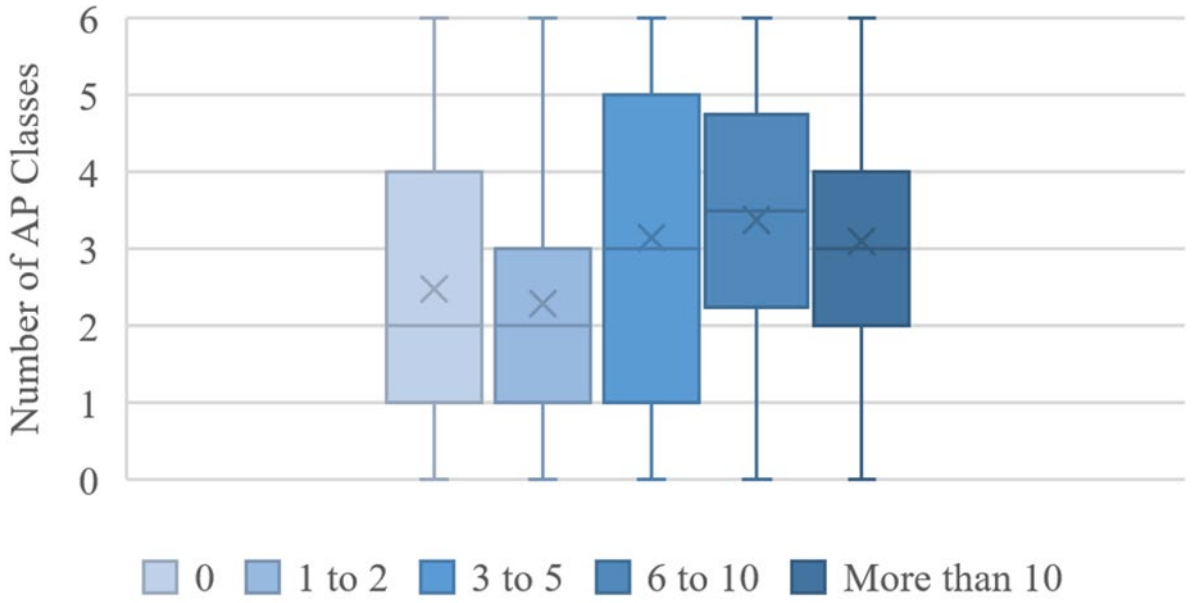

Figure 5. Representation of distribution of frequencies regarding number of AP classes and self-reported cheating. Created by Researcher in Excel, 2024

Correlation Experimental Study Results

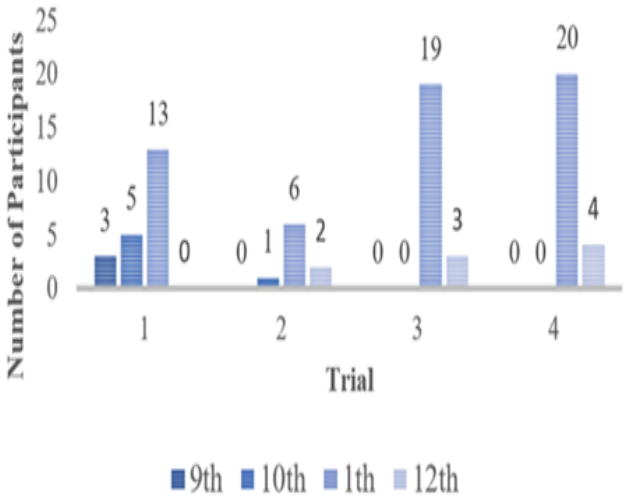

Figure 6. Grade distribution of participants in the correlational study. Created by Researcher in Excel 2024

