UNIVERSITY STUDENTS' ACCEPTANCE OF CHATGPT AS A WRITING ASSISTANCE TOOL IN ESL AND ESP STUDIES

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Abstract: *This study aims to evaluate the perceptions and acceptance of artificial intelligence chatbot ChatGPT for completing writing assignments among ESL and ESP students at two universities in Lithuania and Ukraine. Technology acceptance is understood as users' willingness to employ certain information technologies for tasks they were designed to support. The Technology Acceptance Model (TAM), developed by Davis in 1986 and validated by Davis, Bagozzi and Warshaw in 1989, is one of the most frequently used frameworks for understanding how individuals get to accept new technologies. For decades, it has been employed to assess ESL and ESP students' acceptance of all kinds of technologies used to train different language skills. However, there is insufficient empirical evidence regarding how they accept AI tools, such as ChatGPT. This study tries to address the existing research gap. It employs a quantitative method and a questionnaire based on the TAM to assess various factors influencing acceptance of ChatGPT as a writing assistance tool among ESL and ESP learners within a non-mandatory use context. The outcomes are expected to contribute to the understanding of adopting artificial intelligence tools in educational settings and provide insights for integrating them into ESL and ESP curricula effectively.*

Keywords: *ChatGPT*; *technology acceptance*; *higher education*; *writing assignments*; *English for specific purposes (ESP)*; *English as a second language (ESL)*;

Among numerous artificial intelligence tools available today, *ChatGPT* is perhaps the most widely used. Since its launch in 2022, students around the world quickly recognized its versatility and started using it for all kinds of academic assignments, especially for writing tasks, even though this use is not particularly encouraged by educators. Despite the popularity of this AI-powered tool, there is lack of empirical evidence on how students accept it in educational contexts. **The aim** of this study is to explore the perceptions of and the factors influencing acceptance of *ChatGPT* as a writing assistance tool among students of English as a second language (ESL) and English for specific purposes (ESP) within a non-mandatory use context at two universities in Lithuania and Ukraine.

Conceptual and theoretical foundations of technology acceptance
Technology acceptance is both a significant challenge for designers of an innovation and an indicator of its success for its users. Gattiker (1984) was one of the first to conceptualize it as a user's psychological state in relation to their voluntary or intended use of a particular technology. However, many

researchers tend to view the technology acceptance not just as a psychological state, but as a complex, evolving and multidimensional process. Franken (2007), for example, described it as a link between individual's internal evaluation, their formed expectation, the acquisition or purchase of the product, and a voluntary, above-average level of use until the full acceptance is achieved. Similarly, Schwarz and Chin (2007) defined it as a holistic integration of a user's behavioural interaction with the technology over time alongside their psychological willingness or resistance, developing within a specific social, environmental or organizational setting.

Building on these definitions, user acceptance of *ChatGPT* in this research will refer to students' interaction with the tool over time and their psychological willingness or resistance to use it, developing within the ESL and ESP classroom context.

A range of technology acceptance theories and models have been identified in the literature (Kelly et al. 2023; Farrell et al. 2023; Taherdoost 2017; Venkatesh et al. 2003). They have been used to analyze and predict user behavior in areas like consumer purchasing habits, transportation choices, employee turnover, voting, dieting, family planning, blood donation, computer use, and of course, education. Despite the variety of these theoretical frameworks, their structure is quite similar: individuals' reactions to using any technology or service generally influence their intentions to use it in the future, which ultimately leads to actual usage.

To measure how *ChatGPT* is perceived and accepted as a non-mandatory writing assistance tool in ESL and ESP learning environments, we opted to draw upon the **Technology Acceptance Model (TAM)**. Initially developed by Davis (1986) and later validated by Davis, Bagozzi and Warshaw (1989), it remains a very strong framework used to explain how individuals adopt and engage with technological innovations. To illustrate, recent findings from a systematic literature review on AI acceptance research across various fields such as education, health care, business, industry, hospitality, tourism, employee and organization attitudes, etc., conducted by Kelly, Kaye and Oviedo-Trespalacios (2023) highlight that

"<…> *the TAM was the model most commonly adopted to measure acceptance and was found to have the most predictive success in measuring behavioural intentions*" (Kelly et al. 30).

