**ChatGPT Goes To College: Exploring Student Perspectives on Artificial Intelligence in the Classroom**

Jenel T. Cavazos, Keane A. Hauck, Hannah M. Baskin, and Catherine M. Bain

Department of Psychology, University of Oklahoma

**Author Note**

Jenel Cavazos  https://orcid.org/0000-0003-2126-7102

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Correspondence concerning this article should be addressed to Jenel T. Cavazos,

Department of Psychology, 455 W. Lindsey, Norman, OK 73069 or via e-mail to

jcavazos@ou.edu.

# Abstract

The rapid emergence of artificial intelligence (AI) in higher education has sparked numerous discussions about its implications for both students and faculty. ChatGPT, a prominent AI conversational model, has attracted significant attention for its ability to generate essays, formulate responses, and provide information. The current study presents comprehensive data on college students' ChatGPT usage patterns, attitudes, and perceptions of cheating behavior. Our findings reveal that students use ChatGPT for information gathering more frequently than for response generation or self-improvement. Students are primarily motivated to use ChatGPT for value and convenience, as opposed to hedonistic reasons. Notably, students are able to correctly identify academically unethical uses of ChatGPT as cheating. The outcomes of this research provide valuable insights into how college students are currently interacting with AI tools. Additionally, our findings offer practical knowledge for universities developing policies surrounding AI use in the classroom. By equipping instructors with accurate information about the pervasiveness of ChatGPT in academia, this study contributes to the ongoing discourse on the role of AI in higher education.

*Keywords:* artificial intelligence (AI), college students, academic ethics, higher education

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**Classroom**

The recent emergence of artificial intelligence (AI)-powered conversational models has taken the world by storm, ushering in a host of benefits and challenges in areas such as the workplace, the entertainment industry, and academia (Firat, 2023; Haque et al., 2022). ChatGPT, one of the most prominent and advanced models available, is capable of generating remarkably human-like text, evaluating and processing data, and synthesizing a vast repository of knowledge (Silva & Janes, 2021). As an educational tool, this technology holds exciting implications for a more personalized learning experience, providing students and educators with instant access to interactive brainstorming and comprehensive conversations over a wide variety of subjects. Nevertheless, with great power comes great responsibility. As AI-driven technology proliferates throughout higher education, it poses challenges to instructors attempting to facilitate student development. The difficulty of detecting ChatGPT-generated text presents a risk to academic integrity, as students are potentially able to rely on AI models for assignment completion, essay composition, and idea generation (Newell, 2023). Further complications arise from the fact that public perception of ChatGPT varies wildly (Haque et al, 2022). As ChatGPT is a relatively new technology, both students and instructors are still navigating its potential impact on academic integrity. To provide instructors with the necessary tools to support student learning in an era of AI-powered assistance, it is crucial to first understand how college students are currently utilizing ChatGPT in their academic pursuits.

**The Origins of ChatGPT**

The term *artificial intelligence-generated content* (AIGC) refers to the usage of AI technology to create content (e.g., text, images, music, and videos) from user-provided prompts. With the advancement of AI algorithms and generative networks (Creswell et al., 2018) alongside an increase in GPU power (Gusak et al., 2022), many different AIGC models have recently been developed (Wu et al., 2023). As the applications of such technologies increase in number, their presence has been felt in various fields, including those that require image processing, text scanning, and system management (Vargas-Murillo et al., 2023). On November 30th, 2022, AI research organization OpenAI released ChatGPT, a groundbreaking conversational model that is able to interact with users in a human-like manner (OpenAI, 2023). While its realistic text generation is the highlight of public focus, ChatGPT is also capable of producing original material such as poetry and stories (Tlili, 2023). The model has demonstrated proficiency in almost every subject domain (Samaan et al., 2023; Kung et al., 2023; Kusunose et at., 2023), and there is virtually no limit to how rich and specific AI-generated text can be because the prompts can be infinitely fine-tuned by the user.

**The Use of ChatGPT in Education**

Generative AI technologies have already begun to revolutionize academia in strikingly positive ways. Only one month after ChatGPT's release, Alshater (2022) published an investigation into its potential to enhance academic performance in research, displaying its abilities in data analysis, interpretation, and discussion. Similarly, Baidoo-Anu and Owusu (2023) discussed various ways in which ChatGPT might improve pedagogy for both instructors and students. For teachers, ChatGPT can generate open-ended prompts for assignments or craft rubrics that clearly lay out expectations for proficiency. For students, ChatGPT can serve as a

personalized tutor that answers a wide range of queries in an easily digestible manner

(Baidoo-Anu & Owusu, 2023). One of the most striking benefits of ChatGPT is its accessibility.

Currently, anyone with an internet connection has free access to this tool. Given ChatGPT's

potential for application in education, it is not surprising that knowledge of its capabilities has

rapidly spread throughout academic circles. Firat (2023) explored the initial perspectives of both

students and scholars on ChatGPT and found a general consensus that its mere presence is

impactful enough to restructure traditional roles in educational systems.

