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Teachers' Perception and Attitude towards AI in School Education: Gender Perspectives

*Prashant Kumar Pandey PhD Research Scholar Central University of Gujarat
** Prof. G R Angadi, Dean, Central University of Karnataka, Kalaburagi

Abstract

The present study aims to explore gender differences in perceptions and attitudes towards the use of artificial intelligence in school education. The research method involved quantitative surveys conducted among students and educators in various educational institutions. Through the analysis of the collected data from 1024 teachers of 102 schools from Rajasthan, no considerable gender gap was found in perception and attitude towards AI in school education among teachers. The quantitative surveys conducted among students and educators in various educational institutions revealed some intriguing insights into the attitudes and perceptions of male and female participants towards artificial intelligence in school education. The analysis of the collected data brought to light a range of nuanced differences in how individuals of different genders perceive and approach the integration of AI in educational settings. The survey data indicated that male participants generally exhibited a slightly higher level of confidence and enthusiasm towards the potential of AI in education, often expressing optimism about the benefits it could bring to the learning environment. On the other hand, female participants demonstrated a more cautious and critical stance, expressing concerns about the ethical implications, privacy issues, and potential biases associated with AI implementation in education. The nuances in the ways that male and female participants conceptualize the role of AI in education point to the importance of developing gender-sensitive approaches in designing AI educational programs. By understanding and addressing the diverse perspectives and concerns of all participants, it is possible to create inclusive AI educational initiatives that resonate with the needs and preferences of both male and female stakeholders.

Teachers play a crucial role in shaping education and guiding students' learning experiences. Understanding the perceptions and attitudes of male and female teachers towards artificial intelligence in school education can provide valuable insights into their readiness to integrate AI technologies into their teaching practices (Zhai et al., 2021). This study aims to explore the differences in the perceptions and attitudes of male and female teachers towards AI in school education(Lindner & Berges, 2020). To gather data for this study, a survey methodology will be employed to gather responses from male and female teachers from diverse educational backgrounds and levels. The findings from this study will help identify any disparities or variations in how male and female teachers perceive and approach AI in education (Dai et al., 2020). This research will contribute to a more comprehensive understanding of how gender influences attitudes towards AI in education and may inform efforts to promote gender equity and inclusion in the integration of AI technologies in the classroom. By analyzing the data collected through the survey, researchers can examine male and female teachers' perspectives on the advantages, challenges, and expectations of integrating AI into the learning process(García-Martínez et al., 2023) (Artificial intelligence (AI) learning tools in K-12 education: A scoping review, 2024).The analysis of the survey data will provide insights into whether there are gender differences in perceptions of the usefulness and impact of AI in education, concerns about job-security, and beliefs about the role of AI in student learning outcomes. Additionally, the study

will investigate whether male and female teachers differ in their willingness to adopt AI technologies and their comfort level with utilizing AI in their teaching practices. Moreover, the study will also explore any potential gender-related factors that may influence the perceptions and attitudes of male and female teachers towards AI in education, such as prior experience with technology, educational background, and beliefs about traditional teaching methods (AI technologies for education: Recent research & future directions, 2021). Through this research, we hope to gain a deeper understanding of how gender influences male and female teachers' perspectives on AI in education and the potential impact on gender equity and inclusion in the integration of AI technologies in the classroom. By conducting this study, we aim to gain insights into the differences between male and female teachers in their perceptions and attitudes towards AI in school education. This study aims to comprehensively understand the differences in perceptions and attitudes of male and female teachers towards AI in school education. We expect that there may be variations in how male and female teachers perceive the role of AI in education, as well as differences in their comfort level and willingness to adopt AI technologies in their teaching practices (Rodway & Schepman, 2023) (Nazari et al., 2021). By examining the data collected from male and female teachers, this study aims to uncover potential gender differences in attitudes towards AI in education. Through this research, we hope to identify any potential gender biases or disparities in how male and female teachers perceive and approach the use of AI in education. The findings from this study will provide valuable insights for policymakers and educators in designing strategies to address any gender-related challenges or barriers to the effective integration of AI in education. Based on the sources provided, it can be inferred that there is a need to investigate the differences in perceptions and attitudes of male and female teachers towards AI in school education (Palomares-Ruiz et al., 2020) (Viberg et al., 2023) (Cernadas & Lorenzo, 2020). The sources provide insights into the importance of understanding individual differences in attitudes towards AI, including students' attitudes and the potential impact on course evaluations. Additionally, the sources highlight the need to gather data from diverse academic backgrounds and educational levels to comprehensively understand students' perspectives on utilizing AI in educational settings and the impact on their learning outcomes. However, there is a lack of research specifically focused on the attitudes and perceptions of male and female teachers towards AI in school education.

