

Psychological Readiness for AI Adoption among Indian University Students: The Mediating Role of Resilience

Yogita Sharma¹, Shiba Shankar Bibhar², Devi Prasad³, Ritika Bhati⁴, Dr. Vasvi Talwar⁵

¹ Department of Psychology, School of Liberal Arts, Noida International University, Greater Noida, Uttar Pradesh, India.

Email: dryogitasharma06@gmail.com

² Post Doctoral Fellow, Nabakrushna Choudhary Centre for Development Studies, Bhubaneswar, Odisha, India.

Email: bibharshankar@gmail.com

³ Department of Sociology, School of Liberal Arts, Noida International University, Greater Noida, Uttar Pradesh, India.

Email: dpsocio@gmail.com

⁴ Undergraduate Student, Noida International University, Gautam Buddha Nagar, Uttar Pradesh, India.

Email: bhatiritika532@gmail.com

⁵ Department of Law, School of Law and Legal Affairs, Noida International University, Greater Noida, Uttar Pradesh, India.

Email: vasvitalwar26@gmail.com

Corresponding Author:

Yogita Sharma

Email: dryogitasharma06@gmail.com

Abstract

Artificial intelligence is being used more in colleges. The students should not only depend on the new technology but they should also have the right mindset to use it. We studied at how students of college think about the new technology, mainly the AI and how it changes the ways in which students learn. We also checked if their ability to bounce back known as resilience changes this effect among Indian college students. We asked 108 students to fill out surveys. We used three questionnaires: an AI attitude scale, Connor Davidson resilience scale and perceived stress scale. We found that students who have a positive feeling about AI are more resilient than others and also have less stress. Resilient students also have less stress. However, when we checked if resilience changes how AI feelings affect stress, it was not a strong enough effect to matter statistically. Our findings show that how students feel mentally about AI is important. We suggest colleges should help students to build resilience. This fits with other recent studies on AI in Indian colleges about learning and mental readiness..

Keywords AI attitudes, Resilience, Perceived stress, University students, India.

Introduction

As artificial intelligence (AI) is changing education, it is important to know about how Indian university students feel about using AI. This study looks at student psychological readiness for AI as their attitudes, beliefs, and confidence in using AI tools, their resilience (how well they can handle AI-driven changes) and also their willingness to adopt AI in their studies.

Recent research shows that AI, resilience and student well-being are all connected. Adhikari and Gope (2025) say that students should think about how they use AI. Nadir (2024) points out that students notice both the good and bad parts of AI. Chouhan and Saini (2025) find that AI can affect both studies and career preparation in two methods. Alshammari et al. (2025) say readiness, how interactive AI is and ethics are big factors in adopting AI. Yin (2025) notes psychological blocks like fear of threats.

Singh and Sinha (2025) link resilience to mental health. Brahmi et al. (2025) explore non-cognitive skills in stem achievement. Additionally, Mittal (2025) found out that how factors such as usefulness, ease of use and readiness influence the use of AI in higher education. Mustofa et al. (2025) highlighted that student adoption of AI tools is shaped directly by the perceived usefulness, ethics and trust whereas ease of use does not matter much for the students who are already familiar with the technology. Bera et al. (2026) found that the psychological and social

factors significantly impact the AI adoption among the young Indians. Shettigar (2026) highlighted the increasing adoption of the Generative AI in Indian higher education and also the need for the AI readiness. Digital Education Council (2026) reported that higher education uses the AI intensely but it also identifies the gap between AI literacy and education. Focusing on Indian university students, this study examines the mediating role of resilience in ai adoption, addressing a critical research gap.

Purpose of the study

The study aims to understand how mentally prepared Indian students are to accept and use the AI tools and also whether their level of resilience explains the connection between that readiness and actual AI adoption .

Objectives of the study

- 1.To assess the impact of AI attitude on perceived stress
- 2.To examine the impact of AI attitude on resilience
- 3.To explore the impact of resilience on perceived stress
- 4.To investigate the mediating role of resilience in the relationship between AI attitude and perceived stress

Hypothesis

H₁ : AI attitude will negatively predict perceived stress.