However, the challenges and risks associated with ChatGPT's use are increasingly

well-documented (Vargas-Murillo et al., 2023). For example, alongside the positive potential

uses of ChatGPT, Baidoo-Anu and Owusu (2023) also discussed its tendency to generate

falsified information, such as fabricating references to nonexistent scientific articles. These

errors confirm that ChatGPT has the potential to forgo accuracy for the sake of precision.

Similarly, despite its impressive proficiency in many subject areas, it has displayed less accuracy

with in-depth domain knowledge. These issues currently prevent users from having complete

confidence in the accuracy of AI-generated content (Vaira et al., 2023; Kusunose et al., 2023).

In addition to reservations regarding ChatGPT's accuracy, its widespread use in

educational settings has sparked ethical concerns. For example, student overreliance on ChatGPT

may reduce engagement with academic instruction, as students who rely too heavily on the tool

may develop a dependency that blocks their own intellectual growth (Vargas-Murillo et al.,

2023). Additionally, passages generated by ChatGPT are difficult to differentiate from human

text and are largely undetectable by current plagiarism detection programs (Cotton et al., 2023;

Gao et al, 2022), creating a serious threat to academic integrity. Despite the aforementioned

issues with reliability, ChatGPT is easily capable of producing data accurate enough to pass

medical exams (Kung et al., 2023), let alone basic college coursework. Given both the accuracy

and undetectability of AI-generated text, students with access to ChatGPT are in possession of a

potential cheating tool more powerful, ubiquitous, and cost-effective than anything previously

encountered in academia.

**Academic Misconduct in Higher Education**

Academic dishonesty in higher education is both incredibly pervasive and strikingly

complex. Most studies on cheating behaviors are conducted via self-reported data from college

students, and the findings vary widely. Depending on the definition of cheating behavior and the

population sampled, rates of self-reported cheating behavior among college students range from

13% to 95% (Harris et al., 2020; Stuber-McEwen, 2009; McCabe, 2005; McCabe & Trevino,

1993). The largest studies concerning academic dishonesty were conducted by Donald McCabe,

who surveyed over 30 academic institutions throughout the 1990's and early 2000's. In general,

his research defined serious academic misconduct as copying on a test or exam, using

unauthorized notes, helping someone else on an exam, plagiarism, copying one or two sentences

without footnoting, and unpermitted collaboration on coursework (McCabe et al., 2001). Using

this description, McCabe et al. (2001) found that three quarters of participants from a diverse

sample of universities admitted to some form of cheating. In 2020, Harris et al. used McCabe's

(2005) cheating survey instrument to analyze academic misconduct in a more modern and

digitized educational environment. They found that rates of reported cheating dropped slightly

for certain behaviors, specifically copying or paraphrasing a few sentences without referencing,

unpermitted collaboration, submitting the work of someone else, submitting false work, and

helping someone cheat on an exam (Harris et al., 2020). Interestingly, the behavior that displayed

the highest rate of increase was the use of "unauthorized materials" on assignments or exams.

The authors theorize that the online model of proctoring exams makes it easier for students to

both access unauthorized materials during examinations and to trivialize the behavior itself.

Despite the slight decrease in rates of reported cheating, academic misconduct remains

widespread. In Harris et al. (2020)'s replication of McCabe's original study, for example, the

majority of respondents still reported engaging in academic misconduct at least once.

Literature on academic misconduct also reveals important conclusions about the factors

that motivate cheating. McCabe et al. (2001) found that the most important contextual variable

behind student cheating is the degree to which they perceive their peers to be engaging in

academic misconduct. The authors theorized that widespread cheating provides normative

support for the behavior and makes the non-cheater feel disadvantaged. More recently, Rettinger

& Kramer (2009) confirmed the influence of peer cheating behavior on student academic

misconduct, finding that exposure to and knowledge of cheating increase the likelihood of one's

own cheating. Other studies have highlighted the importance of considering individual factors

alongside contextual factors; for example, Yu et al. (2017) found that students low in self-control

and those overcommitted with involvement in campus leisure activities are more likely to exhibit

academic misconduct. Similarly, Hutton (2006) concluded that the cost/benefit tradeoff is

skewed towards cheating behaviors, providing support for the theory that students are more

likely to cheat in environments where it is accessible and normative.

By recognizing the motivations behind cheating, institutions and instructors can better

understand how to minimize high rates of academic dishonesty. Just as peer cheating can

motivate more cheating, McCabe et al. (2001) found that students' perception of peer disapproval was the strongest predictor of decreased cheating rates. Additionally, instructor attitudes towards academic integrity can have a substantial impact on minimizing student cheating (Hutton, 2006). Finally, when professors appear disengaged or indifferent about the course material, students may feel validated in their decision to cheat. In contrast, when professors are actively engaged with the material and foster an environment of academic integrity, the risk of being caught serves as a powerful deterrent to student academic misconduct (Vandehey et al., 2007).