The model proposes that when individual perceives a technological innovation as both useful and user-friendly, positive attitudes towards it are fostered, leading to his or her intention to use it and eventual adoption of it. According to Davis (1989), the factor of *perceived usefulness* in this process refers to "*the degree to which an individual believes that using a particular system would enhance his or her job performance*" (Davis 26). *Perceived ease*

of use should be understood as "*the degree to which an individual believes that using a particular system would be free of physical and mental effort*" (Davis 26). *Attitude toward use* is defined by the author as "*an individual's degree of evaluative affect toward the target behavior*" (Davis 16). *Behavioural intention to use* represents the extent to which a person has consciously made plans to engage in or avoid a particular behavior in the future, while *actual system use* describes an individual's direct interaction with the system or technology during their activities. All aforementioned factors may be influenced by various external variables, such as user demographics, prior experience with similar technologies, organizational support, social influence, perceived cost, the availability of training or technical support, etc.

Previous TAM-related research on *ChatGPT* acceptance in higher education

Our literature review indicates that several recent studies conducted within the context of higher education settings have utilized TAM to assess *ChatGPT* acceptance. For instance, Zou and Huang (2023) applied it to explore how doctoral students enrolled in a Writing for Academic Success course at a technological university in China accept *ChatGPT* for their writing activities. The findings suggest that students' *attitudes* toward *ChatGPT* significantly influenced their *intention to use it* for writing activities, serving as a mediating factor between their perceptions of its *usefulness* and *ease of use*. Additionally, doctoral students' previous experience with *ChatGPT* influenced their perception of how easy it is to use.

Similarly, Ge (2024) examined how Chinese university students perceive and adopt *ChatGPT* in the context of English writing instruction. The results show that students generally view *ChatGPT* positively in terms of its *perceived usefulness* and *effectiveness*. However, while it has not fully replaced the essential role of educators, concerns remain about potential *privacy risks* and related technological challenges. In another study, Yilmaz et al. (2023) developed and validated a tool to examine how students perceive and accept *ChatGPT* at a university in Kazakhstan, with attention to such variables as their gender, field of study, academic level as well as previous experience with AI tools. The findings revealed an overall positive perception of *ChatGPT*. The only gender difference was in the *perceived ease of use* construct, with no significant variations across grade levels. However, majors differed in *perceived social influence*, while their *prior AI experience* influenced all dimensions except this one.

Previous research also shows that some scholars within higher education context, tend to explicitly or implicitly extend the original TAM (or other popular models of technology acceptance) with additional constructs.

