

General Attitude towards AI: A Comparative Study between Males and Females

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ABSTRACT

Artificial Intelligence has been navigating and influencing a large portion of our lives in recent years. It includes employment edge, education and critical thinking aid. As artificial intelligence is getting ingrained into society, understanding public attitudes towards AI has gained significant psychological and social importance. This study focuses on examining gender distinctions in general attitude toward artificial intelligence. A quantitative cross-sectional comparative research design was selected. Data was taken from 94 participants consisting of 47 men and 47 women using the General Attitude towards Artificial Intelligence Scale (Schepman and Rodway, 2020). Participants responded to articles on a Likert-type scale measuring overall perceptions, concerns, and acceptance of AI technologies. Descriptive statistics were calculated, and a t- test of independent sample was adopted for men and women participants in their attitudes toward AI. The findings ought to signify that men reported notably more positive attitude in regards to AI than women. Whereas there is no significant difference in negative attitude towards AI. These results highlight the part of gender in modifying observation regarding emerging technologies and contribute to the growing body of research examining psychological responses to artificial intelligence. The findings may have implications for technology education, AI adoption strategies, and the development of inclusive technological policies.

Keywords: *General Attitude, AI, Comparative Study*

The use of AI has increased quite some over the last several years. Artificial Intelligence could be defined as the technology which is making computers intelligent enough to perform activities which usually require human intelligence, like exercising and retaining knowledge, solving issues, understanding languages, and making as well as assisting in decisions, so they can work on their own. Artificial Intelligence is being integrated in multiple sectors such as education, healthcare, finance, governance and communication. Artificial Intelligence appears to be very useful to humankind but there remain significant debates regarding concerns about its further impacts in society.

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Received: April 04, 2026; Revision Received: April 14, 2026; Accepted: April 18, 2026

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An important aspect influencing attitude towards technology is gender. There has been researcher regarding technological acceptance which put forward that men and women sometimes have different opinions on possible usefulness, risk and confidence toward technology. Former studies have expressed quite frequently that women possess heightened level of computer anxiety if compared to males. (Haag and Durndell,2002; Todman, 2000; Freeman and He, 2010) Traditional gender gaps may be narrowing, making it necessary to empirically examine whether differences still exist in context of AI acceptance. As the usage of artificial intelligence is increasing in our academic or work settings, the retaliation towards instilling artificial intelligence in our daily life might be diminishing. It is getting difficult to prevent inclusion of artificial intelligence in our daily life. It would be interesting to compare if there is notable difference between men and women regarding acceptance towards artificial intelligence. Gender based differences in technological acceptance have also been linked to difference in opinions in ethical orientation. Prior evidence suggests that females often demonstrate stronger concerns regarding ethical usage, data privacy and long-term impacts of technological systems. This increased ethical scrutiny may influence their overall acceptance levels, leading to more reserved or critical evaluations of technological innovations. Furthermore, socialization theories propose that males and females may develop different value orientation which influence how they evaluate emerging technologies. While a lot of people may recognize the sparkling potential for improving constructively and skillsets, other do express a wavering sense in regards to the ethical uprightness and dangers such as killing of curiosity, job turnovers and many more.

LITERATURE REVIEW

Numerous studies are being conducted regarding the attitude of individuals towards technological advancements, few have explored the gender basis aspect and it's impact on technological acceptance.

