



A Study on the Attitude towards Artificial Intelligence (AI) and the Need for Cognition among Young Adults

Anisha Goswami, *Postgraduate in Psychology*

anishaconnect555@gmail.com

Abstract: Artificial Intelligence has become a deeply integrated part of the daily lives of young adults, shaping how they think, learn, and make decisions. The present study aimed to study the relationship between attitude towards Artificial Intelligence (AI), Need for Cognition, and AI usage, including ChatGPT use, among young adults. A total sample of 57 young adults aged 18-30 years was taken. Standardized scales were used to measure Attitude towards AI, Need for Cognition, and problematic ChatGPT use. The results revealed a significant positive relationship between the Attitude towards AI and the benefits of AI, and the use of AI, as well as a significant negative relationship between Need for Cognition and ChatGPT use, which suggests that individuals with higher cognitive motivation rely less on conversational AI tools. The study highlighted the importance of understanding cognitive motivation in shaping how young adults interact with modern AI technologies

Keywords: *Use of AI, Artificial Intelligence, Cognition, Need For Cognition, Young Adults, ChatGPT*

1. Introduction

“The real problem is not whether machines think, but whether men do.”

– B.F. Skinner

Artificial intelligence (AI), a technology that enables computers and machines to stimulate human learning, comprehension, problem-solving, decision-making, creativity, and autonomy (Stryker & Kavlakoglu, n.d.), a technology that enables computers and machines to stimulate human learning, comprehension, problem-solving, decision-making, creativity, and autonomy, has become a necessary component of human life, influencing how people think,

make decisions, and engage with the outside world. AI is changing the social and economic process as well as the foundations of human cognition (Vaia et al., 2021).

Humans are at a critical crossroad in the evolving era of Artificial Intelligence (AI), we have vast amounts of information and intelligent systems that can process it, but we must decide how, why, and to what extent we engage cognitively.

Among young adults, this concern is now more relevant than ever. The introduction of AI tools, such as ChatGPT, has raised concerns about cognitive laziness and overreliance, which may hinder critical thinking skills (Nidugonda & Shaik, 2025, Savin et al., 2024). There is a need to understand how young people think with and through these AI systems. Need for Cognition (NFC), defined “as the degree to which people participate in and enjoy effortful, cognitive activities, is a key factor that greatly influences how young adults utilize AI technologies”. People with high NFC are usually more inclined towards deeper analysis and reflection, while those with lower NFC tend to prefer quick or externally guided solutions (Li & Browne, 2004).

The increasing use of AI in decision-making and learning environments highlights a paradox. AI can enhance our decision-making skills by expediting information processing, but at the same time it may also reduce our intrinsic motivation to fully engage with complex tasks, as evidenced by individual differences in cognitive effort-based decision-making skills by streamlining information processing, it may at the same time also reduce our intrinsic motivation to fully engage with complex tasks, as evidence by individual differences in cognitive effort based decision-making (Randez & Hélie, 2024).

Individuals should be encouraged to play an active role in their own learning process rather than becoming cognitively dependent as a result of using AI technologies. For example, applying AI to solve real-world issues can improve cognitive engagement and help to develop skills and abilities for navigating an AI-enhanced workforce. Young adults can maintain their intellectual curiosity by prioritising critical thinking, creativity, and successfully adapting to the complexities of a technological world successfully adapt to the complexities of a technological world (Moustaghfir & Brigui, 2024).

Moşoi et al. (2025) discovered that, while AI-assisted tools improved students' problem-solving ability, they reduced deep cognitive engagement, highlighting the importance of reflective thinking in reducing rote learning. Chen et al. (2025) discovered that generative AI reduced mental effort while improving task performance in college students, but they cautioned that long-term dependence could weaken intrinsic motivation for analytical

reasoning. Júnior et al. (2025) identified the risk of overreliance on AI in academic settings, stating that excessive automation can undermine students' autonomy and critical thinking.