**Cheating with ChatGPT**

Ostensibly, the concern of many professors with regard to ChatGPT is its threat to academic integrity. ChatGPT's ability to generate domain-specific and human-like text makes it a potential tool for nearly all of the cheating behaviors described by McCabe et al. (2001). However, the concern that new technology will negatively impact higher education is not novel. For example, tools like calculators were once met with skepticism but have now become integral to modern education (Newell, 2023). Similarly, the debate over AI-generated content and academic integrity is ongoing, with advocates on both sides. For instance, Anders (2023) has argued for the inevitable integration of AI into education and stressed the importance of instructors preparing students for a future where AI is a part of their study routines. Other authors have focused on the potential for ChatGPT to be exploited for academic misconduct (for example, see Susnjak, 2022). These ideological tensions make it imperative that we understand exactly how and why students are currently using ChatGPT, as robust knowledge of a tool's scope is necessary before an instructor can implement it in the classroom. Given the significant influence of peer attitudes and behaviors on individual academic misconduct (McCabe, 2001), it

is essential to investigate how students perceive the use of ChatGPT in relation to cheating. As ChatGPT is a relatively new technology, research specifically focused on student perceptions of cheating behaviors involving this AI language model is presently very limited.

**Student Usage of ChatGPT**

As the field of AI technology has expanded, so has research into their use. A number of studies (Lim & Zhang, 2022; Hsu & Chih-Cheng, 2023) have relied on the technology acceptance model (TAM; Davis et al., 1989), one of the most influential models behind consumer adoption of novel technology, as their framework. The TAM postulates that two main factors drive the desire to use a new technology: perceived usefulness and perceived ease-of-use. Many studies have built upon the original model by adding motivating factors such as self-efficacy (Wang, 2023) and trust (Teo et al., 2023), as well as demotivating factors such as technology complexity (Teo et al., 2023) and anxiety (Wang, 2023). Tiwari et al. (2023) expanded the model to apply to ChatGPT's role in higher education by incorporating additional motivating factors, such as perceived credibility, perceived social presence, hedonic motivation, and student attitudes, to better understand student usage of ChatGPT. Similarly, Foroughi et al. (2023) employed the "Unified Theory of Acceptance and Use of Technology" (UTAUT2; Venkatesh et al., 2012) as a conceptual framework to analyze student intention behind technology use. To address ChatGPT use specifically, Fourughi et al. (2023) conducted a comprehensive exploratory study to confirm the applicability of UTAUT2 and determined that the variables of performance expectancy, effort expectancy, hedonic motivation, and learning value significantly influenced student intention to use ChatGPT.

Additional studies have extended these findings to include other motivational theories. For example, D et al. (2023) applied uses and gratification theory (UGT) in their study of student ChatGPT usage by focusing their questions on specific behavioral patterns rather than broad motivations. Uses and gratification theory states that audiences are active consumers who will shape their interactions based on their own unique needs and preferences (Katz et al., 1973). The authors identified four factors of ChatGPT use: Academic Content Creation, Information Seeking, Novelty, and Convenience. Academic Content Creation includes using ChatGPT to generate text for assignments, research papers, and presentations. Information Seeking involves validating and verifying information as well as gathering information for personal and/or professional decision-making. The third factor, Novelty, encapsulates students' usage of ChatGPT because it is an exciting and new technological innovation. Finally, the Convenience factor describes the use of ChatGPT for reducing effort and providing accessibility (D. et al., 2023).

**Study Overview**

There already exists a robust debate in higher education over whether and how students *should* be using ChatGPT: is it a useful study tool, an educational crutch, academic dishonesty, or a positive transformative technology? Rather than directly contributing to this debate, our study has two primary goals: first, to explore how students themselves are currently using ChatGPT, and second, to examine their perceptions about ChatGPT use and academic integrity. To accomplish these goals, we developed a survey that presented participants with a range of potential academic applications of ChatGPT. We asked students to report their frequency of use, their motivation for use, and their views on whether ChatGPT use constitutes cheating. We then

conducted exploratory factor analyses to better understand how these variables cluster together in specific groupings and examined patterns of correlations between each of our measures.

## Method

### Participants

A total of 756 students from a large midwestern university participated in this study in return for credit toward a class research requirement. Of the original sample, 187 participants were excluded for failing one or more of three embedded attention checks, leaving a final sample of 569 participants. All participants were between 18 and 40 years of age ($M = 18.85$, $SD = 1.39$), and the majority were either first-year (76.8%) or second-year (15.8%) students. Of the respondents, 77.7% identified as White (Non-Hispanic); 11.1% identified as Asian; 16.9% as Latina; 8.4% as Black or African-American, 0.4% as Hawaiian/Pacific Islander, 3.9% identified as Other, and 1.1% declined to answer. Participants were asked to indicate their current major, which we then grouped by academic discipline. A Chi Square Test for Independence indicated no relationship between major and any of our variables of interest; thus we did not include major in any further analyses.

