

## **Academic integrity and AI: a pilot study**

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### **ABSTRACT**

The emergence of artificial intelligence (AI) has sparked fresh concerns regarding academic integrity, particularly in the realm of online education within universities. This study investigates student engagement and responses to utilizing ChatGPT in a graduate-level online strategic management course. Participants were presented with an elective task wherein ChatGPT was utilized to draft an essay addressing the significance of strategic planning within a chosen industry. Subsequently, students were invited to provide feedback through a survey, covering their past encounters with AI, the perceived value of the essay, concerns regarding plagiarism, and intentions for future employment of AI technologies. Of the 86 students enrolled in the course, 75 completed the exercise and responded to the survey for a response rate of 87.2%. This paper reviews the issues of academic integrity, the advent of AI, and the results of the survey.

Keywords: Artificial Intelligence, Academic Integrity, Large Language Models, Plagiarism.

## INTRODUCTION

The recent introduction of artificial intelligence (AI) has caused concerns about academic integrity at many universities, especially in online and distance education courses. This paper explores student use and reactions to using the large language model (LLM) ChatGPT in a course assignment for a graduate-level online strategic management course. Students were given an optional assignment to have ChatGPT prepare an essay on the importance of strategic planning in an industry of their choice and then complete a survey on their experience. Additional survey items included prior experience with LLMs, the usefulness of the AI-generated essay, perceptions of plagiarism potential, and planned future use of AI. Of the 86 students enrolled in the course, 75 completed the exercise and responded to the survey with a response rate of 87.2%. This paper reviews the issues of academic integrity, the advent of AI, and the survey results.

## ACADEMIC INTEGRITY

Academic integrity has received a great deal of interest in pedagogy, both in Higher Education and K-12, (e.g., Silver & Stafford, 2017). Incidents such as the Atlanta school cheating scandal (Blinder, 2015) raise awareness in the general public, but teachers, administrators, and students are aware that cheating is an everyday problem. Academic integrity has been an issue since the 12th century when Chinese test takers cheated on civil service exams by sewing matchbox-sized copies of Confucian texts into their clothes before sitting for the exam (Adams, 2021).

According to McCabe, Butterfield, & Trevino (2012) over the period from 2002 to 2015, in a survey of 71,300 students, 68% of undergraduates admitted to cheating in some form as did 43% of graduate students. In the same survey, 95% of high school students reported they had either cheated on a test, plagiarized, or copied homework (McCabe, et al., 2012). More recently, Tyler Johnson, a lecturer at North Carolina State University caught 200 students cheating in an introductory statistics course using the online site Chegg (Adams, 2021).

While academic integrity is difficult to define (Mucharras Y Cano, et al., 2023), this study adopts the definition offered by the Office of Academic Affairs at The Ohio State University. Here, academic integrity is defined as the moral code or ethical policy of academia. This includes values such as avoidance of cheating or plagiarism; maintenance of academic standards; honesty and rigor in research and academic publishing (The Ohio State University, "Academic Misconduct Policy").

Academic dishonesty includes several behaviors such as unauthorized collaboration on homework, cheating during exams, plagiarism, and purchasing term papers. Collaboration on homework is a form of collusion where students work together or share information about an assignment and then present it as an individual effort. Plagiarism includes, at the low end, improperly citing another person's work and, at the high end, completely incorporating someone else's work into an assignment and presenting it as one's work. Purchasing term papers is a form

of "contract cheating," especially in online classes (Adams, 2021; Atkinson, Nau & Symons, 2016; Mucharraz Y Cano, et al. 2023).

When asked why they cheat, students often say, in one form or another, "It depends." Richards (2012) in his work on K-12 cheating made the following observation:

"Perhaps the most alarming news is that students say their cheating is contextual: based on the teacher, the assignment, or their overall workload. Decisions appear to be based on the extent students can rationalize cheating in a given circumstance. Essentially, the academic integrity scale is a sliding one given the situation rather than a person's sense of right or wrong" (p. 97). Adams (2021) reports other reasons students cheat are to get the grades necessary to get into a professional school (e.g., medicine or law), to save time, and to pass general education courses where they have no interest (e.g., an engineering student who has to take English literature).

