

AI Co-Dependency Between Different Generations and Occupations

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ABSTRACT

This paper examines how AI use differs across generations and how these differences intersect with cognitive and emotional reliance. While gathering data and researching existing literature, this study shows how younger users tend to integrate AI more easily into their identity and use it for learning, while older generations are more often reluctant to use AI as a tool. This paper focuses on these generational differences such as the specific and broader reasons for AI use between these different generations. This study analyzes AI use and identifies differences in dependency and socialization across generations. This project contributes to specific conversations about education, power, and relationships between humans and code.

INTRODUCTION

The rapid integration of artificial intelligence (AI) into our daily lives, such as through tools like Google Gemini, Grok, ChatGPT, and other AI systems, has sparked debate about reliance on AI, the ethics of AI, and how it affects students' learning across generations, particularly among younger students. Anecdotally, younger users who have grown up alongside algorithmic systems might be more likely to treat AI as a collaborator or guide, while older generations might often conceptualize it as a tool that should remain subordinate (Barbul et al., 2024).

This has significant impacts on humans, not only with respect to the environmental costs associated with AI, but also the societal and social costs. For example, social and psychological concerns surrounding AI use include dependence, deskilling, anxiety, privacy concerns, bias exposure, and the possibility of substituting human interaction with AI (Dvorak et al., 2025). AI use can also trigger social penalties when use is visible, because people may judge heavy AI use as less deserving or less effortful (Grutzner, 2026; Selim et al., 2024). This is important because of the growing reliance on AI in educational environments, which may influence how different generations approach learning, problem solving, and AI-assisted tasks. The expanding influence of AI on how knowledge is produced raises concerns about how repeated reliance on AI systems may influence learning and independent problem solving (Tian & Zhang, 2025). In researching these aspects, this study aims to distinguish age-based factors from AI reliance, formulate

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specific research questions, and create more targeted, generationally informed guidelines for AI use. To address this gap, this paper focuses on generational differences that are crucial to understanding emerging forms of AI reliance.

For the purposes of this study, several key terms require clarification. Dependency refers to the frequent use of AI for simple or routine tasks that could be completed without AI assistance. Codependency refers to a stronger form of reliance in which individuals feel unable to complete tasks without the support of AI. Cognitive reliance refers to the use of AI for thinking-related activities such as writing, problem solving, studying, brainstorming, or generating ideas. Emotional reliance refers to the use of AI for emotional support or interpersonal situations that would traditionally involve another person, such as seeking advice, comfort, or help responding to sensitive situations (e.g., situations traditionally involving a therapist or trusted person). While ordinary AI use involves employing AI as a tool to increase efficiency, these concepts describe different levels and forms of reliance that may develop through repeated interaction with AI systems.

This study asks the following research questions: How does AI use differ across generations, and how do age and occupation influence cognitive and emotional reliance on AI?

LITERATURE REVIEW

AI Use Across Generations

A large body of research is concerned with differences in AI use across generations. Liang & Reiss (2025) looked at the associations between students' attitudes toward AI and their learning engagement, thereby connecting students' emotional responses to AI with learning outcomes. They found that younger generations may be more open to using AI as a positive tool because it is integrated into their daily lives, while adolescents and middle-aged people may be more susceptible to developing dependency on AI. They trace this to the observation that students who have grown up in the digital age may perceive AI as empowering, increasing autonomy and enjoyment, while older or less technologically immersed learners may experience anxiety and less authority. These findings suggest that generational familiarity with technology shapes emotional responses and patterns of AI use. This study is relevant to the present research because it informed the investigation of whether similar generational differences appeared among this study's survey participants.

Barbul and Bojescu (2025) similarly argue that attitudes toward AI are influenced less by the technology itself and more by the social environments and historical contexts in which individuals encounter it. Their findings suggest that younger generations who have grown up alongside rapidly evolving digital tools tend to view AI as an integrated part of everyday life. In contrast, older generations are more likely to approach AI with caution while perceiving it as disruptive or as a replacement for human processes.

These findings support the present study's examination of how age may influence patterns of AI use and reliance.

AI in Learning and Cognitive Reliance

Jansen et al. (2025) investigate the role of AI as a socializer of students' self-beliefs about their abilities, examining how interacting with AI can subtly reshape how students judge their own competence by either reinforcing confidence or encouraging reliance. They found that younger students are more willing to integrate AI into learning, while older generations may resist it. For younger students, AI becomes a "socializing" force that influences what they believe they can and cannot do. These findings informed the survey's focus on participants' use of AI for learning, productivity, and cognitive tasks.