### Materials

**Frequency of AI Program Use.** Based on work by Fourughi et al. (2023), as well as contributions from research assistants, a list of 21 potential academic uses for AI was generated to capture trends in the use of AI technology. Using a Likert-type scale of 1 (*never*) to 7 (*daily*), participants were asked to indicate how often they used ChatGPT or a similar AI program for each potential use. Sample items include: "To gather information for completing assignments," "To rewrite or rephrase your own previously written work," and "To increase word count or

complexity of a response." Of the original sample, 307 were exempted from this series of

questions because they indicated that they had never used ChatGPT for academic purposes.

       **Perceptions of Cheating.** To measure perceptions of cheating with AI, participants were

given the same list of 21 potential academic behaviors used previously and were asked to

indicate whether using ChatGPT or a similar AI program was (1) *definitely NOT cheating,* (2)

*might be considered cheating,* or (3) *definitely cheating* for each behavior.

       **Perceptions of Accuracy.** Participants were given the same list of 21 potential academic

behaviors used previously and were asked to indicate, using a 5-point Likert-type scale ranging

from 1 (*not at all accurate*) to 5 (*extremely accurate*), how accurate they believed ChatGPT or

similar AI programs were for each behavior.

       **Motivation For AI Program Use.** Based on work by D. et al. (2023) and others, a list of

14 potential motivations for engaging in AI usage was generated to capture student motivation

for using AI technology for academic purposes. Participants were asked to indicate their

agreement with each statement using a Likert-type scale of 1 (*strongly disagree*) to 5 (*strongly

agree*). Sample items include: "ChatGPT is easier to access than other resources available to

me," and "I like the personalized nature of my "conversations" with ChatGPT." Of the original

sample of participants, 307 were exempted from this series of questions because they indicated

that they had never used ChatGPT for academic purposes.

       **Cheating Behaviors.** Participants were asked to indicate, on a yes/no forced-choice

scale, whether they had engaged in each of five potential cheating behaviors during their time in

college. Example behaviors include: "Gotten someone else to do your academic work and

submitted it as your own;" "Used unauthorized electronic resources to complete/while

completing an assignment;" and "Paraphrased or copied a few sentences or more from any source without citing it in an assignment you submitted." Prior to completing this item, participants were reminded that their survey responses were anonymous and that the information they provided could not be used against them in any way.

**Other Items.** To capture additional information on student perceptions of AI use, participants were asked a series of additional questions including: "If you discovered ChatGPT to be less accurate than you currently perceive it to be, how would this impact your usage habits?" (scored from 1 (*I would definitely not use it less*) to 5 (*I would definitely use it less*)); "Overall, has using ChatGPT improved your learning experience in college?" (scored from 1 (*definitely not*) to 5 (*definitely yes*)); "Overall, has using ChatGPT improved your grades in college?" (scored from 1 (*definitely not*) to 5 (*definitely yes*)); "If a student is caught cheating with ChatGPT or a similar AI program, the consequences should be: (1) *less severe than other forms of cheating;* (2) *the same level of severity as other forms of cheating;* and (3) *more severe than other forms of cheating;*" and "Who do you think should create policies governing the use of ChatGPT and/or similar AI programs for students? (1) *Policies should not be created;* (2) *Individual courses/instructors should create policies*; (3) *Universities should create policies.*"

**Procedure**

Participants were recruited via the department experiment management system and were then redirected to an online survey system (Qualtrics) to indicate informed consent and complete the survey. At the conclusion of the survey, participants were debriefed, and the session was concluded.

**Psychometric Analyses**

We first sought to assess the dimensionality of three different measures: the Frequency of Use scale, the Perceptions of Cheating scale, and the Motivation for Use scale. To accomplish this, exploratory factor analysis (EFA) was performed using R version 4.2.1 (R Core Team, 2022). Based on recommendations from Manapat et al. (2023), parallel analysis (PA-F) was used via the *fa* function (psych package; Revelle, 2019) to determine the number of factors as this method has been shown to outperform other approaches. For models with more than one factor, an oblique rotation (*rotate = "quartimin"*) was used along with ordinary least squares estimation (*fm = "ols"*). These decisions were also made based on recommendations in the literature (Manapat et al., 2023) which discourage the use of orthogonal rotation as factors in psychology are almost never uncorrelated and thus an orthogonal rotation is rarely justifiable (Byrne, 2005; Fabrigar et al., 1999).

## Results

### Exploratory Factor Analysis

*Frequency of Use.*

A set of EFAs guided the determination of the most plausible factor structure for the Frequency of Use scale. The number of factors to estimate was determined by PA-F, which suggested three factors. Solution selection with this model was based on the idea of a simpler structure, which allows for factor solutions to be easily interpretable, meaningful, and ideally replicable (Thurstone, 1947). The initial model contained two items with cross-loadings larger in magnitude than 0.32. To maintain a simple structure, these items were removed and a second EFA was performed. PA-F suggested a three-factor solution and no cross-loadings were

observed. Scale items, factor loadings, and factor correlations for this model are presented in Table 1.

Factor 1, entitled "Information Gathering (IG)," contains seven items ($M = 2.96$, $SD = 1.29$, $\alpha = 0.87$) that capture the use of ChatGPT to gather academic information (e.g., preparing for exams and finding sources for assignments).

