



Determinants of researchers' intentions to utilize ChatGPT: insights from Türkiye and the United Kingdom

Nazli Yuceol · Ayse Merve Urfa Yilmaz · Meryem Akin

Received: 5 February 2025 / Revised: 22 April 2025 / Accepted: 30 June 2025 / Published online: 12 July 2025
© The Author(s), under exclusive licence to Springer Nature Singapore Pte Ltd. 2025

Abstract This study examines the factors that motivate and demotivate Social Sciences researchers' intention to use ChatGPT, a widely adopted generative artificial intelligence (AI) tool, and compares the usage experiences of researchers in Türkiye and the UK. Employing a qualitative research methodology, the study follows a comparative case study design to explore these dynamics across different cultural contexts. Data were collected from 28 participants through semi-structured interviews, using the purposive sampling technique. Thematic analysis was conducted to identify themes and categories related to motivation, demotivation and user experience. The findings reveal that factors such as language support, assistant and mentor support, research speed enhancement, methodology support, individual capability enhancement, education and training support, environmental support motivate researchers to use ChatGPT. On the other hand, ethical concerns, negative features of ChatGPT, time management

inadequacy, lack of individual competencies and sustainability concerns demotivate researchers. Moreover, user experiences were categorized into three themes: positive, negative and unusual experiences. The comparison between Türkiye and the UK revealed distinct patterns in motivation, demotivation and user experience. This study contributes to the theoretical expansion of UTAUT2 in academic contexts and offers practical implications for the effective and ethical integration of ChatGPT in higher education.

Keywords ChatGPT · ChatGPT experience · ChatGPT usage intention · Demotivation factors

JEL Classification I23 · I28

Introduction

ChatGPT, as the most prominent and widely adopted example of generative artificial intelligence, has profoundly influenced business models, professional practices, education, society and the economy (Aktas, 2023). Although flying cars and servant robots are predicted in all futuristic books, it was not foreseen that AI would change business, social life and education to such an extent (Kutlu, 2023). Since ChatGPT was introduced to the public on November 30, 2022, it has attracted great interest, especially in the field of education and use for academic studies

N. Yuceol
Gelism University, Istanbul, Turkey
e-mail: nyuceol@gelism.edu.tr

A. M. Urfa Yilmaz (✉)
Yildiz Technical University, Istanbul, Turkey
e-mail: murfa@yildiz.edu.tr

M. Akin
Bath Spa University, Bath, UK
e-mail: m.akin2@bathspa.ac.uk

(Huh, 2023). In recent years, advances in computational methods and data analysis have paved the way for new research approaches in Social Sciences (Lazer et al., 2009). The emergence of AI and machine learning technologies has further accelerated this change and provided researchers with new ways to explore complex social phenomena (Mullainathan & Spiess, 2017). One such tool is ChatGPT, which is increasingly being adopted by Social Science researchers (Askun, 2023). While proponents highlight ChatGPT's potential to enhance education and research by offering adaptive and personalized learning environments (Qadir, 2023), others have raised concerns about its ethical implications and potential negative impacts on human cognition and academic integrity (Mhlana, 2023). A review of current literature on ChatGPT usage in academia reveals a strong focus on usage purposes, ethical concerns, future implications and areas of effective application. However, relatively few studies have examined the specific factors that motivate or demotivate researchers' intention to use ChatGPT for academic purposes.

Beyond educational and ethical discussions, the use of ChatGPT has also become a subject of inquiry in the context of cultural differences. Scholars have pointed out that many of ChatGPT's ethical frameworks are shaped by Western-centric perspectives, potentially limiting its global applicability. Luo et al. (2024) state that "ChatGPT is ethically neutral, but its ethical rules are imposed by instructors who are mostly from the US or white population, which may not be appropriate for other countries". The study also mentioned cultural differences between countries that may lead to limitations and concerns (Luo et al., 2024). Cao et al. (2023)'s research also showed that English-language prompts tend to reduce cultural variation, steering responses toward U.S.-centric perspectives. Lo (2023) stated that there are a large number of articles written in Western contexts, especially in the field of medicine and higher education, so his findings may be biased towards specific contexts (Lo, 2023). Livberber and Ayvaz (2023) stated that it would be useful to collect and evaluate data from different cultural geographies in order to prevent bias and limitation (Livberber & Ayvaz, 2023). These studies underscore the need to integrate cross-cultural perspectives into AI research to ensure a more inclusive and globally relevant understanding of ChatGPT's use and impact.

This study aims to contribute to the limited body of cross-cultural research on ChatGPT usage in the social sciences by comparing researchers from Türkiye and the UK, two countries that differ significantly in cultural values, economic development, language and higher education systems. Cross-cultural research is essential for identifying how cultural and contextual variables influence user behavior and for extending existing theories (Brislin, 1976). Türkiye and the UK represent contrasting positions along Hofstede's cultural dimensions, such as power distance and individualism (Hofstede et al., 2010), and differ in terms of technological infrastructure and AI accessibility (Budhathoki et al., 2024; Mannura et al., 2023). Linguistic differences also play a key role: English is a native language in the UK but a second language in Türkiye, which may affect motivations for using AI tools like ChatGPT, particularly in academic writing (Osama et al., 2023; Sakai, 2023). These contrasts offer a valuable context for examining the motivating and demotivating factors influencing ChatGPT usage intentions, as well as user experiences across diverse educational and cultural environments.

One of the main limitations observed in existing studies on ChatGPT is the restricted generalizability of findings due to a narrow focus on specific demographic, cultural or contextual groups. To address this issue, several scholars have suggested that broader representation can be achieved by including participants from diverse cultural backgrounds, age groups and educational levels (Farhi et al., 2023; Greitemeyer & Kastenmüller, 2023; Livberber & Ayvaz, 2023). A review of the literature further reveals that many studies have examined ChatGPT use either solely among academics, students or with a focus on the tool itself (Alshater, 2022). Responding to this gap, the present study sought to enhance the validity and relevance of its findings by including participants from varied cultural contexts, age ranges and educational backgrounds, thereby contributing to a more inclusive understanding of ChatGPT adoption.

Based on these considerations, the research questions of this study are listed as follows:

RQ 1 What are the key factors that motivate and demotivate the ChatGPT usage intention of Social Sciences researchers?

RQ 2 Do the factors that motivate and demotivate the intention to use ChatGPT differ by country?

RQ 3 How do the usage experiences of Social Sciences researchers shape their ChatGPT usage behavior?

RQ 4 Do ChatGPT usage experiences differ by country?

Drawing on these research questions, the study aims to compare the motivating and demotivating factors influencing Social Sciences researchers' (academics and graduate students) intention to use ChatGPT, as well as the usage experiences shaped by these factors, within the contexts of Türkiye and the UK. The results may help institutions develop clearer policies for using ChatGPT more effectively and responsibly in higher education. Moreover, the results may offer valuable insights for ChatGPT service providers by highlighting key motivational factors that facilitate adoption among researchers. Finally, the study also seeks to contribute to reducing barriers to adoption by identifying and addressing the factors that inhibit the intention to use ChatGPT.

Theoretical background

Digital technologies such as big data, AI, cloud computing and robotics encourage the use of new technologies for organizations and individuals (Verhoef et al., 2021). Such technologies are seen to provide benefits such as higher productivity, employee well-being, improved performance and consumer satisfaction and facilitate processes (Papagiannidis & Marikyan, 2020). At this point, it has become extremely important to identify the factors that cause individuals to accept and use these technologies. There are multiple theories in the literature on the acceptance of new technologies by individuals. However, Venkatesh et al (2003) developed the “Unified Theory of Acceptance and Use of Technology (UTAUT)” through the examination and integration of eight dominant theories/models, which is a unified model that brings together alternative views on user and innovation acceptance (Williams et al., 2015). The theory consists of the integration of Theory of Reasoned Action (TRA), Technology Acceptance Model (TAM), Motivation Model, Theory of Planned Behavior (TPB), Unified TPB/TAM, Computer Use Model, Innovation Diffusion Theory (IDT) and Social Cognitive Theory (SCT). The UTAUT theoretical

model states that technology use is determined by behavioral intention. It is argued that technology adoption depends on four factors: performance expectancy, effort expectancy, social influence and facilitating conditions. In this model, age, gender, experience and voluntariness of use are considered as moderators (Venkatesh et al., 2003). The theory has been extensively applied in studies examining technology and innovation adoption across various disciplines, including information systems, marketing, social psychology and management (Venkatesh et al., 2003). In the context of education, particularly higher education, the UTAUT model has also been adopted to investigate technology acceptance (Granić, 2022). Over time, UTAUT has been applied in a wide range of studies, enhancing its generalizability (Venkatesh et al. 2012; Neufeld et al., 2007). In response to evolving information and communication technologies and industry advancements, researchers have expanded the original model to improve its contextual relevance and predictive power, leading to the development of UTAUT2 (Venkatesh et al. 2012). UTAUT2 introduces three additional constructs that influence behavioral intention: hedonic motivation, price value and habit. It also removes the moderator variable of voluntariness of use from the original model.

The UTAUT2 model is most commonly applied in consumer behavior studies (Venkatesh et al., 2012); however, recent research has demonstrated its growing applicability in academic settings (e.g., Sobaih et al., 2024; Alzahrani & Alzahrani, 2025; Bilos & Budimir, 2024). For instance, Acosta-Enriquez et al., (2024) confirmed the model's robustness in higher education, showing that key constructs like performance expectancy and hedonic motivation are significant predictors of AI adoption among students and faculty. Similarly, Romero-Rodríguez et al. (2023) found that performance expectancy, hedonic motivation, habit and user experience significantly influence university students' behavioral intention to use ChatGPT, further supporting the model's relevance in academic contexts. Beyond student populations, UTAUT2 has also been effectively applied to examine the technology adoption behaviors of academic staff and researchers (Strzelecki et al., 2024, Alzahrani & Alzahrani, 2024; Bhat et al., 2024). These findings support the argument that the model is not limited to consumer or learner contexts but is suitable for

The resulting analysis is presented in Fig. 1, illustrating the key research areas associated with ChatGPT in the academic literature. According to the map, the topics are concentrated on AI, scientific research, ethics, research ethics, language models, ethical consideration, academia, machine learning, chatbot, limitations, higher education, qualitative research, sustainability, academic community, purposes of use, positive aspects of artificial intelligence and future position.

The UTAUT2 model, which forms the theoretical basis of this study, has been widely applied to research on ChatGPT use and acceptance across various domains, including organizational behavior, user and consumer experience, student acceptance, higher education and purchasing behavior. For instance, Strzelecki (2024) examined personal innovativeness within the UTAUT2 framework, focusing on how habit and performance expectancy influence behavioral intention and actual usage of ChatGPT. Elinzano and Ching (2024) used the UTAUT2 model to examine common determinants of ChatGPT adoption in the field of organizational behavior, focusing on

[illegible] Springer

factors such as performance expectancy, personal innovativeness and trust. Another study by Kacperski et al. (2025) investigated users' demographic characteristics and usage behavior through UTAUT2, highlighting how factors such as age, education level, employment status and social media usage affect ChatGPT adoption. Additionally, Foroughi et al. (2025) applied the same framework to examine the influence of ChatGPT on traditional determinants of online purchasing behavior.

