

Understanding University Students' Motivation for Using ChatGPT in Learning: A McClelland Theory Perspective

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ABSTRACT

The increasing integration of artificial intelligence (AI) tools in higher education has transformed students' learning experiences and academic practices. Among these tools, ChatGPT has gained considerable attention for its ability to support academic tasks, enhance learning efficiency, and facilitate student engagement. Guided by McClelland's Theory of Needs, this study examines university students' motivation for using ChatGPT in learning, with particular emphasis on the need for achievement, need for power, and need for affiliation. A quantitative research design was employed using a survey questionnaire administered to 123 university students enrolled in Mandarin language courses at a university branch campus. The instrument consisted of six sections measuring critical thinking, learner agency, academic performance, ChatGPT usage, student engagement, and motivational needs. Data were analyzed using descriptive statistics, independent samples t-tests, and Pearson correlation analysis. The findings indicate that students perceive ChatGPT as a useful learning tool that supports assignment completion, enhances learning efficiency, and contributes positively to academic performance. The results further revealed no significant differences in motivational needs based on gender or academic clusters. However, significant positive relationships were identified among the three motivational needs proposed by McClelland's theory. The study also highlights that despite the increasing role of AI-assisted learning tools, instructor support and human interaction remain important in sustaining student engagement and meaningful learning experiences. The findings suggest that educators should integrate ChatGPT into educational practices in a balanced and pedagogically guided manner to support students' motivation and learning outcomes in the digital learning environment.

Keywords: ChatGPT, student motivation, McClelland's Theory of Needs, AI-assisted learning, higher education

INTRODUCTION

Background of Study

The integration of artificial intelligence (AI) into higher education has significantly transformed contemporary learning environments, particularly through the emergence of generative AI tools such as ChatGPT. As a large language model capable of generating interactive responses and personalized support, ChatGPT has increasingly become part of students' academic practices and digital learning experiences. Its growing presence in higher education reflects a broader shift toward technology-assisted learning, where students rely on AI tools to support academic tasks, enhance learning efficiency, and facilitate independent learning processes. Within such learning environments, motivation plays an essential role in influencing students' academic engagement, persistence, and learning outcomes. Martin et al. (2020) argue that the self-directed nature of digital learning environments increases the importance of understanding the motivational factors that shape students' learning behaviours and participation.

To better understand these motivational dimensions, researchers frequently employ established psychological theories to explain students' learning behaviour in technology-mediated settings. One of the prominent frameworks is McClelland's Theory of Needs, which conceptualizes human motivation through three primary dimensions: the need for achievement, the need for power, and the need for affiliation. In the context of AI-assisted learning, the need for achievement may be reflected in students' desire to improve academic performance and accomplish learning tasks effectively through the use of ChatGPT. The need for power can be associated with students' sense of autonomy, control, and self-direction when engaging with digital learning tools. Meanwhile, the need for affiliation remains relevant despite the increasing use of AI technologies, as students continue to seek interaction, support, and a sense of belonging within academic learning communities. Recent studies have highlighted the educational potential of AI technologies in supporting student learning and engagement. Youssef et al. (2024) reported that ChatGPT usage contributes positively to students' critical thinking and engagement by encouraging independent exploration and interactive learning experiences. Similarly, Zhai et al. (2024), through a systematic review, found that AI-assisted tools have the potential to support higher-order cognitive development beyond routine task completion. Nevertheless, the integration of AI into learning environments also presents several challenges. Martin and Bolliger (2020) noted that online learning environments may reduce students' sense of social presence and interpersonal connection, which may subsequently affect intrinsic motivation and learning engagement. These concerns suggest that although ChatGPT offers considerable educational benefits, its effectiveness may still depend on the extent to which students' psychological and motivational needs are fulfilled.

Despite the increasing scholarly attention toward AI-assisted learning, limited research has specifically examined ChatGPT usage through the perspective of motivational psychology. Existing studies frequently focus on technological acceptance, usability, or academic performance, while comparatively less attention has been given to the motivational dimensions underlying students' use of AI tools in learning. In particular, empirical research examining ChatGPT usage through McClelland's Theory of Needs among university students remains limited. Rahmat (2025) further emphasized that the failure to address students' motivational and emotional needs in online learning environments may contribute to disengagement and reduced learning participation. Therefore, this study seeks to examine university students' motivation for using ChatGPT in learning through the lens of McClelland's Theory of Needs, thereby providing further insights into the relationship between AI-assisted learning and student motivation in contemporary higher education.

Statement of Problem

The increasing integration of artificial intelligence (AI) tools such as ChatGPT into higher education has transformed the digital learning experience and influenced students' learning behaviours and motivation. Recent studies have shown that AI-assisted learning tools can enhance academic productivity, critical thinking, and learning efficiency (Youssef et al., 2024). However, despite these potential benefits, concerns remain regarding the psychological and motivational implications of prolonged reliance on AI technologies in academic learning environments. Shao and Pekrun (2024) highlighted that learners' emotional experiences, including feelings of confidence, anxiety, and social connectedness, play a significant role in shaping academic engagement and learning outcomes. At the same time, online learning environments continue to face challenges related to limited social presence and reduced interpersonal interaction, which may contribute to lower student engagement (Martin & Bolliger, 2020).

One of the major concerns is whether the increasing use of ChatGPT adequately supports students' underlying psychological and motivational needs. From the perspective of McClelland's Theory of Needs, several issues may emerge in relation to students' use of AI-assisted learning tools. In terms of the need for achievement, students may become overly focused on task completion and AI-generated outcomes rather than the learning process itself, potentially affecting deeper learning and knowledge development. Regarding the need for power, although ChatGPT may provide students with greater autonomy and flexibility in learning, excessive dependence on AI tools may gradually reduce students' confidence in their own cognitive abilities and independent problem-solving skills. Furthermore, the need for affiliation may not be fully addressed in AI-mediated learning environments, as chatbot interactions cannot entirely replace meaningful human interaction, peer collaboration, and instructor support. Rahmat (2025) emphasized that the lack of emotional and social support in online learning environments may negatively influence students' motivation and learning participation over time.