Factor 2, entitled "Response Generation (RG)," contains 5 items ($M = 2.00$, $SD = 1.08$, $\alpha = 0.79$) that capture the use of ChatGPT to generate responses to prompts (e.g., rewriting someone else's work and answering exam questions).

Factor 3, entitled "Learning and Self-Improvement (LSI)," contains 4 items ($M = 2.24$, $SD = 1.25$, $\alpha = 0.77$) that capture the use of ChatGPT for individual learning (e.g., to gather information for personal growth and to gather information for planning and decision-making).

A one-sample t-test was conducted with each of the Frequency of Use factors. The results revealed that participants indicated using ChatGPT for Information Gathering (IG) more than they did for Response Generation (RG) and Learning and Self-Improvement (LSI) factors; ($t(254) = 36.42$, $p < .001$).

*Perceptions of Cheating.*

A set of EFAs guided the determination of the most plausible factor structure for the Perceptions of Cheating with ChatGPT scale. The number of factors to estimate was determined by PA-F, which suggested four factors. Solution selection was based on the idea of a simpler structure, which allows for factor solutions to be easily interpretable, meaningful, and ideally replicable (Thurstone, 1947). The initial model contained one item with cross-loadings larger in magnitude than 0.32. To maintain a simple structure, this item was removed and a second EFA

was performed. PA-F suggested a three-factor solution and one item with a cross loading with a magnitude greater than .32 was observed. This item was removed and a third EFA was performed. PA-F suggested a three-factor solution and no cross loadings were observed. Factor loadings and factor correlations for this model are presented in Table 2.

Factor 1, entitled "Perceived Ethical Academic Use (PEAU)," contains 10 items ($M =$ 1.29, $SD = 0.31$, $\alpha = 0.80$) that capture students' perception of cheating with ChatGPT for items that are not typically considered academic misconduct, such as gathering information for assignments and preparing for presentations and exams.

Factor 2, entitled "Perceived Academic Misuse (PAM)," contains 7 items ($M = 2.31$, $SD = 0.48$, $\alpha = 0.82$) that capture students' perception of cheating with ChatGPT for items that are traditionally considered academic misconduct, such as rephrasing another student's work, answering exam questions, and increasing complexity and word-count on writing assignments.

Factor 3, entitled "Perceived Ethical Other Use (PEOU)," contains 2 items ($M = 1.27$, $SD = 0.42$, $\alpha = 0.47$) that capture students' perception of cheating with ChatGPT for items that are not strictly academic, such as drafting and replying to emails.

A one-sample t-test was conducted with each of the Perceptions of Cheating factors. The results revealed that participants considered the Perceived Academic Misuse items to represent cheating significantly more than Perceived Ethical Academic Use and Perceived Ethical Other Use items; ($t(562) = 113.19$, $p < .01$).

*Motivation for Use.*

A set of EFAs guided the determination of the most plausible factor structure for the Motivation for Use scale. The number of factors to estimate was determined by PA-F, which

suggested two factors. Solution selection was based on the idea of a simpler structure, which

allows for factor solutions to be easily interpretable, meaningful, and ideally replicable

(Thurstone, 1947). The initial model contained one item with cross-loadings larger in magnitude

than 0.32. To maintain a simple structure, this item was removed and a second EFA was

performed. PA-F suggested a two-factor solution and no cross-loadings were observed. Factor

loadings and factor correlations for this model are presented in Table 3.

Factor 1, entitled "Value and Convenience Motivation (VCM)," contains 10 items ($M =$

3.58, $SD = 0.68$, $\alpha = 0.84$) that capture motivation for using ChatGPT for reasons of value and

convenience, such as ease of access, providing accurate and helpful answers, and ease of

understanding its output.

Factor 2, entitled "Hedonistic Motivation (HM)," contains 3 items ($M = 3.12$, $SD = 1.02$,

$\alpha = 0.77$) that capture self-motivated reasons for using ChatGPT such as needing a shortcut

when rushed for time.

A one-sample t-test was conducted with the Motivation for Use factors. The results

revealed that participants indicated being influenced by Value and Convenience Motivations

significantly more than Hedonistic Motivations; ($t(254) = 84.51$, $p < .001$).

**Other Items**

The majority of students (55.59%) indicated that ChatGPT either probably or definitely

contributed to their learning, and 48.25% indicated that ChatGPT probably or definitely

positively impacted their grades. When asked about the severity of penalties if students are

caught cheating with ChatGPT, 80.25% indicated that penalties should be on the same level as

other forms of cheating. Additionally, 54.42% indicated that any policies governing the use of

ChatGPT for students should be left up to individual courses/instructors rather than mandated by

the university. Finally, when participants were asked about continued use if they discovered that

ChatGPT was less accurate than they had previously believed, 70.12% indicated that they would

either probably or definitely use it less frequently.