Yin (2025) examines the framing of AI use as "cheating" within educational institutions and how this perception shapes students' emotional responses. Yin finds that while students are capable of completing work independently, repeated reliance on AI may develop over time, particularly when students experience pressure to perform. Younger students often view AI as a normal extension of digital learning, while institutions frequently respond through restrictive policies rooted in traditional educational practices. As Yin (2025) explains, the "carceral approach" to AI in education is defined by "mistrust, policing, surveillance and discipline," which can contribute to anxiety and guilt among students. These findings informed the present study by providing context for examining how participants viewed AI in educational settings and whether similar attitudes appeared across generations and occupations.

Connection to the Present Study

Together, these studies suggest that AI use differs across generations because of differences in technological familiarity, educational experiences, and workplace environments. While previous research has primarily focused on students or educational settings, fewer studies have examined how both age and occupation influence AI use within the same sample. Building on this literature, the present study investigates whether patterns of AI reliance differ across generations and professions by examining participants' reported use of AI for learning, productivity, daily cognitive tasks, and emotional situations.

METHODOLOGY

We employed a quantitative survey design to examine generational differences in AI usage and patterns of AI reliance associated with age and profession. We collected standardized data across multiple age groups to allow for comparisons of AI engagement and patterns of reliance. This design also allowed for the examination of broader trends, such as how students interact with AI compared to how adults in professional settings interact with AI.

Data was collected using a self-administered questionnaire created through Google Forms. The survey consisted of demographic questions, including age range and occupation, as well as questions measuring frequency of AI use, attitudes toward AI, and open-ended commentary. The survey was distributed electronically to students and adults of varying ages within Texas. The use of an online platform allowed for efficient distribution and easy access for participants.

Survey questions measured several aspects of AI use. General patterns of AI reliance were examined through questions regarding frequency of AI use, daily AI use, copying AI responses, and the likelihood of using AI to complete tasks. Cognitive reliance was examined through questions involving AI use for homework, planning, studying, productivity, learning, and confidence. Emotional reliance was examined through questions asking whether participants would use AI to help formulate responses in emotionally sensitive situations. While the survey explored patterns of AI reliance, it did not directly measure psychological codependency. Therefore, findings regarding reliance should not be interpreted as a direct measurement of codependency.

AI usage frequency was measured using a 10-point scale (1 = never, 10 = almost all tasks). A total of 59 participants were recruited through convenience sampling. The final sample consisted of 38 students and 21 adults from multiple generations, including Generation Z, Millennials, and Generation X. Gen Alpha was excluded because participants were too young to access the Google Form. Participants varied in profession and educational background.

Participation was voluntary, and participants completed the survey anonymously and independently. This anonymity was intended to encourage honest responses, particularly when discussing AI use, academic behaviors, and personal attitudes toward AI. However, there may have been response bias due to the limited number of participants and the use of convenience sampling. The survey remained open for 16 days. The final sample provided a range of responses that allowed for exploratory analysis of patterns across age groups and professions.

RESULTS

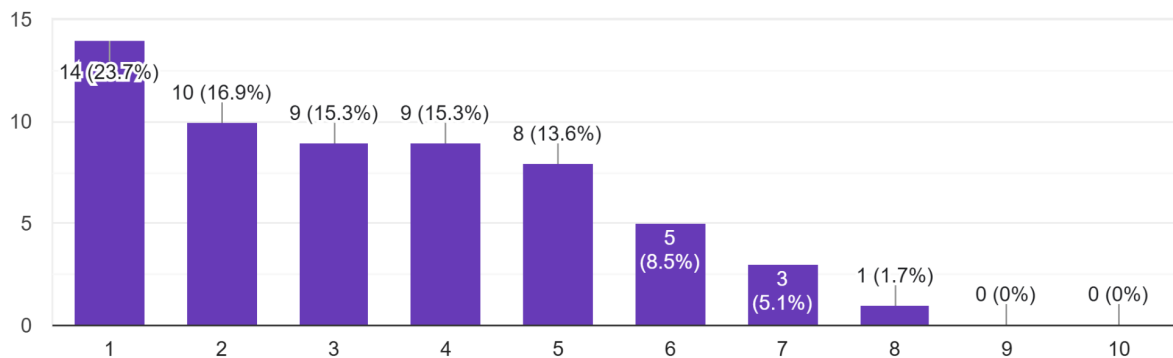
The results of this study reveal distinct generational differences in the way AI is used. Particularly, the patterns that were most observed were in relation to patterns of dependency and perceived purpose. From the data collected, profession influences how AI is used. Age also plays a significant role in shaping attitudes, frequency of use, and the degree of cognitive and emotional reliance towards AI systems.