A recent study by Yu et al. (2021) using the theory of planned behavior focused on the impact of student attitudes regarding academic cheating and actual engagement in cheating behaviors. An interesting finding of this research is that student attitudes about cheating can be influenced by clear communication from professors regarding expectations of ethical standards and the enforcement of these standards. Elias (2021) found that students who scored high on the psychological trait of self-interest perceived cheating as less unethical than students with high scores on other interest. High self-interest includes such socially valued domains as academic achievement while other interest means that people act in the interest of others in addition to their own.

Burgason, Sefiha, and Briggs (2019) examined student perceptions of "levels" of cheating. Their findings indicated that a large percentage of both face-to-face and online students engaged in practices normally defined as cheating, yet often did not consider these to be violations of academic integrity. At worst, many of these behaviors were seen as a "trivial" level of cheating, as opposed to serious.

Two other factors may contribute to cheating: culture and English language proficiency. Many foreign students, when entering U.S. universities, experience culture shock and need to learn Western academics more. Some time may need to be set aside for intercultural learning on the part of the student and the instructor.

Many universities in the U.S., Canada, Australia, and the U.K. require English language proficiency. Yet, students arrive at English-speaking universities with a variety of English language skills. This lack of language skills may cause inadvertent plagiarism through misunderstanding or, if the language skills are sufficiently deficient, as the only way to pass the assignment. The solution is not to punish the students but for the institution to have sufficient language support services (Atkinson, et al., 2016).

The literature is inconsistent about whether there is more cheating in online classes than in face-to-face classes (Lanier, 2006). Some studies have shown that the more "distant" students feel

they are from the traditional classroom, their classmates, and teachers, the more likely they are to engage in academic misconduct (Rowe, 2004; Deranek and Parnter, 2015).

While there may be no difference in cheating incidents in different delivery methods, online education has made it much more difficult for instructors to detect academic dishonesty (Malesky, Baley, & Crow, 2016). For instance, Burgason, et. al (2019) assert that online cheating is easier because students are often more computer savvy than their instructors and are more aware of ways to cheat using electronic media. As of 2016, 6.3 million university students in the United States were taking an online course (Freidman, 2018).

In addition to issues with maintaining academic integrity and values within the university setting, research shows that outside of school, as well as after their college years, students who engage in academic cheating are more likely to exhibit other undesirable behaviors such as cheating on spouses, stealing, unethical behavior at work, and substance abuse (Isakov & Tripathy, 2017; Lovett-Hooper et al., 2007).

## **DEVELOPMENT OF ARTIFICIAL INTELLIGENCE**

The concept of artificial intelligence (AI) can be traced back to ancient civilizations, where myths and folklore often depicted humanoid creatures imbued with intelligence and consciousness (Roy, 2021). More recently, artificial intelligence has a long history in our imaginations before it became a reality. A science fiction character as Frankenstein's monster, the robot in Isaac Asimov's short story *Runaround*, HAL9000 in The 2001 Space Odyssey movie, and Skynet from the Terminator movie, imagined how AI might manifest itself (Livingston, 2022). To get students' perspectives on using AI, students in a capstone course in an MBA program were allowed to earn extra points by participating in an AI study.

Although the definition of AI varies, a common definition is that AI is "a system's ability to interpret external data correctly, to learn from such data, and to use those learnings to achieve specific goals and tasks through flexible adaptation" (Haenlein and Kaplan, 2019, p.5). The term 'artificial intelligence' was first officially used at the *Dartmouth Summer Research Project on Artificial Intelligence (DSRPAI)* in 1956 (Haenlein and Kaplan, 2019; Livingston, 2022).

Large Language Models (LLM) are a type of AI program. There are numerous large language models including Open AI's ChatGPT 3.5 and ChatGPT-4, Google's Gemini, Microsoft's Co-Pilot, Anthropic's Claude, and others. These language models vary in abilities and prices as well as whether or not they are connected to the internet. ChatGPT 3.5 was introduced to the public and set off the current craze. While it is free to the public, it is not connected to the internet and only has information available before 2021 (Mollick, 2023).

## THREATS OF AI

More recent developments of AI models have raised concern over what threats may be imposed by such machines. As with the existence of artificial intelligence in the human imagination, the threat of such machines has also existed before the machines themselves. E. M. Forster's 1909 short story, *The Machine Shops*, describes a world where humans live underground and all of their needs are provided by a giant machine (Tearle, 2021). The machine is a form of deity and provides spiritual as well as bodily needs.