Previous researches regarding gender and attitude towards technological uses

A stats analysis of a large collection of analysis for gender and attitude towards technology use was conducted (Cai, Fan, and Du, 2017). The results showed that men most of the time had slightly more positive attitude towards tech than women, but the difference was very small. The study also explained that “attitude” is not just one single concept it includes emotional reactions (such as anxiety or enjoyment), beliefs about technology's usefulness, and self-assured in their ability to use tech (self-efficacy). According to (Sindermann et al, 2021) Evaluating the Attitude respecting Artificial Intellect : Introducing a Small Measure in German, Chinese, and English Language (2020) highlighted that Men achieved significantly more on the acceptance instrument whereas women achieved more on fear instrument, these difference were prevalent in German and Uk samples but considerably smaller in Chinese samples; interaction of gender with culture suggests that societal norms and exposure to Ai products moderate attitudes. A comparable gender effect was observed in a large Norwegian university sample using the AIAS-4 scale: students who were guy reported more positive AI attitudes than students who were girl, after controlling for age and discipline. (Grønhaug et al., 2022) Variations in ethical sensitivity and risk perception could be partly responsible for gender differences in technological acceptance suggested by Prior Researches. Studies indicate that women tend to report greater concern regarding privacy, surveillance and social consequences of emerging technologies. (Acilar & Yörük, 2010). Difference in gender regarding ethical computer use among business administration students. It was found that business administration students who were women demonstrates greater sensitivity towards unethical computer usage as comparable to students who were men, Rahman, Babiker and Ali provides a comprehensive examination of attitude towards

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artificial intelligence with older adults and female respondents expressing greater apprehension and concerns regarding ethics towards AI (Rahman et al., 2024c). In the 2025 study, (Russo et al.2025) evaluated how differences in gender influence attitudes towards artificial intelligence (AI) by centring only on the role of AI uneasiness. The authors found that women reported higher levels of AI uneasiness, minor positive attitude towards AI, lesser prior usage of AI and lesser perceived AI knowledge. (Grassini & Ree, 2023) According to this study men participants from the UK and USA reported higher scoring than women participants signifying that men from those two countries have a increased positive viewpoint on AI tech as distincted to men.

Synthesis and Research Gap

These studies collectively indicate gender differences in technological acceptance. However, the following gaps remain:

1. Majority of studies focus on general technology rather than specifically on artificial intelligence.
2. Limited empirical research on AI acceptance among Indian university students (youth population as defined by WHO: 15-24 years).
3. Limited application of the GAAIS (Schepman and Rodway, 2020) in non-western samples, as it is still undergoing cross cultural validation.

The current study directs these gaps by probing differences of gender in general attitudes towards artificial intelligence among students of Amity University, Lucknow Campus, employing a comparative study to examine whether male participants are more accepting towards Artificial Intelligence than females.

Objectives of Research

The current study directs to examine differences of gender in general attitude towards Artificial intelligence amongst university students. The specific purpose of the study are:

1. For assessing the general attitude respecting artificial intelligence amongst university students.
2. Comparison in regards to the levels of AI acceptance between men and women scholars.
3. To examine whether gender significantly influences perceptual stance of artificial intelligence.
4. To evaluate the reliability of the GAAIS scale within an Indian university sample.

Research Hypotheses

1. There will be a significant difference in the general positive attitude towards artificial intelligence between men and women scholars.
2. There will be significant difference in the general negative attitude towards artificial intelligence between men and women scholars.

METHODOLOGY

Research Designing

The current study adopts a comparative, cross sectional research design to evaluate differences in gender regarding general attitudes towards artificial Intelligence (AI).

There are two groupings in the study:

Here, gender is considered the Independent variable, while General Attitude towards AI is the dependant variable.

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1. Individuals identifying as Men.
2. Individuals identifying as Women.

No experimental manipulation was involved. Data was collected simultaneously from both groups to ensure uniform assessment conditions. The comparative design was considered appropriate as it allows systematic examinations of differences between two naturally occurring groups at an individual point in time.

Sample

The sample consisted of young adults divided into two groupings:

Men participants (n= 47)

Women participants (n=47)

Participants were within the age range of 15 -24 years. Efforts were made to ensure that both groups were comparable in terms of educational background and exposure to Ai- related technologies.

Sampling Technique

Participants were selected using a purposive method, ensuring that only individuals who satisfied the study's inclusion criteria were included. This ensured appropriate representation of both male and female participants for meaningful comparison.

Exclusion and Inclusion criteria

Criteria for Inclusion:

1. Individuals aging 15 to 24 years old.
2. Participants with basic awareness of Artificial Intelligence, for example their familiarity with AI tools such as ChatGPT, recommendation systems etc.

Criteria for Exclusion:

1. Individuals with no exposure or awareness to artificial intelligence.
2. Individuals currently undergoing intensive psychological or psychiatric treatment.
3. Prior history of psychiatric illness.