This allows to get a deeper understanding of factors potentially influencing their students' willingness or reluctance to adopt *ChatGPT* for academic purposes. For example, the *ChatGPT* adoption model for smart education proposed by Almogren, Al-Rahmi and Dahri (2024) incorporates additional constructs of *trialability*, *perceived compatibility*, *relative advantage*, *subject norms*, *feedback quality, perceived assessment quality* as well as *trust in ChatGPT.* The last three constructs seem to more or less focus on reliability, accuracy and security of the tool. Literature suggests that namely the aspects of *reliability, accuracy and security* are often viewed as potential challenges or even limitations of *ChatGPT*. For instance, in their TAM-related research measuring the perceptions of *ChatGPT* among postgraduate and undergraduate students at a university in East China, Xu et al. (2024) identified skepticism (mainly expressed by postgraduate students) about *the reliability and accuracy* of information generated by *ChatGPT* as one of the key issues. Another limitation highlighted by the authors was their research participants' concerns related to *privacy and security* of their data when using this AI tool for academic purposes. Similar concerns were addressed by Yilmaz et al. (2023) and García-Alonso et al. (2024). In their research evaluating the acceptance of *ChatGPT* among students of social sciences at a university in Spain, García-Alonso et al. (2024) supplemented TAM with additional construct of perceived reliability, or as they called it, *perceived credibility*, as well as with the construct of *perceived privacy and security* concerns. According to them, perceived credibility "*refers to the extent to which users believe that ChatGPT provides accurate, reliable, and trustworthy information*" (García-Alonso et al. 6), while *perceived privacy and security* should be understood as "*the degree to which users feel confident that their data and interactions with ChatGPT are secure and that their privacy is protected"* (García-Alonso et al. 6). The authors are convinced that concerns about data breaches or improper use of personal information may greatly influence the acceptance of the technology. This opinion is further echoed by Ge (2024) whose research findings (discussed previously) similarly indicate that even though students see *ChatGPT* as a powerful study tool, they equally share concerns about their data privacy and security, especially about unauthorized access and illicit use for non-academic purposes. Other concerns raised by students and increasingly addressed by researchers (Karkoulian et al. 2024; Aljuaid 2024; Farrell et al. 2023), relate to *academic ethics*, which may also shape users' attitudes and intentions regarding the engagement with *ChatGPT* in academic settings. To illustrate, in a survey involving students from 40 countries (the UK, the USA, Austria, the RSA, Italy, etc.) and diverse educational backgrounds, Farrell, Bogodistov and Mössenlechner (2023) investigated how these students perceive *ChatGPT* namely from an ethical perspective. Moreover, the authors examined how this perception influences

their *behavioral intention* to engage with the system for academic use through an extended version of the original TAM, with an additional variable of *perceived ethics*. Within this investigation they referred to *perceived ethics* as "*the extent to which ChatGPT can be used in accordance with academic integrity*" (Farrell et al. 3). The findings indicated that *perceived ethics* influenced participants' *intention* to use the system for academic purposes only indirectly; however, it directly and positively influenced their *attitude* toward usage. The research findings also propose that students are generally open to using *ChatGPT* ethically in line with *academic integrity*, emphasizing the need for specific guidelines to help them use the tool thoughtfully and responsibly. It seems that this call is being acknowledged, as many higher education institutions around the world are increasingly integrating policies on the use of AI tools into their codes of ethics or methodological guidelines for preparing academic papers. Their efforts align with the principles of academic ethics and integrity laid down by international organizations, such as *The International Center for Academic Integrity* (ICAI) or *The European Network for Academic Integrity (ENAI)*, an association co-founded by Mykolas Romeris University, Lithuania, uniting numerous European higher educational institutions interested in maintaining and promoting academic integrity.

Drawing both on the theoretical framework of Technology Acceptance Model (TAM) and recent research examining *ChatGPT* acceptance in higher education (Zou and Huang 2023; Farrell et al. 2023; Liu and Ma 2023; Yilmaz et al. 2023; Phuong 2024; García-Alonso et al. 2024; Ge 2024; Xu et al. 2024; Stojanov et al. 2024; Almogren et al. 2024), the following section presents the methodology of our empirical research.

Research Methodology. ***Research Setting and Participants***

Our research was conducted during the autumn semester of the 2024–2025 academic year at two universities: Mykolas Romeris University (MRU) (Lithuania) and H. S. Skovoroda Kharkiv National Pedagogical University (KhNPU) (Ukraine). A quantitative approach was employed, using a survey and a questionnaire as the data collection instrument. 123 ESL and ESP students from both universities served as participants of the study. We used convenience sampling strategy, which is a non-probability sampling technique commonly used in both quantitative and qualitative research. In second language research, as noticed by Dörnyei (2014), convenience sample is the most commonly used sample type, whereby members of the target population are selected for the purpose of the study if they meet some pre-established criteria, such as geographical proximity, availability at a certain time, easy accessibility or the willingness to volunteer.