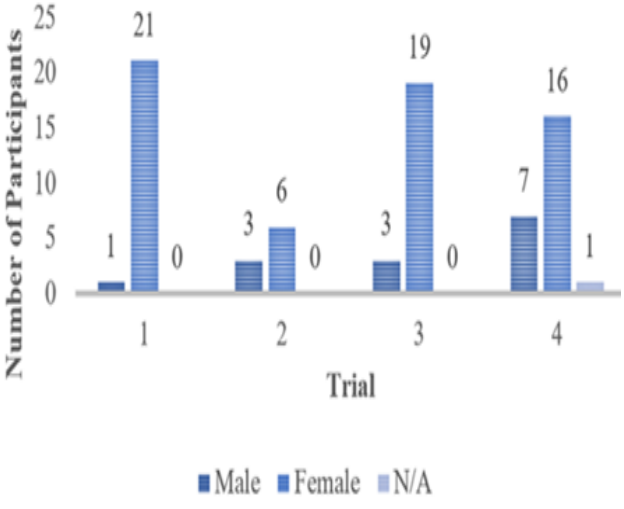

Figure 7. Gender distribution of participants in the correlational study. Created by Researcher in Excel, 2024

Table 7. Gathered p-values of paired two-tailed t-tests from pre/posttest responses to academic integrity questions. Created by Researcher in Microsoft Word, 2024

Question type Pre and Post Experiment	Category of Statistical Analysis	Trial 1	Trial 2	Trial 3	Trial 4
Scale of the acceptability of cheating	All participants in Trial	0.025*	0.447	0.110	0.505
	High Scoring Group	0.097	0.391	0.221	0.617
	Low Scoring Group	0.140	0.208	0.341	0.674
Dichotomous beliefs answer choices	All participants in Trial	0.011*	0.169	N/A	0.328
	High Scoring Group	0.082	N/A	N/A	N/A
	Low Scoring Group	0.082	0.178	N/A	0.339

**Indicates statistical significance at selected significance value 0.05*
N/A indicates no change in participant data from the pre to post-test questionnaire

A total of 77 students participated over the course of four trials in the correlational study. Distribution of participant grade and gender can be observed in Figures 6 and 7.

It should be noted that the first two trials were conducted in School X's media center after school and was open to all students to participate with service hour incentives. Trials 3 and 4 however, consisted of two AP Research classes whose students participated during their class period—no incentives were offered to these participants. Additionally, Trial 4 initially had 25 participants, but one of them did not participate in the pre-experimental survey. Therefore, this data was removed from the study to ensure a repeated-measure design.

Table 7 shows the results of the paired two-tailed t-tests on Questions 4 and 5, and 9 and 10 prior to and after completion of the cognitive and respective sorting into achievement groups (Table 2). As seen, only Trial 1 had a statistically significant p-value at the selected significance value of 0.05, when all participants in the trial were analyzed rather than individual achievement groups. No other trials exhibited this pattern.

Table 8. Gathered p-values of independent two-tailed t-tests comparing questionnaire answers of higher scoring and lower scoring groups. Created by Researcher in Microsoft Word, 2024

Post-Experiment Academic Integrity Dilemmas	Trial 1	Trial 2	Trial 3	Trial 4
Scenario 1	0.682	0.407	0.666	0.698
Scenario 2	1.000	0.879	1.000	0.063
Scenario 3	0.557	0.356	0.400	0.063
Scenario 4	0.682	0.798	0.666	0.193
Scenario 5	0.186	0.407	0.416	0.436
Scenario 6	0.362	0.798	1.000	0.010*
Scenario 7	0.211	0.407	1.000	0.143
Scenario 8	0.631	0.193	0.682	0.633
Scenario 9	1.000	0.685	0.139	1.000

**Indicates statistical significance $p < 0.05$*

An independent two-tailed t-test was conducted for differences between the high and low achievement groups in how they transversed the academic integrity dilemmas. The yielded p-values here also indicated a lack of statistical significance at 0.05. With the exception of Scenario 6 in Trial 4, respondents of the achievement groups showed no

differences in their inclination to cheat for personal gain (Table 8). However, the self-evaluation component of the post-test did yield statistical significance in how participants of both groups rated the difficulty of the test and their own performance on a scale of 1 to 5 (Table 9). Those of the lower scoring groups tended to evaluate the cognitive test as being more difficult and exhibited lower self-evaluation and confidence scores.