Tools Used

General Attitude towards Artificial Intelligence Scale (GAAIS)

This current study used general attitude towards artificial intelligence scale (Schepman and Rodway,2020). The instrument consisted of 18 questions about Ai devices (Computers, robots, sensors) responses are recorded on a five-point Likert which ranges from *Strongly disagree* to *Strongly agree*. Questions are divided into a Positive subscale (e.g., "I am impressed by what Artificial Intelligence can do") and a Negative subscale (e.g., "Artificial Intelligence might take control of people"). Positive questions are evaluated directly, while Negative items are reverse-scored, and the mean of each subscale is calculated to produce scores between 1 and 5; higher scoring signified more favouring attitude for the Positive subscale and a more forgiving stance toward AI drawbacks for the Negative subscale. Item order is randomised for each administration, and researchers are advised to embed attention-check items such as "To signify that you are reading this, please select Strongly agree" to verify respondent engagement. A bifactor analysis revealed low unidimensionality (UniCo = 0.672, ECV = 0.482), confirming that a single composite score is inappropriate and that the subscales should be used separately. Convergent and discriminant validity were established by correlating GAAIS subscales with the Technology Readiness Index, where societal-oriented subscales (Optimism, Insecurity) predicted GAAIS scores more strongly

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than individual-oriented subscales (Innovativeness, Discomfort). The instrument therefore provides a reliable and valid tool for assessing general attitudes toward AI in research contexts.

Statistical Analysis

The gathered data was processed using the Statistical Package for the Social Sciences (SPSS), Version 27. Descriptive statistical measures, such as the mean and standard deviation, were calculated for all study to determine whether men and women participants differed in their overall attitude, an independent sample *t* test was performed. The threshold for level of statistical significance was established at 0.5.

RESULTS

Positive Subscale

Table 1: Independent Sample *t*-test showing significant relationship between General Attitude (Positive) toward Artificial Intelligence of Males and Females.

Positive Attitude	Number of participants	Mean	SD	Degree of freedom	t-value	P value for statistical significance
Males	47	41.32	6.660	92	-	.037
Females	47	38.32	7.093		2114	

Table 1 indicates significant difference between General Attitude (Positive) towards Artificial Intelligence of men and women. Thus, in this demonstration, hypothesis 1 is accepted. An independent sample *t* test was administered to compare general attitude (Positive) between Men and women participants as evaluated by General Attitude towards Artificial Intelligence Scale (GAAIS). Men participants (M= 41.32, SD=6.660, N= 47) scored comparably higher than women participants (M= 38.32, SD= 7.093, N= 47), $t(92) = -2114$, $p < .037$. The mean difference between the two groups was 3, with a 95% confidence interval ranging from -5.819 to -0.181. The negative Cohen's *d* (-0.44) indicates a medium effect size in the direction of higher male scores.

Negative Subscale

Table 2: Independent Sample *t*-test showing significant relationship between General Attitude (Negative) toward Artificial Intelligence of Males and Females.

Positive Attitude	N	Mean	SD	df	t-value	Sig. (2 tailed)
Males	47	21.60	3.493	92	-0.425	.0672
Females	47	21.28	3.775			

Table 1 presents no significant difference between General Attitude (Negative) towards Artificial Intelligence of men and women. Thus, in this scenario, the rejection of null hypothesis cannot take place; thus, the study's hypothesis that women would differ from men on the negative variable is not supported. An independent sample *t* test was administered to compare general attitude (Negative) between Men and women participants as estimated by General Attitude towards Artificial Intelligence Scale (GAAIS). The data do not provide evidence for a gender difference in negative attitude as Male participants (M=21.60, SD=3.493, N=47) had no significant difference than Female participants (M=21.28, SD=3.775, N=47), $t(92) = -0.425$, $p < 0.672$. The difference in mean between the two grouping was 0.32, with a 95% confidence interval ranging from -1.809 to 1.171. Cohen's *d* was -0.09 (95 % CI = -0.49 to 0.32), a negligible effect size.