Although research on AI-assisted learning has expanded rapidly, existing studies have primarily focused on technological effectiveness, usability, and academic performance. Comparatively limited empirical research has applied McClelland's Theory of Needs to explain university students' motivation for using ChatGPT in learning environments, particularly within the Malaysian higher education context. Dewaele and Al-Saraj (2025) further highlighted the importance of conducting context-specific studies to examine how motivational factors interact with emerging technologies across different academic backgrounds. They argued that students from different academic disciplines may engage with AI technologies differently based on their learning needs and motivational orientations. Nevertheless, empirical studies examining these motivational differences among university students in the Malaysian higher education context remain limited. Therefore, this study seeks to address this gap by examining university students' motivation for using ChatGPT through the lens of McClelland's Theory of Needs, thereby contributing to a deeper understanding of motivation and AI-assisted learning in contemporary higher education.

Objective of the Study and Research Questions

This study aims to explore students' online learning needs in the context of ChatGPT assisted learning. Specifically, this study seeks to answer the following research questions:

RQ1: Is there a significant relationship between all online learning needs across gender?

Ho1: There is no significant relationship between all online learning needs across gender.

RQ2: Is there a significant relationship between all online learning needs across academic clusters?

Ho2: There is no significant relationship between all online learning needs across academic disciplines.

RQ3: How do learners perceive their need for achievement?

RQ4: How do learners perceive their need for power?

RQ5: How do learners perceive their need for affiliation?

RQ6: Is there a significant relationship between all dimensions of online learning needs?

Ho3: There is no significant relationship between all dimensions of online learning needs.

LITERATURE REVIEW

Theoretical Framework of the Study

McClelland's Theory of Motivation

This study is grounded in McClelland's Theory of Motivation, which proposes that human behaviour is influenced by three acquired motivational needs: the need for achievement (nAch), the need for power (nPow), and the need for affiliation (nAff). These motivational dimensions provide a useful framework for understanding students' learning behaviour and engagement in AI-assisted learning environments.

In the context of ChatGPT-assisted learning, the need for achievement can be associated with students' desire to accomplish academic tasks effectively and improve learning performance through the use of AI technologies. ChatGPT may support this motivational dimension by assisting students in completing learning activities, accessing information, and engaging with academic content more efficiently. The need for power is reflected in students' sense of autonomy and control over their own learning processes. Through the use of AI tools such as ChatGPT, students may experience greater flexibility and independence in managing their learning activities and academic tasks.

At the same time, the increasing use of AI-assisted learning tools also raises concerns regarding students' reliance on technology and the potential reduction of independent cognitive engagement. Although AI technologies may enhance learning convenience, excessive dependence on such tools may influence students' confidence in their own problem-solving and critical thinking abilities. In addition, the need for affiliation remains an important motivational dimension in digital learning environments. Despite the availability of AI-mediated interactions,

students continue to require social interaction, emotional support, and meaningful communication with lecturers and peers to sustain learning engagement and participation.

Recent studies by Youssef et al. (2024) and Rahmat (2025) further support the importance of examining motivational dimensions within AI-assisted learning environments. By integrating these contemporary perspectives with McClelland's Theory of Motivation, this study provides a theoretical foundation for understanding university students' motivation for using ChatGPT in learning. The relationship between the theoretical constructs and the variables of the study is illustrated in the conceptual framework presented in Figure 1.

ChatGPT in Learning

In contemporary higher education, ChatGPT has increasingly become part of students' digital learning experiences and academic practices. As a generative AI tool, ChatGPT provides immediate access to information, interactive responses, and academic support that may assist students in completing learning tasks and engaging with academic content more effectively. Youssef et al. (2024) reported that ChatGPT contributes positively to students' critical thinking and learning engagement by encouraging active interaction and independent exploration during the learning process.

From the perspective of McClelland's Theory of Motivation, ChatGPT may support students' need for achievement by facilitating task completion, improving access to knowledge, and supporting learning performance. Zhai et al. (2024) further argued that AI-assisted learning tools can provide personalized learning support that enhances students' opportunities for academic development. However, they also emphasized that the effectiveness of such technologies is influenced by learners' motivational and psychological characteristics.

In addition, the use of ChatGPT may be associated with the need for power, particularly in terms of students' sense of autonomy and control over their own learning activities. AI-assisted learning environments allow students to manage learning tasks more independently and access information according to their individual learning preferences. Nevertheless, Chiu (2024) highlighted that the effectiveness of AI-mediated learning environments may still depend on the presence of meaningful social interaction and human support. Despite the convenience offered by AI technologies, students continue to require communication, collaboration, and emotional support from lecturers and peers to maintain learning engagement.

Rahmat (2025) further suggested that AI-assisted learning should not be viewed solely as a technological process, but also as a learning experience that involves both cognitive and social dimensions. Therefore, understanding students' motivational needs remains essential in ensuring that ChatGPT supports meaningful and balanced learning experiences in higher education.

Past Studies

Past Studies on Online Learning Motivation and ChatGPT

Recent studies have increasingly examined the relationship between artificial intelligence (AI)-assisted learning and students' motivational and psychological experiences in digital learning environments. In particular, the growing use of generative AI tools such as ChatGPT has attracted scholarly attention due to its potential influence on academic engagement, learning performance, and learner motivation.

Youssef et al. (2024) investigated the effect of ChatGPT usage on academic achievement among university students in the United Arab Emirates (UAE). Using a quantitative survey distributed to 384 university students, the study examined how AI-assisted learning tools influence student engagement and critical thinking. The findings indicated that ChatGPT contributes positively to academic productivity and supports higher-order cognitive development. The study suggested that AI tools may assist students in engaging more actively with academic tasks and learning activities.

Similarly, Zhai et al. (2024) conducted a systematic review involving more than 100 peer-reviewed studies to examine the educational impact of large language models in learning environments. The review demonstrated that AI-assisted learning tools provide personalized feedback and flexible learning support. However, the findings also emphasized that the effectiveness of AI technologies is closely influenced by students' motivational and psychological characteristics. The authors highlighted the importance of aligning AI-assisted learning tools with appropriate pedagogical approaches to support meaningful learning experiences.