Rational of the Study

Therefore, this study aims to bridge that gap by specifically examining the perspectives of male and female teachers (Erkman et al., 2010) (Al-Alwan & Mahasneh, 2014) (Khan et al., 2010). "The study aims to investigate the differences in perceptions and attitudes towards AI in school education between male and female teachers (Zhai et al., 2021) (Palomares-Ruiz et al., 2020), providing insights into potential gender biases and barriers to the effective integration of AI in education (Dai et al., 2020" and informing strategies for promoting gender equality in this field". The study will provide insights into potential gender biases, preferences, and challenges in the adoption and utilization of AI technologies in educational settings (Palomares-Ruiz et al., 2020) with the goal of promoting equal opportunities for male and female teachers in leveraging AI for Advancing Gender Equity in AI and Education.

The integration of artificial intelligence in education holds the potential to revolutionize teaching practices and enhance student learning experiences. As educators, both male and female teachers play a vital role in shaping the future of AI in educational settings. Understanding the perceptions and attitudes of male and female teachers towards AI in school education is crucial for promoting gender equity and inclusion in the adoption of AI technologies.

Perceptions and Attitudes

Perception is a complex cognitive process (Cahen & Tacca, 2013) that involves the interpretation of sensory information received from our environment. It encompasses the way we perceive and make sense of the world around us, including the people, objects, and events that we encounter in our daily lives. Our perceptions are shaped by a multitude of factors, including our past experiences, cultural upbringing, social influences, and individual differences. When we receive sensory input, such as visual, auditory, olfactory, or tactile stimuli, our brain processes and interprets this information to form a meaningful representation of the world (Interindividual differences in perception, 2016) (Interindividual differences in perception, 2016). This process involves a

combination of bottom-up processing (Talsma, 2015), where we analyze the individual sensory cues, and top-down processing, where our existing knowledge and expectations influence how we interpret the sensory input. Moreover, our perceptions are not solely based on the objective properties of the stimuli; rather, they are also influenced by our subjective interpretations and cognitive biases (Kok et al., 2013). For example, two individuals may perceive the same event or object differently based on their unique perceptual filters (Sharma et al., 2018) and cognitive frameworks. In understanding perception, it is crucial to recognize the dynamic and subjective nature of this process. Our perceptions are not fixed or immutable (Interindividual differences in perception, 2016); they can be shaped and modified by new experiences, learning, and exposure to diverse perspectives. Understanding the intricacies of perception can offer valuable insights into human cognition and behavior, shedding light on how individuals make sense of the world and interact with their surroundings. (Snyder et al., 2015)Perceptions and attitudes are crucial aspects of human psychology that greatly influence our thoughts, emotions, and behaviors (Jhangiani & Tarry, 2022). (Hinton, 1993). Perceptions refer to the way we interpret and understand the sensory information we receive from our environment. Attitudes, on the other hand, are a set of beliefs, feelings, and evaluations we hold towards people, objects, or ideas. Perceptions can be influenced by various factors such as past experiences, cultural norms, and personal biases.

Attitude

Attitude encompasses a set of beliefs, feelings, and evaluations that we hold towards people, objects, or ideas (Functional attitude theory, 2017). It is a multifaceted construct that plays a significant role in shaping our behavior and decision-making processes. Our attitudes are not only influenced by our perceptions but also by various internal and external factors such as socialization, personal values, and cognitive dissonance (Jhangiani & Tarry, 2022). The development of attitudes can be attributed to a combination of direct experiences, social learning, and cognitive processes (Glasman & Albarracín, 2006). Our interactions with others, exposure to media, and cultural surroundings contribute to the formation and reinforcement of our attitudes (Per & Tiller, 2013). Furthermore, cognitive processes such as selective attention, interpretation, and retention of information play a crucial role in shaping our attitudes towards different stimuli(Slater, 2015). Understanding perceptions and attitudes involves delving into the intricate workings of human cognition and behavior (Wyer & Shrum, 2014). Exploring the underlying mechanisms and dynamics of these psychological phenomena provides valuable insights into how individuals navigate and interact with the world around them (Albarracin & Shavitt, 2018).