Research instrument

To collect data for this study, a structured questionnaire titled *University Students' Perceptions and Acceptance of ChatGPT as a Writing Assistance Tool in ESL and ESP Studies* was used. The instrument was developed by integrating validated scales adapted from the original Technology Acceptance Model (TAM), previous TAM-related research on *ChatGPT* acceptance in higher education, as well as items developed by the authors of this paper. It consisted of several sections with a total of 52 questions, all written in English. The opening section introduced participants to the study, offering clear guidance for completing the survey and included assurances of anonymity and confidentiality. The first section focused on gathering demographic and contextual information and consisted of 8 items (I1–8). These items covered the respondents' *higher education institution*, their *mode* and *year of studies*, their *previous experience with ChatGPT*, *the version of ChatGPT they use*, *the frequency of ChatGPT usage*, *their primary reasons for using ChatGPT* as well as *the types of writing activities for which they use ChatGPT.* The answer format in this section used a combination of dichotomous and interval scales based on the type of the question being asked.

The scale in the second section of the questionnaire was based on previously discussed Technology Acceptance Model (TAM) developed by Davis (1986) and validated by Davis, Bagozzi and Warshaw (1989). Its items were also derived from validated scales used by Zou and Huang (2023) as well as insights from Liu and Ma (2023), adapting them for the context of non-mandatory use of *ChatGPT* as a writing assistance tool in ESL and ESP studies at higher education institutions. It consisted of 32 close-ended items (I 9–40) organized around 4 key constructs of TAM, designed to measure our students' perceptions of and acceptance of *ChatGPT* as a non-mandatory writing assistance tool in ESL and ESP context. It included the constructs of *perceived usefulness* (PU), *perceived ease of use* (PEOU), *attitude toward using* (ATU) and *behavioural intention to use* (BIU) each represented by 8 items. It should be noted that although original TAM incorporates the construct *actual use*, we decided to exclude it from our instrument. The reason for this decision was that in our research context the participants engaged with *ChatGPT* at their own will. Its use was not encouraged or required in any way when performing ESL and ESP writing assignments. The focus was thus put on our students' perceptions regarding the use of the tool and their intentions to use it in the future. However, drawing from the insights of Yilmaz et al. (2023), García-Alonso et al. (2024), Xu et al. (2024) and Almogren et al. (2024), the scale was extended by adding 3 additional constructs (12 close-ended items) (I41–52) to complement the original TAM. It included the constructs of *perceived reliability and accuracy* (PRA) (4 items), *perceived privacy and security concerns* (PPSC) (4 items) as well as *perceived ethics and academic integrity*

(PEAI) (4 items). The response format for this final TAM-related section of the questionnaire followed a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

Research hypotheses

To achieve our research aim of examining ESL and ESP students' perceptions and acceptance of *ChatGPT* as a non-mandatory writing assistance tool, we proposed eight hypotheses. Five of them were built on Technology Acceptance Model and incorporated its core constructs, adapted for our research context:

H_1: *ESL and ESP students' perceived ease of use of ChatGPT has significant positive effect on perceived usefulness of ChatGPT.*

H_2*: perceived ease of use of ChatGPT has a significant positive effect on ESL and ESP students' attitudes towards using ChatGPT.*

H_3: *perceived usefulness of ChatGPT has a significant positive effect on ESL and ESP students' attitudes towards using ChatGPT.*

H_4: *perceived usefulness of ChatGPT has a significant positive effect on ESL and ESP students' behavioural intention to use ChatGPT.*

H_5: *ESL and ESP students' attitude towards using ChatGPT has a significant positive effect on their intention to use ChatGPT.*

The formulations of other three hypotheses incorporated earlier discussed additional variables identified in previous TAM-related research on *ChatGPT* acceptance in higher education:

H_6: *perceived reliability and accuracy of ChatGPT has significant positive effect on ESL and ESP students' attitudes towards ChatGPT.*

H_7: *perceived ethics and concern about academic integrity has significant negative effect on ESL and ESP students' attitudes towards ChatGPT.*