In another study, Chiu (2024) explored the role of generative AI in promoting self-regulated learning among 450 secondary and tertiary students using a mixed-methods approach. The findings revealed that while AI technologies provide immediate academic support and learning flexibility, limited social interaction and reduced human presence in digital learning environments may negatively affect students' intrinsic motivation and learning engagement. The study emphasized the importance of maintaining social interaction and supportive learning environments alongside AI-assisted learning practices.

The relationship between emotions, motivation, and academic learning has also been highlighted in recent studies. Shao and Pekrun (2024) conducted a meta-analysis involving 82 independent samples and 28,542 participants to investigate the influence of emotional factors such as anxiety and enjoyment on language achievement. Their findings demonstrated that emotional experiences play an important role in students' academic engagement and learning outcomes in digital learning environments.

In addition, Rahmat (2025) examined the influence of value components in online learning environments through a survey involving 155 university students. The findings indicated that students' intrinsic and extrinsic motivational orientations significantly influence their learning persistence and engagement. The study further emphasized that educational technologies may be less effective when students' motivational and emotional needs are not adequately addressed.

Dewaele and Al-Saraj (2025) further investigated the influence of teacher support and foreign language enjoyment among 312 university students in the Malaysian context. Their findings highlighted the importance of contextual and environmental factors in supporting students' emotional resilience and learning experiences. The authors argued that localized studies are necessary to better understand how students from different academic backgrounds engage with emerging technologies in learning environments.

Overall, previous studies indicate that while ChatGPT and AI-assisted learning tools provide significant educational benefits, their effectiveness is closely associated with students' motivational, emotional, and psychological needs. Existing studies have mainly focused on academic performance, technological effectiveness, and learning engagement. However, limited research has specifically applied McClelland's Theory of Needs to explain university students' motivation for using ChatGPT in learning environments, particularly within the Malaysian higher education context. Therefore, this study seeks to address this gap by examining students' motivational needs through the dimensions of achievement, power, and affiliation in AI-assisted learning environments.

Conceptual Framework of the Study

Some learners struggle with online learning because sometimes it is difficult to stay motivated when they feel disengaged. Sometimes they need to be engaged with the lesson, or the instructor, or even their peers (Rahmat, 2025). According to Fowler (2018), the motivating factors for online learning are expectancy, which refers to self-efficacy, and control of learning beliefs. The second motivating factor is value, and this refers to intrinsic and extrinsic goal orientation as well as task value. The last factor is social support, which refers to social engagement and instructor support.

One way for learners to strive for success in learning is through assistance. These days, learners turn to ChatGPT to facilitate learning. According to Youssef et.al. (2024), ChatGPT also provides learners with critical thinking abilities, academic achievement, and engagement. Therefore, the use of ChatGPT may influence students' motivational experiences in online learning environments.

Figure 1 shows the conceptual framework of the study based on McClelland's Theory of Needs. According to McClelland(1965), during learning, learners need three main conditions: need for achievement, need for power, and need for affiliation. The need for achievement refers to the learner's effort to excel. In this day and age, some learners turn to ChatGPT to assist in their search for knowledge. The next need is the need for power, and this refers to the need of the learners to feel they have authority and control over their own learning processes. This need corresponds with Youssef et.al. (2024) self-efficacy, control of learning beliefs, intrinsic and extrinsic goal orientations, as well as task value. The last need is affiliation, and this need refers to the learner's desire to feel connected. This corresponds to social engagement and instructor support by Youssef et.al. (2024). Additionally, this study also explores the relationship between all the motivational components within the context of ChatGPT-assisted learning.



Figure 1-Conceptual Framework of the Study

Online motivation and ChatGPT using McClelland's Theory

METHODOLOGY

This quantitative study is done to explore online motivation and ChatGPT usage using McClelland's Theory of Needs. A convenient sample of 123 participants responded to the survey. The specific target population consisted of undergraduate university students enrolled in Mandarin language courses at a public university in Malaysia. Non-probability convenience sampling was selected due to the operational accessibility of the respondents during the data collection period. This allowed for an in-depth, context-specific exploration of foreign language learners navigating generative AI tools. Students were invited to participate voluntarily via a digital link distributed at the end of their learning sessions.

The instrument employed utilizes a 5-point Likert frequency scale adapted from McClelland (1965), Fowler (2018), and Youssef et al. (2024) to measure the variables detailed in Table 2 below. As illustrated in Table 1, the response categories are structured to capture the frequency of students' behaviors and perceptions, where 1 represents *Never*, 2 represents *Rarely*, 3 represents *Sometimes*, 4 represents *Very Often*, and 5 represents *Always*.

Table 1- Likert Scale Use

1	Never
2	Rarely
3	Sometimes
4	Very Often
5	Always

Table 2- Distribution of Items in the Survey

SECTION	VARIABLE		NO OF ITEMS	TOT	CA
B	NEED FOR POWER (Expectancy & Value)	Self-Efficacy	7	25	.922
		Control of Learning Beliefs	4		
		Intrinsic Goal Orientation	4		
		Extrinsic Goal Orientation	4		
		Task Value	6		
C	NEED FOR AFFILIATION (Social Support)	Social Engagement	5	12	.831
		Instructor Support	7		
D	NEED FOR ACHIEVEMENT CHAT GPT	Critical thinking abilities	4	16	.919
		Academic achievement	4		
		ChatGPT usage	5		
		Student engagement	3		
				43	.945

Table 2 details the structural distribution of the 43 items comprising the survey instrument. Section B contains 25 items dedicated to measuring the Need for Power, which evaluates the sub-dimensions of student expectancy and value through self-efficacy, control of learning beliefs, intrinsic and extrinsic goal orientations, and task value. Section C consists of 12 items assessing the Need for Affiliation, operationalized via the social support constructs of social engagement and instructor support. Finally, Section D contains 16 items capturing the Need for Achievement, focusing on specific ChatGPT usage parameters, critical thinking abilities, academic achievement, and student engagement. To ensure the adapted instrument was accurate and appropriate for this population, it underwent face and content validation by a panel of two senior academic experts in educational psychology and language education before deployment.