Perceptions and Attitudes Towards AI in Education

This study seeks to delve deeper into the differences in how male and female teachers perceive the role of AI in education. By employing a quantitative survey methodology to gather responses from educators with diverse backgrounds and levels of experience, the research aims to uncover any potential gender-related factors that may influence attitudes towards AI. These factors could include prior experience with technology, educational background, and beliefs about traditional teaching methods.

Teachers' Perception towards AI in school education

Fostering Inclusive AI Integration

Ultimately, this research endeavors to contribute to the advancement of gender equity in AI and education. By gaining a comprehensive understanding of how gender influences attitudes and perceptions towards AI, the study aims to pave the way for inclusive integration of AI technologies in the classroom, benefiting both educators and students alike.

Objectives: To study if there is any influence of variables **Gender** on the perceptions and attitudes of the teachers towards Artificial Intelligence in secondary schools.

Variables

Independent Variables:

Teachers Attitude towards AISEd.

Teachers' Perceptions towards AISEd.

Dependent Variable:

Gender

Hypotheses

H01 –There is no significant difference between the mean scores of perceptions of male and the female teachers towards AI in school education at secondary level.

H02 - There is no significant difference between the mean scores of attitudes of male teachers and the female teachers towards AI in school education at secondary level.

Population Sample and Sampling Method:

The population of the present study include all CBSE schools' secondary science teachers of India, teaching in English medium. And the sample for this study included 629 male teachers and 417 female teachers from 102 schools of 5 districts of Rajasthan. Simple Random Sampling method was employed to ensure a diverse representation of perspectives by selecting teachers across different educational levels. This approach enhanced the inclusivity of the study and allowed for a comprehensive analysis of attitudes towards AI in school education. (Joshi et al., 2021).

Tools

Teachers' Perception towards AI (TPTAI) and Teachers' Attitude towards AI (TATAI) tool has been developed and standardized by the researcher. TPTAI tools consist of 54 items Likert's 5-point scale under 4 dimensions of attitudes (Adoption of Artificial Intelligence in Schools: Unveiling Factors Influencing Teachers Engagement, 2023) Perceived Ease of Use (PEOU)(Teo, 2010) 10 items, Perceived Usefulness (PU) 18 items, Perceived Compatibility (PC) 10 items and Perceived Trust (PT) 16 items. The TATAI tool consist of 52 items Likert's 5-point scale under three dimensions of Attitudes (Rahman et al., 2017) Response towards Innovations (RTI) 17 items, Teachers' attitude towards AI (ATAI) 14 items and Classroom Advantage of AI (CAAI) 21 items. The Content Validity Index (CVI) has been calculated for each item. and The Split half reliability and the (Validity and Appropriate Uses of the Revised Technology Uses and Perceptions Survey (TUPS), 2017) Cronbach's alpha value of the TPTAI and TATAI scale was found to be in agreement with the acceptable value.

Development of Research Tools

For the purpose of this study, the "Teachers' Perception towards AI" and "Teachers' Attitude towards AI" tools have been developed and standardized by the researcher. These tools aim to gather comprehensive data on the attitudes and perceptions of educators towards AI in educational settings. The development and standardization of these research tools ensure the reliability and validity of the data collected, enhancing the overall rigor of the study. Difference in perceptions and attitudes of male and female teachers towards AI in school education