Among students, the majority of open-ended responses suggested that AI use is often normalized among peers. Many participants noted that they do not actively seek out AI, but instead encounter it through integrated tools such as automatic AI generated responses in search engines such as Google. This passive exposure may influence how frequently students encounter AI-generated summaries and responses. Students frequently mentioned using AI for studying and understanding concepts rather than directly plagiarizing work. However, the distinction between using AI tools for studying rather than completing

work does not necessarily eliminate cognitive reliance. It may suggest a shift toward cognitive offloading, where some students use AI as a source of explanation during studying and productivity-related tasks. Multiple participants expressed concern that repeated reliance on AI could affect independent problem solving and critical thinking over time. This may indicate a growing reliance on AI support, as some students reported feeling more confident completing certain tasks with AI assistance. Many student participants responded to the question, “How often do you use AI in daily cognitive tasks,” by indicating that they rely on AI for tasks they consider “meaningless” or tedious, suggesting greater use when effort is perceived as unnecessary (see Figure 1). The chart further illustrates that participants reported varying levels of AI use for cognitive tasks, with many indicating relatively low use and others reporting reliance for tasks they considered routine or less meaningful.

How often do you use AI in daily cognitive tasks? (homework, planning, studying, etc.)

59 responses



(Figure 1. Responses to the survey question "How often do you use AI in daily cognitive tasks (homework, planning, studying, etc.)?" on a scale from 1 (never) to 10 (almost all tasks), n = 59).

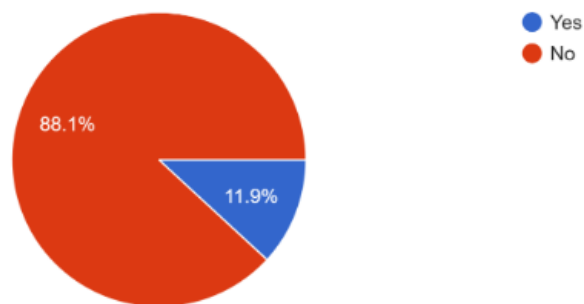
Adult responses varied more significantly, but still revealed patterns connected to both age and profession. 10 participants in more technical professions, such as IT or laboratory-based work, were more likely to report frequent AI use. However, their use was task-oriented and controlled. Many described using AI to review completed work, such as code, troubleshoot errors, or verify information, rather than generate complete outputs. This suggests a functional and assistive relationship with AI, where it enhances efficiency without replacing core skills. In these cases, AI dependency appears more limited, as users maintain authority over their work and use AI as a secondary tool rather than a primary source. Although these participants are using AI tools in more productive ways, these responses suggest some reliance on AI when reviewing completed work.

While Figure 1 shows that some participants regularly use AI for cognitive tasks such as homework, planning, and studying, the largest response category was 1 on the scale. This suggests that frequent AI use for cognitive tasks was not unanimous among respondents. Instead of indicating widespread cognitive reliance across the entire sample, the figure suggests that reliance varies between individuals and may be concentrated within specific age groups, occupations, or use cases.

5 adults in non-technical professions, such as education and retail, expressed greater reluctance toward AI use. Many reported avoiding AI altogether or being influenced by the skepticism of their professional environments. This indicates a lower level of dependency, but also highlights how workplace culture can shape attitudes toward AI. Unlike technical fields where AI is integrated into the workplace, these environments often frame AI as unnecessary.