Since this study investigates the acceptance and adoption of ChatGPT in higher education through the UTAUT2 framework, previous research involving both students and academics has been thoroughly reviewed. The study specifically focuses on hedonic motivation as a central construct within the model and proposes a framework reflecting this emphasis. Several studies have emphasized hedonic motivation within the UTAUT2 framework, often highlighting its significant role in shaping key outcomes related to technology adoption. In higher education contexts, research has typically focused on variables such as behavioral intention (Bilos, 2024; Alzahrani & Alzahrani, 2025; Sergeeva et al., 2025), usage behavior (Strzelecki, 2024), attitudes toward use (Acosta-Enriquez et al., 2024), and usage intention (Namatovu & Kyambade, 2025; Shuhaiber et al., 2025; Bhat, 2024). These studies collectively demonstrate the central role of hedonic motivation in understanding how individuals engage with AI-based tools like ChatGPT, thereby supporting the rationale for the framework proposed in the present study. For instance, Namatovu and Kyambade (2025) identified a strong positive correlation between hedonic motivation and students' intention to use ChatGPT. Similarly, Shuhaiber et al. (2024) found that trust, effort expectancy, performance expectancy and hedonic motivation all positively influenced usage intention. These findings were further supported by subsequent research emphasizing the combined effects of performance expectancy, effort expectancy, trust and hedonic motivation in shaping students' adoption of ChatGPT (Shuhaiber et al., 2025). Additionally, Sergeeva et al. (2025) demonstrated that hedonic motivation, social influence and price value significantly predicted behavioral intention toward the use of generative AI tools in higher education settings.

While previous studies provide valuable insights into the role of hedonic motivation in ChatGPT

adoption, the present study offers a distinct contribution by incorporating a cross-country comparison between Türkiye and the UK. The existing literature reveals a relative scarcity of studies that examine hedonic motivation across different national contexts, especially through direct comparisons. Furthermore, many of these studies tend to focus exclusively either on students or academics, limiting the scope of their findings. In contrast, the present study includes both academics and postgraduate students, providing a more comprehensive perspective on the motivational and experiential dimensions of ChatGPT use in higher education. By exploring both motivation and demotivation factors, along with actual user experiences, the study contributes to a deeper understanding of what encourages or hinders ChatGPT adoption in academia. Identifying these drivers and barriers is essential for promoting the correct and effective use of generative AI tools in academic settings. Through its dual emphasis on cross-cultural comparison and diverse participant profiles, this research expands the applicability of the UTAUT2 framework and addresses an important gap in the literature.

Methodology

This study employed a qualitative research approach to explore researchers' motivations, demotivations and experiences related to ChatGPT usage in Türkiye and the UK. A comparative case study design was adopted to enable an in-depth examination of similarities and differences across these two national contexts. This approach allows for the contextual analysis of specific phenomena without aiming for generalization (Livberber & Ayvaz, 2023) and supports the identification of both shared patterns and unique cases (Bartlett & Vavrus, 2017; Stake, 2013).

The steps followed in the research method are shown in Fig. 2.

Sample

In this research, the use of ChatGPT in academia is discussed based on the experiences of academics and graduate students in the field of Social Sciences. While numerous studies have examined technology acceptance theories across various countries, comparative research between countries remains quite limited

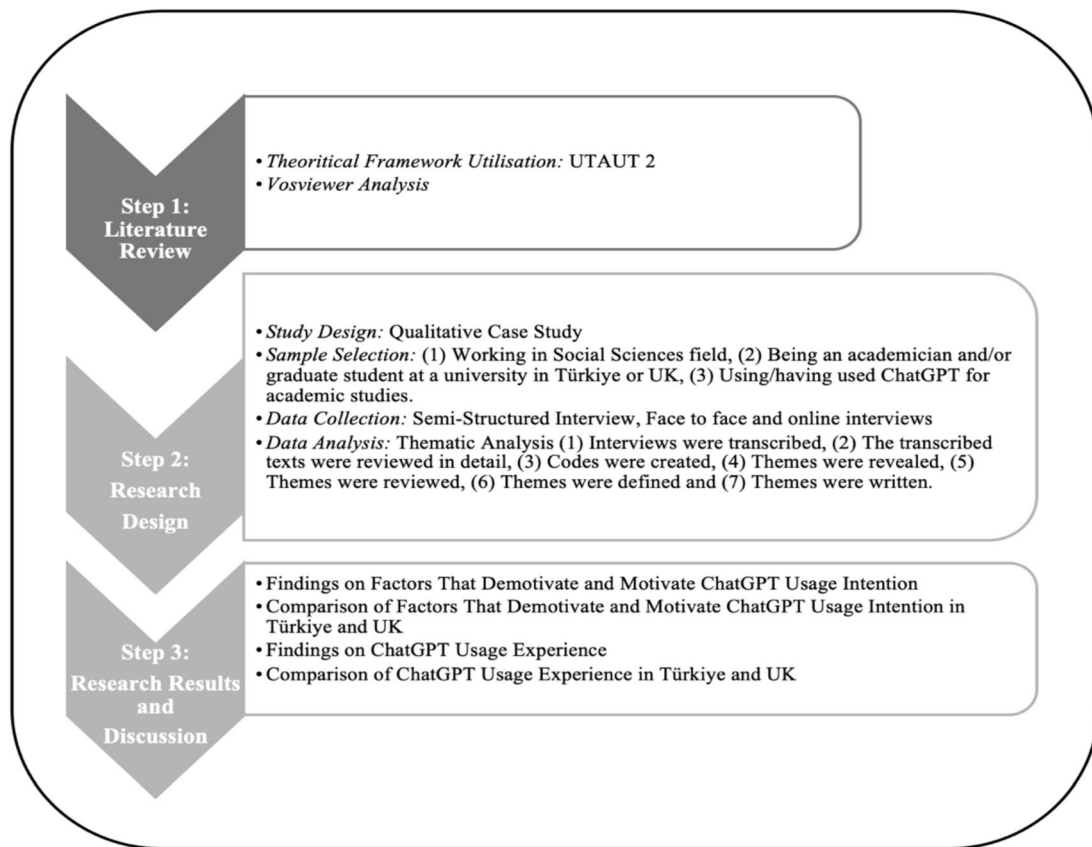


Fig. 2 Research design

(Efiloğlu Kurt & Tingöy, 2017). To address this gap, the present study aims to conduct a cross-country comparison. Türkiye and the UK were chosen as they represent distinct cultural, economic and digital infrastructure contexts, offering a meaningful basis for comparison. This increased the external validity of the research and went beyond a specific context.

The selection of Türkiye and the UK as research contexts was based on several factors that highlight their cultural, linguistic, economic and institutional contrasts. Culturally, these countries represent opposing ends of Hofstede's dimensions—Türkiye is characterized by high power distance and collectivism, whereas the UK reflects low power distance and strong individualism (Hofstede et al., 2010; Jan et al., 2024). Economically, the UK is a high-income country with advanced digital infrastructure, while Türkiye, as an emerging economy, presents a different dynamic in terms of technological accessibility (Mannuru et al., 2023). Linguistically, English is a native language in

the UK but a second language in Türkiye, which has implications for the use of language-based AI tools such as ChatGPT (Sakai, 2023). Prolonged engagement is essential for ensuring the reliability of qualitative research (Creswell & Poth, 2017), and familiarity with the cultural context enhances this process (Erlandson, 1993; Lincoln & Guba, 1985). In this study, data were collected from the researchers' own cultural contexts to support this principle. The study also focuses on researchers working in higher education institutions, where the structural differences between the UK's long-established universities and Türkiye's diverse range of institutions contribute to the study's robustness. Lincoln and Guba (1985) emphasize that collecting data from institutions with varying characteristics strengthens the reliability and credibility of research outcomes.

The study employed purposive sampling, a method in which participants are deliberately selected based on specific characteristics that align with the research

objectives (Palinkas et al., 2015). This method aims to gather in-depth insights by selecting participants aligned with the research objectives and is commonly used in qualitative research (Patton, 1990; Creswell, 2014). In this study, participants were selected according to three main criteria:

1. Participants were required to be affiliated with the field of Social Sciences,
2. Participants were required to be either academics or postgraduate students at a university in Türkiye or the UK,
3. Participants were required to have used ChatGPT in the context of their academic work.

In qualitative studies, while some researchers argue that a specific number of participants is sufficient, others emphasize the importance of data saturation. Yin (2018) suggests that 10–15 participants per case are generally adequate. Similarly, Hennink and Kaiser (2022), found that 9–17 interviews or 4–8 focus group discussions are sufficient to achieve data saturation. Conversely, Guest et al. (2006) argue that the specific number of participants is less significant than ensuring data saturation, which is achieved when no new information or themes emerge (Fusch & Ness, 2015; Bryman, 2013).

In this study, data collection continued until saturation was achieved, rather than adhering to a fixed sample size. While data saturation was initially attained after 12 participants in the Turkish sample, two additional interviews were conducted to verify the saturation point and confirm the absence of emerging themes or insights. For the UK sample, data saturation was achieved with 14 participants. Achieving consensus among researchers regarding the point of saturation is crucial for accurately identifying and validating saturation (Ryan & Bernard, 2003). To ensure methodological rigor, three researchers were involved in the interview process, independently analyzed the data, and subsequently engaged in collaborative evaluation to triangulate findings and confirm data saturation.

In this context, a total of 28 researchers, 14 from Türkiye and 14 from UK, were reached. Interviews were conducted face-to-face and/or online (via zoom, Google meet, etc.). This approach facilitated direct exchange of information and enabled direct observation of participants' reactions.

Data collection tool

In this study, a semi-structured interview form was used for in-depth interviews. The semi-structured interview form was developed based on a comprehensive review of the relevant literature. It consists of two sections: the first section gathers demographic information, while the second section includes open-ended questions aimed at eliciting participants' views and experiences. The open-ended questions have two main focal points:

1. *Motivations/demotivations for using ChatGPT:* To explore factors that encourage and hinder the use of ChatGPT, researchers ask questions such as: "What is your main motivation for using ChatGPT?"
2. *ChatGPT usage experience:* To explore participants' usage experiences, researchers asked questions such as: "What was the most interesting experience you had while using ChatGPT?"

Participation in the interviews was voluntary and all participants were asked to sign an informed consent form prior to the interviews. With participants' permission, audio recordings were made during the sessions, which lasted approximately 20 to 25 min. Following the interviews, the recordings were transcribed for analysis.

Data analysis

The transcribed texts were analyzed by thematic analysis method. Thematic analysis basically refers to the process of analyzing data according to common points, relationships and differences in a data set (Gibson & Brown, 2009). In the study, inductive (bottom-up) method was chosen to create themes. In this context, the seven-step process proposed by Braun and Clarke (2006) was applied. Within the scope of the process, interviews were transcribed, transcribed texts were reviewed in detail, codes were created, themes were identified, themes were reviewed, themes were defined and transcribed. This whole process was carried out separately by two researchers. All codes, categories and themes were finalized as a result of the discussion between the two researchers.

Results

Demographic distribution of participants

Data were collected from 28 individuals through a semi-structured interview form, with an equal number of participants ($n = 14$) from Türkiye and the UK. Detailed demographic information about the participants is presented in Fig. 3.