A study conducted at the MIT Media Lab (Kosmyna et al., 2024) provides neurological evidence of this effect. Using EEG scans, the researchers found that when compared to participants who wrote without AI support, those who used ChatGPT during a writing task showed weaker brain connections and lower cognitive engagement.

These findings indicate that although AI can enhance performance and help to find information, it might also have an impact on people's motivation and the effort they put into thinking.

In India, this issue has gained particular importance as AI adoption accelerates among young adults. A report published by EY Parthenon in collaboration with FICCI found that over 50% of higher education institutions (HEIs) in India are using generative AI to develop learning materials, while 60% of them are permitting students to use AI tools (Yeravdekar et al., 2025). According to a survey published by Statista Consumer Insights, 41% of Indians stated that AI tools are a part of their everyday life. India has also emerged on top, surging ahead of Western countries such as the United States and the United Kingdom. The 9th Global Online Safety Survey, published by Microsoft in 2025, revealed that 65% of Indians reported using AI, a 26% increase from 2023. Millennials (25-44 years) are leading the charge, with 84% reporting AI usage.

These numbers show how deeply ingrained AI has become in India's professional and educational ecosystems, especially among young adults who are at an affirmative stage of developing their cognitive and decision-making abilities.

Young adults need to understand how artificial intelligence relates to the need for cognition. As current active consumers of modern technology, they are forming lifelong habits that affect how they think and learn. While those with lower NFC may rely on AI for quick fixes, which diminishes reflective thinking, those with higher NFC are more likely to challenge and critically interact with AI. Most of the research on AI is done on its educational and practical benefits, while the cognitive motivation aspect has received little attention. This disparity limits our understanding of how AI influences the thinking and learning patterns among young adults who rely heavily on digital technology.

The current study aimed to examine the relationship between artificial intelligence and the need for cognition among young adults. It aims to understand how individuals' perception, interaction, and dependence on AI technology are influenced by cognitive motivation. By deciphering this relationship, the study seeks to advance knowledge of human AI interaction

and provide insight for encouraging active, thoughtful, and independent engagement in a society that is becoming more and more automated.

1.1 Artificial Intelligence

Artificial intelligence has been defined by McCarthy (2004) as “the science and engineering of making intelligent machines, especially intelligent computer programs. It is related to the similar task of using computers to understand human intelligence, but AI does not have to confine itself to methods that are biologically observable.” Artificial intelligence (AI) is “the ability of a computer or a robot controlled by a computer to do tasks that are usually done by humans because they require human intelligence and discernment. Although there are no AIs that can perform the wide variety of tasks an ordinary human can do, some AIs can match humans in specific tasks” ([Britannica](#))

A review study was conducted by Shanmugasundaram and Tamilarasu (2023) to explore the impact of digital technology, social media, and artificial intelligence (AI) on various cognitive functions. The review examined how these technologies influence the attention, memory, perception, decision-making, and critical thinking of people of various ages, both positively and negatively. The findings reveal that, while Digital tools and AI increase productivity and learning, they can also lead to addiction, distraction, and a loss of cognitive control. The study emphasises the importance of mindful digital engagement as well as additional research into how technology influences cognitive motivation and modern-day functioning.

Siemens et al. (2022) studied the relationship between human and artificial cognition, focusing on how both systems function and interact in learning and decision-making contexts. According to the researchers, artificial and human cognition are distinct but complementary systems, each with advantages and disadvantages. The study emphasised the importance of determining which cognitive tasks are best performed by humans and which can be delegated to AI to improve sense, making, knowledge, processing, and decision-making. The findings highlighted the growing need to investigate how people interact cognitively with AI systems and the motivational process that underpins these human-machine interactions.