H_8: *perceived privacy and security concerns when using ChatGPT have a significant negative effect on ESL and ESP students' attitudes toward using ChatGPT.*

Data collection and interpretation

The questionnaires were administered to the participants of the study via survey administration software *Google Forms*. The statistical analysis of research data was conducted using *R*, an open-source software for statistical computing, and involved the following several phases. First, to assess the internal consistency, Cronbach's alpha was calculated for the TAM-related section of the questionnaire. Second, descriptive statistical analysis was performed to describe the demographic characteristics of the sample, to evaluate other contextual information and to explore our research participants' perceptions regarding the usefulness and ease of use of *ChatGPT* as a non-mandatory writing assistance tool in ESL and ESP context as well as their overall attitudes and behavioral intention to use it in the future. The last step of our research data processing was performing simple linear regression analysis.

Simple linear regression, as explained by Rencher and Schaalje (2008), is a statistical model that attempts to model the relationship and describe the correlation between two quantitative variables, an independent and the dependent one. The examples of such variables may include

"<…> *income and number of years of education, height and weight of people, length and width of envelopes, temperature and output of an industrial process, altitude and boiling point of water, or dose of a drug and response*" (Rencher, Schaalje 1).

When an independent variable increases (or decreases), the dependent variable automatically increases (or decreases) too. The relationships between them may be either positive or negative. In the present study we used a simple linear regression model to estimate the relationships between the continuous variables of TAM-related constructs in the questionnaire and to test our research hypotheses. A p-value of less than 0.05 was considered significant across all phases of the research.

Research results

The initial set of research findings relates to the first section of the questionnaire which focused on gathering demographic and contextual information of our research participants. As it was mentioned before, the sample consisted of 123 undergraduate ESL and ESP students from two universities in Lithuania and Ukraine.

Table 1 presents the overview of their demographic characteristics, their *ChatGPT* usage habits and other contextual information.

Table 1. Profile of Respondents (n=123) and Their *ChatGPT* Usage Habits

No	Variable	Category	Percentage (%)
1	**University**	MRU (Lithuania)	57.7
		KhNPU (Ukraine)	42.3
2	**Mode of studies**	face-to face	47.6
		online	41.1
		combination of both	11.3
3	**Year of studies**	first	62.1
		second	8.9
		third	29
4	**Previous experience of *ChatGPT* usage**	not aware of it	1.6
		aware but don't use	18.5
		aware and use	79.8
5	**Version of *ChatGPT* used**	free	96.5
		paid	3.5
6	**Frequency of usage**	daily	17.2
		several times a week	44.8
		several times a month	19
		rarely	19

Our research participants indicated that ***the most ubiquitous reasons for using ChatGPT in general*** were *information retrieval* (73.3%), *academic purposes* (60.3%), and *creative work* (50.9%). Other reported reasons included *business purposes*, *coding support*, and *social interaction* as well as *knowledge-based tasks*, *learning support*, and *creative assistance*.

Regarding ***the types* of *writing activities for which they utilize this particular AI tool for***, the questionnaire results indicate that the majority of the students rely on *ChatGPT* for *academic writing* (65.8%), followed by *creative writing* (41.2%). Whether we approve it or not, the data clearly show that a significant proportion of the sample extensively use *ChatGPT* for various writing assignments required in higher education. Other areas of use mentioned by the respondents included *social media content creation* (21.9%), *technical writing* (20.2%), *business writing* (15.8%), and *website content* (17.5%). Less popular applications included *CV writing*, *marketing content* or *personal notes*.

The second section of the questionnaire incorporated items based on the Technology Acceptance model (TAM). The Cronbach's alpha for all seven TAM-related constructs was 0.91, indicating excellent internal consistency. This suggests that all items in all the constructs reliably measure the same underlying concept. Additional reliability indicators (standardized alpha =

0.96, Guttman's λ6 = 0.98) also confirmed the strength of the scale, making it suitable for further analysis (and hopefully for future research too).