Table 3- Reliability Levels, Cronbach's Alpha Ranges, and Their Interpretations

Reliability Level	Cronbach's Alpha range	Interpretation
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Excellent	0.9 and above	Indicates very high internal consistency
Good	0.80-0.89	Reflects strong internal consistency
Acceptable	0.70-0.79	Indicates acceptable internal consistency
Questionable	0.60-0.69	Reflects questionable internal consistency
Poor	Below 0.6	Indicates poor internal consistency

To evaluate the internal consistency of the instrument, a reliability analysis was conducted. Table 3 outlines the distribution and interpretation criteria for the Cronbach's alpha ranges. According to Ahmad et al. (2024), Cronbach's alpha scores ranging between 0.70 and 0.90 indicate acceptable to excellent internal consistency.

As detailed in Table 2, the empirical reliability metrics for this survey demonstrate high stability across all dimensions. Specifically, the analysis yielded a Cronbach's alpha coefficient of 0.922 for the Need for Power construct, 0.831 for the Need for Affiliation, and 0.919 for the Need for Achievement. The overall instrument achieved a Cronbach's alpha of 0.945 across all 43 items, indicating strong reliability and confirming the data collection tool is dependable for this population. Institutional ethical practices were strictly observed throughout the data collection process; all participants provided informed consent digitally, participation was entirely voluntary, and complete anonymity and confidentiality were maintained as no personal identifiers were collected. Consequently, further statistical analysis was executed using SPSS to address the primary research questions of this study.

FINDINGS

Demographic Analysis

According to Zienefuss, et.al (2021), researches report demographic data in percentages to establish sample representatives, and allow for generalizability to a larger population. The reporting also provides an overview of participants' characteristics. Percentages offer a clear and understandable picture of the sample makeup.

Table 4- Percentage for Demographic Profile

Question	Demographic Profile	Categories	Percentage (%)
1	Gender	Male	25%
		Female	75%
2	Cluster	Science & Technology	45%
		Social Sciences, Humanities & Business	55%

Based on the data presented in Table 4, the demographic profile of the 123 respondents was analyzed according to gender and academic cluster. The analysis indicates that the majority of the respondents were female, representing 75% of the total participants, while male respondents accounted for 25% of the sample. This distribution reflects the characteristics of the convenience sampling method employed in the study.

In terms of academic cluster, the respondents were categorized into two main groups. The "Social Sciences, Humanities, and Business" cluster constitutes the majority of the sample at 55%, whereas the "Science and Technology" cluster represents 45%. This distribution between the two clusters provides a sufficient basis for comparative analysis, enabling the researchers to examine potential variations in motivational needs across

different disciplinary backgrounds. Overall, the demographic data provide a general overview of the participants involved in the study and support the interpretation of the research findings.

Inferential Statistics

According to Shah (2023), there are three main functions of a T-test. Firstly, T-tests are done to compare means. This test is also done to determine if the average scores (mean) or values of two groups, or one group against a known value, are different enough to be considered statistically meaningful and are not just due to random chance. Secondly, T-test is done to test hypotheses. Researchers use t-tests to test hypotheses about means, such as whether a new treatment significantly impacts a variable or if there's a difference in performance between two distinct groups. Lastly, T-test is done to identify significant differences. The output of a t-test provides a p-value (significance value). If this p-value is below a pre-determined threshold (often 0.05), it indicates a statistically significant difference, allowing researchers to draw conclusions about the populations from which their samples were drawn.

Findings for Gender

This section presents the findings related to Research Question 1:

RQ1: Is there a significant relationship between all online learning needs across gender?

Ho1: There is no significant relationship between all online learning needs across gender.

Table 5: T-Test for Gender

Group Statistics										
	Q1GENDER	N	Mean	Std. Deviation	Std. Error Mean					
ONLINE_LEARNING_NEEDS	MALE	31	3.9537	.34933	.06274					
	FEMALE	92	3.9206	.44298	.04618					

Independent Samples Test										
Levene's Test for Equality of Variances					t-test for Equality of Means					
		F	Sig.	t	df	Significance One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference Lower Upper
ONLINE_LEARNING_NEEDS	Equal variances assumed	1.945	.166	.378	121	.353	.706	.03311	.08758	-.14027 .20649
	Equal variances not assumed			.425	65.025	.336	.672	.03311	.07791	-.12248 .18870

A two-sample t-test was performed to compare all online learning needs across gender. There were no significant differences for all online learning needs across gender ($p=0.706$). The null hypothesis is accepted for H_{01} .

Findings for Clusters

This section presents data to answer Research Question 2:

RQ2: Is there a significant relationship between all online learning needs across clusters?

Ho2: There is no significant relationship between all online learning needs across disciplines.

Table 6: T-Test for Clusters

Group Statistics										
	Q5CLUSTER	N	Mean	Std. Deviation	Std. Error Mean					
ONLINE_LEARNING_NEEDS	ST	55	3.9365	.42259	.05698					
	SS.H.B	68	3.9229	.42134	.05110					

Independent Samples Test										
Levene's Test for Equality of Variances					t-test for Equality of Means					
		F	Sig.	t	df	Significance One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference Lower Upper
ONLINE_LEARNING_NEEDS	Equal variances assumed	.106	.745	.179	121	.429	.858	.01367	.07651	-.13780 .16515
	Equal variances not assumed			.179	115.543	.429	.859	.01367	.07654	-.13792 .16527

A two-sample t-test was performed to compare all online learning needs across clusters. There were no significant differences for all online learning needs across clusters ($p=0.858$). The null hypothesis is accepted for H_{02} .

Descriptive Statistics

Why is there a need to report the mean and standard deviation? According to Vetter (2017), Mean (M) represents the average, or centre of a data set. Standard deviation (SD) indicates the typical distance of individual observations from the mean, which shows the data's variability or spread. A low SD means the data points are clustered close to the mean, whereas a high SD indicates they are more spread out. It is good to have a high SD.

Findings for Need for Achievement

This section presents the findings related to Research Question 3: How do learners perceive their need for achievement? In the context of this study, the need for achievement is measured through four dimensions: (i) critical thinking abilities, (ii) academic achievement, (iii) ChatGPT usage, and (iv) student engagement.