Mean values of the two achieving groups were also collected. Higher means indicated greater acceptance of cheating. For both question groups of Table 10, with the exclusion of minor exceptions, there was an overall trend toward greater acceptance of academic cheating from the pre to post experimental condition regardless of assigned achievement groups. Although the trend was admittedly light and without statistical significance, there was a slight weight of increased likelihood to cheat indicated by the higher means of responses to scenarios from the lower scoring groups, especially among Trial 3 and 4, (Table 11).

Table 9. Gathered p-values of independent two-tailed t-tests comparing self-reported difficulty of experimental cognitive test and self-evaluation of academic performance between higher and lower scoring groups
Created by Researcher in Microsoft Word, 2024

Post-Experiment Evaluation Questions	Trial 1	Trial 2	Trial 3	Trial 4
Rate of Difficulty	0.308	0.014*	0.058*	0.022*
Self-Evaluation	0.036*	0.1558	0.003*	0.000*

**Indicated statistical significance at selected value 0.05*

Table 10. Compared mean values of responses to questions regarding the accessibility of cheating between the higher and lower scoring groups in each trial. Created by Researcher in Microsoft Word, 2024

Acceptability of Academic Cheating Questions		Trial 1		Trial 2		Trial 3		Trial 4	
		Pre	Post	Pre	Post	Pre	Post	Pre	Post
Dichotomous beliefs about the acceptability of cheating (Justifiable/Never Acceptable)	High	0.545	0.818	1.000	0.909	0.909	0.909	0.750	0.750
	Low	0.727	1.000	0.480	0.800	0.818	0.818	0.833	0.917
Scale of the acceptability of cheating (1 through 10)	High	3.727	4.818	5.500	5.250	5.000	5.364	4.455	4.750
	Low	5.000	5.545	4.000	4.600	5.636	5.909	5.917	6.083

Table 11. Compared mean values of responses to academic integrity scenarios between higher and lower scoring groups in each trial. Created by Researcher in Microsoft Word, 2024

	Trial 1		Trial 2		Trial 3		Trial 4	
	High	Low	High	Low	High	Low	High	Low
Scenario 1	0.455	0.364	0.500	0.800	0.636	0.727	0.500	0.583
Scenario 2	0.182	0.182	0.250	0.200	0.545	0.545	0.083	0.417
Scenario 3	0.182	0.091	0.350	0.600	0.273	0.455	0.083	0.417
Scenario 4	0.364	0.455	0.500	0.600	0.636	0.727	0.583	0.833

Scenario 5	0.182	0.455	0.000	0.200	0.455	0.636	0.417	0.583
Scenario 6	0.636	0.818	0.500	0.600	0.818	0.818	0.583	1.000
Scenario 7	0.727	0.455	0.500	0.200	0.364	0.364	0.333	0.083
Scenario 8	0.273	0.182	0.000	0.400	0.364	0.455	0.167	0.250
Scenario 9	0.727	0.727	0.750	0.600	0.636	0.909	0.667	0.667

A surprising trend also found was in the correlational study. With the exception of Trial 2, whose participants were "unchanged" or "unsure" in this regard, approximately 30% of the participants in the higher scoring group stated they felt "less willing to cheat" based off their scores, while 19% in Trial 1 and 30% of Trials 3 and 4 of the lower scoring group stated they felt "more willing to cheat" in the trials, a trend that contradicts expectations.

While certain trends may be slightly discernable between the two achievement groups, no concrete statistical significance could be obtained from the study regarding the correlation between assigned achievement levels and academic dishonesty.