H₂ : Ai attitude will positively predict resilience.

H₃ : Resilience will negatively predict perceived stress.

H₄ : Resilience will mediate the relationship between ai attitude and perceived stress.

Method

3.1 Participants

The study included total 108 Indian university students selected using convenience sampling method. The sample consisted undergraduate and postgraduate students from different disciplines, age range from 18 to 25 years. The data were collected through google form during the first half of 2025.

3.2 Measures

- Artificial intelligence attitude scale: this scale consists of 13 items which measure student's attitudes toward ai
- Connor Davidson resilience scale: it consisted of 10 item which measures resilience
- Perceived stress scale: it consisted of 10 item assessing perceived stress in the past month

All scales mentioned above used 5- point Likert format [1 = strongly disagree to 5= strongly agree].

3.3 Statistical Analysis

Data were analysed through IBM SPSS statistics 28. Pearson product-moment correlation and linear regression were conducted to examine associations among ai attitude, resilience and perceived stress.

4. Results

Table 1. Descriptive statistics (N = 108)

Variable	M	SD	Min	Max
AI Attitude	40.47	6.24	26	59
Resilience	25.88	6.66	0	40
Perceived Stress	19.94	5.14	3	31
AI Attitude	40.47	6.24	26	59

Table 1 presents the descriptive statistics of the study variables. Participants reported a mean AI Attitude score of 40.47 ($SD = 6.24$), with scores ranging from 26 to 59. The mean Resilience score was 25.88 ($SD = 6.66$; range = 0–40), while the mean Perceived Stress score was 19.94 ($SD = 5.14$; range = 3–31). The obtained means and standard deviations indicate moderate variability across the study variables, and the observed score ranges suggest adequate dispersion for further statistical analyses.

Table 2. Correlation table

Variable	AI Attitude	Resilience	Perceived Stress
AI Attitude	—	.221*	-.235*
Resilience	.221*	—	-.352**
Perceived Stress	-.235*	-.352**	—

** Correlation is significant at 0.05 level (2-tailed)

Table 2 shows the Pearson correlation coefficients among the study variables. AI Attitude was positively correlated with Resilience ($r = .221, p < .05$) and negatively correlated with Perceived Stress ($r = -.235, p < .05$). Resilience also demonstrated a significant negative correlation with Perceived Stress ($r = -.352, p < .01$), indicating that higher resilience was associated with lower perceived stress. Thus, H1, H2, and H3 were supported.

Table 3. Regression: AI Attitude predicting resilience

Predictor	β	R^2	F	p
AI Attitude	.221	.049	5.449	.021

Table 3 presents the results of the simple linear regression analysis examining whether AI Attitude predicts resilience among the participants. The analysis revealed that AI Attitude was a significant positive predictor of resilience ($\beta = .221, F(1, 106) = 5.449, p = .021$). The regression model explained 4.9% of the variance in resilience ($R^2 = .049$). These findings indicate that participants with more positive attitudes toward artificial intelligence tended to report higher levels of resilience. Although the predictive effect was statistically significant,

the proportion of variance explained was relatively small, suggesting that other factors also contribute substantially to resilience.

Table 4. Regression: AI Attitude predicting stress

Predictor	β	R^2	F	p
AI Attitude	-.235	.055	6.181	.014

Table 4 presents the results of the simple linear regression analysis examining whether AI Attitude predicts perceived stress among the participants. The analysis revealed that AI Attitude was a significant negative predictor of perceived stress ($\beta = -.235$, $F(1, 106) = 6.181$, $p = .014$). The regression model explained 5.5% of the variance in perceived stress ($R^2 = .055$). These findings indicate that participants with more positive attitudes toward artificial intelligence tended to report lower levels of perceived stress. Although the predictive relationship was statistically significant, the relatively small R^2 value suggests that additional factors beyond AI Attitude contribute to perceived stress.