(i) Table 7- Mean (M) and Standard Deviation (SD) for CRITICAL THINKING ABILITIES (CT)

ITEM	M	SD
CTQ1 I usually need clarification on the precision and reliability of information provided by ChatGPT, which enhances my critical thinking skills.	3.80	0.87
CTQ2 ChatGPT's responses made me doubt their validity, leading me to seek further clarification or evidence.	3.85	0.89
CTQ3 I actively explore alternative viewpoints or sources of information when using ChatGPT to ensure a comprehensive understanding of the topic.	4.02	0.80
CTQ4 I need clarification about the accuracy of ChatGPT's output, which often encourages me to evaluate the information and conduct additional research independently.	3.40	0.83

The findings presented in Table 7 indicate that students demonstrate positive engagement in evaluating and verifying information generated through ChatGPT. Among the items, CTQ3, which relates to exploring alternative viewpoints and sources of information to achieve a more comprehensive understanding, recorded the highest mean score (M = 4.02, SD = 0.80). This finding suggests that students actively seek additional information when using ChatGPT in learning activities. In addition, CTQ2 also recorded a relatively high mean score (M = 3.85, SD = 0.89), indicating that students tend to seek further clarification or supporting evidence when they question the validity of ChatGPT responses. On the other hand, CTQ4, which refers to independently evaluating the accuracy of ChatGPT-generated information, recorded the lowest mean score in this section (M = 3.40, SD = 0.83). Overall, the findings suggest that students generally maintain a critical approach when using ChatGPT and demonstrate awareness of the importance of verifying AI-generated information.

(ii) Table 8- Mean (M) and Standard Deviation (SD) for ACADEMIC ACHIEVEMENTS (AA)

ITEM	M	SD
AAQ1 Using ChatGPT enables me to complete my academic assignments with a higher level of accuracy and depth.	3.97	0.71
AAQ2 ChatGPT brings innovative ideas that are ready to be shared with students.	3.78	0.87
AAQ3 Students can anticipate robust writing guidance from ChatGPT.	3.54	0.94
AAQ4 ChatGPT has improved my academic performance.	3.59	0.89

The results presented in Table 8 indicate that students generally perceive ChatGPT as a useful tool for supporting academic tasks and learning activities. Among the items, AAQ1 recorded the highest mean score ($M = 3.97$, $SD = 0.71$), suggesting that students perceive ChatGPT as helpful in improving the accuracy and depth of academic assignments. AAQ2, which focuses on the ability of ChatGPT to provide innovative ideas, also recorded a relatively high mean score ($M = 3.78$, $SD = 0.87$). In contrast, AAQ3, relating to writing guidance provided by ChatGPT, recorded the lowest mean score in this section ($M = 3.54$, $SD = 0.94$). The comparatively higher standard deviation for this item suggests that students may hold varying perceptions regarding the effectiveness of ChatGPT as a writing support tool. Overall, the findings indicate that students perceive ChatGPT positively in supporting academic achievement, particularly in relation to idea generation and assignment completion.

(iii) Table 9 Mean (M) and Standard Deviation (SD) for CHATGPT USGAE (CU)

ITEM	M	SD
CUQ1 ChatGPT is a state-of-the-art writing model that is favorably used today.	3.63	0.95
CUQ2 Students seek help from ChatGPT's assistance in composing essays and articles.	3.38	1.13
CUQ3 ChatGPT helps students in English language translation.	3.63	1.08
CUQ4 Employing ChatGPT significantly improves human productivity.	3.43	0.98
CUQ5 The advent of ChatGPT marks a groundbreaking transformation in Natural Language Processing capabilities.	3.58	0.98

Table 9 presents the Mean (M) and Standard Deviation (SD) values for ChatGPT Usage (CU) among respondents. Overall, the findings indicate that respondents generally have a positive perception toward the use of ChatGPT, with all mean scores above 3.00. Among the items, CUQ1 recorded one of the highest mean scores ($M = 3.63$, $SD = 0.95$), showing that respondents perceive ChatGPT as a widely used and advanced writing support tool. Similarly, CUQ5 ($M = 3.58$, $SD = 0.98$) reflects agreement that ChatGPT represents a groundbreaking transformation in Natural Language Processing capabilities. Respondents also acknowledged the usefulness of ChatGPT in improving productivity (CUQ4: $M = 3.43$, $SD = 0.98$) and assisting students in composing essays and articles (CUQ2: $M = 3.38$, $SD = 1.13$). Furthermore, CUQ3 ($M = 3.63$, $SD = 1.08$) suggests that respondents perceive ChatGPT as helpful for English language translation. Overall, the results demonstrate that respondents generally show favorable acceptance and awareness of ChatGPT in learning environments.

(iv) Table 10- Mean (M) and Standard Deviation (SD) for STUDENT ENGAGEMENT (SE)

ITEM	M	SD
SEQ1 ChatGPT is more interactive, human-like, and engaging for the students.	3.50	0.96
SEQ2 ChatGPT increases confidence in my ability to conduct research/to search for materials	3.65	1.02
SEQ3 ChatGPT is easy to use and more engaging for me	3.94	0.90

Table 10 presents the Mean (M) and Standard Deviation (SD) values for Student Engagement (SE) related to the use of ChatGPT. The findings indicate a generally positive level of student engagement, with all mean scores exceeding 3.00. Among the items, SEQ3 recorded the highest mean score ($M = 3.94$, $SD = 0.90$), suggesting that respondents perceive ChatGPT as easy to use and engaging in learning activities. In addition, SEQ2 ($M = 3.65$, $SD = 1.02$) indicates that students believe ChatGPT increases their confidence in conducting research and

searching for academic materials. Furthermore, SEQ1 ($M = 3.50$, $SD = 0.96$) reflects respondents' perceptions that ChatGPT is interactive, human-like and engaging for students. Overall, the findings suggest that ChatGPT contributes positively to student engagement and learning experiences in digital learning environments.

Findings for Power

This section presents data to answer research question 2: How do learners perceive their need for power? In the context of this study, this is measured by (i) self-efficacy, (ii) control of learning beliefs, (iii) intrinsic goal orientation, (ii) extrinsic goal orientation, and (iii) task value.