To understand the attitudes of young people toward the use of artificial intelligence (AI), a study was conducted by Nikolenko and Astapenko (2023). The research compared responses from 75 young participants with a comparative group of 50 adults aged 40–50 years, using an author-developed questionnaire and statistical analysis. According to the findings, the two groups' perception of the advantages of AI systems, the reasons for using them, and their feelings about them differed significantly.

1.2 *Need for Cognition*

According to Neisser (1964), the term ‘cognition’ refers to “all the processes by which the sensory input is transformed, reduced, elaborated, stored, recovered, and used. It is concerned with these processes even when they operate in the absence of relevant stimulation, as in images and hallucinations... Given such a sweeping definition, it is apparent that cognition is involved in everything a human being might possibly do; that every psychological phenomenon is a cognitive phenomenon.”

According to Collins dictionary, “Cognition is the mental act or process by which knowledge is acquired, including perception, intuition, and reasoning.”

Cohen et al. (1955) defined the need for cognition as “a need to structure relevant situations in meaningful, integrated ways. It is the need to understand and make reasonable the experiential world.” Need for cognition refers “to the extent to which individuals engage in and enjoy effortful cognitive activities across many domains” (Cacioppo et al., 1984).

A study confirmed by Hamburger, Kaynar, and Fine (2007) focused on the impact of the need for cognition on the desired level of inactivity on a website and on web surfing in general. They used four commercialized websites, and all the websites contained identical information, which was presented in different ways. A sample of 182 experienced web surfers, aged between 21 and 30, was taken and randomly assigned to one of the websites. After surfing the websites, participants completed a questionnaire regarding their satisfaction, willingness to return to the site, how persuasive they found the site, as well as their demographic data. The results showed that people with a low need for cognition preferred interactive sites.

To determine whether the need for cognition (NC) has the same meaning at different ages, a study was conducted by Soubelet and Salthouse (2017). The researchers examined both internal relations and external relations of NC on 5,004 participants, aged between 18 and 99 years. Internal relations were investigated with measures of reliability, examination of factor in variance, and test-retest coefficient. External relations were investigated by examining the relation of NC with cognitive abilities, engagement, personality, self-cognition, and affect. The results of the study show that the need for cognition is a broad construct that reflects a person’s motivation to seek out intellectual challenges, and the meaning of NC may remain the same across the life span.

Yoon and Lee (2025) studied how perceived empathy and need for cognition relate to the adoption of AI recommendation services. An AI-based or a human expert suggestion for sneakers was presented to a sample of 200 people in Korea. The results show that the behavioural intentions were positively impacted by empathy when perceived technology and

personalisation quality in AI services were higher. The study also revealed that people with I need for cognition felt more empathy for personalisation quality, showing the significance of cognitive characteristics in the acceptance of AI services.

1.3 Purpose

The purpose is to study the use of Artificial Intelligence and the Need for Cognition among young adults.

1.4 Hypothesis

H1: There will be a significant relationship between Attitude toward Artificial Intelligence and Need for Cognition.

2. Methods

2.1 Sample

A total sample of 57 young adults, aged 18-30, was collected from the city of Jorhat, Assam.

2.2 Measures

Artificial Intelligence Attitude Scale: Artificial Intelligence Attitude Scale was used to measure the attitude towards artificial intelligence for the study of the sample. The scale was developed by Aktay et al. (2024). The scale consisted of 13 items, and the rating scale included Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4), Strongly Agree (5). The scale has three subdimensions, namely, benefits of artificial intelligence, risks of artificial intelligence, and Use of artificial intelligence.

Need for Cognition Scale (NCS): The Need for Cognition Scale (NCS) was used to measure how the sample felt about different situations in which they must think, reason, make decisions, or solve a problem. The scale was developed by Cacioppo and Petty (1982). The scale consisted of 18 items, and the rating scale included Extremely Uncharacteristic (1), Somewhat Uncharacteristic (2), Uncertain (3), Somewhat Characteristic (4), and Extremely Characteristic (5).