Thematic analysis findings

Findings on factors that demotivate and motivate the intention to use ChatGPT

Demotivating factors The study initially explored the factors that motivate and demotivate social science researchers' intention to use ChatGPT. Accordingly, the demotivating factors were grouped under five main categories: Ethical Concerns, ChatGPT Negative Features, Time Management Inadequacy, Lack of Individual Competencies and Sustainability. Ethical concerns encompass situations that threaten scientific integrity, originality and the reliability of research as a result of a researcher's lack of expertise leading to the

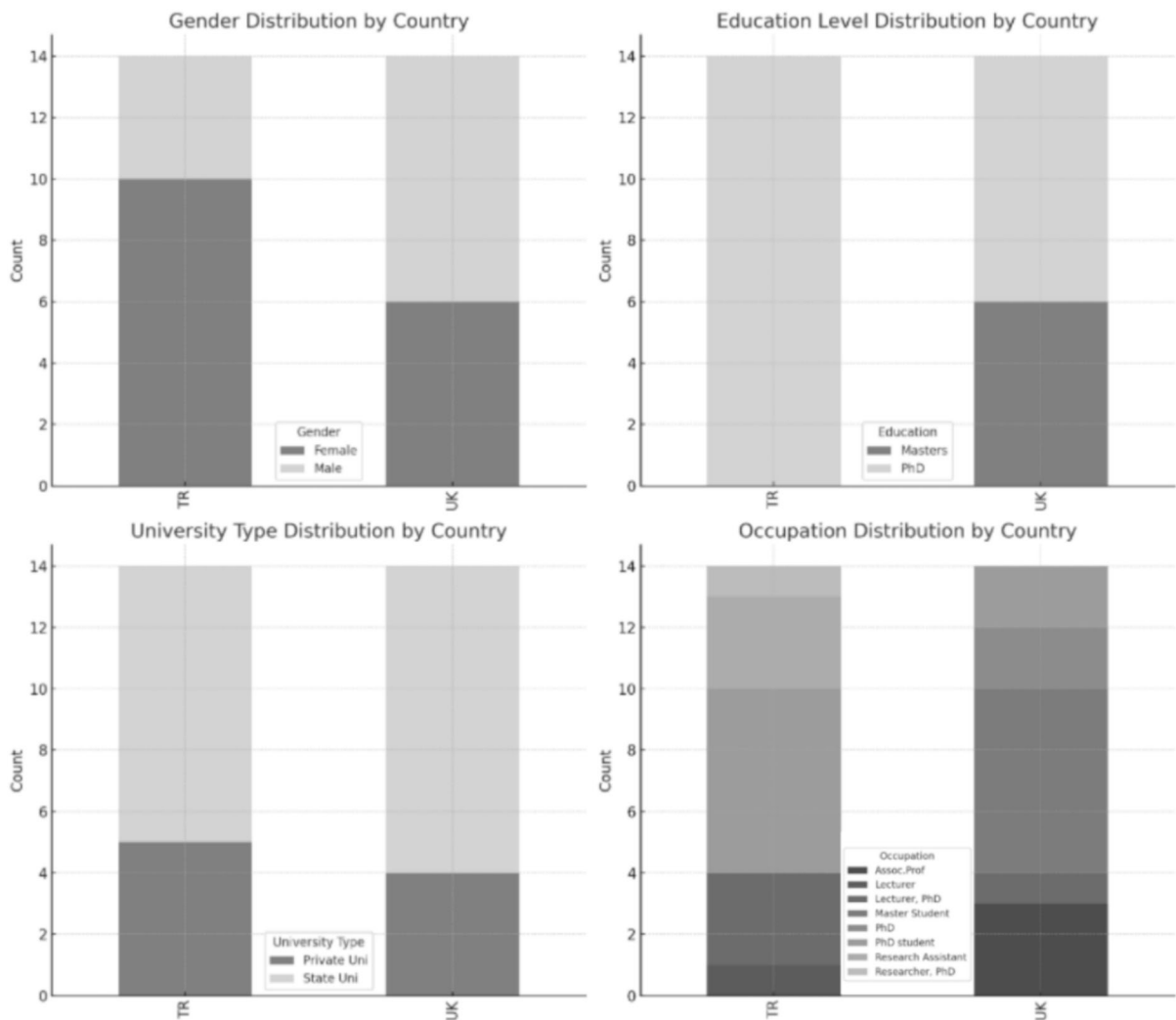


Fig. 3 Participant Demographics

unethical use of artificial intelligence tools. ChatGPT negative features comprise various technical and practical limitations, such as generating incorrect information, limited use of resources, and constraints affecting user experience. Time management inadequacy refers to inefficiencies that arise when using ChatGPT, leading to unnecessary time expenditure. Lack of individual competencies refers to the erosion or underdevelopment of essential skills and abilities caused by over-reliance on tools like ChatGPT. Sustainability refers to the responsible use of resources to minimize environmental impact and ensure their availability for future generations. The findings regarding the factors demotivating the intention to use ChatGPT are given in Table 1.

Motivating factors As a result of the study, the motivating factors influencing social science researchers' intention to use ChatGPT were identified under seven categories: Individual Capability Enhancement, Education and Training Support, Environmental Support, Assistant and Mentor Support, Research Speed Enhancement, Methodology Support and Language Support. Individual capability enhancement refers to how tools like ChatGPT can support individuals in evaluating, filtering, and applying information effectively, contributing to their overall intellectual and practical skill development. Education and training support refers to the use of tools like ChatGPT to assist individuals in planning and organizing educational tasks, generating ideas for academic assignments, and structuring presentations or course content. Environmental support refers to efforts and practices aimed at reducing energy consumption and promoting sustainability. Assistant and mentor support refers to the utilization of tools like ChatGPT as a personal assistant or mentor to aid individuals in learning new concepts, organizing tasks, and providing guidance. Research speed enhancement refers to the use of tools like ChatGPT to accelerate the research and writing process, save time, and improve the efficiency of information gathering. Methodological support refers to the assistance provided by tools like ChatGPT in developing, refining, and applying methods for research or data analysis. Language support refers to the assistance provided in improving the accuracy, clarity, and effectiveness of communication by offering services

such as proofreading, language translation, and rewriting text in English or other languages. The findings regarding the factors motivating the intention to use ChatGPT are given in Table 2.

Comparison of the demotivation and motivation factors affecting ChatGPT usage intention in the TR-UK context

A further objective of the study was to examine whether the factors that motivate and demotivate the intention to use ChatGPT differ across countries. The findings revealed that certain categories showed cross-country variation. A comparative analysis of Türkiye and the UK revealed that, the prominent motivating factors for the intention to use ChatGPT were identified as language support, assistant and mentorship support. Notably, in the case of Türkiye, the lack of accessible mentorship, particularly for early-career researchers, was highlighted as a key factor driving the use of ChatGPT. This reflects the platform's perceived role as a compensatory tool for academic guidance and support. Additionally, within the theme of language support, researchers in Türkiye reported using ChatGPT primarily for tasks such as translation, proofreading and language correction, owing to Turkish being their native language. In contrast, such motivations were less emphasized by participants from the UK, where English is the native language and mentorship structures may be more readily accessible.

An analysis of the demotivating factors related to the intention to use ChatGPT reveals that, unlike in Türkiye, researchers from the UK perceive ChatGPT usage as potentially diminishing individual academic abilities, which serves as a demotivating factor. Additionally, the 'environmental support' sub-theme was identified as a motivating factor among participants from Türkiye, whereas it functioned as a demotivating factor for those from the UK. A detailed overview of the comparative findings between Türkiye and the UK is presented in Table 3

Findings from ChatGPT user experience

Another key focus of the study was to explore how social science researchers experience ChatGPT usage. The analysis revealed three main categories: Positive Experience, Negative Experience and Unusual Experience. Positive experience represents the constructive

Table 1 Demotivational factors that undermine the intention to use ChatGPT

Representative quotes	Codes	Sub-themes	Theme/category
<i>“I find the prospect of our information being shared and leaked worrying, either through unethical leaks that have been done deliberately by Facebook and other companies (for money due to lack of legal sanctions), or through cyber-attacks. In these ways, I think AI also carries risks.” (U-3)</i>	-Consequences that may arise when used by researchers who are not knowledgeable in the field -Unskilled researchers can dictate their entire article to ChatGPT -Taking the easy way out-copy paste -Plagiarism-ChatGPT use cannot be checked in plagiarism programs -The use depends entirely on the ethical perception of the researcher -The perspective of the collaborating research group on the use of ChatGPT -Fear of having written texts or ideas stolen or information	Ethical Concerns	
<i>“ChatGPT does not provide in-depth knowledge and has yet achieved a comprehensive level of understanding. I think the reason is this. Because it is still internet-based and cannot be fed from books. For example, that was actually the problem with my research problem, because the question was about books and I was able to give a superficial answer because there was no scanned version.” (T-5)</i>	-Hallucinating and giving false references -Sometimes produce information that does not exist and need to always check the accuracy of the information -Lack of access to new resources -Inadequate information resources, mainly using internet-based resources and not making much use of books etc	ChatGPT Negative Features	Demotivation Factors
<i>“It occasionally provides misleading information, requiring careful verification of its accuracy of the information provided by the ChatGPT as it uses the information available on the public domain (web) where there’s no reference to the primary/secondary reliable sources.” (U-1)</i>	-It contains data up to a certain year, -With the release of the premium version rendered the free version inadequate for some users -Difficulty accessing the website, especially recently -If it makes a mistake, it repeats it in a loop, -That he repeats himself a lot		
<i>“ChatGPT is not capable of making human emotional connections. Therefore, it may be inadequate in some situations that require support or interaction.” (U-7)</i>	-Constantly having to give commands and warnings -Inability to solve complex economics-mathematics problems -Not answering questions clearly lately, especially in the free version -Redirect to Google or to the subject’s site, -Lack of access to accurate information -Fails to deepen and often provides superficial information - Differences in country-specific information - Lack of emotional intelligence -Lower support for Turkish language than English - Lack of conscience and judgment		

Table 1 continued

Representative quotes	Codes	Sub-themes	Theme/category
<i>“For example, in Japan, there is automation with zero human labor, but there is an expert who examines the technical details of the machines when they break down, so there should be this expert here.” (T-7)</i>	-Especially in Turkish language searches, it is a waste of time due to the need to look at English as well -Loss of time in having to check the sources it recommends	Time Management Inadequacy	
<i>“It may be preventing us from thinking creatively, or it may be preventing us from producing or looking at things from a different perspective because it offers us something ready-made, it may be undermining our creativity. Because creativity comes into play when an individual is in a difficult situation. We learn to use things outside of their function when we are in difficulty. But when there is something that constantly provides that function for us, we can easily put creativity on the back burner.” (T-4)</i>	-The possibility of dulling creative thinking, -The possibility of blunting the ability to seek and find information -Creating addiction because it makes things easier -Reducing the need for the skills of some professional groups, causing them to delegate their tasks to ChatGPT -Weakening the ability to write -Weakening memory -Lowering learning capacity -It undermines critical and analytical thinking -Negative impact on problem solving skills	Lack of Individual Competencies	
<i>“The significant energy consumption of large AI models like ChatGPT has raised concerns, gaining increased attention within the tech community. I think it is crucial for AI development to focus on making these models more energy efficient and exploring greener technologies to power them. Paying attention to how we as users use these tools can also make a difference.” (U-9)</i>	-Negative impact on sustainability as it uses too much energy -The view that AI applications will not fit any constraints in terms of sustainability -Creating concern due to damage to the environment -To be seen as part of a wider discussion about carbon footprint and our responsibility towards more sustainable practices -Increasing energy consumption day by day with dependence on technology -Increases energy consumption and carbon emissions	Sustainability	

perspectives and favorable outcomes derived from the utilization of ChatGPT. Negative experience represents the challenges and unfavorable outcomes encountered during the utilization of ChatGPT. Unusual experience refers to unexpected or atypical occurrences encountered during the use of ChatGPT. Findings regarding the user experience are shown in Table 4.