***The results of descriptive analysis*.** In terms of ***perceived usefulness of ChatGPT* (PU)**, the respondents generally perceive it as a valuable and effective tool that supports their productivity and goal achievement in ESL and ESP context. To illustrate, more than a half of them strongly agreed (26.3%) or agreed (30.5%) with Item 9 within the dimension, which states that *ChatGPT helps them to brainstorm and generate ideas for writing assignments*. Similarly, they expressed strong agreement (32.5%) or agreement (29.0%) with Item 13, which suggests that *ChatGPT is effective in summarizing lengthy texts for their assignments.* Our analysis shows that research participants consider the platform ***easy to use* (PEOU)**. For example, the majority of them strongly agreed (62.6%) or agreed (29.3%) that *learning to use ChatGPT was easy for them* (I19). They also affirmed that *the interface of the tool is user-friendly* (I17) or that they *find it easy to formulate questions and tasks for it* (I21). As far as their ***attitudes toward using ChatGPT* (ATU)** are concerned, they seem somehow mixed. To illustrate, almost a half of the respondents strongly agreed (28.2%) or agreed (25.6%) that *using ChatGPT for enhancing their writing skills is a good idea* (I27). Simultaneously, they expressed strong disagreement (29.3%) or disagreement (25.8%) with Item 32 (*I feel confident that my written assignments created with ChatGPT's assistance are unique and different from other students' work*). The findings regarding the respondents' ***behavioral intention to use ChatGPT for their writing assignments in the future* (BIU)** also vary. More than a half of our students (55.4%) admitted that they *intend to continue using it even though they feel they are becoming too dependent on it* (I36). However, only 5.5% of them strongly agreed or agreed (15.5%) with Item 39, which states that *they would prioritize using ChatGPT over other tools for their writing assignments*. It was interesting to learn though that the majority of them *would not be happy if ChatGPT is banned some day in the future* (I40). The answers of the respondents imply that they have certain reservations regarding ***perceived reliability and accuracy of ChatGPT* (PRA)**. For instance, only 2.5% of them expressed *complete trust in the content generated by ChatGPT for their writing tasks* (I41). The majority of them reported they *need to refine information based on ChatGPT previous answers* (I44). Another serious concern highlighted by the respondents involves ***privacy and security* (PPS)** of their personal data handled by *ChatGPT*. To illustrate, 51.6% admitted *they worry that their interactions with ChatGPT may be accessed by unauthorized parties* (I47) or *feel uncertain about how their personal information is stored and protected by ChatGPT* (I46). 51.3% also worried that *using ChatGPT could be considered academic misconduct* (I51). A similar proportion were unsure if *using it for writing assignments is ethically acceptable* (I50) or

whether it *aligns with the university's academic integrity standards* (I49), reflecting concerns related to the ***perceived ethics and academic integrity* (PEAI).**

The results of the simple linear regression analysis, addressing our research hypotheses related to original TAM constructs, indicated that for our ESL and ESP students *perceived ease of use of ChatGPT* (PEOU) had a significant positive effect on its *perceived usefulness* (PU). To illustrate, the high t-value (15.721, p-value < 0.001) confirmed that this effect was statistically significant. Additionally, the coefficient of determination (R^2 = 0.6713) suggested that PEOU explained 67.13% of the variance in PU, indicating a strong relationship between the two variables. The overall model fit was also supported by the F-statistic (247.2, p-value < 0.001), showing that the regression model was highly significant. These findings provide strong empirical support for H_1 that *perceived ease of use of ChatGPT* positively influences its *perceived usefulness*.