Problematic ChatGPT Use Scale (PCUS): The Problematic ChatGPT Use Scale (PCUS) was used to measure the problematic use and dependence on ChatGPT for the study of the sample. The scale was developed by Yu et al. (2024). The scale consisted of 11 items, and the rating scale included Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4), and Strongly Agree (5).

2.3 Procedures

The participants were informed about the purpose of the study before it began, assuring confidentiality and voluntary participation. Informed consent was taken before data collection. An online survey was administered via Google Forms for convenience. Standardized psychological measures were used to assess Attitude towards Artificial Intelligence, Need for Cognition, and ChatGPT use. After the study concluded, each participant was thanked for their cooperation.

3. Data Analysis

3.1 Results

Table 1: *N, Mean, and Standard Deviation*

	Artificial Intelligence Attitude	Benefits of AI	Risks of AI	Use of AI	Need for Cognition	ChatGPT use
N	57	57	57	57	57	57
Mean	40.8	11.6	9.28	19.9	58.9	20.7
Standard deviation	7.72	2.84	2.75	4.98	8.38	8.49

Table 2: *Correlation between Artificial Intelligence Attitude, Need for Cognition, and ChatGPT use*

	Artificial Intelligence Attitude	Benefits of AI	Risks of AI	Use of AI	Need for Cognition	ChatGPT use
Artificial Intelligence Attitude	—					
Benefits of AI	0.747***	—				
Risks of AI	0.412**	-0.012	—			
Use of AI	0.896***	0.592***	0.092	—		
Need for Cognition	0.002	0.062	-0.059	0.001	—	
ChatGPT use	0.265*	0.066	0.064	0.337*	-0.328*	—

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

4. Discussion of Results

The main purpose of the research was to study the relationship between attitude towards Artificial Intelligence and Need for Cognition. The results found that there is a significant positive correlation between attitude toward artificial intelligence and benefits of AI ($r = 0.747$, $p < .001$). The results also revealed that attitude toward AI is positively correlated with risks of AI ($r = 0.412$, $p < .01$) and use of AI ($r = 0.896$, $p < .001$). Further, the results found that use of AI is positively correlated with the benefits of AI ($r = 0.592$, $p < .001$).

The results also indicate that ChatGPT use is positively correlated with use of AI ($r = 0.337$, $p < .05$) and negatively correlated with Need for Cognition ($r = -0.328$, $p < .05$). This suggests that individuals with higher Need for Cognition rely on ChatGPT, to complete their cognitive tasks, while those with lower Need for Cognition depend more on AI.

However, no significant relationship was found between the need for cognition and attitude toward AI, benefits of AI, or risks of AI, implying that cognitive motivation does not influence general perceptions of AI but does affect the dependency on AI tools.

The findings of this study are consistent with emerging research on the cognitive effects of AI. The distributed atrophy model, presented by Jadhav(2025), argues that chronic reliance on AI tools reduces cognitive effort, diminishes metacognitive self-trust, and memory encoding. Another study conducted by Agrawal et al. (2025), which studied the hidden cost of excessive AI on the mental development of young people, found that increased dependence on AI impaired memory, creativity, and critical thinking.

Therefore, these studies support the notion that while AI can improve efficiency and convenience, increased reliance on AI may also reduce intellectual engagement and cognitive effort. The present study, therefore, emphasises the importance of balanced AI use as young adults with a lower Need for Cognition may be vulnerable to cognitive offloading and reduced independent thinking. To encourage healthier and more thoughtful interactions with AI, it is utmost important to understand how cognitive motivation affects usage patterns as AI becomes more pervasive in education, entertainment, and daily tasks.

5. Conclusion

The present study aimed to understand the relationship between attitude toward Artificial Intelligence, Need for Cognition, and AI usage among young adults. For this purpose, a sample of 57 young adults in the age range of 18–30 was taken. Standardized measures were administered to assess attitude toward AI, Need for Cognition, and ChatGPT use. The results revealed a significant positive relationship between attitude toward AI and both the benefits of

AI and the use of AI. The findings also showed a significant negative relationship between Need for Cognition and ChatGPT use. No significant relationship was found between Need for Cognition and general attitudes toward AI.