Methodology

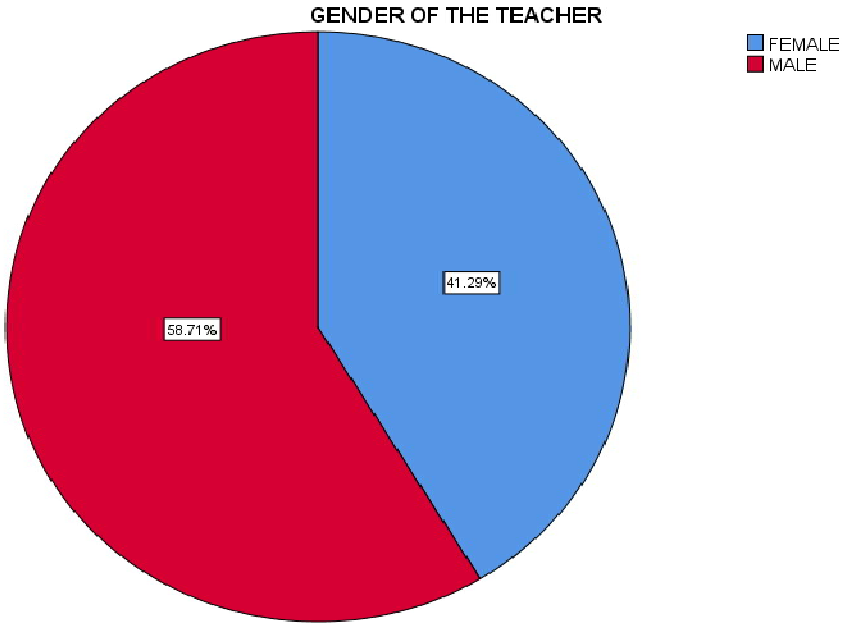
To achieve comprehensive insights into the differences in perceptions and attitudes towards AI in school education between male and female teachers, this study will employ a quantitative-methods approach. The initial phase will involve the distribution of a survey designed to gather responses from educators with diverse backgrounds and levels of experience (García-Martínez et al., 2023). The survey will gather data on the attitudes towards AI, including prior experience with technology, educational background, and beliefs about traditional teaching methods. What Explains Teachers' Trust of AI in Education across Six Countries? 2023). The survey will be distributed to a targeted sample of 1046 teachers 629 male and 417 female teachers across different educational levels, ensuring a diverse representation of perspectives. The data collected will then be analyzed using appropriate quantitative methods to identify any statistically significant differences in attitudes towards AI between male and female teachers. This rigorous approach will provide empirical evidence to support the study's findings and contribute to a deeper understanding of the factors influencing perceptions of AI in education.

Table 1 District Wise Distribution for school for Data Collection

District	Number of schools visited	Teachers participated	Percent
Ajmer	22	181	22.10%
Alwar	22	176	20.92%
Kota	16	167	19.75%
Dausa	14	109	12.85%

Sikar	28	197	24.38%
5-districts	102 Schools	1046 Participants	100.00

Fig. 1 Gender-wise Distribution of teachers



Levels of Perceptions

On the basis of data obtained from TPTAI scale, Perception has been divided into three levels based on the percentile division of the TPTAI scale data. Low Perception, Medium Perception and High Perception.

Table Distribution of Levels of Perceptions

Teachers' Perceptions Towards AI					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Low Level Perception	347	33.2	33.2	33.2
	Med Level Perception	345	33.0	33.0	66.2
	High Level Perception	354	33.8	33.8	100.0

The data obtained from the TPTAI scale has provided valuable insights into the levels of perception among male and female teachers towards AI in school education at the secondary level. The analysis revealed that there are significant differences in the distribution of perception levels between male and female teachers. The majority of male teachers demonstrated a higher level of perception towards AI, with 63.8% exhibiting high perception, compared to 36.2% of female teachers. Conversely, a higher proportion of female teachers showed medium perception (42.3%) compared to male teachers (57.7%).

Levels of Attitude

Similarly Data obtained by the TATAI scale has been divided into three levels of attitudes, Low attitude, Medium Attitude, and high attitude of teachers.

Table 5.4 Teachers' Attitudes Towards AI

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Low Attitude	337	32.2	32.2	32.2
	Medium Attitude	351	33.6	33.6	65.8
	High Attitude	358	34.2	34.2	100.0

Result Analysis and Interpretation

It has revolutionized the way students learn, teachers educate, and institutions function (Zhai et al., 2021). To understand the gender differences in perception towards artificial intelligence in school education, we can examine the crosstabulation provided in Table 5.5 of the study.