Across both groups, an additional pattern emerged regarding the boundaries of AI use. Despite differences in frequency and purpose, most participants reported that they would not use AI for emotional interactions. This suggests that while AI may be integrated into certain workplaces, there remains a distinction between functional use and relational use. This boundary indicates that while there is a growing reliance on AI, most people will not use AI to replace their competence for empathy. For example, the provided question was “If you were put in a difficult situation, such as a friend's breakup, would you use AI to help formulate a response?” 88.1% (52 participants) responded that they would not use AI to formulate a response to this, while 11.9% (7 participants) responded that they would (see Figure 2). The following question was open-ended, and most participants indicated that they would not use AI in situations requiring empathy. Those who did report using AI in such contexts explained that it helps them articulate their thoughts more effectively.

If you were put in a difficult situation such as a friends breakup, would you use AI to help formulate a response?
59 responses



(Figure 2)

(Figure 2. Responses to the survey question "If you were put in a difficult situation, such as a friend's breakup, would you use AI to help formulate a response?" with response options of Yes or No, n = 59.)

Age-based differences in AI reliance were more pronounced than differences based on profession alone. Younger participants demonstrated a higher inclination toward integration of AI into daily tasks, often describing it as an unavoidable part of their workflow. This normalization contributes to a form of cognitive reliance where AI is used for support in learning and productivity. On the other hand, older participants were more likely to maintain separation between their own abilities and AI assistance, suggesting lower levels of dependency and greater confidence in independent task completion. However, there was still reliance on AI among older participants for fact-checking their work.

There were also notable deviations within each group. Some adult participants reported never intentionally using AI, while others described using it for a wide array of tasks similar to those of younger users. Many students framed their use as supportive, while others demonstrated clear reliance on AI to reduce effort. These variations suggest that while generational and professional trends are significant, individual attitudes and experiences are the most prominent influencers of the patterns of AI use shown. Overall, the findings indicate that both age and profession shape how AI is used, but in different ways. Profession tends to influence the purpose and structure of AI use, whether it is assistive or task-specific. Age more strongly influences patterns of AI reliance and normalization.. Younger users are more likely to integrate AI into learning and productivity-related activities due to frequent exposure to AI-supported environments. While adults in technical fields demonstrate more controlled and intentional use, and adults in academic careers are reluctant to use AI entirely. These results underline the importance of considering both generational and professional contexts when analyzing the evolving role of AI in everyday life.

CONCLUSION

This study set out to investigate the differences between age groups and occupations in AI reliance. We found that AI use varies on many axes: young adults seem to vary heavily on how much and what tasks they use it for, ranging from assistive use to cognitive offloading. Future research is needed to detail a finer-grained scale, what exact, e.g., socioeconomic or psychological factors contribute to differences in use. On the other hand, older participants were more likely to describe AI as a supplementary tool rather than an integrated part of their workflow, suggesting a different pattern of AI use. Future research should examine occupational variables across industries to determine whether AI reliance varies independently of age.

As this study was constrained in both time and space, it warrants the acknowledgement of several limitations. First, the sample population was limited to participants within Texas, which restricts the representativeness of the findings. AI usage patterns may vary across regions due to differences in technological access, educational policy, and cultural attitudes toward AI. Second, the use of convenience sampling may have introduced sampling bias. Since participants were recruited through social media and educational networks, the sample may overrepresent individuals who have a stronger opinion on the ethical use of AI as well as individuals who are exposed to different forms of technology. Third, this study

relied on self-reported data. Although the survey presented itself as anonymous, participants may have underreported or overreported their AI usage or commentary due to social desirability or lack of self-awareness. Future research may expand to include a more culturally diverse population, broader sampling for a stronger representativeness of regional differences, and a larger sample population to increase statistical power and allow for more generational comparisons.

In sum, the findings suggest that different generations demonstrate different patterns of AI reliance rather than a single trend of dependency. Many Gen Z participants reported frequent AI use, though the purpose and context of that use often differed from those reported by older participants. Additionally, occupational patterns showed that there are different perceptions of AI use. While some adults, particularly those in technical professions, reported relying on AI for tasks such as fact-checking, older participants generally described AI as a supplementary tool rather than an integrated part of their workflow. To contrast, adults working in educational fields were more reluctant to use AI and were more opposed to exposing students to AI tools. Adults in fields such as technology showed more receptive feelings to using AI as a tool in their profession. This suggests that professional use of AI is more tolerated than reliance on AI in settings such as educational institutions. The data gathered indicates that AI dependency may be influenced, but not limited to, generational familiarity but also occupation. The findings suggest that although younger generations are among the most frequent users of AI, patterns of dependency are shaped by both generational familiarity and occupational context rather than age alone.

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