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Artificial intelligence anxiety and perceived job security among employees: An empirical study in the context of industries, banks and educational institutions in Bilaspur, Chhattisgarh

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Abstract
The rapid diffusion of Artificial Intelligence (AI) is transforming work, employee roles and organizational processes. Although AI can improve productivity, decision-making and service delivery, its increasing use has generated concerns regarding job displacement, skill obsolescence, changing job roles and long-term employment security. This study examines the relationship between Artificial Intelligence Anxiety and perceived Job Security among employees working in industries, banks, educational institutions and other organizations in Bilaspur, Chhattisgarh. A proposed sample of 500 employees is considered. AI Anxiety is examined through job-replacement anxiety, learning and skill anxiety, technological uncertainty and perceived loss of control. Job Security is examined through perceived continuity of employment, confidence in future employment, role stability and career prospects. The study is conceptually grounded in Cognitive Appraisal Theory and Conservation of Resources Theory. Descriptive statistics, reliability analysis, correlation, regression and analysis of variance are proposed. The illustrative analysis in the source manuscript indicates a significant negative relationship between AI Anxiety and perceived Job Security, while sectoral differences are also indicated. The paper highlights AI reskilling, transparent communication, employee participation and human-centred HR policies as important organizational responses.

Keywords: Artificial intelligence, AI anxiety, job security, job insecurity, employees, human resource management, Bilaspur, Chhattisgarh

Introduction
Artificial Intelligence has moved from being primarily a technological concept to becoming an important component of contemporary organizational management. Organizations increasingly use AI for data analysis, decision support, fraud detection, document processing, teaching and production activities and administrative functions. The relationship between AI and job security is particularly relevant for Human Resource Management. Employees may experience insecurity even when their organization does not explicitly announce job reductions.
Recent empirical research has found that AI-related workplace factors can influence job anxiety and job insecurity. A 2026 study based on 675 responses found that AI-related factors can contribute to job anxiety through AI stress. This issue is particularly significant in Bilaspur, Chhattisgarh.

Background of the study
Technological advancement has always had a complex relationship with employment. Innovation can eliminate some tasks while creating new occupations and increasing demand for new competencies. AI differs from many earlier technologies because it can perform certain cognitive and knowledge-based activities. Therefore, employees in banking, education, administration, management, customer service and other knowledge-intensive occupations may see AI as directly relevant to their work.
Generative AI has intensified these concerns because employees can now observe AI systems generating text, analysing information, preparing reports, assisting customers and performing tasks previously associated with human knowledge workers. AI-induced technostress may involve techno-complexity, techno-overload, techno-insecurity and techno-uncertainty.

Problem Statement
Organizations are increasingly introducing AI-enabled technologies to improve productivity, reduce costs and enhance service delivery. However, the psychological consequences of such adoption remain insufficiently understood at the local level.
Employees may ask:
- Will AI replace my job?
- Will my current skills remain relevant?
- Will I need to acquire new skills?
- Will AI reduce the importance of my role?

Therefore, the present study seeks to investigate:
"To what extent does Artificial Intelligence Anxiety influence perceived Job Security among employees working in different sectors of Bilaspur, Chhattisgarh?"

Research Objectives
1. To measure the level of Artificial Intelligence Anxiety among employees in Bilaspur.
2. To examine employees' perceptions of Job Security in the context of increasing AI adoption.
3. To examine the relationship between AI Anxiety and perceived Job Security.
4. To examine whether AI Anxiety significantly predicts perceived Job Insecurity.
5. To compare AI Anxiety among employees across different sectors.

Research Questions

RQ1: What is the level of AI Anxiety among employees in Bilaspur?

RQ2: What is the level of perceived Job Security among employees?

RQ3: Is there a significant relationship between AI Anxiety and perceived Job Security?

RQ4: Does AI Anxiety significantly predict perceived Job Insecurity?

RQ5: Do employees from different sectors differ significantly in their AI Anxiety?

Literature Review

1. Artificial Intelligence Anxiety

AI Anxiety refers to negative emotional, cognitive or behavioural reactions associated with the development, adoption or consequences of Artificial Intelligence.

Wang and Wang (2022) contributed to understanding psychological responses associated with AI development and use.

Alsudays (2026) [1], in a systematic review, found that AI anxiety has been examined through several theoretical perspectives and identified job-replacement anxiety and AI learning anxiety as areas requiring further research.