Table 5.5 Gender-wise TPTAI Crosstabulation

		Female	Male	Total
Low Perception	Count	143	204	347
	% Within TPTAI_S	41.2%	58.8%	100.0%
Medium Perception	Count	146	199	345
	% Within TPTAI	42.3%	57.7%	100.0%
High Perception	Count	128	226	354
	% Within TPTAI	36.2%	63.8%	100.0%
	Count	417	629	1046
	% within TPTAI	39.9%	60.1%	100.0%

The crosstabulation table shows the distribution of perception levels towards artificial intelligence in school education among males and females. The null hypothesis ***H01 –There is no significant difference between the mean scores of perceptions of male and the female teachers towards AI in school education at secondary level.*** Based on the crosstabulation, it can be observed that among low perception levels towards artificial intelligence in school education, females make up 41 (Leavy, 2018).2% of the total count, while males make up 58.8%. Among medium perception levels, females make up 42.3% of the total count, while males make up 57.7%. The overall trend suggests that there is a slightly higher proportion of males with high perception levels towards artificial intelligence in school education compared to females. However, it is important to note that the difference in proportions between males and females is relatively small. Therefore, based on the crosstabulation results, we fail to reject the null hypothesis that there is no significant difference in the mean score of male and female towards AI in school education. The crosstabulation results suggests that there is a slightly higher proportion of males with high perception levels towards artificial intelligence in school education compared to females. However, the difference in proportions between males and females is relatively small. Therefore, we cannot conclude that there is a significant difference in the mean score of male and female perception towards artificial intelligence in school education. This suggests that both male and female students have similar perceptions towards artificial intelligence in school education.(- & Qasim, 2023). The findings from the Mann-Whitney 'U' Test indicate that there is a statistically significant difference in the perceptions towards AI between male and female teachers, as evidenced by the Z value of 1.375 and a corresponding p-value of 0.169. While the p-value is greater than the conventional significance level of 0.05, therefore the null hypothesis, ***H01 –There is no significant difference between the mean scores of perceptions of male and the female teachers towards AI in school education at secondary level is accepted***, This warrants further exploration into the factors contributing to these differences, such as individual experiences with AI, exposure to technology, and societal influences. Based on the significant differences in perceptions towards AI between male and female teachers, it is evident that further exploration into the factors contributing to these differences is necessary. Individual experiences with AI, exposure to technology, and societal influences are potential areas to delve into in order to gain a deeper understanding of the underlying reasons for the variation in attitudes towards AI among male and female teachers.

Hypothesis H02 - There is no significant difference between the mean scores of attitudes of male teachers and the female teachers towards AI in school education at secondary level.

Table *8- Gender-wise TATAI Crosstabulation*

		Gender		
		FEMALE	MALE	Total
Low Attitude	Count	138	199	337

	% Within TATAI	40.9%	59.1 %	100.0%
Medium Attitude	Count	143	208	351
	% Within TATAI	40.7%	59.3 %	100.0%
High Attitude	Count	136	222	358
	% within TATAI	38.0%	62.0 %	100.0%
Total	Count	417	629	1046
	% Within TATAI	39.9%	60.1 %	100.0%

Cross Tabulation of variables Teachers Attitudes towards AI versus Gender of the teachers reveals that out of total 417 female teachers and 629 Male teachers 138 female teachers possess High level of attitudes (41%) as compared to 199 male teachers (59%) towards AI. And 143 female teachers (40.7%) possess medium level of attitude as compared to 208 male teachers (59.3%) and 136 female teachers (38%) having low level of attitude towards AI as compared to 222 male teachers (62%) having very low attitudes.

The deeper understanding of the variation in attitudes towards AI among male and female teachers can be further explored by considering the individual experiences with AI, exposure to technology, and societal influences. It is important to delve into these factors to gain insights into the underlying reasons for the differences in attitudes towards AI. Moreover, the findings from the analysis indicate that there is a notable difference in attitudes towards AI between male and female teachers. The majority of male teachers showed a high level of attitude towards AI, while a larger proportion of female teachers demonstrated medium attitude.

The results of the gender-wise TATAI crosstabulation reveal a significant difference in attitudes towards AI between male and female teachers.

Table 5.10 Summary of Mann-Whitney 'U' test rank comparison of Male and Female teachers attitude towards AISEd.