Threats include those of Geoffrey Hinton, one of the creators of ChatGPT and Elon Musk of Tesla and Twitter. Both believe that if the development of AI moves too fast, humans will not be able to control the machines, and humanity will face extinction (Meyer, 2023; Betz, 2023). While these dystopian threats are worth discussing, the focus of this paper is the specific threats AI poses to academic integrity, particularly in higher education.

## AI AND ACADEMIC INTEGRITY

It should be noted that students have had digital writing tools to aid them since at least the 1980s (Perkins, 2023). These include spell-check, and basic grammar found in most word-processing programs to Digital Writing Assistants (DWAs) that provide advanced guidance in not only grammar but composition as well. There are also Automated Paraphrasing Tools (APTs) that help students paraphrase texts to avoid plagiarism (Perkins, 2023). The introduction of Large Language Models (LLMs) has made the writing of academic papers much easier as such machines can generate new text based on a series of prompts rather than correcting something already written.

Large language models have heightened concerns about cheating in higher education (Cheng, et al., 2024; Mucharraz y Cano, et al., 2023). One concern is that students can use LLMS to write essays or take tests and pass them off as their work. Cheng, et al. (2024) found that a major problem with student use of LLMs was that it is very difficult to detect LLM written materials. Often tools designed to detect LLM written material either fail to recognize the work as originated by the LLM or give a false positive. Either way, instructors are in a no-win situation. A further complication is that when LLMs provide an essay, paper, or case analysis, the result may not be correct, but is often clearly written and looks reasonable at first glance (Cheng, et al., 2024).

There are several academic papers available that discuss the problems of LLMs and academic integrity, particularly in the area of plagiarism. However, the authors believe that one of the most authoritative sources of how AI can be used to cheat is ChatGPT itself. Below is the prompt the researchers used to get ChatGPT to talk about itself and academic integrity and the response.

What threats to academic integrity are posed by artificial intelligence? Artificial intelligence (AI) does have the potential to pose threats to academic integrity. While AI technology can offer

significant benefits in education, it also presents challenges and risks when it comes to maintaining academic honesty. Here are a few potential threats:

1. **Plagiarism:** AI can be used to generate essays, papers, or other academic content, which can be a tool for plagiarism. There are AI-powered tools that can generate text based on specific prompts, making it easier for students to copy and paste content without proper citation.
2. **Cheating in exams:** AI can enable students to cheat during exams by using smart devices or software that can quickly access information or perform calculations. For example, students could use hidden earpieces to receive answers or use computer vision algorithms to scan and process exam questions in real time.
3. **Automated paraphrasing:** AI algorithms can be used to automatically paraphrase content, making it more challenging for plagiarism detection software to identify copied material accurately. This can make it easier for students to evade detection and submit plagiarized work.
4. **Fake credentials:** AI can be used to generate forged documents, such as fake degrees or certificates, which can undermine the authenticity of qualifications.
5. **Automated grading manipulation:** AI-based grading systems can potentially be manipulated by students who try to exploit vulnerabilities in the algorithms or find ways to trick the system into awarding higher scores.

It's important to note that while AI can facilitate academic dishonesty, there are also AI-based tools and technologies being developed to detect and prevent cheating. Educational institutions are actively working to stay ahead of these threats by implementing robust integrity measures and leveraging AI for plagiarism detection and academic monitoring (OpenAI, 2023).

## STUDENT SURVEY

To get students' perspectives on using AI, students in a capstone course in an MBA program were given the opportunity to earn extra points by participating in an AI study. The assignment read as follows:

1. Log into ChatGPT and click on new research.
2. Then type in a statement like the following: Prepare a 500-word essay on the use of strategic planning in the \_\_\_\_\_ industry (insert the industry you are interested in, like banking, pharmaceutical, healthcare, etc.)
3. Provide references.
4. ChatGPT will then generate an essay on the topic. Copy and paste the results into a Word document and submit it using the link in Blackboard.
5. Then click on the link below and complete the survey.

The survey link took the students to an Internet survey (freeonlinesurveys) and they were asked a series of questions on the use of AI and their experience with the AI assignment. The results of the survey are shown in Tables 1 through 11 in the Appendix.

## STATISTICAL OUTPUT

A Chi-Square Test of Independence was performed to assess the relationship between the independent variables – Age, Family Status, Gender, Family Income - and the Dependent variables – Survey questions as listed in Table 12 (Appendix). Relationships with statistical significance are highlighted with details in Tables 12 through 16 (Appendix).