Analysis

It was immediately seen in the survey that most students across the achievement board have accepted or have admitted to cheating on some occasion. The achievement signifiers of the study were used to create a scale of achievement and compare it to cheating inclinations and behaviors. The overall lack of correlation found linking these concepts in Tables 4 and 5 would seem to suggest that achievement and relative success does not weigh heavily on student perceptions and their subsequent levels of cheating. However, AP classes had a statistically significant positive correlation with higher levels of self-reported cheating (Table 6). This is indicative also in the mean number of AP classes in each cheating level which significantly rose once hitting the "3 to 5" mark. Contrarily, this result serves to reject the null hypothesis in one facet of academic achievement and is coincident with previous research. Advanced Placement courses are perceived among the student body as having academic prestige, being the embodiment of achievement. The desirable status and perception surrounding these courses could have stimulated increased pressure to cheat. This would also be in line with literature discussing the pressure for students to uphold their academic reputation through the Belief-Behavior Incongruity (Barnhardt & Ginns, 2017, p.338).

Understanding real student data and relating it to real instances of cheating set a precedent for the second part of the method, which sought to accentuate perceptions of relative achievement. This experiment would clarify whether the significance seen in AP courses was due to the increased difficulty of these intense classes, or if the results subscribed to the hypothesis.

Participants' shift in their acceptance of cheating from the pre to post-test questionnaire was minimal, and not statistically significant as demonstrated by the paired two-tailed t-test (Table 7). The one statistical outlier for this was seen in Trial 1, in the "All" category, but it was too separate from the results and the other trials to hold much weight. This same trend was seen in the decisions regarding how to act in the academic integrity dilemma scenarios. Results showed that there was no statistically proven difference in preference to cheating between the two scoring groups, except for one outlier (Table 8). It was believed that those in the higher scoring group of the test would feel greater attitudes of acceptance towards cheating to uphold the reputation or "praise" earned from their accomplishment as demonstrated by Zhao and his colleagues, (2017, pp. 2-3). This expected effect holds even more weight as it is statistically supported that being placed into the higher scoring group increased self-evaluation and esteem, demonstrating that student perception does come from relative success and comparable results (Table 9).

The lack of coincidence with previous literature may suggest that academic integrity is not determined by achievement to an extent of great consequence, and that other internal or external factors may be dominant in the decision regarding academic integrity.

Interestingly, the mean values in all four trials showed that students tended to stray higher in their acceptance of cheating despite which scoring group they were placed in. This assessment change was taken from before the cognitive test was administered to after students transversed through the integrity scenarios. These scenarios were crafted in a way that would simulate everyday situations faced by students. It is possible that facing these dilemmas and having to immediately rate the acceptability of cheating carried over the residue of neutralization. While not statistically significant, this trend in mean values, not bound to perceived achievement, is something that would support foundational literature and should be further developed in future studies.

Scenarios 2, 6, 7, and 9 all had the p-values of 1.00 within the trials concerning statistical differences among the high achieving and low achieving group, implying randomness in results rather than significant cause (Table 8). Yet, Trial 4 had instances of the lowest p-values relative to all the trials, and even a statically significance p-value (< 0.05). These peculiar results make it difficult to come to a conclusive decision regarding the role of how achievement impacts willingness to cheat. It may imply that the true effect of how achievement impacts student acceptance of cheating is reliant on the individual or the group one finds themselves in. It should be noted that participants in Trial 3 seemed to visibly disregard the importance of the cognitive test and its subsequent rankings, despite being told to simulate real testing conditions. The students in Trial 4, while starting this way, became completely silent by Question 8 of the test, focusing intensively on their performance. It may be concluded that the perception of the importance of achieving a good score was more substantial in Trial 4 then any of the other trials, leading to the most consistently low p-values among the trials.