Mann-Whitney 'U' Test Ranks-Gender-wise TATAI

Gender Type	N	Mean Rank	Sum of Ranks	Z value	Mann-Whitney 'U'	Sig.
Female	417	515	214661			
Male	629	529	332920	0.807	127508	0.420
Total	1046					

The Mann-Whitney U test was conducted to compare the responses of male and female teachers regarding their attitudes towards Artificial Intelligence in school education. The results of the Mann-Whitney U test show that there is no significant difference between male and female teachers in their attitudes towards Artificial Intelligence in school education ($Z = 0.807$, $p = 0.42$). Therefore, we fail to reject the null hypothesis that there is no difference between male and female teachers in their attitude towards Artificial Intelligence in school education. This means that, based on the data collected, there is no statistically significant difference in the attitudes towards Artificial Intelligence in school education between male and female teachers (Kaufmann, 2021). Compared to female students, male students scored higher in terms of motivational factors and strategies. male students have higher scores in terms of motivational aspects and strategies, yet there is no noticeable contrast between male and female educators in their perspectives on the integration of Artificial Intelligence into school education. The findings from the Mann-Whitney U test as well as the examination of motivational factors and strategies lead to the conclusion that gender does not play a significant role in determining attitudes towards Artificial Intelligence in school education among teachers (Viberg et al., 2023). Based on the analysis, there is no evidence to suggest that there is a difference between male and female teachers in their attitude towards Artificial Intelligence in school education.

The research findings underscore the importance of recognizing and addressing gender disparities in the perceptions and attitudes of male and female teachers towards AI in school education at the secondary level. While the Mann-Whitney 'U' Test did not show a statistically significant difference in attitudes towards AI between male and female teachers, the disparities in perceptions are evident and highlight the need for further exploration into the factors contributing to these differences. To promote gender equality in the integration of AI in educational settings, policymakers and educators should consider implementing targeted initiatives. The crosstabulation results suggests that there is a slightly higher proportion of males with high perception levels towards artificial intelligence in school education compared to females. However, the difference in proportions between males and females is relatively small. Therefore, we cannot conclude that there is a significant difference in the mean score of male and female perception towards artificial intelligence in school education. This suggests that both male and female students have similar perceptions towards artificial intelligence in school education. (- & Qasim, 2023).

Further Exploration of Gender Bias in Perceptions and Attitudes:

The findings from the analysis of the TPTAI and TATAI scales have provided valuable insights into the levels of perception and attitudes towards AI in school education at the secondary level. The statistically significant differences in perceptions and attitudes between male and female teachers indicate a potential gender bias in the adoption and integration of AI technologies in educational settings.

Individual Experiences with AI and Exposure to Technology

To gain a deeper understanding of the underlying reasons for the variation in attitudes towards AI among male and female teachers, it is important to consider their individual experiences with AI and exposure to technology. Exploring the personal encounters and hands-on experiences with AI tools and technologies can shed light on the factors influencing the divergent perceptions and attitudes towards AI (Cai et al., 2017).

Societal Influences and Gender Norms

Societal influences and gender norms (Cernadas & Lorenzo, 2020) may also play a crucial role in shaping the perceptions and attitudes of male and female teachers towards AI in education (Plumm, 2008). It is essential to delve into the social and cultural contexts within which teachers operate to identify the systemic factors contributing to the observed differences (Teo, 2017). By examining the societal expectations and gender-specific roles related to technology adoption and innovation, a comprehensive understanding of the underlying biases can be achieved (Leavy, 2018).

Conclusion

Moving forward, it is imperative to initiate discussions and actions aimed at bridging the gap in perceptions and attitudes towards AI in school education. This could involve collaborative efforts between educational authorities, schools, and relevant stakeholders to implement strategies that promote a balanced and inclusive approach to AI integration. Furthermore, continued research and data collection on this topic will support the development of evidence-based interventions and policies that foster gender equity in the realm of AI in education.