Participants were also asked to indicate, on a yes/no forced-choice scale, whether they

had engaged in each of five potential cheating behaviors during their college career. The vast

majority (78.7%) indicated they had cheated on an exam; 95.2% indicated that they had someone

else complete their work and submitted it as their own; 69.4% used unauthorized electronic

resources while completing an assignment; 58.3% collaborated on an assignment when the

instructor asked for individual work; and 69.8% paraphrased or copied directly from a source

without proper citations (see Table 4).

**Correlations**

Correlations between all variables of interest were also examined. Notable significant

correlations are contextualized in the discussion (below), and the relevant correlation matrix is

presented in Table 5.

**Discussion**

*Frequency of Use, Perceptions of Cheating, and Motivation*

D et al. (2023) reported that student usage of ChatGPT could be categorized into four

factors: Academic Content Creation, Information Seeking, Novelty, and Convenience. Our factor

analysis diverged slightly, yielding a 3-factor solution: Information Gathering (IG), Response

Generation (RG), and Learning and Self-Improvement (LSI). We attribute this discrepancy to the

fact that D et al. (2023) did not include traditional cheating behaviors when generating their list

of potential uses for AI technology. Consequently, items that would presumably load onto

distinct factors (e.g., information seeking and academic content creation) were found to be more

convergent and grouped under larger factors (e.g., Information Gathering) in our study. This

interpretation is supported by analyzing the items that compose the IG and RG factors. IG items

closely align with behaviors typically considered ethical academic practices (e.g., gathering

information for assignments), while RG items more closely resemble traditional cheating

behaviors (e.g., answering exam questions). Our results indicated that students most often use

ChatGPT for the purpose of gathering information, which is encouraging for those concerned

about ChatGPT's potential as a threat to academic integrity.

       The present study found that student perceptions of ChatGPT as a tool for cheating can

be categorized according to three factors: Perceived Ethical Academic Use (PEAU), Perceived

Academic Misuse (PAM), and Perceived Ethical Other Use (PEOU). The first factor, Perceived

Ethical Academic Use, represents uses for ChatGPT that participants perceived to be

academically ethical (i.e., not constitute misconduct), such as gathering information for personal

growth and getting extra information related to a course topic. The second factor, Perceived

Academic Misuse, captures uses for ChatGPT that participants perceived to be indicative of

academic misconduct, such as answering exam questions and responding to assignment prompts.

These results demonstrate that students are able to correctly identify examples of cheating

behaviors in the context of AI technology use. Finally, Perceived Ethical Other Use represents

uses for ChatGPT that participants perceived to be both ethical and qualitatively different from

the uses captured in the PEAU factor (e.g., using AI to compose emails).

Our study identified two primary motivating factors that influence student use of ChatGPT: Value and Convenience Motivation (VCM) and Hedonistic Motivation (HM). VCM represents the use of ChatGPT to improve one's education by increasing performance expectancy and learning value. In contrast, HM represents using ChatGPT without consideration for the value of learning, such as when rushed for time or as a substitute for confidence in the material. Our results indicated that students are primarily motivated to use ChatGPT because it offers value and convenience; they are significantly less likely to be motivated by hedonism (e.g., beating the system). These results overlap the findings of Fourughi et al. (2023), who also discussed hedonic motivation and learning value (similar to our VCM factor). However, Fourughi et al. identified two additional factors (performance expectancy and effort expectancy) that did not emerge in our analyses. As previously discussed, the broader scope of our items may have influenced convergence and resulted in a simpler factor structure than that reported by Fourughi et al. (2023).

*Self-Reported Cheating*

The rates of self-reported cheating in this study are consistent with those reported in previous research, with approximately 75% of participants admitting to engaging in some form of academic misconduct (McCabe et al., 2001; Harris et al., 2020). In the present study, self-reported cheating rates ranged from 58.3% for collaborating on individual assignments to 95.2% for submitting someone else's work as their own. The recent transition to online education may contribute to the notably high frequency of cheating behaviors involving the submission of someone else's work, as opportunities for this specific form of academic dishonesty may be more

prevalent in the online learning environment. Further research is necessary to confirm and expand upon these findings.

*Implications*

Our study has positive implications for instructors who aim to incorporate ChatGPT and other AI tools into their curricula. The holistic interpretation of our data reveals that most students appear poised to use AI technology in a responsible and academically ethical manner. The majority of our participants correctly identified potentially unethical uses of ChatGPT as academic misconduct, and they were significantly less likely to use ChatGPT for behaviors that they perceived as cheating. Importantly, our data reveals that the use of ChatGPT for gathering information is not associated with an increase in general cheating behaviors, which suggests that ChatGPT can be used ethically and responsibly given appropriate instruction on the boundaries and limitations of AI technology in academia. In contrast, participants who reported using ChatGPT for response generation (as opposed to information gathering) were more likely to report engaging in general cheating behaviors and more likely to endorse weaker punishments for committing academic misconduct with AI relative to other forms of academic misconduct.