Findings on comparison of ChatGPT user experience in the TR-UK context

The final focus of the study was to examine whether social science researchers' experiences of using ChatGPT differ between Türkiye and the UK. In this context, three categories emerged from the comparative analysis of user experiences: Unusual Experience, Positive Experience, and Negative Experience. A detailed comparison of these categories across the two countries is presented in Table 5.

Table 2 Motivational factors that foster the intention to use ChatGPT

Representative Quotes	Codes	Sub-themes	Theme / Category
<i>"If ChatGPT is the one who presents the draft plan: let's say I am the one who develops, manages and presents it."</i> (U-11) <i>"ChatGPT gave me an idea about the topic of my project and I understood how to research and further develop my topic and in which areas I should do research."</i> (U-13)	-Encouraging critical thinking -It is a good tool for learning to search, -Development of reasoning skills (which of the information obtained here should be included and which should not) -Increasing intellectual capital -Giving different perspectives on the subject (it feels like I am getting opinions from hundreds of people at the same time) -Developing digital competencies	Individual Capability Enhancement	Motivation Factors
<i>"When I ask students how to make a presentation or how to write a case note, they give me very good notes"</i> (U-1)	-Creating an outline for presentation planning and content in conference presentations -Creating ideas while doing master's and doctoral assignments -Getting ideas about course content and planning -Creating an outline for a lecture presentation -Prepare material (lecture notes, lecture presentation, case preparation) for seminar discussions -Combining ideas in a simple way that students can understand better	Education and Training Support	
<i>"I think the environmental impact of a system that only uses the web will be minimal."</i> (U-1) <i>"I find it inappropriate to discuss this. I don't think it has a negative effect."</i> (T-5)	-Energy saving -Use less energy and be more sustainable	Environmental Support	
<i>"My main motivation is a serious mentor problem. I cannot discuss many topics with anyone. No one tells me how to present this sentence or this idea better. For example, ChatGPT took me and pushed me from behind. I can say that it opened a tremendous path."</i> (T-13)	-Using as a personal assistant -Use as a personal mentor -Using it to learn a concept heard for the first time -Addressing the lack of mentors for students or those at the beginning of their academic journey	Assistant and Mentor Support	
<i>"We all live in a consumer society now. We consume everything very quickly. We are very adapted to reaching out, reaching out. Other literature review methods seem a little too slow to me. Moreover, in social sciences, we encounter a lot of data because variables are generally very broad discussion areas. That's why artificial intelligence provides me with the niche information I am looking for, so I save time and can access qualified information in a very short time."</i> (T-11)	-Speeding up the article writing process -Shortening the research process -Saving time -Teaching how to ask questions by creating a research framework -Helping induction -Quickly creates a draft of the subject to be studied and shows subheadings related to the subject	Research Speed Enhancement	

Table 2 continued

Representative Quotes	Codes	Sub-themes	Theme / Category
<i>"I mostly use it to suggest statistical analyses, for example, it can recommend an alternative analysis method instead of regression analysis. It can suggest coding. When I need coding, I ask for it." (T-3)</i>	-Writing and correcting code (such as Mathematika, Stata, R)	Methodological Support	
	-Requesting a method recommendation to analyze the data at hand		
<i>"I write in English myself. I want ChatGPT to translate what I write in Turkish. Then I compare what he did with the English translation I made. The paid version of ChatGPT provides much higher quality translations, but errors may occur in the free version. However, it still translates English enough to relieve a normal individual's anxiety and explain his/her troubles. But since language becomes more important in academic texts, especially in social sciences, I sometimes check them after translating them myself." (T-4)</i>	-Using it as a search engine such as Google Scholar	Language Support	
	-To extract statistical data (e.g. TurkStat)		
	-Proofreading support		
	-Translating languages		
	-English rewrite		
	-Paraphrase		
	-Especially with translation support, students academics, researchers helping to open up to the world		

Discussion

This study aims to extend the UTAUT2 model by examining the use of ChatGPT in social science research, with a particular focus on researchers' motivations, demotivations and user experiences in a cross-cultural context.

Motivation factors

The findings of the study reveal several factors that motivate researchers' intention to use ChatGPT, including individual capability enhancement, education and training support, environmental support, assistant and mentor support, research speed enhancement, methodology support and language support. Among these, language support emerged as a particularly significant factor, especially in the context of non-native English-speaking researchers. This aligns with previous literature highlighting the role of ChatGPT in facilitating language-related tasks, such as translation and proofreading, for users in non-English-speaking regions (Farhi et al., 2023; Livbender & Ayvaz, 2023; Osama et al., 2023; Morocco-Clarke et al., 2023; Lund & Wang, 2023; Lo, 2023; Ray, 2023; Singh et al., 2023; Fatani, 2023). Non-

native English speakers often encounter notable challenges in academic writing, including limited vocabulary, grammatical errors and difficulties with sentence structure and coherence (Hwang et al., 2023). While native speakers may require only minor refinement, previous studies suggest that non-native speakers benefit more substantially from ChatGPT's support—particularly in enhancing plausibility and grammatical accuracy (Sakai, 2023). Moreover, ChatGPT appears to facilitate academic productivity among non-native users by offering real-time language feedback and support (Costa et al., 2024). It has also been reported to assist in developing academic writing strategies, such as outlining and content enrichment (Xu & Jumaat, 2024).

Education and training support has also emerged as a key motivating factor for ChatGPT usage. Its capacity to assist with education-related tasks, such as generating course materials and evaluating student performance, has been linked to increased usage intentions (Morocco-Clarke et al., 2023; Lo, 2023; Ray, 2023; Karakoc Keskin, 2023). Additionally, ChatGPT has been reported to promote collaborative learning, offer personalized learning experiences and provide administrative support, thereby contributing

Table 3 Comparison of motivational and demotivational factors influencing ChatGPT usage intention in the TR-UK context

Themes	Sub themes	TR-UK comparison	Representative quotes-TR	Representative quotes-UK
Motivation factors	Language support	In the context of Türkiye, the most important motivating factor for the intention to use ChatGPT in academia is language support. The fact that Türkiye's native language is not English is an important factor in this regard	"I use it for more academic English." (T-7) "I use ChatGPT for translation." (T-10) "I mainly use ChatGPT for paraphrasing." (T-13)	–
	Assistant and mentor support	The most striking data in the Türkiye context is that students and people at the beginning of their academic journey use ChatGPT as a personal assistant and a personal mentor. This situation underlines the lack of mentors for Turkish researchers who are new in academia	"My main motivation is a serious mentor problem. I cannot discuss many topics with anyone. No one tells me how to present this sentence or this idea better. For example, ChatGPT took me and pushed me from behind. I can say that it opened a tremendous path." (T-13)	–
	Research Speed Enhancement	The motivation for using ChatGPT in both Türkiye and UK contexts focuses on providing quick and informative answers. It was also emphasized that the use of ChatGPT saves time because it helps to access information quickly	"We all live in a consumer society now. We consume everything very quickly. We are very adapted to reaching out, reaching out. Other literature review methods seem a little too slow to me. Moreover, in social sciences, we encounter a lot of data because variables are generally very broad discussion areas. That's why artificial intelligence provides me with the niche information I am looking for, so I save time and can access qualified information in a very short time." (T-11)	"In general, my answer is that speed and the ability to quickly explain the definitions I cannot find in very good terms are my motivations for using AI" (U-3)
Motivation factors/ demotivation factors	Environmental support-TR Sustainability-UK	Findings from the UK adopt a negative view of sustainability. It is underlined that the use of ChatGPT is very harmful to the environment due to the amount of energy it consumes. It is underlined that more efforts need to be made to reduce the effects of artAI on the environment. In Türkiye context, the prevailing opinion has been that the use of ChatGPT will provide environmental support as it accelerates the research process	"I read a data like this, when all the data on the internet in the whole world is collected, it makes how many grams, so when we put something physical, when we think in this sense in the energy it uses, I think there is not much, so maybe the energy used by a factory may be less than the energy used by Chet Chipiti in a year."(T-5)	"The first thing that comes to mind is the amount of energy used to run large AI models like ChatGPT. This is the first concern that comes to my mind and I believe that more efforts should be made to reduce the environmental impact of AI" (U-2)

Table 3 continued

Themes	Sub themes	TR-UK comparison	Representative quotes-TR	Representative quotes-UK
Demotivation factors	Lack of Individual Competencies	According to data obtained from UK, researchers think that the use of ChatGPT will harm individual abilities, compared to Turkish researchers. In particular, the atrophy of research skills was considered a negative outcome by UK researchers	<i>“In terms of abilities and skills, then I think it will be more beneficial in terms of asking the right questions” (T-8)</i>	<i>“It may be preventing us from thinking creatively, or it may be preventing us from producing or looking at things from a different perspective because it offers us something ready-made, it may be undermining our creativity. Because creativity comes into play when an individual is in a difficult situation. We learn to use things outside of their function when we are in difficulty. But when there is something that constantly provides that function for us, we can easily put creativity on the back burner.” (U-4)</i>
	ChatGPT Negative Features	Findings from Türkiye and UK show that the need to check the accuracy of the information provided within the scope of the research and considering the use of ChatGPT as an easy way out in the academic publication process are demotivating factors for the use of ChatGPT ChatGPT’s hallucinations, inability to access new resources, and superficial information are demotivating factors cited by researchers from both countries	<i>“At the moment, when ChatGPT tells me to give me a research suggestion on this topic, I do not trust it, I feel the need to check it” (T-13)</i> <i>“I think the hallucination issue is a big problem, I mean, sometimes he writes things that don’t exist as if they do. At this point, it can put me in a little bit of trouble. The possibility of producing non-existent sources pushes one towards a second research.” (T-2)</i>	<i>“It is easy, the research should be done by the researcher, the idea should be generated by the researcher.” (U-6)</i> <i>“It referred to non-existent sources, it generates content on its own” (U-6)</i>
	Ethical Concerns	In the findings of Türkiye and UK, the biggest concern about the academic publication process is the concern about plagiarism. In this context, ethical concerns have been the demotivating factor that researchers from both countries emphasized most. In particular, while the Turkish sample restricts the use of ChatGPT due to academic concerns, personal concerns prevent the use of ChatGPT in the UK sample. Findings from Türkiye and UK emphasize that various standards should be set for the ethical use of ChatGPT	<i>“When using ChatGPT, I am most concerned about whether there will be plagiarism no matter how much effort I put into it. At the point of detection, I use things and programs such as direct turniting, identity. However, no matter how much I change, I still worry that there may be an ethical violation.” (T-1)</i>	<i>“I find the prospect of our information being shared and leaked worrying, either through unethical leaks that have been done deliberately by Facebook and other companies (for money due to lack of legal sanctions), or through cyber-attacks. In these ways, I think AI also carries risks.” (U-3)</i>