(i) Table 11 - Mean (M) and Standard Deviation (SD) for SELF- EFFICACY (ESE)

Statement	M	SD
ESEQ 1 I believe I'll receive excellent grades in my classes.	3.76	0.80
ESEQ2 I'm certain I can understand the most difficult material presented in the readings.	3.48	0.72
ESEQ3 I'm confident I can learn the basic concepts that are being taught.	4.21	0.68
ESEQ4 I'm confident I can understand the most complex material presented by the instructor online.	3.57	0.86
ESEQ5 I'm confident I can do an excellent job on assessments online	3.95	0.77
ESEQ6 I'm certain I can master the skills being taught online.	3.52	0.80
ESEQ7 Although online classes can be challenging, I think I can do well.	3.85	0.77

The findings presented in Table 11 indicate that students generally demonstrate positive levels of self-efficacy in online learning environments. Among the items, ESEQ3, which refers to confidence in learning basic concepts taught online, recorded the highest mean score ($M = 4.21$, $SD = 0.68$). This finding suggests that students are generally confident in understanding foundational course content. In addition, ESEQ5 ($M = 3.95$, $SD = 0.77$) indicates that respondents feel confident in performing well in online assessments. Meanwhile, ESEQ7 ($M = 3.85$, $SD = 0.77$) also reflects students' confidence in managing the challenges of online learning. In contrast, ESEQ2, which concerns understanding difficult reading materials, recorded the lowest mean score in this category ($M = 3.48$, $SD = 0.72$). However, the mean value remains above the midpoint of the Likert scale, suggesting that respondents still demonstrate a moderate level of confidence in handling challenging academic materials. Overall, the findings indicate that students possess relatively strong self-efficacy in online learning contexts.

(ii) Table 12 - Mean (M) and Standard Deviation (SD) for CONTROL OF LEARNING BELIEFS (ECB)

Statement	M	SD
ECBQ1 If I study in appropriate ways, then I'll be able to learn the material.	4.17	0.69
ECBQ2 It's my own fault if I don't learn the material taught.	4.04	0.86
ECBQ3 If I try hard enough, then I'll understand the material presented.	4.33	0.71
ECBQ4 If I don't understand the material presented, it's because I didn't try hard enough.	3.89	0.88

Table 12 presents the findings related to students' control of learning beliefs. Among the items, ECBQ3, which refers to the belief that effort contributes to understanding learning materials, recorded the highest mean score ($M = 4.33$, $SD = 0.71$). This suggests that students generally believe that personal effort plays an important role in academic learning. Similarly, ECBQ1 ($M = 4.17$, $SD = 0.69$) indicates that students believe appropriate study methods contribute positively to learning outcomes. In addition, ECBQ2 ($M = 4.04$, $SD = 0.86$) reflects students' sense of responsibility toward their own learning performance. In contrast, ECBQ4, which attributes a lack of understanding specifically to not trying hard enough, yielded the comparatively lowest mean in this section ($M = 3.89$, $SD = 0.88$). Nevertheless, the mean score still indicates a relatively positive perception regarding the importance of effort in understanding course materials. Overall, the findings suggest that students demonstrate positive control of learning beliefs in online learning environments.

(iii) Table 13 - Mean (M) and Standard Deviation (SD) for Intrinsic Goal Orientation (VI)

Statement	M	SD
VIQ1I prefer online material that really challenges me, so I can learn new things.	3.42	0.91
VIQ2I prefer online material that arouses my curiosity, even if it's difficult to learn.	3.56	0.88
VIQ3 The most satisfying thing for me is trying to understand the online content as thoroughly as possible.	3.80	0.79
VIQ4I choose assignments that I can learn from even if they don't guarantee a good grade.	3.59	0.88

The findings presented in Table 13 indicate that students generally demonstrate positive intrinsic motivation toward learning activities. Among the items, VIQ3, which relates to the satisfaction of understanding online content thoroughly, recorded the highest mean score ($M = 3.80$, $SD = 0.79$). The relatively low standard deviation for this item reflects a consistent agreement among respondents regarding their desire for deep learning. VIQ4 ($M = 3.59$, $SD = 0.88$) also indicates that students are willing to engage in learning activities that provide learning opportunities, even when such activities may not directly guarantee high grades. On the other hand, VIQ1, which refers to preference for highly challenging online material, recorded the lowest mean score in this category ($M = 3.42$, $SD = 0.91$). However, on the 5-point Likert scale, a mean of 3.42 still represents a moderate level of agreement. This indicates that while students are slightly more hesitant about highly difficult challenges, they still maintain a positive orientation toward new knowledge acquisition. Overall, the findings suggest that students possess moderate to high levels of intrinsic goal orientation in online learning environments.

(iv) Table 14 - Mean (M) and Standard Deviation (SD) for Extrinsic Goal Orientation(VE)

Statement	M	SD
VEQ1 Getting a good grade is the most satisfying thing for me.	4.64	0.65
VEQ2 I want to do well in my classes so that I can get awards and recognition.	4.31	0.86
VEQ3I want to get better grades than most of the other students in my classes.	4.24	0.83
VEQ4I want to do well in my classes because it's important to show my ability to my family, friends, employer, or others.	4.44	0.77

The results presented in Table 14 indicate that external motivational factors play an important role in students' learning motivation. Among the items, VEQ1, which identifies obtaining good grades as a satisfying outcome,

recorded the highest mean score ($M = 4.64$, $SD = 0.65$). This finding suggests that academic achievement remains an important motivational factor among students. Similarly, VEQ4 ($M = 4.44$, $SD = 0.77$) indicates that students value demonstrating their academic abilities to family members, friends, employers, and others. VEQ2 and VEQ3 also recorded relatively high mean scores, reflecting students' desire for academic success and positive recognition. Although VEQ3 recorded the lowest mean score in this category ($M = 4.24$, $SD = 0.83$), on the 5-point Likert scale, a mean of 4.24 still represents a high level of agreement. This suggests that while students are slightly more focused on personal grades and social recognition than on direct competition with classmates, all extrinsic factors remain fundamental components of their motivation. Overall, the findings indicate that extrinsic goal orientation remains a significant component of students' learning motivation.