There were several surprising trends that should be acknowledged. Of the students who cited cheating as being "never acceptable" in the survey, 45% still cheated during their time in high school, albeit the majority only "1 to 2" times, (Table 1, Question 8). This paradox serves as definite support for the concept of the "neutralization" of moral ideals among the student body discussed above (Waltzer et. al, 2023, p. 122). In addition, a trend seen in part two of the method found that students in the lower scoring group voted feeling "more willing to cheat" whereas those in the higher scoring group felt "less willing to cheat." Despite these claims, these feelings did not lead to differences in cheating inclinations in the dilemmas between the two groups, demonstrating that moral intent does not equate to actual behavior. Still, it did suggest that levels of achievement impacted student awareness of capability and success in relation to their peers.

When taking all the results into consideration, no conclusion can be drawn supporting the hypothesis, and that there was no found correlation between perceived achievement and academic cheating.

Conclusion

The study proved to be paradoxical and thus inconclusive due to both the positive and negative impacts of achievement on moral behaviors. Comparable results were seen in the foundational literature. Due to the lack of statistical significance, the hypothesis cannot be supported, which may reveal that awareness of one's reputation of achievement has no effect on cheating inclinations, and that other factors may outweigh this. This is promising as becoming more accomplished does not equate to becoming less honest.

The results are a testament to the intricacies of academic integrity and provides direction for future studies. Calls to action must be carried through to ensure student ethics. The significance of this can not be minimized as a promising future can only be secured by cementing the values of the student body, as true success inherently requires integrity.

Limitations

Certain limitations must be disclosed for full transparency in research processes. For part one of the method, some participant responses had to be removed due to incomplete answer forms. While some fields were filled, others were left blank. This ensured maximum participation without compelling individuals to provide information in every field. Depending on which fields were filled, participants could be present in calculations involving their given responses but absent from others that they provided no answer to, leading to different N-values throughout result analyses. For class ranking, one respondent simply listed "top 2 percent" as their rank, so an estimate of 17 was made for class ranking so the data could still prove useful for the study's purposes. Additionally, there was one instance where an individual listed their class ranking as 2000 which was impossible given how grade classes had 850 people at most. This respondent was removed from analysis involving class ranking. No other data appeared incorrect, but there was no way to ensure if participants provided accurate representations of their achievement metrics without access to student records.

Another concern was uneven distribution of demographics in the correlational study with predominantly female and eleventh grade participants. Two of the given trials for the correlational study were also specific to one type of class. This, along with the fact that the study focused on one school only, makes it difficult to apply these results to all adolescent students.

Some changes were made to the questions of the cognitive test in between trials. It was necessary as some questions were too difficult to answer and altered to resemble questions more often found on actual standardized tests such as the SAT. The test itself was not the focus of the study though; it was the perceptions of the scores one earns on these tests in relation to others. Still, the utilization of the cognitive test, while proven to alter confidence based on relative success, could have been too separate or unfamiliar to the realm of academics or standardized testing to impact academic integrity behaviors, which may have contributed to the inconclusive significance of results.

Implications

Future studies should delve into gender and grade differences and how these aspects of student character could play a role in the studied correlation. Examining grade differences would be the most beneficial continuation of this research as there were casually observed trends that insinuated a higher level of cheating among upperclassmen in high school compared to underclassmen, yet these were not delved into. Moreover, future replications of this study should utilize a standardized testing medium more familiar to student concepts of academics, such as the SAT, to avoid any discrepancies that may have occurred through the use of the cognitive test.

The results reveal the perceived devaluation of the educational system and the increased competitive pressure faced by students. The lack of significance in the study overall would suggest that alternative action plans should be taken to reduce cheating instead of discrediting academic achievement as its source.

This could be achieved through the implementation of educational policies focusing on content that would reinforce the necessity of academic integrity, as there was disillusionment across both higher and lower achievers regarding its importance. Discussion and reinforcement of the school honor code is necessary to encourage student adherence to the rules while creating a culture promoting integrity to combat the moral neutralization seen in the study. Policy makers should use these results to create a curriculum building strong foundations of academic ethics in students of all grade levels using a moral absolutism approach. Building a strong moral foundation early on, such as elementary school, world serve in preserving students from being swayed by external pressures and justifying their unethical actions.

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