Table 4 ChatGPT user experience findings

Representative quotes	Codes	Sub themes	Theme/category
<i>"I use it frequently in some of my official correspondence, that is, I use it in both Turkish and English languages"</i> <i>It helps me save time, especially if I am going to send an academic e-mail, and in the context of the sentences it creates, it serves me well in these official correspondences."</i> (T-2) <i>The best thing about ChatGPT is its speed, that is, it makes things easier. "It gives me something that would normally take me longer to research, much more easily and quickly."</i> (T-10)	-Ability to correct mistakes when taught, -Providing access to multiple resources at the same time -Provides clear information on the subject and does not require you to select information from dozens of data when scanned -Providing guidance by mentoring in disadvantaged countries such as Turkey, -Assisting with revisions -Giving the feeling of working with more than one consultant at the same time -Basic usage is free and the pro version costs very little -Writing sentences very well, like someone who does his job well -Giving different answers each time when the same question is asked again and again -Ability to show error in data - Providing fast and informative answers -Not to get bored or tiring while doing research -It is fast and saves time -Using and facilitating language that is extremely appropriate for official correspondence (especially when corresponding abroad) -Has an easy interface -24/7 access and support -Allowing people to focus on the more creative and strategic aspects of the business -Contributing to digital literacy, -Enhancing reasoning ability	Positive experience	User experience
<i>"The fact that he retells what I wrote back to me as his own opinion, that is, ChatGPT is actually a parrot, or the reason for this may be that he cannot access new resources."</i> (U-3)	-Inability to solve a very simple derivative question, -The free version does some of the commanded work but does not continue, -Producing non-existent resources on the subject (hallucinating) -The sources given must be checked -Producing non-existent answers when there is no answer to give, -The user presents his ideas as his own -Writing sentences that are too long	Negative experience	

Table 4 continued

Representative quotes	Codes	Sub themes	Theme/category
<i>"I mean, sometimes I know myself getting angry at him due to the tension of the day, but meaningless. Then after a while, I do something, it's meaningless, I say, "Who are you angry with?" (T-7)</i>	-Being angry at ChatGPT as if it were a human being in front of you, -Creating the feeling of having a human being in front of you during communication	Unusual experience	
<i>"He did not answer one of my questions and I insisted that he answer. Then I really felt like, there is a person in front of me. "I felt like we were going to get into an emotional argument." (T-10)</i>	-Giving the feeling of working with more than one consultant at the same time		
<i>"Every time you open a new ChatGPT message section, it is as if you are talking to a new person. So this is actually another dimension. It feels like you're getting ideas from different people at the same time." (T-3)</i>	-Making mistakes that may be thought to be unique to the individual		

to more interactive and dynamic educational environments (Achour et al., 2024).

Research speed enhancement has also been identified as a factor influencing the intention to use ChatGPT. Several studies support this finding, suggesting that ChatGPT contributes to increased publication efficiency by saving time and effort throughout the writing process (Osama et al., 2023; Eardley, 2023; Livberberber & Ayvaz, 2023; Morocco-Clarke et al., 2023; Rice et al., 2024; Alshater, 2022). In particular, AI-powered tools like ChatGPT help researchers manage challenges such as writer's block and extend beyond basic spelling and grammar correction by offering support that improves overall writing fluency and productivity (Chen, 2023).

Methodological support has been identified as a contributing factor to the intention to use ChatGPT in social science research. As new research methods continue to emerge in the field, the need for methodological assistance has gained increased relevance, particularly in the context of academic publishing. Several studies have indicated that ChatGPT offers practical support in areas such as data analysis, interpretation, modeling and simulation (Lund & Wang, 2023; Alshater, 2022; Livberder & Ayvaz, 2023). Furthermore, it has been noted that ChatGPT can facilitate the development and refinement of research methodologies within the social sciences and humanities (Martínez-Pernía et al., 2024; Nepal, 2024).

Assistant and mentor support has also been identified as a factor influencing researchers' intention to use ChatGPT. Existing studies suggest that both higher education students and instructors utilize

ChatGPT as a virtual assistant in academic settings (Lo, 2023; Morocco-Clarke et al., 2023). The tool has been noted for its potential to offer personalized feedback and real-time guidance, which can enhance learning experiences for both educators and learners (Ghafouri et al., 2024). In the present study, mentor support emerged as a distinct theme. In contexts where access to academic mentorship is limited, particularly in emerging countries like Türkiye, the use of AI tools such as ChatGPT appears to serve as a compensatory mechanism.

The findings identified two motivating factors for ChatGPT usage that appear to extend beyond those emphasized in the existing literature. The first is individual capability enhancement. Participants reported that using ChatGPT contributed to the development of personal skills, particularly in learning how to ask effective questions—an ability they perceived as relevant to their engagement with the tool. Additionally, improvements in critical thinking, reasoning and digital literacy were frequently mentioned as benefits associated with ChatGPT use. These findings are supported by Leelavathi and Surendhranatha (2024), who noted that integrating ChatGPT into educational settings can foster active learning, critical thinking and creativity. Ray (2023) further emphasized ChatGPT's potential to simplify complex scientific concepts, support public engagement in scientific discourse and enhance intellectual accessibility. The second unique motivating factor, environmental support, was highlighted specifically by participants from Türkiye. Some participants perceived ChatGPT as contributing to shorter research times and lower energy consumption. This perception of

Table 5 Comparative analysis of user experience in the TR-UK context

Themes	Sub themes	TR-UK comparison	Representative quotes-TR	Representative quotes-UK
User experience	Unusual experience	In the Türkiye context, when using ChatGPT, it was emphasized that it creates the feeling of human existence and that the situation scares the users from time to time	<i>“He did not answer one of my questions and I insisted that he answer. Then I really felt like, there is a person in front of me. ”I felt like we were going to get into an emotional argument.” (T-10)</i>	<i>“The fact that he gives me back to me what I have written as his own idea, so in fact ChatGPT is a parrot. Or it could be because he doesn’t have access to new sources—I don’t know” (U-3)</i>
	Negative experience	The negative outcomes in Türkiye context, unlike in UK, were related to the use of language. Lower support in Turkish than in English is a problem, and ChatGPT is a feature that needs to be improved in the future. Again, the use of time in connection with language has been viewed as a negative outcome. The need to include English in Turkish-language scans has been expressed as a waste of time as a negative experience	<i>“I mean, on the one hand, for example, in the first part you mentioned, it can make you waste time to look at citation” (T-4)</i>	<i>“It sometimes contains misleading information- need to always check the accuracy of the information provided by the ChatGPT as it uses the information available on the public domain (web) where there’s no reference to the primary/secondary reliable sources” (U-1)</i>
	Positive experience	In the context of Türkiye, the positive outcomes mentioned, which differ from those in UK, include: identifying key concepts related to the research topic, evaluating whether a research question is worth studying, obtaining ideas about the desired research topic, improving an existing idea, suggesting alternative sources when resources are insufficient, generating introductory sentences for starting the research, organizing bibliographies, and providing information about various research projects In the context of UK, the positive outcomes mentioned, which differ from those in Turkey, include: generating text-based content, supporting creative writing, deepening according to the individual’s command, and producing results that are more successful than the individual’s own output	<i>“I use it frequently in some of my official correspondence, that is, I use it in both Turkish and English languages It helps me save time, especially if I am going to send an academic e-mail, and in the context of the sentences it creates, it serves me well in these official correspondences.” (T-2)</i>	<i>“ChatGPT, I would say um, most of the time. Actually all the time. Let’s say it gives uh, quick and coherent uh responses which are relevant to the subject and the question that you ask from the the software” (U-2)</i>

environmental efficiency was considered a meaningful influence on their intention to use the tool.

Drawing on data from both Türkiye and the UK, the study offers insights into how national contexts influence the intention to use ChatGPT. In this regard, the findings suggest that participants from Türkiye reported a relatively higher intention to use the tool, particularly in relation to motivational factors. Language support and mentoring emerged as the most prominent drivers of usage intention among Turkish researchers. In non-English-speaking and developing contexts such as Türkiye, these factors appear to play a more central role in shaping user engagement. One common motivating factor identified in both countries was research speed enhancement. In a research environment that increasingly values timely access to reliable information, ChatGPT's ability to provide rapid and informative responses was viewed as a meaningful advantage by participants from both Türkiye and the UK.

Demotivation factors

The study contributes to the development of the UTAUT2 framework by addressing demotivating factors, which are not explicitly included in the original model. The study identified several factors that demotivate the intention to use ChatGPT, such as ethical concerns, ChatGPT negative features, time management inadequacy, lack of individual competencies and sustainability. Among these, participants frequently emphasized ChatGPT's tendency to generate inaccurate or fabricated information as a key concern. This issue aligns with previous research, which has shown that ChatGPT can occasionally produce misleading, low-quality, or irrelevant content, including repetitive and overly general responses (Ray, 2023; Eardley, 2023; Karakoc Keskin, 2023; Singh et al., 2023; Morocco-Clarke et al., 2023; Lund & Wang, 2023; Zhai, 2022; Alshater, 2022; Osama et al., 2023). Such limitations require users to verify outputs continuously, which can reduce efficiency and discourage adoption. Participants also noted that the tool's inability to provide updated information beyond 2021 necessitates additional time and effort to locate current data. Furthermore, the absence of emotional intelligence, particularly the inability to recognize and respond to human emotions, was highlighted as a limitation. While technological tools like ChatGPT

can streamline research processes, the lack of empathy and personalized interaction remains a barrier to fully integrating such tools into academic workflows. Enhancing emotional responsiveness has therefore been suggested as a potential area for future development (Ray, 2023; Zhai, 2022).

Ethical concerns also emerged as a factor negatively influencing the intention to use ChatGPT. Participants expressed concern over the potential misuse of ChatGPT by individuals lacking subject-matter expertise, particularly in cases where AI-generated texts are presented as original scholarly work. The current inability of plagiarism detection tools to reliably identify content produced by ChatGPT was perceived as facilitating unethical practices, such as uncredited reproduction of AI-generated text. Several studies have highlighted the importance of transparency, accountability and ethical integrity in the use of generative AI, noting these as challenges that may discourage adoption (Alshater, 2022; Eardley, 2023; Lund & Wang, 2023; Osama et al., 2023; Wu et al., 2023; Zhai, 2022). Efforts to prevent potential violations, including initiatives aimed at detecting AI-generated plagiarism, are likely to shape future intentions toward ChatGPT usage (Farhi et al., 2023; Rudolph et al., 2023). An additional finding is the influence of social norms within research groups. Participants indicated that when ChatGPT usage is considered ethically acceptable by the majority of the group, individual intention to use the tool tends to increase; conversely, if it is viewed as inappropriate, intention declines.

Another concern that may negatively influence the intention to use ChatGPT is the fear of reduced individual skill development. Several participants expressed fears about becoming overly dependent on the tool, suggesting that frequent use might hinder creative thinking, weaken writing abilities, limit problem-solving capacity and affect memory retention. This concern is supported by previous studies indicating that excessive reliance on AI can lead to a decline in critical thinking, creativity and independent problem-solving among researchers (Farhi et al., 2023; Fatani, 2023; Mhlana, 2023; Morocco-Clarke et al., 2023; Ray, 2023; Singh et al., 2023). Moreover, increased dependency on technology through AI tools like ChatGPT has also been noted as a broader issue (Alshater, 2022). These findings are consistent with

the concerns expressed by participants in the present study.

Time management inadequacy also emerged as a factor demotivating the intention to use ChatGPT. Participants expressed concern over the additional time required to verify the accuracy of information generated by the tool. This issue was often associated with ChatGPT's tendency to produce incomplete or inaccurate content, as noted in previous studies (Shen et al., 2023). Gulati et al. (2024) similarly highlighted the need for improvement in ChatGPT's processing of multilingual data, particularly in languages other than English. Delays in real-time responses and the need to repeat queries, particularly for non-native speakers searching in English, were also reported as contributing to inefficiencies. These limitations were perceived to hinder time-efficient use, particularly among users with limited proficiency in English.