(v) Table 15 - Mean (M) and Standard Deviation (SD) for Task Value (VT)

Statement	M	SD
VTQ1 I think I will be able to use what I learn in this course in other courses.	4.00	0.80
VTQ2 It is important for me to learn the course material in this class.	4.29	0.66
VTQ3 I am very interested in the content area of this course.	4.34	0.61
VTQ4 I think the course material in this class is useful for me to learn.	4.24	0.69
VTQ5 I like the subject matter of this course.	4.23	0.71
VTQ6 Understanding the subject matter of this course is very important to me.	4.34	0.64

The findings presented in Table 15 indicate that students generally perceive the course content as valuable and relevant to their learning experiences. Among the items, VTQ3 and VTQ6 recorded the highest mean scores ($M = 4.34$, $SD = 0.61$; $M = 4.34$, $SD = 0.64$, respectively), suggesting that students demonstrate strong interest in the course content and consider subject mastery important. In addition, VTQ2 ($M = 4.29$, $SD = 0.66$) reflects students' positive perceptions regarding the importance of learning course materials. VTQ4 and VTQ5 also recorded relatively high mean scores, indicating favorable attitudes toward the subject matter. In contrast, VTQ1, which relates to the transferability of knowledge to other courses, recorded the lowest mean score within this category ($M = 4.00$, $SD = 0.80$). Nevertheless, However, on the 5-point Likert scale, a mean of 4.00 still represents a high level of agreement. Overall, the findings suggest that students perceive the course content as meaningful and beneficial to their learning development.

4.3.3 Findings for Affiliation

This section presents data to answer research question 3: How do learners perceive their need for affiliation? In the context of this study, this is measured by (i) social engagement and (ii) instructor support.

(i) Table 16 - Mean (M) and Standard Deviation (SD) for Social Engagement (SSE)

Statement	M	SD
SSEQ1 feel "disconnected" from my teacher and fellow students in classes.	2,37	1.18
SSEQ2 I pay attention in classes.	4.17	0.67
SSEQ3 I enjoy class discussions.	4.19	0.74
SSEQ4 I feel like I can freely communicate with other students in classes.	3.95	0.93
SSEQ5 I have strong relationships with fellow students in this course.	3.88	0.90

Table 16 presents the Mean (M) and Standard Deviation (SD) values for Social Engagement (SSE) among students. The findings indicate that students generally demonstrate positive levels of social engagement within the learning environment. Among the items, SSEQ3, which relates to enjoyment of class discussions, recorded the highest mean score ($M = 4.19$, $SD = 0.74$), indicating that students highly enjoy class discussions. Similarly, SSEQ2 ($M = 4.17$, $SD = 0.67$) indicates that students generally pay attention during classes. In addition, respondents agreed that they are able to communicate freely with classmates (SSEQ4: $M = 3.95$, $SD = 0.93$) and maintain positive relationships with other students in the course (SSEQ5: $M = 3.88$, $SD = 0.90$). In contrast, SSEQ1 recorded the lowest mean score in this category ($M = 2.37$, $SD = 1.18$), indicating that students generally do not feel disconnected from their teachers and peers. Overall, the findings suggest that students experience positive social interaction and engagement within the learning environment.

(ii) Table 17 - Mean (M) and Standard Deviation (SD) for Instructor Support (SIS)

Statement	M	SD
SISQ1I feel like I can freely communicate with the instructor in this class.	4.09	0.78
SISQ2 The instructor responds to questions, clearly, completely, and in a timely manner.	4.42	0.64
SISQ3 The instructor's expectations for me in this class are clear.	4.28	0.60
SISQ4 The instructor provides the guidance I need to be successful in this class.	4.49	0.59
SISQ5 The instructor presents the material in a way that makes it relevant to me.	4.22	0.64
SISQ6 In this course, I have the freedom to guide my own learning	4.14	0.72
ISQ7 The instructor provides regular feedback that helps me gauge my performance in this class.	4.33	0.67

Table 17 presents the findings related to instructor support in the learning environment. Among the items, SISQ4, which refers to instructors providing guidance for academic success, recorded the highest mean score ($M = 4.49$, $SD = 0.59$). This finding suggests that students highly value the support and guidance provided by instructors. Similarly, SISQ2 ($M = 4.42$, $SD = 0.64$) indicates that students appreciate instructors who respond clearly and promptly to questions. In addition, SISQ7 ($M = 4.33$, $SD = 0.67$) reflects students' positive perceptions regarding feedback provided by instructors to support learning performance. In contrast, SISQ1, which relates to students' freedom to communicate with instructors, recorded the lowest mean score in this category ($M = 4.09$, $SD = 0.78$). Nevertheless, the score still reflects a high level of agreement among respondents. Overall, the findings indicate that instructor support plays an important role in supporting students' learning experiences and sense of affiliation in the learning environment.

Descriptive Statistics

According to He (2024), correlation is a statistical technique that shows how strongly two variables are related to each other or the degree of association between the two. It's a common tool for describing simple relationships without making a statement about cause and effect. This section presents data to answer the research question on correlation.

He (2024) further explained that correlation coefficients are considered significant at the 0.05 level. Positive correlation values range from 0.1 to 1.0, where values between 0.1 and 0.3 indicate weak positive correlation, values between 0.3 and 0.5 indicate moderate positive correlation, and values between 0.5 and 1.0 indicate strong positive correlation. To determine if there is a significant association in the mean scores between all online learning needs, data is analysed using SPSS for correlations. Results are presented separately in Table 17 below.

Table 18- Correlation between all online learning needs

Correlations				
		NEED_FOR_ACHIEVEMENT	NEED_FOR_POWER	NEED_FOR_AFFILIATION
NEED_FOR_ACHIEVEMENT	Pearson Correlation	1	.579**	.313**
	Sig. (2-tailed)		<.001	<.001
	N	123	123	123
NEED_FOR_POWER	Pearson Correlation	.579**	1	.548**
	Sig. (2-tailed)	<.001		<.001
	N	123	123	123
NEED_FOR_AFFILIATION	Pearson Correlation	.313**	.548**	1
	Sig. (2-tailed)	<.001	<.001	
	N	123	123	123
**. Correlation is significant at the 0.01 level (2-tailed).				