The limitations of the current study underscore the importance of continued research into the uses and perceptions of AI in academia. Our participants were limited to a convenience sample of undergraduate students enrolled in an introductory psychology class at a large traditional American university. This relatively homogenous sample restricts generalizability to many other groups, such as non-traditional learners and students at two-year institutions. Similarly, the vast majority of our respondents were in their first two years of study, and their experiences may not generalize to more advanced students. Future research is needed to explore

ChatGPT usage among students from diverse fields, geographical backgrounds, and levels of education. Second, despite ChatGPT's release in November 2022, more than half of our participants were unable to answer survey questions related to ChatGPT usage and perceptions due to reported unfamiliarity with AI tools. As this new technology becomes more prolific throughout academia, additional research will be needed to monitor its ramifications. Finally, while the survey items used in this study were based on the ChatGPT-specific models outlined by Foroughi et al. (2023) and modified questions from D et al. (2023), they are by no means exhaustive. Future research should focus on the construction and validation of a more comprehensive scale with which to measure uses and perceptions of AI tools.

**Conclusion**

ChatGPT is an incredibly sophisticated AI model capable of data evaluation, information synthesis, and realistic text generation. The widespread availability of AI technology has already had a profound impact on the world of higher education, and both students and educators are scrambling to stay ahead of the rapid transformation that is currently underway. Building upon previous research, the current study sought to explore student use and perceptions of ChatGPT, including its potential for misuse. Our results suggest that the majority of students currently using ChatGPT are doing so responsibly, employing it as an educational tool rather than a means for academic misconduct.

Based on these findings, we recommend the inclusion of a clear AI use policy in the course syllabus. The policy should outline appropriate uses for AI tools in the context of each course, providing examples that are both educationally valuable and academically ethical. Furthermore, instructors should clearly define the specific uses of AI tools that constitute

academic misconduct, ensuring that students have a thorough understanding of the boundaries within each course. It is also essential to educate students about the limitations and potential inaccuracies of AI tools while emphasizing the crucial role of human contribution in academic endeavors. As ChatGPT and similar AI technology becomes increasingly ubiquitous, it is imperative that higher education institutions adapt to their presence and develop strategies to harness their potential while mitigating the risks associated with their misuse.

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**Figures**

**Table 1.**

*Factor Loadings and Correlations for the Three Factor Models of Frequency of Use.*

| Item | Factor 1 | Factor 2 | Factor 3 |
|---|---|---|---|
| To gather information for completing assignments | 0.807 | | |
| To prepare presentations | 0.343 | | |
| To prepare or summarize study notes | 0.439 | | |
| To gather information about an academic topic of interest | 0.710 | | |
| To validate or verify information | 0.650 | | |
| To get extra information related to a course topic | 0.752 | | |
| To prepare for exams | 0.482 | | |
| To rewrite or rephrase your own previously written work | | 0.567 | |
| To generate code | | 0.336 | |
| To rewrite or rephrase the work of others | | 0.912 | |
| To answer exam questions | | 0.505 | |
| To increase word count or complexity of a response | | 0.588 | |
| To gather information for personal growth | | | 0.776 |
| To find sources for research papers | | | 0.335 |
| To generate questions for the purpose of quizzing yourself | | | 0.496 |
| To gather information on planning or decision-making | | | 0.711 |

| Factor | | Factor Correlations | |
|---|---|---|---|
| 1 | 1 | 0.43 | 0.53 |
| 2 | | 1 | 0.33 |
| 3 | | | 1 |

*Note.* Factor 1 is labeled Information Gathering (IG); Factor 2 is labeled Response Generation

(RG); Factor 3 is labeled Learning and Self-Improvement (LSI).

**Table 2.**

*Factor Loadings and Correlations for the Three Factor Model of the Perceptions of Cheating.*

| Item | Factor 1 | Factor 2 | Factor 3 |
|---|---|---|---|
| Gathering information for completing assignments | 0.421 | | |
| Finding sources for research papers | 0.466 | | |
| Preparing or summarizing study notes | 0.499 | | |
| Gathering information about an academic topic of interest | 0.624 | | |
| Gathering information for personal growth | 0.545 | | |
| Validating or verifying information | 0.420 | | |
| Getting extra information related to a course topic | 0.671 | | |
| Gathering information on planning or decision-making | 0.618 | | |
| Preparing for exams | 0.616 | | |
| Brainstorming ideas for an assignment or project | 0.388 | | |
| Rewriting or rephrasing your own previously written work | | 0.413 | |
| Writing a summary of some topic | | 0.544 | |
| Responding to a discussion topic or assignment prompt | | 0.816 | |
| Generating code | | 0.440 | |
| Rewriting or rephrasing the work of others | | 0.569 | |
| Answering exam questions | | 0.747 | |
| Increasing word count or complexity of a response | | 0.636 | |
| Composing e-mails or other communication | | | 0.476 |
| Correcting grammar | | | 0.438 |

| Factor | Factor Correlations | | |
|---|---|---|---|
| 1 | 1 | 0.37 | 0.4 |
| 2 | | 1 | 0.2 |
| 3 | | | 1 |

*Note.* Factor 1 is labeled Perceived Ethical Academic Use (PEAU); Factor 2 is labeled Perceived

Academic Misuse (PAM); Factor 3 is labeled Perceived Ethical Other Use (PEAU).