The final factor identified as demotivating ChatGPT usage is sustainability. Participants expressed concerns regarding the environmental impact of AI tools, particularly the high energy consumption associated with their operation. It is perceived that such levels of energy use may have negative implications for environmental sustainability. Supporting these concerns, Khowaja et al. (2024) reported that ChatGPT consumes a substantial amount of energy, while other studies have highlighted its potential environmental impact and the energy-related concerns it raises (Eardley, 2023; Ray, 2023). In light of these concerns, the adoption of environmentally responsible practices has been recommended. These include developing more energy-efficient algorithms, optimizing data center operations and increasing reliance on renewable energy sources. Promoting sustainable use and raising user awareness were also identified as necessary steps to reduce the environmental footprint of AI tools like ChatGPT.

Based on cross-country data from Türkiye and the UK, the analysis explored key factors that demotivate the intention to use ChatGPT. The results indicate that while several concerns are shared across both contexts, ethical issues emerged as the most prominent. In particular, plagiarism was highlighted as a key issue, with participants suggesting that clearer regulations in this area could enhance the intention to use ChatGPT. However, two notable differences were identified between the two countries. First, perceptions regarding environmental impact diverged: Turkish

participants tended to view ChatGPT as environmentally beneficial due to perceived efficiency gains, whereas UK participants expressed concerns about its sustainability implications. Second, UK researchers showed greater apprehension about the potential negative effects of ChatGPT on individual skills, such as critical thinking and writing abilities, compared to their counterparts in Türkiye.

Experience

Another focus of the study was user experience, which was explored as a potential moderating factor within the UTAUT2 framework in the context of ChatGPT usage. The findings identified three categories of user experience: positive, negative and unusual. In line with previous research, participants in this study reported negative experiences such as receiving inaccurate or misleading information, repetitive or irrelevant outputs and responses that lacked contextual appropriateness (Ray, 2023; Eardley, 2023; Karakoc Keskin, 2023; Singh et al., 2023; Morocco-Clarke et al., 2023; Lund & Wang, 2023; Zhai, 2022; Alshater, 2022; Osama et al., 2023). Participants also noted that ChatGPT occasionally produced fabricated citations or responses and sometimes echoed users' own ideas without meaningful transformation. These findings are consistent with literature highlighting concerns about citation accuracy, plagiarism risks and the limitations in generating original content (Eardley, 2023; Fatani, 2023; Morocco-Clarke et al., 2023; Osama et al., 2023). Additionally, new contributions from this study include the tool's inability to solve basic problems, limitations observed in the free version and the perception that it occasionally restates user input as original output.

The cross-country comparison revealed that researchers in Türkiye reported negative usage experiences related to language limitations, which were not commonly mentioned by participants from the UK. Specifically, the relatively limited support for the Turkish language compared to English was perceived as a drawback. Turkish participants also noted that the constant need to verify translations led to time inefficiencies, which affected their overall user experience negatively.

The literature on positive user experiences with ChatGPT highlights several dimensions that align with the findings of this study. These include improvements

in writing and publication speed, reductions in revision time and overall time and effort savings during the research process (Alshater, 2022; Eardley, 2023; Livberber & Ayvaz, 2023; Lund & Wang, 2023; Morocco-Clarke et al., 2023; Osama et al., 2023; Rice et al., 2024). Participants in this study also reported that the ability to consult multiple sources simultaneously through ChatGPT improved efficiency, which is consistent with earlier research highlighting its usefulness in navigating complex information (Alshater, 2022; Fatani, 2023; Livberber & Ayvaz, 2023; Osama et al., 2023; Ray, 2023; Rice et al., 2024). Language-related benefits, such as assistance with translation, error correction and overall writing support, were similarly reflected in both the literature and participant feedback (Fatani, 2023; Lo, 2023; Lund & Wang, 2023; Morocco-Clarke et al., 2023; Osama et al., 2023; Ray, 2023; Singh et al., 2023). Free access to the tool was considered a positive experience in both this study and prior research, particularly due to its affordability and accessibility (Morocco-Clarke et al., 2023). Additional insights emerging uniquely from this study include ChatGPT's capacity to correct its responses when prompted, provide assistant-like or mentor support in contexts with limited academic guidance, generate alternative answers to repeated prompts and support formal communication with appropriate language. Participants also emphasized features such as enhanced digital literacy, continuous (24/7) accessibility and a user-friendly interface as key contributors to their positive experience.

Participants from Türkiye and the UK reported different types of positive experiences when using ChatGPT. In the UK, participants highlighted ChatGPT's capacity to generate high-quality text, support creative writing and respond flexibly to individual prompts. Some also noted that the tool occasionally delivered outcomes beyond their initial expectations. In the context of Türkiye, participants emphasized ChatGPT's ability to identify key concepts within research topics, suggest alternative sources, support diverse research projects, enhance existing ideas and assist in assessing the viability of a given topic. These findings suggest that while the tool is perceived as creatively generative in the UK context, its value in Türkiye is more closely tied to research support and idea development.

This study also identified a category of unusual experience, which has received limited attention in the

existing literature. Unlike previous research, participants in this study described moments during ChatGPT use where the interaction felt distinctly human, such as perceiving the tool as a conversational partner, experiencing a sense of working with multiple advisors or observing mistakes that resembled those made by humans.

A noteworthy cross-country difference that emerged in this context was that participants from Türkiye were more likely than those from the UK to report the sensation of interacting with a human-like entity. Some Turkish participants reported that this human-like interaction led to a sense of unease, suggesting a stronger emotional reaction to the anthropomorphic features of the tool.

The conceptual framework resulting from the findings is shown in Fig. 4 below.

Conclusion

This study explored the factors that motivate and demotivate Social Sciences researchers in Türkiye and the UK to use ChatGPT, alongside a comparison of their usage experiences. The analysis identified seven motivational themes (language support, assistant and mentor support, research speed enhancement, methodology support, education and training support, environmental support, individual capability enhancement) and five demotivational themes (ethical concerns, negative features of ChatGPT, time management inadequacy, lack of individual competencies, sustainability) influencing usage intention, as well as three overarching themes of user experience (positive, negative, unusual). The cross-country comparison revealed contextual differences in both perceived benefits and concerns.

By examining ChatGPT adoption within the UTAUT2 framework, the study contributes to the theoretical understanding of AI acceptance in academic settings. Findings offer practical implications for educators, researchers, policymakers and ChatGPT service providers seeking to promote the responsible integration of AI in Social Sciences research. The country-level comparison emphasized that user experiences and perceptions vary, highlighting the importance of cultural and contextual considerations in understanding AI adoption.

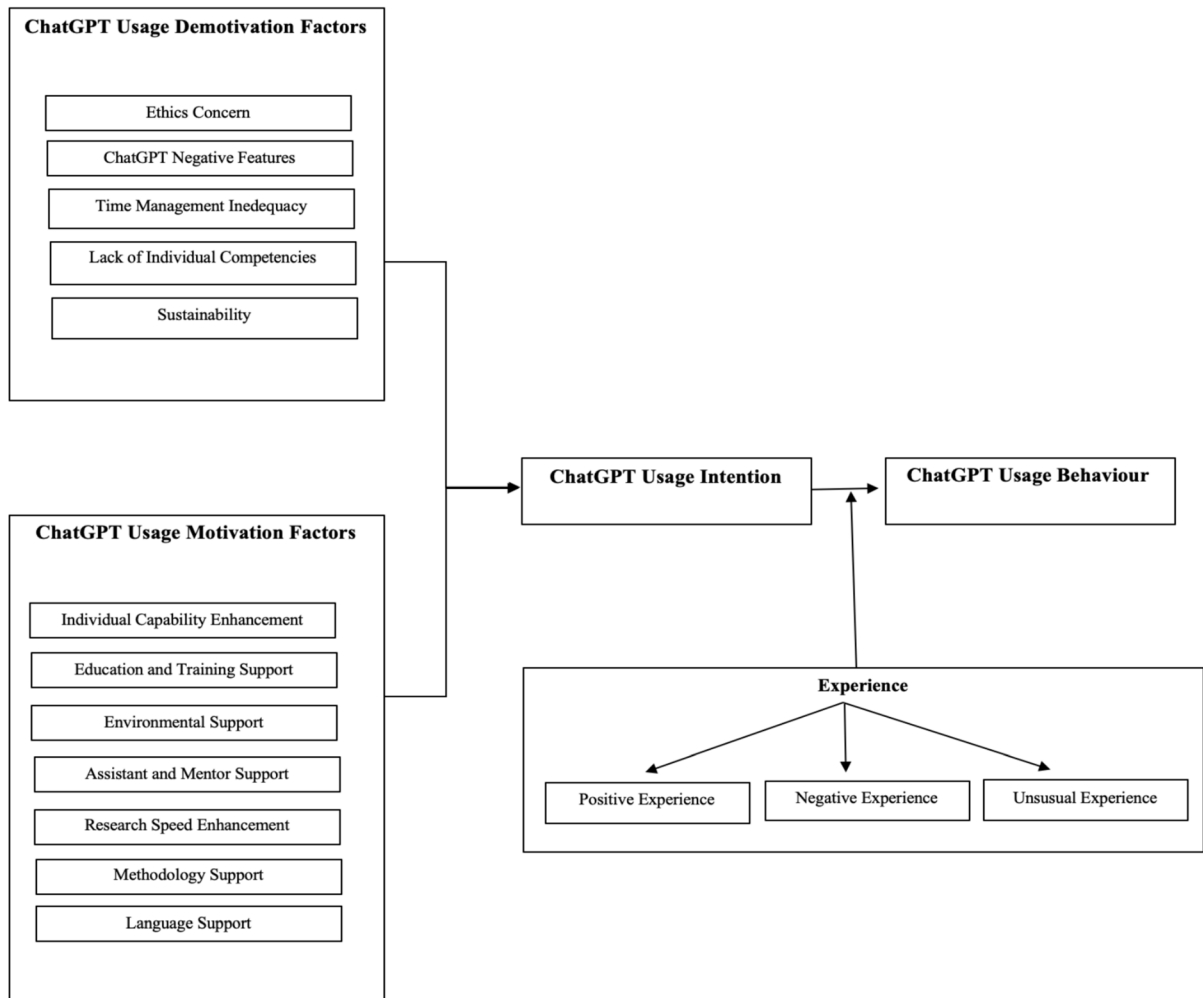


Fig. 4 Conceptual framework

Contributions of the study

Practical contributions

The study highlights that promoting the conscious and effective use of ChatGPT in academia requires targeted interventions such as the organisation of training programmes, the optimisation of research processes and the strategic use of features like multilingual capabilities in academic collaborations. In addition, ChatGPT's potential contribution to environmental sustainability presents a significant opportunity to support its broader adoption in research and education. However, the study also draws attention to potential risks, including the reduction of individual competencies, the generation of

misinformation and the emergence of ethical concerns. To mitigate these risks, academic institutions should develop clear guidelines and implement structured training to encourage informed, critical and ethical use of generative AI tools. Maintaining academic integrity and supporting critical thinking among users are essential and technology should be framed as an aid rather than a substitute for intellectual effort.

Institutions need to establish comprehensive policies on the ethical use of AI tools such as ChatGPT. These policies should clearly define acceptable and unacceptable uses, outline expectations regarding citation practices, and provide guidance on responsible content creation supported by AI. To improve awareness of the ethical, legal and academic

implications of AI adoption, academic institutions should offer AI literacy training and organize workshops that address the associated risks and benefits in areas such as privacy, ethics and academic integrity.