The findings showed that young adults who have a positive attitude toward AI tend to use AI tools more frequently and perceive them as more useful. However, individuals with higher Need for Cognition rely less on ChatGPT, indicating that cognitive motivation influences the extent to which young adults depend on AI for thinking and decision-making. This highlights the importance of encouraging young adults to engage actively with information, question AI outputs, and maintain independent thinking rather than depending heavily on AI systems for cognitive tasks.

These results highlight the need to promote balanced and mindful AI use to make sure that AI serves as a helpful tool rather than replacing cognitive effort. Educational institutions and families can play an important role by encouraging critical thinking, fostering candid discussions about AI use, and helping young adults develop healthy digital habits. Future efforts should also focus on creating structured, transparent, and ethically designed AI tools that assist users without encouraging dependency.

References

- Agrawal, A., Pavithra, S., Sharma, R., Patil, N. P., Mane, Y. D., Kalmani, V., Gupta, D., & Kumar, A. (2025). *The hidden cost of AI*. In Y. S. Shantharajah (Ed.), *Advances in computational intelligence and robotics* (pp. 405–434). IGI Global. <https://doi.org/10.4018/979-8-3373-5072-1.ch016>
- Amichai-Hamburger, Y., Kaynar, O., & Fine, A. (2007). The effects of need for cognition on Internet use. *Computers in Human Behavior*, 23(1), 880–891. <https://doi.org/10.1016/j.chb.2006.03.003>
- APA PsycNet. (n.d.). *Record 1956-04071-001*. <https://psycnet.apa.org/record/1956-04071-001>
- Britannica. (2025, October 1). *What is artificial intelligence?* Encyclopedia Britannica. <https://www.britannica.com/question/What-is-artificial-intelligence>
- Cacioppo, J. T., Petty, R. E., & Kao, C. F. (1984). The need for cognition. *Journal of Personality and Social Psychology*, 42(1), 116–131.
- Chen, Y., Wang, Y., Wüstenberg, T., Kizilcec, R. F., Fan, Y., Li, Y., Lu, B., Yuan, M., Zhang, J., Zhang, Z., Geldsetzer, P., Chen, S., & Bärnighausen, T. (2025). Effects of generative artificial intelligence on cognitive effort and task performance: Study protocol for a