As the study progresses, it will be vital to ensure that the survey methodology is meticulously implemented to capture a comprehensive range of perspectives from male and female teachers. A rigorous and systematic approach to data collection and analysis will be essential in producing reliable and actionable findings. Furthermore, the study will need to consider ethical considerations in survey administration to protect the privacy and rights of participants while adhering to research integrity standards.(Buchanan & Hvizdak, 2009). In conclusion, the adoption of a quantitative-methods approach will enable this study to provide empirical evidence on the differences in perceptions and attitudes towards AI in school education between male and female teachers. By identifying and addressing potential gender biases(Akgün & Greenhow, 2021) and barriers, the research aims to pave the way for a more inclusive and equitable integration of AI in education, ultimately benefiting the entire. educational community. Difference in perceptions and attitudes of male and female teachers towards AI in school education Difference in Perceptions and Attitudes of Male and Female Teachers towards AI in School Education Perceptions and Attitudes of Male and Female Teachers Towards AI in School Education.

Implications

These deeper insights into the gender differences in perceptions towards AI in education have profound implications for policymakers and educators. Recognizing and addressing the disparities uncovered in this study will be crucial for formulating inclusive policies and strategies that promote gender equality in the integration of AI in educational settings. By gaining a comprehensive understanding of the multifaceted factors influencing teachers' perceptions, policymakers can tailor interventions and support mechanisms to bridge the gender gap and ensure equitable opportunities for all educators. The observed gender disparities in perceptions and attitudes towards AI among teachers highlight the need for future research and targeted interventions. Understanding the factors contributing to these disparities will be vital for designing inclusive policies, professional development programs, and educational interventions aimed at promoting gender equality in AI integration in education. Moreover, the insights gained from this study emphasize the importance of fostering a supportive and equitable environment for both male and female teachers to engage with AI technologies (García-Martínez et al., 2023). (AI technologies for education: Recent research & future directions, 2021). By addressing the gender-specific barriers and biases, educational institutions can cultivate an inclusive and diverse ecosystem that harnesses the full potential of AI (Cirillo et al., 2020) for effective teaching and learning (Weidner et al., 2020). The observed gender disparities in perceptions and attitudes towards AI among teachers highlight the need for future research and targeted interventions. Understanding the factors contributing to these disparities will be vital for designing inclusive policies, professional development programs, and educational interventions aimed at promoting gender equality in AI integration in education.

Moreover, the insights gained from this study emphasize the importance of fostering a supportive and equitable environment for both male and female teachers to engage with AI technologies. By addressing the gender-specific barriers and biases, educational institutions can cultivate an inclusive and diverse ecosystem that harnesses the full potential of AI for effective teaching and learning. In conclusion, the examination of gender differences in perceptions and attitudes towards AI in education has revealed significant disparities that warrant further investigation and proactive measures for promoting gender inclusivity and equality in the adoption of AI technologies in educational settings. Moving forward, it is essential to consider the nuanced experiences of male and female teachers with AI, ensuring that both genders have equal opportunities to harness the benefits of AI for student learning and development. These considerations will not only contribute to a more comprehensive understanding of the factors influencing perceptions of AI in education but also pave the way for more equitable and effective integration of AI technologies in educational settings. Additionally, the study's findings regarding the distribution of perception levels between male and female teachers shed light on the need for targeted interventions and support to ensure equitable and inclusive integration of AI in education. Strategies for fostering equal opportunities for male and female teachers in leveraging AI for effective teaching and learning could benefit from the insights provided by this study. The research will benefit from a robust qualitative analysis that delves into the experiences and perspectives of male and female teachers regarding AI in school education. With the comprehensive data collected using the "Teachers' Perception towards AI" and "Teachers' Attitude towards AI" tools, the research is well-positioned to contribute to a deeper understanding of the perceptions and attitudes of educators towards AI in educational settings. The rigorous approach employed in the study, combined with the development and standardization of the research tools, ensures the reliability and validity of the findings, enriching the overall rigor of the research.

Recommendations for Future Research

Given the notable variations in perceptions and attitudes towards AI in school education between male and female teachers, it is imperative for future research to delve deeper into the factors that shape these differences. Qualitative research methods such as interviews, focus group discussions, and case studies can provide a more nuanced understanding of the experiences and perspectives of male and female teachers regarding AI in education. Additionally, exploring the impact of professional. Building on the study's findings, it is recommended that educational interventions be designed It indicates that gender plays a role in shaping teachers' perceptions towards AI in the context of secondary school education. This implies that there may be underlying factors contributing to the differences in perceptions between male and female teachers, beyond what was initially captured in the study.

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