Furthermore, as AI tools become more integrated into academic work, strengthening researchers' individual competencies becomes increasingly important. While ChatGPT and similar technologies may serve as valuable support tools, it is essential to emphasise that they are not definitive sources of knowledge. Users must be encouraged to critically evaluate AI-generated content. They should also be advised against sharing personal or sensitive data on these platforms due to potential security and privacy concerns.

Finally, long-term research is needed to assess the effects of AI tools like ChatGPT on academic performance, learning processes and scholarly integrity. Academic institutions should continuously monitor the impact of such technologies on education and research and revise usage policies as necessary. Through these measures, the ethical, sustainable, and effective integration of AI in academia can be supported, enabling students, researchers and educators to use these tools responsibly and meaningfully.

Theoretical contributions

Recent studies on the use of ChatGPT have frequently adopted the UTAUT theory and its extended version, UTAUT2 (Strzelecki, 2024; Shuhaiber et al., 2025; Sergeeva et al., 2025; Acosta-Enriquez et al., 2024), as their theoretical foundation. This study builds on the UTAUT2 framework, which incorporates additional constructs such as hedonic motivation, price value and habit, allowing for a more comprehensive understanding of individual usage behaviors in diverse contexts. While technology acceptance models have been widely applied in various countries, research that conducts cross-cultural comparisons using UTAUT2 remains limited (Efilöglu Kurt & Tingöy, 2017). By focusing on researchers in Türkiye and the UK, this study aims to address that gap and contribute to the theoretical discourse by extending UTAUT2 into the context of academic AI adoption.

Although UTAUT2 was originally developed within a consumer behavior framework (Oliveira et al., 2016), its relevance has increasingly been demonstrated in academic contexts. Recent studies confirm that its core constructs, such as performance

expectancy, hedonic motivation, habit and social influence, reliably predict behavioral intention to use AI technologies among students, faculty and researchers in higher education (Acosta-Enriquez et al., 2024; Romero-Rodríguez et al., 2023; Strzelecki et al., 2024). These findings suggest that UTAUT2 offers a flexible and valid framework for examining technology adoption across different roles within the academic ecosystem. Accordingly, the present study adopted UTAUT2 to investigate ChatGPT adoption among Social Sciences researchers in Türkiye and the UK, with a particular focus on motivation as a central construct.

While prior research has applied UTAUT2 broadly, few studies have examined motivational dynamics specifically within a cross-cultural academic context. This study addresses that gap by highlighting both the factors that encourage the use of ChatGPT and those that reduce motivation, which are not explicitly included in the original UTAUT2 model. The findings suggest that demotivational factors such as ethical concerns, sustainability issues, time-related challenges and lack of competence represent meaningful contextual variables that can shape behavioral intention in academic environments. Thus, this research contributes to the theoretical understanding of UTAUT2 by demonstrating that motivation is shaped not only by perceptions of utility and ease of use, but also by culturally embedded academic expectations and structural conditions. Expanding the model in this way enhances its applicability to AI adoption in higher education, where motivations and barriers are often intertwined and context-dependent.

Recommendations for future research and limitations

While this study provides valuable insights into the factors that motivate and demotivate Social Sciences researchers in using ChatGPT, as well as their post-usage experiences, it is important to acknowledge some limitations. First, the research is limited to the UK and Türkiye, which restricts the generalizability of the findings to other contexts. Second, the scope of this study is limited to the field of Social Sciences, which may restrict the generalizability of the findings to other disciplines such as Natural Sciences, Engineering, Medicine or Arts. Each academic field is shaped by its own epistemological foundations, research practices and approaches to technology adoption, which may

lead to differing experiences and motivations regarding the use of tools like ChatGPT. Third, the reliance on self-reported data and immediate feedback from researchers may introduce bias and limit the ability to capture long-term patterns in adoption behavior, as the study is based on a cross-sectional design. Fourth, while the UTAUT2 theoretical framework offers a solid foundation for understanding technology acceptance, it may not fully account for all contextual or emerging factors that influence the adoption or rejection of ChatGPT. Another limitation is that due to the rapid development of ChatGPT and similar AI technologies, user experiences and attitudes may change over time, which may limit the validity of the findings for future iterations of the tool.

Further research is needed to address these limitations through involving a wider range of countries from different regions, which would support a deeper cross-cultural perspective and broaden the scope of existing literature on ChatGPT adoption. Future studies could explore disciplinary differences to offer a more comprehensive understanding of how generative AI tools like ChatGPT are integrated across academia. To deepen methodological insight and capture more nuanced understandings of researchers' experiences and motivations, future studies may consider adopting mixed-methods designs. In addition, adopting longitudinal research designs would allow for a deeper, time-sensitive understanding of how ChatGPT usage evolves across contexts.

Author contributions NY: Conceptualization, Formal analysis, Investigation, Data Collection, Methodology, Visualization, Writing—original draft, Writing—review & editing. AMUY: Conceptualization, Formal analysis, Investigation, Data Collection, Methodology, Visualization, Writing—original draft, Writing—review & editing. MA: Supervision, Data Collection, Writing—review & editing.

Funding No funding was received for conducting this study

Data availability No datasets were generated or analysed during the current study.

Declarations

Conflict of interests The authors declare no competing interests.

Appendix

Interview questions

1. How often and for what purposes do you use ChatGPT?
2. How did you decide to use ChatGPT for the first time, and what was your experience during this process?
3. What is your primary motivation for using ChatGPT?
4. When evaluating ChatGPT within the scope of your intended applications, which aspects align with or fall short of your expectations?
5. Are there any aspects of using ChatGPT that you find problematic or that deter you from further use? If so, what are they?
6. What has been the most interesting experience you've had or encountered while using ChatGPT? Why?
7. Do you have any concerns about the use of ChatGPT for academic studies? If so, what are they?

References

- Achour, K., Laanoui, M. D., & Ourahay, M. (2024). The impact of ChatGPT in education A comprehensive overview. In *2024 International Conference on Global Aeronautical Engineering and Satellite Technology (GAST)* (pp. 1–10). IEEE.
- Acosta-Enriquez, B. G., Farroñan, E. V. R., Zapata, L. I. V., Garcia, F. S. M., Rabanal-León, H. C., Angaspilco, J. E. M., & Bocanegra, J. C. S. (2024). Acceptance of artificial intelligence in university contexts: A conceptual analysis based on UTAUT2 theory. *Heliyon*.
- Aktas, M. (2023, Haziran 12). *ChatGPT ve İş Modelleri: Geleneksel İşler Nasıl Değişiyor? Türkiye*. <https://hbrturkiye.com/blog/chatgpt-ve-is-modelleri-geleneksel-isler-nasil-degisiyor/> / Accessed January 19, 2024
- Alshater, M. (2022). Exploring the role of artificial intelligence in enhancing academic performance: A case study of ChatGPT. *Available at SSRN*.
- Alzahrani, A., & Alzahrani, A. (2025). Comprendiendo la adopción de ChatGPT en universidades: el impacto del TPACK y UTAUT2 en los docentes Understanding ChatGPT adoption in universities: the impact of faculty TPACK and UTAUT2. *RIED-Revista Iberoamericana de Educación a Distancia*, 28(1).

- Askun, V. (2023). Sosyal Bilimler Araştırmaları İçin Chatgpt Potansiyelinin Açığa Çıkarılması: Uygulamalar, Zorluklar Ve Gelecek Yönelimler. *Erciyes Akademisi*, 37(2), 622–656.
- Bartlett, L., & Vavrus, F. (2017). Comparative case studies: An innovative approach. *Nordic Journal of Comparative and International Education (NJCIE)*, 1(1).
- Bhat, M. A., Tiwari, C. K., Bhaskar, P., & Khan, S. T. (2024). Examining ChatGPT adoption among educators in higher educational institutions using extended UTAUT model. *Journal of Information, Communication and Ethics in Society*, 22(3), 331–353. <https://doi.org/10.1108/jices-03-2024-0033>
- Biloš, A., & Budimir, B. (2024). Understanding the adoption dynamics of ChatGPT among generation Z: Insights from a modified UTAUT2 model. *Journal of Theoretical and Applied Electronic Commerce Research*, 19(2), 863–879.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101.
- Brislin, R. W. (1976). Comparative research methodology: Cross-cultural studies. *International Journal of Psychology*, 11(3), 215–229.
- Bryman, A. (2013). *Social Research Methods* (3rd ed.). Oxford University Press.
- Budhathoki, T., Zirar, A., Njoya, E. T., & Timsina, A. (2024). ChatGPT adoption and anxiety: a cross-country analysis utilising the unified theory of acceptance and use of technology (UTAUT). *Studies in Higher Education*, 1–16.
- Cao, Y., Zhou, L., Lee, S., Cabello, L., Chen, M., & Herschovich, D. (2023). Assessing cross-cultural alignment between ChatGPT and human societies: An empirical study. arXiv preprint [arXiv:2303.17466](https://arxiv.org/abs/2303.17466).
- Chen, T. J. (2023). ChatGPT and other artificial intelligence applications speed up scientific writing. *Journal of the Chinese Medical Association*, 86(4), 351–353.
- Costa, K., Ntsohi, P. M., & Mfolo, L. (2024). Challenges, benefits and recommendations for using generative artificial intelligence in academic writing—A case of ChatGPT. *Medicon Engineering Themes*, 7(4), 03–38.
- Creswell, J. W., & Poth, C. N. (2017). *Qualitative Inquiry and Research Design: Choosing Among Five Approaches*. Sage Publications.
- Eardley, I. (2023). ChatGPT: What does it mean for scientific research and publishing. *BJU International*, 131, 381–382.
- Efiloğlu Kurt, Ö., & Tingöy, Ö. (2017). The acceptance and use of a virtual learning environment in higher education: An empirical study in Turkey, and the UK. *International Journal of Educational Technology in Higher Education*, 14, 1–15.
- Erlanson, D. A. (1993). *Doing Naturalistic Inquiry: A Guide to Methods*. Sage.
- Elinzano, G. B. O., Ching, M. R. (2024). Determinants of ChatGPT Adoption in Academe & Other Fields—A Review on Theoretical Perspective. In *International Conference on Computers in Education*.
- Farhi, F., Jeljeli, R., Aburezeq, I., Dweikat, F. F., Al-shami, S. A., & Slamene, R. (2023). Analyzing the students' views, concerns, and perceived ethics about chat GPT usage. *Computers and Education: Artificial Intelligence*, 5, 100180.
- Fatani, B. (2023). ChatGPT for future medical and dental research. *Cureus*, 15(4).
- Foroughi, B., Iranmanesh, M., Yadegaridehkordi, E., Wen, J., Ghobakhloo, M., Senali, M. G., & Annamalai, N. (2025). Factors affecting the use of ChatGPT for obtaining shopping information. *International Journal of Consumer Studies*, 49(1), Article e70008.
- Fusch Ph D, P. I., & Ness, L. R. (2015). Are we there yet? Data saturation in qualitative research.
- Ghafouri, M., Hassaskhah, J., & Mahdavi-Zafarghandi, A. (2024). From virtual assistant to writing mentor: Exploring the impact of a ChatGPT-based writing instruction protocol on EFL teachers' self-efficacy and learners' writing skill. *Language Teaching Research*.
- Gibson, W., & Brown, A. (2009). Working with qualitative data. 1–232
- Granić, A. (2022). Educational technology adoption: A systematic review. *Education and Information Technologies*, 27(7), 9725–9744.
- Greitemeyer, T., & Kastenmüller, A. (2023). HEXACO, the Dark Triad, and Chat GPT: Who is willing to commit academic cheating?. *Heliyon*, 9(9).
- Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field Methods*, 18(1), 59–82.
- Gulati, V., Roy, S. G., Moawad, A., Garcia, D., Babu, A., Poot, J. D., & Teytelboym, O. M. (2024). Transcending Language Barriers: Can ChatGPT Be the Key to Enhancing Multilingual Accessibility in Healthcare?. *Journal of the American College of Radiology*.
- Hennink, M., & Kaiser, B. N. (2022). Sample sizes for saturation in qualitative research: A systematic review of empirical tests. *Social Science & Medicine*, 292, Article 114523.
- Hofstede, G., Hofstede, G. J., & Minkov, M. (2010). *Cultures and organizations: Software of the mind: Intercultural cooperation and its importance for survival*. McGraw-Hill.
- Huh, S. (2023). Are ChatGPT's knowledge and interpretation ability comparable to those of medical students in Korea for taking a parasitology examination?: A descriptive study. *Journal of Educational Evaluation for Health Professions*. <https://doi.org/10.3352/jeehp.2023.20.1>
- Hwang, S. I., Lim, J. S., Lee, R. W., Matsui, Y., Iguchi, T., Hiraki, T., & Ahn, H. (2023). Is ChatGPT a “fire of prometheus” for non-native English-speaking researchers in academic writing? *Korean Journal of Radiology*, 24(10), 952.
- Jan, J., Alshare, K. A., & Lane, P. L. (2024). Hofstede's cultural dimensions in technology acceptance models: A meta-analysis. *Universal Access in the Information Society*, 23(2), 717–741.
- Kacperski, C., Ulloa, R., Bonnay, D., Kulshrestha, J., Selb, P., & Spitz, A. (2025). Characteristics of ChatGPT users from Germany: Implications for the digital divide from web tracking data. *PLoS ONE*, 20(1), 1–21. <https://doi.org/10.1371/journal.pone.0309047>
- Karakoç Keskin, E. (2023). Yapay Zekâ Sohbet Robotu Chatgpt Ve Türkiye İnternet Gündeminde Oluşturduğu Temalar. *Yeni Medya Elektronik Dergisi*, 7(2), 114–131.
- Khowaja, S. A., Khuwaja, P., Dev, K., Wang, W., & Nkenyereye, L. (2024). Chatgpt needs spade (sustainability,