- randomized controlled experiment among college students. *Trials*, 26(1).
<https://doi.org/10.1186/s13063-025-08950-3>
- Choueiry, B. Y. (n.d.). *What is AI?* University of Nebraska. <https://cse.unl.edu/~choueiry/S09-476-876/Documents/whatisai.pdf>
- Collins Dictionary. (n.d.). *Cognition*.
<https://www.collinsdictionary.com/dictionary/english/cognition>
- Jadhav, A. (2025). *Distributed atrophy: How AI shapes and shrinks our cognitive habits*.
https://doi.org/10.31219/osf.io/hzuw7_v1
- Júnior, J. F. C., Lins, P. P. M., Oliveira, A., Ruas, G. C. R., Neto, R. A. dos R., Moraes, L. S., Barros, M. J. de, Martins, P. C. M., Lopes, L. C. L., Schmidt, M. Q., & Santos, W. G. I. (2025). *Algorithms vs autonomy: The risks of dependence on AI in the critical training of students*. <https://doi.org/10.56238/sevened2025.026-014>
- Kosmyna, N., Hauptmann, E., Yuan, Y. T., Situ, J., Liao, X.-H., Beresnitzky, A. V., Braunstein, I., & Maes, P. (2021). *Your brain on ChatGPT: Accumulation of cognitive debt when using an AI assistant for essay writing task*. MIT Media Lab.
- Li, D., & Browne, G. J. (2004). The role of need for cognition in online flow experience: An empirical investigation. In *Americas Conference on Information Systems* (Paper 386).
<https://aisel.aisnet.org/cgi/viewcontent.cgi?article=1962&context=amcis2004>
- Moşoi, A. A., Maican, C., Cazan, A., & Sumedrea, S. (2025). Do students need to think hard? The interplay of AI and cognitive abilities in solving problems. *Education and Information Technologies*. <https://doi.org/10.1007/s10639-025-13738-8>
- Moustaghfir, S., & Brigui, H. (2024). Navigating critical thinking in the digital era: An informative exploration. *International Journal of Linguistics, Literature and Translation*. <https://doi.org/10.32996/ijllt.2024.7.1.11x>
- Neisser, U. (1967). *Cognitive psychology*. Appleton-Century-Crofts.
- Nidugonda, P. S., & Shaik, S. A. (2025). The digital influence: ChatGPT and its role in shaping youth cognitive processes and decision-making. *International Journal of Innovative Science and Research Technology*, 1283–1287. <https://doi.org/10.38124/ijisrt/25apr987>
- Nikolenko, O., & Astapenko, E. (2023). The attitude of young people to the use of artificial intelligence. *E3S Web of Conferences*, 460, Article 05013.
<https://doi.org/10.1051/e3sconf/202346005013>
- Petty, R. E., & Cacioppo, J. T. (1982). The need for cognition. *Journal of Personality and Social Psychology*, 42(1), 116–131.

- Randez, A., & Hélie, S. (2024). The roles of intrinsic motivation and capability-related factors in cognitive effort-based decision-making. *Frontiers in Psychology*, 15. <https://doi.org/10.3389/fpsyg.2024.1303262>
- Savin, P. S., Rusu, G., Prelipcean, M., & Barbu, L. N. (2024). Cognitive shifts: Exploring the impact of AI on Generation Z and Millennials. *PICBE*, 18, 223–232. <https://doi.org/10.2478/picbe-2024-0019>
- Shanmugasundaram, M., & Tamilarasu, A. (2023). The impact of digital technology, social media, and artificial intelligence on cognitive functions: A review. *Frontiers in Cognition*, 2. <https://doi.org/10.3389/fcogn.2023.1203077>
- Siemens, G., Marmolejo-Ramos, F., Gabriel, F., Medeiros, K., Marrone, R., Joksimovic, S., & de Laat, M. (2022). Human and artificial cognition. *Computers and Education: Artificial Intelligence*, 3, 100107.
- Soubelet, A., & Salthouse, T. A. (2017). Does need for cognition have the same meaning at different ages? *Assessment*, 24(8), 987–998.
- Statista. (2025, April 15). *Artificial intelligence (AI) use in marketing*. <https://www.statista.com/topics/5017/ai-use-in-marketing/>
- Vaia, G., Ul-Ain, N., Gritti, E., & Bisogno, M. (2021). Ethical systems for artificial intelligence (pp. 131–145). Springer. https://doi.org/10.1007/978-3-030-80737-5_10
- Xu, S., & Li, W. (2024). A tool or a social being? A dynamic longitudinal investigation of functional use and relational use of AI voice assistants. *New Media & Society*, 26(7), 3912–3930.
- Yeravdekar, V., Venkatesh, M. D., Somaiya, S., Saxena, R., FICCI, & EY-Parthenon. (2025). *Future-ready campuses: Unlocking the power of AI in higher education* [Report]. <https://www.ey.com/content/dam/ey-unified-site/ey-com/en-in/insights/education/documents/ey-harnessing-ai-in-higher-education-opportunities-and-the-road-ahead.pdf>
- Yoon, N., & Lee, H. K. (2021). AI recommendation service acceptance: Assessing the effects of perceived empathy and need for cognition. *Journal of Theoretical and Applied Electronic Commerce Research*, 16(5), 1912–1928.