**Table 3.**

*Factor Loadings and Correlations for the Two Factor Model of Motivation For Use.*

| Item | Factor 1 | Factor 2 |
|---|---|---|
| ChatGPT allows me to accomplish tasks more effectively and increase my learning performance. | 0.755 | |
| ChatGPT is easier to access than other resources available to me. | 0.566 | |
| I have friends, coworkers, or peers who have reported a positive experience with ChatGPT. | 0.533 | |
| ChatGPT provides me with an enjoyable user experience. | 0.801 | |
| I have used ChatGPT in the past, and I continue to do so out of habit. | 0.571 | |
| ChatGPT provides useful feedback and has educational value. | 0.753 | |
| I use ChatGPT because I am curious about the prospect of utilizing a new technology. | 0.406 | |
| I trust ChatGPT to provide accurate and reliable information about a variety of topics. | 0.406 | |
| I like the personalized nature of my "conversations" with ChatGPT. | 0.385 | |
| It is easy for me to understand the information that I receive from ChatGPT. | 0.645 | |
| I use ChatGPT because it is a way to beat the system. | | 0.625 |
| I use ChatGPT as a shortcut when I lack confidence in the subject matter. | | 0.708 |
| I use ChatGPT as a shortcut when I am rushed for time. | | 0.831 |

| Factor | Factor Correlations | |
|---|---|---|
| 1 | 1 | 0.47 |
| 2 | | 1 |

Note. Factor 1 is labeled Value and Convenience Motivation; Factor 2 is labeled Hedonistic Motivation.

**Table 4.**

*Frequencies for Students Indicating Engagement in Cheating Behaviors.*

| Item | Frequency | Percent |
| --- | --- | --- |
| Cheated in any form on an exam | 447 | 78.7 |
| Gotten someone else to do your academic work and submitted it as your own | 541 | 95.2 |
| Used unauthorized electronic resources to complete/while completing an assignment | 395 | 69.4 |
| Collaborated on an assignment when the instructor asked for individual work | 331 | 58.3 |
| Paraphrased or copied a few sentences or more from any source without citing it in an assignment you submitted | 397 | 69.8 |

**Table 5.**

*Correlations for Primary Variables.*

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. VCM | 1 | 0.446*** | -0.347*** | -0.197** | -0.173** | 0.564*** | 0.387*** | 0.373*** | 0.314*** | 0.152* | 0.583*** | -0.180** | 0.403*** | -0.144* | -0.112 |
| 2. HM | | 1 | -0.190** | -0.204** | -0.068 | 0.338*** | 0.417*** | 0.087 | 0.230*** | 0.445*** | 0.250*** | -0.094 | 0.478*** | -0.078 | -0.131* |
| 3. PEAU | | | 1 | 0.472*** | 0.455*** | -0.175** | -0.131* | -0.056 | -0.216*** | -0.079 | -0.223** | -0.007 | -0.168** | 0.165*** | 0.117** |
| 4. PAM | | | | 1 | 0.369*** | -0.146* | -0.276*** | -0.067 | -0.0455 | -0.030 | -0.236*** | 0.047 | -0.108 | 0.185 | 0.170*** |
| 5. PEOU | | | | | 1 | -0.060 | -0.105 | 0.006 | -0.197*** | -0.110** | -0.133* | 0.035 | -0.098 | 0.108** | 0.083* |
| 6. IG | | | | | | 1 | 0.569*** | 0.656*** | 0.169** | 0.116 | 0.466*** | -0.150* | 0.325*** | -0.106 | -0.118 |
| 7. RG | | | | | | | 1 | 0.476*** | 0.156* | 0.273*** | 0.282*** | -0.204*** | 0.299*** | -0.214*** | -0.07 |
| 8. LSI | | | | | | | | 1 | 0.032 | -0.025 | 0.364*** | -0.151* | 0.118 | -0.064 | -0.023 |
| 9. Accuracy Usage | | | | | | | | | 1 | 0.140** | 0.299*** | -0.076 | 0.254*** | -0.159*** | -0.092* |
| 10. General Cheating | | | | | | | | | | 1 | 0.020 | 0.027 | 0.249*** | -0.070 | -0.050 |
| 11. Learning | | | | | | | | | | | 1 | -0.236*** | 0.555*** | -0.206*** | -0.186** |
| 12. Accuracy Usage | | | | | | | | | | | | 1 | -0.153* | 0.083 | 0.130* |
| 13. AI Grade Improvement | | | | | | | | | | | | | 1 | -0.243*** | -0.136* |
| 14. Penalty | | | | | | | | | | | | | | 1 | 0.278 |
| 15. Policies | | | | | | | | | | | | | | | 1 |

*Note.* VCM = Value and Convenience Motivation; HM = Hedonistic Motivation; PEAU = Perceived Ethical Academic Use; PAM = Perceived Academic Misuse; PEOU = Perceived Ethical Other Use; IG = Information Gathering; RG = Response Generation; LSI = Learning and Self-Improvement.

*p < .05, **p < .01, ***p < .001.