DISCUSSION

The current study aimed to study whether difference in gender exist in general attitudes toward Artificial Intelligence amongst university students. The findings showcased a **statistically significant gender difference in the Positive themed Attitude subscale**, where men participants scored higher than women participants. However, **no significant gender difference was observed in the Negative themed Attitude subscale**. With respect to the Positive subscale, male students reported significantly more favorable perceptions toward AI comparing to female students. The effect size was moderate, indicating that although the difference is not large, it is meaningful. This finding supports the study's first hypothesis and aligns with prior research suggesting that males often report slightly more positive attitudes toward emerging technologies. For example, previous meta-analytic research on technology attitudes has shown small but consistent gender differences favoring males in technological acceptance. Similarly, studies using AI-specific measures have reported higher acceptance scores among males, while females tend to demonstrate comparatively cautious attitudes. However, when examining the Negative subscale no significant gender difference was found. This suggests that both male and female participants share similar concerns regarding potential risks, ethical issues, and societal consequences of AI. The negligible effect size further indicates that fear-based or risk-related perceptions of AI may not be strongly altered by gender in this sample. It is necessary to keep in mind that the demographics taken are students of Amity University, which contributes to the both genders being educated and aware regarding technological advancements and usage. Psychologically, these findings may be explained through several perspectives. First, socialization theories suggest that males are often encouraged to engage more confidently with technological systems, which may increase familiarity and perceived competence. Greater exposure to technology may enhance optimism and reduce hesitation toward AI adoption. In contrast, females may evaluate AI more critically, especially in terms of long-term social impact, ethics, and data privacy. However, the absence of difference in the Negative subscale suggests that AI-related concerns such as workforce reduction or losing of control are widely shared across genders in contemporary youth populations. Another possible explanation relates to technology confidence and perceived self-efficacy. If males report greater confidence in interacting with technological systems, they may evaluate AI more positively in terms of usefulness and innovation. However, increasing access to AI tools such as ChatGPT and recommendation systems may be narrowing traditional gender gaps, which could explain why the difference was moderate rather than large. From an applied perspective, these findings have important implications. Educational institutions may need to design AI literacy programs that foster balanced and informed engagement across genders. Addressing ethical concerns, transparency, and responsible AI development may enhance acceptance levels, particularly among groups that show comparatively lower positive attitudes. Policymakers and AI developers should also consider inclusive communication strategies to ensure equitable technological adoption. Despite its offerings, the analysis has certain restraints. The sample was restricted to university students from a singular institute, limiting generalizability. The cross-sectional design does not allow causal interpretation. Additionally, the use of self-report measures may introduce response bias. Cultural context may also influence attitudes, and therefore results may not extend beyond similar demographic groups. In conclusion, the present study indicates that gender differences in attitudes toward AI exist primarily in positive acceptance dimensions, with males reporting moderately higher favorable perceptions. However, both genders exhibit comparable levels of concern regarding AI risks. These findings suggest that while traditional gender gaps in technology acceptance may persist to some extent, they are becoming more nuanced in the context of Artificial Intelligence.

Future Implication

The results could lay a foundation for several future research initiatives. The present study focuses on the gender difference in their attitude regarding Artificial Intelligence; further researches could be based on Causal comparative research design to examine factors underlying gender differences in attitude towards AI. To have an in depth study an explanatory sequential mixed method design could be taken to explore the causes underlying differences in gender in regards to AI attitudes. Upcoming research could include larger and more diverse samples, incorporate longitudinal designs to track attitude changes over time, and explore qualitative insights to better understand the reasoning behind gender-based evaluations of AI. Further validation of the GAAIS scale within Indian populations would also strengthen cross-cultural applicability.

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Acknowledgment

The author(s) appreciates all those who participated in the study and helped to facilitate the research process.

Conflict of Interest

The author(s) declared no conflict of interest.

How to cite this article: Gupta, T. (2026). General Attitude towards AI: A Comparative Study between Males and Females. *International Journal of Indian Psychology*, 14(2), 064-071. DIP:18.01.S57.20261402, DOI:10.25215/1402.S57