There was a significant relationship between Age and “Which of the following is the best description of plagiarism”,  $X^2(12, N=72) = 37.705, p = 0.00$  as seen in Table 13 (Appendix). There was a significant relationship between Family Status and “Did Chat.gpt provide you with an adequate response”,  $X^2(7, N=72) = 14.137, p = 0.049$  as seen in Table 14 (Appendix). There was a significant relationship between Gender and “Were the references relevant to the topic?”,  $X^2(2, N=72) = 5.699, p = 0.058$  as seen in Table 15 (Appendix). There was a significant relationship between Family Income and “Were the references relevant to the topic?”,  $X^2(8, N=72) = 16.291, p = 0.038$  as seen in Table 16 (Appendix).

Other survey questions were text answers and were coded and calculated in Tables 17 through 23 (Appendix). Question number 6 asks “if you had turned in the Chat.gpt essay for a graded assignment, would you consider that plagiarism?” Question number 7 is the “why or why not” associated with this question. There were 60 Yes responses and 15 no responses. Each of the 60 yes responses why answers were classified into seven categories as listed in Table 17 (Appendix). Each of the 15 no responses “why not” were classified into six categories in Table 18 (Appendix). Question 8 of the survey asks, “what are the pros and cons of using AI in your classwork or on your job?” There were 76 total responses. Some listed a pro with no con, some a con with no pro, but most gave a good mixture of each. Each of the pro responses were classified into seven categories as listed in Table 19 (Appendix). Each of the con responses were classified into five categories in Table 20 (Appendix). Question 9 asks “if students will use AI in the future?” “Why or why not?” There were 74 total responses. Of the 74 responses, 49 indicated that they would use AI again and 25 indicated that they would not. Each of the yes responses were classified into seven categories as listed in Table 21 (Appendix). Each of the no responses were classified into six categories in Table 22 (Appendix). Question 11 asks “how would you be most likely to use AI?” There were 74 total responses. The responses were classified into five categories in Table 23 (Appendix).

## CONCLUSIONS AND IMPLICATIONS

The majority of students (76%) had not previously used an AI platform before this exercise but stated that they felt Chat.GPT had given them an adequate response to their query and that the references provided by the platform were adequate for the essay. What they did not recognize was that most of the references were general in nature and were textbooks on strategic planning/management and not specifically related to the industry they had specified.

When asked about what constitutes plagiarism, 92.0% gave the most common definition of plagiarism and 80% indicated that if they had turned in the AI essay for a grade, it would have constituted plagiarism for the various reasons shown in Table 17 (Appendix). Also, 67.6% stated that they would use AI in the future and commented on the pros and cons of using AI as indicated in Tables 17 and 18 (Appendix). Students stated that they would probably use it in work or research for various applications (see Table 22 in Appendix).

Crosstabs were run on the variables included in the study and they revealed the following: respondents with family status of single and married with no children at home were more likely to say they received an adequate response from ChatGPT. Males were more likely to indicate that the references given were relevant to the topic. Respondents in the age groups 26-34, 35-44, 45-54 and 55-64 are most likely to define plagiarism as “using someone else’s material and submitting it as your own”. Whereas respondents in the age group 18-25 are more varied in their description of plagiarism.

One student commented that AI is the “wave of the future”. However, with the fast-passed development of this technology and the updated version capable of more functions, these platforms may become a “tsunami” that higher education is not prepared to handle and become a major challenge to academic integrity especially in courses where student compositions are a major component of the course requirements.

The researchers then prompted ChatGPT with, “Thank you. What are some steps professors can take to recognize students’ inappropriate use of artificial intelligence?” The response was:

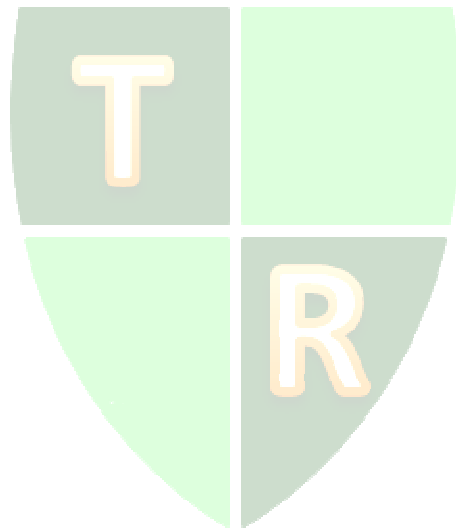
Professors can take several steps to recognize students' inappropriate use of artificial intelligence:

- 1) Stay informed: Professors should familiarize themselves with the potential misuse of AI technologies in an academic setting. Understanding the capabilities and risks associated with AI can help them recognize signs of inappropriate use.
- 2) Set clear expectations: Clearly communicate academic integrity policies and guidelines to students at the beginning of the course. Emphasize the consequences of cheating and explicitly mention the inappropriate use of AI tools and technologies.
- 3) Promote active learning: Design assessments that require critical thinking, analysis, and synthesis rather than simple regurgitation of information. Assign projects and tasks that necessitate original thought and personal engagement, making it harder for students to rely solely on AI-generated content.
- 4) Vary assessment formats: Use a combination of assessment methods, including written exams, presentations, group discussions, and practical demonstrations. This can make it more challenging for students to rely solely on AI tools for cheating since they may be better suited for specific types of assessments.
- 5) Monitor suspicious behaviors: Pay attention to unusual patterns, inconsistencies, or sudden improvements in students' work. Look for signs of inconsistencies in writing style, vocabulary, or overall quality, which may indicate the use of AI-generated content or paraphrasing tools.
- 6) Utilize plagiarism detection tools: Employ plagiarism detection software or online services to identify potential instances of copied or plagiarized content. These tools can help flag suspicious similarities between students' work and external sources.
- 7) Engage with students: Actively participate in discussions, provide feedback on assignments, and interact with students during exams to better understand their knowledge and capabilities. This can help identify discrepancies between their demonstrated knowledge and their actual understanding.
- 8) Encourage academic integrity reporting: Establish a culture of academic integrity by encouraging students to report any suspected cases of cheating or inappropriate use of AI tools. Assure them of confidentiality and take appropriate action on reported incident



It is important for professors to strike a balance between vigilance and trust, fostering an environment that promotes learning and academic honesty while actively monitoring and addressing potential issues related to AI misuse (OpenAI, 2023).

While the above responses may not be exhaustive, they do provide a starting point for instructors and institutions of higher learning. While AI does provide a threat to academic integrity, it also provides an opportunity to help students communicate better. It is up to faculty and administrators to make clear the policies governing the use of AI in the classroom.



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**APPENDIX**

Exhibit 1. Six Large Language Learning Models  
(adapted from Mollick, 2023)

Table 1 – Survey question #1

1. Have you used Chat.gpt or another AI application in the past?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	18	23.7	24.0	24.0
Valid No	57	75.0	76.0	100.0
Valid Total	75	98.7	100.0	
Missing System	1	1.3		
Total	76	100.0		

Table 2 – Survey question #2

2. If yes, which ones?

Based on feedback from participants, question #2 was categorized into seven response categories.

- 1 = Chat GPT
- 2 = Photo AI
- 3 = RYTR
- 4 = Google Bart
- 5 = Grammarly
- 6 = First experience – none before
- 7 = Diverse options

	Frequency	Percent	Valid Percent	Cumulative Percent
	59	77.6	77.6	77.6
<b>Chat GPT</b>	<b>12</b>	15.8	15.8	93.4
Photo AI	1	1.3	1.3	94.7
RYTR	1	1.3	1.3	96.1
Valid Google Bart	1	1.3	1.3	97.4
Grammarly	1	1.3	1.3	98.7
Diverse options	1	1.3	1.3	100.0
Total	76	100.0	100.0	

Table 3 – Survey question #3

3. Did Chat.gpt provide you with an adequate response?

	Frequency	Percent	Valid Percent	Cumulative Percent
<b>Yes</b>	<b>69</b>	90.8	92.0	92.0
Valid No	6	7.9	8.0	100.0
Total	75	98.7	100.0	
Missing System	1	1.3		
Total	76	100.0		

Table 4 – Survey question #4

4. Were the references relevant to the topic?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	69	90.8	92.0	92.0
Valid No	6	7.9	8.0	100.0
Total	75	98.7	100.0	
Missing System	1	1.3		
Total	76	100.0		