Findings for Relationship between all dimensions of online learning needs

This section presents the findings related to Research Question 6:

RQ6: Is there a significant relationship between all dimensions of online learning needs?

Ho3: There is no significant relationship between all dimensions of online learning needs.

Table 18 shows there is an association between all dimensions of online learning needs. In the context of this study, the learning needs are; (a) needs for achievement, (b) power, and (c) affiliation. Correlation analysis shows that there is a strong, positive, significant association between needs for achievement and needs for power ($r=.579^{**}$) and ($p<.001$).

There is a strong positive, significant association between needs for power and needs for affiliation ($r=.548^{**}$) and ($p<.001$). Finally, is a moderate positive, significant association between needs for affiliation and needs for achievement ($r=.313^{**}$) and ($p<.001$). Null hypothesis is rejected for H_{03} .

CONCLUSION

SUMMARY OF FINDINGS AND DISCUSSIONS

The findings of this study provide important insights into university students' motivation in ChatGPT-assisted learning environments from the perspective of McClelland's Theory of Needs. Overall, the results indicate that the needs for achievement, power, and affiliation remain relevant in understanding students' learning experiences in the digital age.

The findings also revealed that there were no significant differences in online learning needs across gender and academic disciplines. The acceptance of Ho1 and Ho2 suggests that students generally share similar motivational patterns in their use of ChatGPT regardless of demographic background. This finding is consistent with Dewaele and Al-Saraj (2025), who highlighted that technological adaptation in higher education may influence students in relatively similar ways across different groups.

In terms of the need for achievement, students demonstrated positive perceptions toward the use of ChatGPT to support learning activities, particularly in relation to critical thinking, academic performance, and learning engagement. The findings suggest that students do not merely use ChatGPT for task completion, but also as a tool to support understanding and information exploration. This finding supports the study by Youssef et al. (2024), which reported that AI-assisted learning tools can contribute positively to academic engagement and higher-order thinking skills.

The findings further indicate that students possess relatively strong self-efficacy and positive control of learning beliefs. Students generally believed that personal effort, appropriate learning strategies, and active engagement remain important for academic success. These findings are aligned with McClelland's Theory of Needs, particularly in relation to the need for power, where learners seek autonomy and confidence in managing their own learning processes.

At the same time, the study highlights the continuing importance of affiliation in digital learning environments. Although ChatGPT provides support for academic tasks, students still highly value instructor guidance, feedback, and social interaction within the learning environment. This finding supports Rahmat (2025) and Chiu (2024), who emphasized that human interaction and emotional support remain important components of meaningful learning experiences in technology-mediated environments.

Finally, the rejection of Ho3 indicates that all dimensions of online learning needs are significantly related to one another. The positive correlations between achievement, power, and affiliation suggest that students' motivation in AI-assisted learning environments is interconnected rather than isolated. Overall, the findings suggest that effective learning in the digital era requires a balance between technological support, learner autonomy, and meaningful human interaction.

Implications and Suggestions for Future Research

Theoretical and Conceptual Implications

The findings of this study contribute to the ongoing discussion on the application of McClelland's Theory of Needs in AI-assisted learning environments. The study confirms that the needs for achievement, power, and affiliation remain relevant in explaining students' motivation when using generative AI tools such as ChatGPT. In relation to the need for achievement, the findings indicate that students use ChatGPT as a learning support tool that assists them in understanding course content and improving academic performance. This extends previous discussions on AI-assisted learning by showing that technology can support students' learning processes beyond simple task completion.

The findings also provide conceptual support for the role of learner autonomy and self-efficacy within the need for power dimension. Students demonstrated confidence in their own effort and learning strategies, suggesting that AI tools may support self-regulated learning when used appropriately.

In addition, the significant relationships identified between all motivational dimensions suggest that students' motivation in digital learning environments should be understood as interconnected rather than independent constructs. Therefore, future conceptual models involving AI-assisted learning may benefit from integrating cognitive, motivational, and social dimensions simultaneously.

Pedagogical Implications

The findings of this study provide several implications for teaching and learning practices in higher education. First, since students generally perceive ChatGPT as a useful learning support tool, educators may consider integrating AI-assisted learning activities into classroom practices in more structured and guided ways.

Rather than focusing solely on detecting AI-generated content, lecturers may encourage students to evaluate, verify, and improve AI-generated responses critically. Such practices may help students develop critical thinking and reflective learning skills.

Second, the findings related to learner autonomy suggest that students are prepared for more independent learning approaches. Therefore, institutions may consider providing training or workshops related to effective and ethical AI usage, including prompt-writing strategies and information evaluation skills.

Finally, because students continue to value instructor support and social interaction, educators should ensure that human interaction remains an important component of digital learning environments. Although AI tools may support learning efficiency, instructor guidance, feedback, and emotional support remain essential for meaningful learning experiences.

Suggestions for Future Research

Future studies may further explore the psychological and educational implications of AI-assisted learning across diverse learning contexts. First, future researchers could investigate students' metacognitive awareness when using ChatGPT, focusing specifically on how accurately students evaluate their own understanding and learning progress. Additionally, future research may explore the influence of generative AI on students' writing identity, language expression, and originality in academic communication to better understand the cognitive, linguistic, and ethical boundaries of AI usage in higher education.

To build upon the findings of this study, future investigations should consider employing mixed-methods or longitudinal research designs. A longitudinal approach would allow researchers to track how students' motivation and ChatGPT usage patterns evolve over time, providing deeper insights into how these factors influence actual academic performance rather than relying solely on self-reported perceptions. Comparative studies could also be conducted across different instructional approaches—such as AI-integrated classrooms versus limited-AI learning environments—to examine the long-term effects of AI reliance on student motivation and self-efficacy. Finally, researchers are encouraged to expand the current conceptual framework by incorporating additional theoretical perspectives, such as the Technology Acceptance Model (TAM), the Unified Theory of Acceptance and Use of Technology (UTAUT), or Self-Determination Theory. Integrating these frameworks with McClelland's Theory of Needs would provide a more comprehensive and holistic explanation of AI adoption and psychological drive in contemporary education.

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