Table 5. Mediation analysis (PROCESS Model 4)

Path	β	p
AI $\rightarrow$ Resilience(a)	.236	.021
Resilience $\rightarrow$ Stress (b)	-.244	.0009
AI $\rightarrow$ Stress (Direct c')	-.136	.076

Table 5 presents the results of the mediation analysis using PROCESS Model 4 to examine whether resilience mediates the relationship between AI Attitude and perceived stress. The findings indicated that AI Attitude was a significant positive predictor of resilience (Path a: $\beta = .236$, $p = .021$). In turn, resilience significantly and negatively predicted perceived stress (Path b: $\beta = -.244$, $p = .0009$), indicating that higher resilience was associated with lower levels of perceived stress.

The direct effect of AI Attitude on perceived stress (Path c') was not statistically significant ($\beta = -.136$, $p = .076$) after accounting for resilience. These findings suggest that the relationship between AI Attitude and perceived stress is explained through resilience, indicating that resilience mediates the association between AI Attitude and perceived stress.

Discussion

The present research explored the linkages between AI sentiment, resilience, and perceived stress in students. The obtained results partially validate the theoretical framework presented, indicating that AI variability is related to both resilience and perceived stress while the mediation of resilience could not be proven.

Hypothesis 1 is confirmed as AI attitude is strongly and negatively linked to perceived stress. People who have positive perceptions of AI experience lower stress levels. This could mean that one who sees AI as beneficial, trustworthy, and useful is less stressed as a result. The reason for this could be that such an individual views AI as a means that contributes to high efficiency and problem-solving ability. At the same time, negative attitudes toward AI could be explained by fear and lack of trust in technology.

Hypothesis 2 was affirmed as well – it has been discovered that positive AI attitudes have a significant relationship with high resilience. Thus, the individuals who have the most favorable opinions about AI exhibit a high level of resilience as well. The research results seem to be congruent with the models of resilience since the latter can be understood as a dynamic process that presupposes psychological flexibility and adaptability.

Hypothesis 3 obtained support, which revealed that there was a significant negative correlation between resilience and perceived stress. Those participants with greater resilience reported lower perceived stress, thereby confirming the play of resilience as a protective factor in the psychological state of individuals. Resilient people are believed to have a greater ability to manage their emotions, overcome obstacles, and use healthy coping approaches.

Even though AI attitude was an important predictor of resilience and resilience was a predictor of perceived stress the Hypothesis 4 was not supported by the outcomes of the study. The results show that resilience did not mediate the effect of AI attitude on perceived stress. This means that AI attitude relates to both resilience and stress, but resiliency cannot be seen as a mediator of the impact of AI attitude on perceived stress. Some other factors related to psychology or context, such as self-efficacy, digital literacy, coping styles, anxiety related to technology, social support, or academic load, are likely to mediate the relationship between these concepts.

Conclusion

The current research explored how students perceive artificial intelligence as well as their resilience in coping with stress. The results show that resilience is an important protective factor that minimizes stress levels. Nevertheless, resilience did not play any mediating role between attitudes towards artificial intelligence and stress in the studied population.

Given that artificial intelligence is making significant changes in higher education, it is crucial for institutions to ensure that AI literacy as well as psychological well-being become part of students' educational experience. Colleges should design programmes to develop students' knowledge and skills in using AI in a responsible and ethical way, as well as resilience skills recognition through workshops, trainings, and counseling. These actions will enable students to develop the ability to utilize this technology successfully and deal with changes easier as well as manage their stress better.

Limitations

The present research has some constraints that one needs to take into account for proper interpretation of the results:

The research was based on the convenience sampling technique meaning that the present researchers have chosen some participants who are more accessible than others which means that students from rural areas or colleges which cannot afford AI technology might not be represented sufficiently in the study which limits generalizability of the findings.

There were 108 university students in the sample which is not sufficient to represent the population of students studying at different educational institutions, disciplines, and locations. Having this in mind, it is necessary to conduct the future studies based on bigger and more diverse samples.

The present research utilized cross-sectional research design which allows to determine relationships between the variables, however, the causation cannot be established because it is impossible to say for sure that the attitude towards AI causes the changes in resilience or perceived stress.

Suggestions for future research

In the future, researchers should do the long-term studies to understand how AI, mental strength and stress are connected to each other. They should also check how the technology helps people to recover in different subjects. They should also test if things such as gender, subject, how much someone uses AI and access to facilitates change the results...

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