Table 5 - Survey Question #5

5. Which of the following is the best description of plagiarism?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Using someone else's material and referencing their work	4	5.3	5.3	5.3
Valid Using your own material and not referencing it in a new composition.	1	1.3	1.3	6.7
Valid Using someone else's material and submitting it as your own.	69	90.8	92.0	98.7
Valid Using someone else's material as a point of discussion in your own composition.	1	1.3	1.3	100.0
Total	75	98.7	100.0	
Missing System	1	1.3		
Total	76	100.0		

Table 6 – Survey question #6

6. If you had turned in the Chat.gpt essay for a graded assignment, would you consider that plagiarism?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	60	78.9	80.0	80.0
Valid No	15	19.7	20.0	100.0
Valid Total	75	98.7	100.0	
Missing System	1	1.3		
Total	76	100.0		

Table 7 – Survey question #9

9. If this was your first experience with using AI, do you think you will use it in the future?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	50	65.8	67.6	67.6
Valid No	24	31.6	32.4	100.0
Valid Total	74	97.4	100.0	
Missing System	2	2.6		
Total	76	100.0		

Table 8 - Survey question #12

12. Now just a few more questions about you...Which of the following categories contains your age:

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 18-25	9	11.8	12.5	12.5
Valid 26-34	23	30.3	31.9	44.4
Valid 35-44	24	31.6	33.3	77.8
Valid 45-54	12	15.8	16.7	94.4
Valid 55-64	4	5.3	5.6	100.0
Valid Total	72	94.7	100.0	
Missing System	4	5.3		
Total	76	100.0		

Table 9 – Survey question #13

13. What is your current family status?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Single	23	30.3	31.9	31.9
Married with no children	7	9.2	9.7	41.7
Married with children at home	26	34.2	36.1	77.8
Married with grown children	11	14.5	15.3	93.1
Divorced with no children	2	2.6	2.8	95.8
Divorced with children at home	1	1.3	1.4	97.2
Divorced with grown children	1	1.3	1.4	98.6
Widowed with no children	1	1.3	1.4	100.0
Total	72	94.7	100.0	
Missing System	4	5.3		
Total	76	100.0		

Table 10 – Survey question #14

14. Gender

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Male	39	51.3	53.4	53.4
Female	33	43.4	45.2	98.6
Prefer not to answer	1	1.3	1.4	100.0
Total	73	96.1	100.0	
Missing System	3	3.9		
Total	76	100.0		



Table 11 – Survey question #15

15. What is the category that includes your total family income?

	Frequency	Percent	Valid Percent	Cumulative Percent
Under \$15,000	1	1.3	1.4	1.4
\$15,001-\$24,999	2	2.6	2.8	4.2
\$25,000-\$34,999	2	2.6	2.8	6.9
\$35,000-\$49,999	3	3.9	4.2	11.1
<b>\$50,000-\$64,999</b>	<b>12</b>	15.8	16.7	27.8
Valid \$65,000-79,999	9	11.8	12.5	40.3
\$80,000-\$94,999	6	7.9	8.3	48.6
\$95,000-\$109,999	7	9.2	9.7	58.3
9	30	39.5	41.7	100.0
Total	72	94.7	100.0	
Missing System	4	5.3		
Total	76	100.0		

Table 12 – p values of chi-square tests

	Age	Family Status	Gender	Family Income
Have you used Chat.gpt or another AI application in the past?	0.876	0.313	0.145	0.373
Did Chat.gpt provide you with an adequate response?	0.454	<b>0.049</b>	0.934	0.269
Were the references relevant to the topic?	0.552	0.997	<b>0.058</b>	<b>0.038</b>
Which of the following is the best description of plagiarism?	<b>0.000</b>	0.910	0.322	0.922
If you had turned in the Chat.gpt essay for a graded assignment, would you consider that plagiarism?	0.808	0.802	0.480	0.505
If this was your first experience with using AI, do you think you will use it in the future?	0.573	0.494	0.774	0.552

Table 13 Chi-Square Tests – Age as the Independent variable

Crosstab

Count

		5. Which of the following is the best description of plagiarism?				Total
		Using someone else's material and referencing their work	Using your own material and not referencing it in a new composition.	Using someone else's material and submitting it as your own.	Using someone else's material as a point of discussion in your own composition.	
12. Now just a few more questions about you...Which of the following categories contains your age:	18-25	3	0	6	0	9
	26-34	0	0	23	0	23
	35-44	1	0	23	0	24
	45-54	0	0	11	1	12
	55-64	0	1	3	0	4
Total		4	1	66	1	72

	Value	df	Asymp. Sig. (2-sided)
<b>Pearson Chi-Square</b>	<b>37.705<sup>a</sup></b>	<b>12</b>	<b>.000</b>
Likelihood Ratio	20.561	12	.057
Linear-by-Linear Association	3.854	1	.050
N of Valid Cases	72		

a. 16 cells (80.0%) have expected count less than 5. The minimum expected count is .06.