The analysis also showed that *perceived ease of use of ChatGPT* (PEOU) had a positive and significant influence on our students' *attitudes towards its use* (ATU) for writing activities (R^2 = 0.53, F = 136.5, p < 0.001; t = 11.681, p < 0.001), thereby supporting H2. In turn, the participants' *attitudes towards the use ChatGPT* (ATU) for writing activities were positively affected by *perceived usefulness* (PU) of it (R^2 = 0.701, F = 283.7, p <0.001; t = 16.843, p < 0.001), allowing us to support H_3. Similarly, *perceived usefulness* (PU) of this AI tool had a significant positive effect on our research participants' *behavioral intention to use* it in the future (BIU) (R^2 = 0.6462, F = 221, p < 0.001; t = 14.865, p < 0.001), hence supporting H_4. Our respondents' *attitude towards the use* of *ChatGPT* for writing activities was another variable that had a significant positive effect on their *behavioral intention* to use it in the future (BIU) (R^2 = 0.7338, F = 333.5, p < 0.001; t = 18.263, p < 0.001), thus supporting H_5 too.

As we can see, the results of the simple linear regression analysis demonstrate that all five hypotheses related to the original constructs of Technology Acceptance Model (TAM) were supported. However, only two out of the three hypotheses regarding the potential role of the additional constructs of TAM (namely, *perceived reliability and accuracy* (PRA), *perceived privacy and security concerns* (PPSC) and *perceived ethics and academic integrity* (PEAI)) for the acceptance of *ChatGPT* as a non-mandatory writing assistance tool in ESL and ESP classrooms were substantiated by the results. To illustrate, we predicted that *perceived reliability and accuracy of ChatGPT* (PRA) might have significant positive effect on our undergraduate students' *attitudes towards using ChatGPT* (ATU). The results of the regression analysis confirmed this prediction (R^2 =

0.6116, F = 190.5, $p < 0.001$; t = 13.803, $p < 0.001$), thereby supporting H_6. We also proposed that *perceived ethics and concern about academic integrity when using ChatGPT* (PEAI) would have a significant negative effect on our students' *attitudes towards* the tool (ATU). This prediction was also confirmed ($R^2 = 0.4691$, F = 106.9, $p < 0.001$; t = 10.339, $p < 0.001$), thus supporting H_7. Our literature analysis suggested students' concerns about improper use of their personal information by *ChatGPT* may shape their attitudes and consequently influence the acceptance of this technology. Building on this fact, we predicted that our ESL and ESP students' *perceived privacy and security concerns* (PPSC) when using *ChatGPT* might have a significant negative effect on their *attitudes towards its use* (ATU). However, the results of the simple linear regression analysis showed that PPSC did not have any effect on ATU, therefore H_8 was rejected.

Discussion, limitations and implications for further research. This research aimed to evaluate the perceptions and acceptance of AI chatbot *ChatGPT* as a non-mandatory assistance tool for completing writing assignments among ESL and ESP students at two universities in Lithuania and Ukraine. A quantitative method was employed, using a questionnaire grounded in the principles of Technology Acceptance Model (TAM).

The findings based on descriptive statistics analysis allow us to conclude that our research participants perceive *ChatGPT* as a useful tool for completing various writing assignments, including brainstorming and generating ideas, summarizing lengthy texts or paraphrasing content without losing the original meaning. They mainly perceive the tool as user-friendly; however, their attitudes towards it are somehow mixed. For example, while, they agree that using *ChatGPT* for enhancing their writing skills is beneficial, they remain unsure about whether written assignments produced with its assistance are truly original and different from those of their peers. They also convey their behavioural intentions to continue using Chat*GPT*, despite concerns about becoming too dependent on it or uncertainties regarding its reliability, security and alignment with academic integrity standards of their higher education institutions.

The results of the simple linear regression analysis demonstrate that all five hypotheses related to the original constructs of Technology Acceptance Model were supported. These findings reinforce the theoretical foundation of the model, confirming its applicability and relevance in understanding user acceptance and behavior. Consistent with the model and the findings of

previous studies (Zou and Huang, 2023; Liu and Ma 2023), we can conclude that in our research context perceived ease of use of *ChatGPT* is the most important determinant of how students assess its perceived usefulness. It also has significant positive influence on students' attitudes towards using the tool. This conclusion is also in line with the findings of Zou and Huang (2023), but contradicts those of Liu and Ma (2023). who presume that easy operation of *ChatGPT* alone may not be enough to directly foster positive attitudes toward its usage. However, all aforementioned authors agree that perceived usefulness of *ChatGPT* plays a key role in shaping students' attitudes towards it, as well as their intentions to continue use it, and our research findings further substantiate these opinions. TAM suggests that users' attitude towards technology may serve a significant predictor to their intentions to use it. Our empirical data also support this theoretical proposition of TAM and are consistent with the findings of Zou and Huang (2023) and Liu and Ma (2023): students' attitudes towards *ChatGPT* indeed have a significant positive effect on their intention to use it.