- privacy, digital divide, and ethics) evaluation: A review. *Cognitive Computation*, 1–23.
- Kutlu, F. G. (2023, Mayıs 10). *ChatGPT ile Öğrenmede Devrim Mi Yaşanıyor? Blog Yazısı. Türkiye: Harvard Business Review*. <https://hbrturkiye.com/blog/chatgpt-ile-ogrenmede-devrim-mi-yasaniyor/> Accessed Aralık 19, 2024
- Lazer, D., Pentland, A., Adamic, L., Aral, S., Barabasi, A. L., Brewer, D., & Van Alstyne, M. (2009). Social science. Computational social science. *Science (New York, NY)*, 323(5915), 721–723.
- Leelavathi, R., & Surendhranatha, R. C. (2024). ChatGPT in the classroom: navigating the generative AI wave in management education. *Journal of Research in Innovative Teaching & Learning*.
- Lincoln, Y., & Guba, E. G. (1985). *Naturalistic inquiry*. Sage.
- Livberber, T., & Ayvaz, S. (2023). The impact of Artificial Intelligence in academia: Views of Turkish academics on ChatGPT. *Heliyon*, 9, 1–11. <https://doi.org/10.1016/j.heliyon.2023.e19688>
- Lo, C. K. (2023). What is the impact of ChatGPT on education? A rapid review of the literature. *Education Sciences*, 13(4), 410.
- Lund, B. D., Wang, T. (2023). ChatGPT and a new academic reality: Artificial Intelligence-written research papers and the ethics of the large language models in scholarly publishing. *Journal of the Association for Information Science and Technology*, 74(5), 570–581.
- Luo, W., He, H., Liu, J., Berson, I. R., Berson, M. J., Zhou, Y., & Li, H. (2024). Aladdin's Genie or Pandora's Box for early childhood education? Experts chat on the roles, challenges, and developments of ChatGPT. *Early Education and Development*, 35(1), 96–113.
- Mannuru, N. R., Shahriar, S., Teel, Z. A., Wang, T., Lund, B. D., Tijani, S., & Vaidya, P. (2023). Artificial intelligence in developing countries: The impact of generative artificial intelligence (AI) technologies for development. *Information Development*, 02666669231200628.
- Martínez-Pernía, D., Troncoso, A., Chaigneau, S., Marchant, N., Zepeda, A., & Blanco, K. (2024). A new horizon in mixed-method studies: ChatGPT-assisted qualitative analysis.
- Mhlhanga, D. (2023). Open AI in education, the responsible and ethical use of ChatGPT towards lifelong learning. In *Education, the Responsible and Ethical Use of ChatGPT Towards Lifelong Learning (February 11, 2023)*.
- Morocco-Clarke, A., Sodangi, F. A., & Momodu, F. (2023). The implications and effects of ChatGPT on academic scholarship and authorship: a death knell for original academic publications?. *Information & Communications Technology Law*, 1–21.
- Mullainathan, S., & Spiess, J. (2017). Machine learning: An applied econometric approach. *Journal of Economic Perspectives*, 31(2), 87–106.
- Namatovu, A., & Kyambade, M. (2025). Leveraging AI in academia: University students' adoption of ChatGPT for writing coursework (take home) assignments through the lens of UTAUT2. *Cogent Education*, 12(1), 2485522.
- Nepal, T. K. (2024). Exploring the applications and challenges of ChatGPT in research and academia: A comprehensive review. *West Science Interdisciplinary Studies*, 2(05), 1043–1050.
- Neufeld, D. J., Dong, L., & Higgins, C. (2007). Charismatic leadership and user acceptance of information technology. *European Journal of Information Systems*, 16, 494–510.
- Oliveira, T., Thomas, M., Baptista, G., & Campos, F. (2016). Mobile payment: Understanding the determinants of customer adoption and intention to recommend the technology. *Computers in Human Behavior*, 61, 404–414.
- Osama, M., Afridi, S., & Maaz, M. (2023). ChatGPT: Transcending language limitations in scientific research using artificial intelligence. *Journal of the College of Physicians and Surgeons-pakistan: JCPSP*, 33, 1198–1200.
- Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2015). Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Administration and Policy in Mental Health and Mental Health Services Research*, 42, 533–544.
- Papagiannidis, S., & Marikyan, D. (2020). Smart offices: A productivity and well-being perspective. *International Journal of Information Management*, 51, Article 102027.
- Patton, M. Q. (1990). *Qualitative Evaluation and Research Methods*, 2nd edn, Newberry Park. Cal.: Sage Publications, Inc
- Qadir, J. (2023, May). Engineering education in the era of ChatGPT: Promise and pitfalls of generative AI for education. In *2023 IEEE Global Engineering Education Conference (EDUCON)* (pp. 1–9). IEEE.
- Ray, P. P. (2023). ChatGPT: A comprehensive review on background, applications, key challenges, bias, ethics, limitations and future scope. *Internet of Things and Cyber-Physical Systems*, 3(2023), 121–154. <https://doi.org/10.1016/j.iotcps.2023.04.003>
- Rice, S., Crouse, S. R., Winter, S. R., & Rice, C. (2024). The advantages and limitations of using ChatGPT to enhance technological research. *Technology in Society*, 76, Article 102426.
- Romero-Rodríguez, J. M., Ramírez-Montoya, M. S., Buenestado-Fernández, M., & Lara-Lara, F. (2023). Use of ChatGPT at university as a tool for complex thinking: Students' perceived usefulness. *Journal of New Approaches in Educational Research*, 12(2), 323–339.
- Rudolph, J., Tan, S., & Tan, S. (2023). Chatgpt: Bullshit spewer or the end of traditional assessments in higher education? *Journal of Applied Learning & Teaching*, 6(1), 1–22.
- Ryan, G. W., & Bernard, H. R. (2003). Techniques to Identify Themes. *Field Methods*, 15(1), 85–109.
- Sakai, N. (2023). Native, non-native, or bilingual? A concise assessment of ChatGPT's suitability for second-language instruction as a native or non-native pedagogue.
- Sergeeva, O. V., Zheltukhina, M. R., Shoustikova, T., Tukhvatullina, L. R., Dobrokhotov, D. A., & Kondrashev, S. V. (2025). Understanding higher education students' adoption of generative AI technologies: An empirical investigation using UTAUT2. *Contemporary Educational Technology*, 17(2), ep571.
- Shen, X., Chen, Z., Backes, M., & Zhang, Y. (2023). In chatgpt we trust? measuring and characterizing the reliability of chatgpt. arXiv preprint [arXiv:2304.08979](https://arxiv.org/abs/2304.08979).
- Shuhaiber, A., Kuhail, M. A., & Salman, S. (2025). ChatGPT in higher education-A Student's perspective. *Computers in Human Behavior Reports*, 17, Article 100565.

- Singh, S. K., Kumar, S., & Mehra, P. S. (2023, June). Chat GPT & Google Bard AI: A Review. In *2023 International Conference on IoT, Communication and Automation Technology (ICICAT)* (pp. 1–6). IEEE.
- Sobaih, A. E. E., Elshaer, I. A., & Hasanein, A. M. (2024). Examining students' acceptance and use of ChatGPT in Saudi Arabian higher education. *European Journal of Investigation in Health, Psychology and Education*, 14(3), 709–721.
- Stake, R. E. (2013). Multiple case study analysis. Guilford press.
- Strzelecki, A., Cicha, K., Rizun, M., & Rutecka, P. (2024). Acceptance and use of ChatGPT in the academic community. *Education and Information Technologies*, 1–26.
- Strzelecki, A. (2024). Students' acceptance of ChatGPT in higher education: An extended unified theory of acceptance and use of technology. *Innovative Higher Education*, 49(2), 223–245.
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 425–478.
- Venkatesh, V., Thong, J. Y., & Xu, X. (2012). Consumer acceptance and use of information technology: extending the unified theory of acceptance and use of technology. *MIS Quarterly*, 157–178.
- Verhoef, P. C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Dong, J. Q., Fabian, N., & Haenlein, M. (2021). Digital transformation: A multidisciplinary reflection and research agenda. *Journal of Business Research*, 122, 889–901.
- Williams, M. D., Rana, N. P., & Dwivedi, Y. K. (2015). The unified theory of acceptance and use of technology (UTAUT): A literature review. *Journal of Enterprise Information Management*, 28(3), 443–488.
- Wu, T., He, S., Liu, J., Sun, S., Liu, K., Han, Q. L., & Tang, Y. (2023). A brief overview of ChatGPT: The history, status quo and potential future development. *IEEE/CAA Journal of Automatica Sinica*, 10(5), 1122–1136.
- Xu, T., & Jumaat, N. F. (2024). ChatGPT-empowered writing strategies in EFL students' academic writing: Calibre, challenges and chances. *International Journal of Interactive Mobile Technologies*, 18(15).
- Yin, R. K. (2018). *Case Study Research and Applications: Design and Methods* (6th ed.). Sage Publications.
- Zhai, X. (2022). ChatGPT user experience: Implications for education. Available at SSRN 4312418.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Springer Nature or its licensor (e.g. a society or other partner) holds exclusive rights to this article under a publishing agreement with the author(s) or other rightsholder(s); author self-archiving of the accepted manuscript version of this article is solely governed by the terms of such publishing agreement and applicable law.