Table 14 Chi-Square Tests – Family status as the Independent Variable

		3. Did Chat.gpt provide you with an adequate response?		Total
		Yes	No	
13. What is your current family status?	Single	23	0	23
	Married with no children	6	1	7
	Married with children at home	23	3	26
	Married with grown children	10	1	11
	Divorced with no children	2	0	2
	Divorced with children at home	1	0	1
	Divorced with grown children	1	0	1
	Widowed with no children	0	1	1
	<b>Total</b>	<b>66</b>	<b>6</b>	<b>72</b>

	Value	df	Asymp. Sig. (2-sided)
<b>Pearson Chi-Square</b>	<b>14.137<sup>a</sup></b>	<b>7</b>	<b>.049</b>
Likelihood Ratio	10.264	7	.174
Linear-by-Linear Association	4.180	1	.041
N of Valid Cases	72		

a. 12 cells (75.0%) have expected count less than 5. The minimum expected count is .08.

Table 15 Chi-Square Tests – Gender as the Independent Variable

		4. Were the references relevant to the topic?		Total
		Yes	No	
14. Gender	Male	33	6	39
	Female	33	0	33
	Prefer not to answer	1	0	1
Total		67	6	73

	Value	df	Asymp. Sig. (2-sided)
<b>Pearson Chi-Square</b>	<b>5.699<sup>a</sup></b>	<b>2</b>	<b>.058</b>
Likelihood Ratio	7.990	2	.018
Linear-by-Linear Association	5.351	1	.021
N of Valid Cases	73		

a. 4 cells (66.7%) have expected count less than 5. The minimum expected count is .08.

Table 16 - Chi-Square Tests – Family Income as the Independent Variable

		4. Were the references relevant to the topic?		Total
		Yes	No	
15. What is the category that includes your total family income?	Under \$15,000	1	0	1
	\$15,001-\$24,999	2	0	2
	\$25,000-\$34,999	2	0	2
	\$35,000-\$49,999	1	2	3
	\$50,000-\$64,999	12	0	12
	\$65,000-79,999	8	1	9
	\$80,000-\$94,999	5	1	6
	\$95,000-\$109,999	7	0	7
	9	28	2	30
Total	66	6	72	

	Value	df	Asymp. Sig. (2-sided)
<b>Pearson Chi-Square</b>	<b>16.291<sup>a</sup></b>	<b>8</b>	<b>.038</b>
Likelihood Ratio	11.104	8	.196
Linear-by-Linear Association	.373	1	.541
N of Valid Cases	72		

a. 13 cells (72.2%) have expected count less than 5. The minimum expected count is .08.

Table 17 – Question #6

6. If you had turned in the Chat.gpt essay for a graded assignment, would you consider that plagiarism?

Classification	How many?	Example of comment:
Not my own work	40	I would consider it plagiarism because I did not generate the content; therefore, it is not my material and I cannot submit it as my own. Asking the question does not make me the author of the answer.
Did not obtain the research myself	2	I feel it still falls under the category of plagiarism as it is based on research I did not performed. The actual essay is not something I produced based on my research.
Using someone else's work	9	The website wrote the whole assignment. My words were not utilized at all.
Hindered learning	1	why because you are hurting yourself from education
Brainstorming and ideas is okay	3	Yes, if references aren't provided. ChatGPT can be a helpful tool in terms of brainstorming and it is also quick at providing information which is time-saving.
Risk of getting caught too high	2	Using AI to write the entire essay for you makes the work look generic and lacking authenticity. Students using the same tool to address the same research topic could end up submitting work that is very similar to each other.
No reason given	2	
	59	