Our literature review on earlier TAM-related research on the acceptance of *ChatGPT* in higher education environment showed that some authors tend to extend the original version of TAM with additional dimensions to get an in-depth understanding of additional factors shaping their students' acceptance of this AI-supported technology. Very often these factors relate to certain limitations or challenges imposed by *ChatGPT*, such as perceived reliability (sometimes referred to as credibility) and accuracy of the information generated by it. Resting on the insights of Xu et al. (2024) regarding the skepticism expressed by their postgraduate students about the reliability of *ChatGPT*, we assumed that in contrast, our research participants, who are all undergraduates, might be less critical of the trustworthiness and accuracy of it when performing certain written academic tasks in ESL and ESP course. As a result, they might develop more favorable attitudes towards the tool than those who have a higher level of experience in academic writing. Therefore, we predicted that perceived reliability and accuracy of *ChatGPT* might have significant positive effect on our undergraduate students' attitudes towards using *ChatGPT*. The results of the regression analysis confirmed this prediction, thereby supporting the hypothesis. Although this slightly contradicts the findings of Xu and et al. (2024), it aligns well with the conclusions of García-Alonso et al (2024) who confirmed reliability (credibility in their case) to be an influential factor in users' confidence in this AI tool.

Prior research (e.g., Karkoulian et al. 2024; Aljuaid 2024) shows that another critical factor, which may greatly shape students' attitudes and

behavioral intentions regarding the use of *ChatGPT* in academic settings, is perceived ethics and concern about academic integrity. Therefore, we proposed that this factor would have a significant negative effect on our research participants' attitudes towards the use of tool for completing written academic assignments and simultaneously following rigid principles of ethics, governing them. This prediction was also confirmed, validating our hypothesis. It suggests that perhaps due to the awareness of academic ethics (clearly outlined by higher education institutions), our students understand the potential threats and risks imposed by unethical use of *ChatGPT*. We see it as a very positive sign, indicating the importance of communication between the faculty and the students for maintaining academic integrity.
Resting on other authors' (Karkoulian et al. 2024; Aljuaid 2024; Farrell et al. 2023) insights that students' unease about possible improper use of their personal information by *ChatGPT* may shape their attitudes and consequently influence the acceptance of this technology, we predicted that this aspect might have a significant negative effect on our research participants' attitudes towards its use. Even though the results of descriptive analysis indicated that our students were indeed concerned about privacy and security of their personal data used by *ChatGPT* (PPSC), the results of the simple linear regression analysis showed that the factor of perceived privacy and security had no significant negative effect on students' attitude towards *ChatGPT*, thus failing to support the hypothesis.

The analysis of prior literature indicates that primary or additional constructs of Technology Acceptance Model may also be influenced by numerous external variables, including user demographics, their prior experience with the technology, organizational support, social influence, perceived cost, the availability of training or technical support, etc. This current research, however, did not aim to investigate these factors, which can be considered limitation of the research. We therefore suggest that future studies on the acceptance of *ChatGPT* as a writing assistance tool in higher education contexts could expand on this work by incorporating several external variables into their versions of TAM. To improve the generalizability, we suggest using representative sampling method rather than convenience sampling, which was the case of our research. Nevertheless, we expect that our research findings will contribute to the understanding of adopting artificial intelligence tools in educational contexts and will provide useful insights for integrating them into ESL and ESP curricula effectively.

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