Table 18 - Question #7

## Question #7 why or why not?

Classification	How many?	Example of comment:
Useful for a tool for improvement	5	It's a tool to use for improvement
Unethical, but not plagiarism	2	It would be unethical to submit work as if you created it, but by definition it is not plagiarism.
Gray area – I wrote the question and I have a unique answer	2	I feel this is a gray area because that I did take the steps to generate the Chat.gpt essay and the quality of the essay will vary based on the quality of the statement and specifics requested. I think the question comes down to does AI have intellectual property rights, which goes to the root question of can AI have any rights? I don't know the answer to that. No. AI doesn't have rights. While I don't think using Chat.gpt is plagiarism, I would not utilize it in my own work, without citing it.
Not copied from one source	1	It isn't something that has been copied from a published author or specific source but a multitude of sources.
Different responses because of AI learning	2	This program is designed to create a different document with each request. While some information is going to be the same it should not be written the same.
Not in the way we currently define plagiarism	2	Not in the way we use or define plagiarism today, because it provided references to the points that were made.
No response	1	
	15	

Table 19 – Question #8

8. What are the pros and cons of using AI in your classwork or on your job?

Classification	How many?	Example of comment:
Good foundation/new perspective	33	I think that it has potential for creating a bit of a foundation to build off for essay completion. The essay result I received was 434 words of content, before the references. Had I needed a 500-word essay, and were using Chat.gpt I would have closely reviewed the results and added further details and depth. I might look to Chat.gpt to sort of 'get the ball rolling' with regards of where to start or get my writing flowing.
Fast	17	fast easy essay, free: A pro of AI is getting something done in an instant
No response	11	
Replace workers	6	pros is that it can help save a lot of money from hiring people
Easy	5	Simple, easy to use, and much faster; can make easy trivial but cumbersome tasks easier.
Less errors	3	makes errors less frequent; Can be precise at answering questions
Meet deadlines/last resort	1	Meeting deadlines when overwhelmed, creating work time schedules, etc.
	76	

Table 20 Question #8

Why or why not?

Classification	How many?	Example of comment:
No response	19	
No learning	23	I consider this cheating, I would not learn if I used this; students stop learning to think for themselves
Unethical	20	con is that you can't use it because it would be plagiarism; misrepresented as your own work or ideas
Not accurate	12	No quality assurance - the information presented could be false or misleading
Replace people	1	It can replace people leading to leading to increase in unemployment
Too much time involved	1	cons are that it can take a lot time to upload and get started.
	76	

Table 21 – Question #9

## 9. Will you use it in the future? Why?

Classification	How many?	Example of comment:
Fast/easy	12	it is a really fast and easy way of getting relevant information for any projects or assignments
Necessary tech of the future	8	it's the wave of the future, I do not think I'll use it for production of anything public facing. However, I do think I need to stay engaged with how to use it and what it's being used for; AI is becoming a driving force in technological advancements. It is realistic to say one would utilize an AI system without even knowing it.
Research	7	It would potentially save time on research; AI is great for answering questions that Google makes difficult or is incapable of
Helpful start	8	It would be helpful to use in getting help on where to start.
No response	7	
Good product	6	Amazing product
Better writer/education	1	It can help us become better writers and content creators.
	49	

Table 22 – Question #9

## 9. Will you use it in the future? Why not?

Classification	How many?	Example of comment:
Unethical	7	I feel that using this technology in my education or professional life would be akin to committing fraud
Not useful	5	I don't believe I will use it in the future because in my field, we have to write reports based off of data that is given to us
No response	5	
No learning	4	It may be good for reference, but not good for critical thinking
Easier without it	3	I find it easier to complete my own work when I don't have someone else's words in my head
No interest	1	I don't really have any interest in using an AI answer for things. I might use it again to show to a friend or colleague but nothing other than that
	25	



Table 23 – Question #11

## 11. How would you be most likely to use AI?

Classification	How many?	Example of comment:
Work/job	20	customer service applications for my work; It could help translate foreign languages or assist in customer service industries; For work-related purposes and to cut out the help of a secretary
No response	20	
Research	15	I would most likely use AI as another tool for information and references, with the caveat I would need to verify the sources independently to confirm accuracy of the interpretation and data presented by AI; when working on a research and in need of facts or references
Helpful info	7	Getting helpful information that I could not find anywhere else
School assignments	6	The only positive use that I can imagine is to use it for an example of how to write an academic or professional paper or letter. Using it to understand the proper format could be useful, but any use of the content that it creates is unethical in my view
Entertainment	3	I would test out its capabilities out of my own curiosity and I would ask questions that I could also easily google.
Learn quickly	3	to learn at a fast rate
	74	