2. AI Anxiety and Job Replacement

Fear of technology replacing human labour is a central component of AI Anxiety. Replacement concern does not necessarily mean an immediate expectation of dismissal. Employees may fear that AI will reduce the number of tasks assigned to them, decrease the importance of their role or make existing skills less valuable. This distinction is important because job insecurity can emerge before actual employment loss.

3. AI and Job Insecurity

Job insecurity is commonly understood as the perceived threat of involuntary employment loss and the inability to maintain desired continuity in employment.

Greenhalgh and Rosenblatt (1984) [2] conceptualized it as perceived powerlessness to maintain desired continuity in a threatened job situation. In the AI context, insecurity can arise from fear of automation, technological substitution, changing job requirements, skill obsolescence, organizational restructuring, increased performance expectations, AI-enabled monitoring and uncertainty about career opportunities.

Theoretical Framework

1. Cognitive Appraisal Theory

Cognitive Appraisal Theory, associated with Lazarus and Folkman (1984), proposes that individuals do not respond only to an external event; they evaluate whether the event represents a threat, challenge or opportunity. Applied to AI, the process can be expressed as:

AI Adoption → Employee Appraisal → AI Anxiety → Employment-related Response

2. Conservation of Resources Theory

Hobfoll's (1989) [3] Conservation of Resources (COR) Theory suggests that individuals seek to obtain, retain and protect valued resources. For employees, these resources include employment, income, skills, professional identity, status, career opportunities and organizational position. AI may be perceived as a threat to these resources.

Perceived AI Threat → Perceived Resource Loss → AI Anxiety → Job Insecurity

Conceptual Framework

AI Anxiety Dimensions	Expected Employment Outcome
Job Replacement Anxiety	Perceived Job Insecurity / lower Job Security
AI Learning Anxiety	Perceived Job Insecurity / lower confidence
Technological Uncertainty	Perceived Job Insecurity
Loss of Control	Perceived Job Insecurity
Organizational Support / Reskilling	May AI Anxiety → Job Insecurity relationship

The proposed model positions AI Anxiety as a multidimensional antecedent of perceived Job Insecurity and recognizes organizational support and reskilling opportunities as possible buffering factors.

Hypotheses

- **H1:** There is a significant relationship between AI Anxiety and perceived Job Security.
- **H2:** AI Job-Replacement Anxiety significantly influences perceived Job Insecurity.
- **H3:** AI Learning Anxiety significantly influences perceived Job Insecurity.
- **H4:** Technological Uncertainty significantly influences perceived Job Insecurity.
- **H5:** AI Anxiety significantly predicts perceived Job Insecurity among employees.
- **H6:** There is a significant difference in AI Anxiety among employees belonging to different occupational sectors.
- **H7:** Employees who perceive greater organizational support for AI-related training report lower levels of Job Insecurity.

Research Methodology

1. Research Design

The study adopts a descriptive and explanatory cross-sectional research design. The descriptive component measures AI Anxiety and perceived Job Security, while the explanatory component examines relationships between the variables.

2. Study Area

The proposed study is conducted in Bilaspur district, Chhattisgarh, covering employees from different organizational sectors, particularly manufacturing and industrial organizations, banks and financial institutions, colleges and educational institutions, healthcare and service organizations, and other private and public-sector organizations.

3. Population

The population consists of employees working in formal organizations in Bilaspur and surrounding areas who have experienced or are aware of digital or AI-enabled technologies in their workplace.

4. Sample Size and Proposed Distribution

A total sample of 500 employees is considered for the proposed empirical analysis.

Sector	Respondents	Percentage
Industries / Manufacturing	150	30%
Banks / Financial Services	100	20%
Colleges / Education	100	20%
Healthcare / Service	75	15%
Other Organizations	75	15%
Total	500	100%

5. Sampling Technique

A combination of purposive and convenience sampling may be used because the study requires employed respondents with sufficient awareness of digital or AI-enabled technologies. For stronger future publication, proportionate stratified sampling is recommended if an appropriate employee sampling frame is available.

6. Data Collection Instrument

A structured questionnaire may be used. Section A collects demographic information; Section B measures AI Anxiety; and Section C measures Job Security. AI Anxiety and Job Security items are measured using a five-point Likert scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree and 5 = Strongly Agree.

Measurement of Variables

AI Anxiety

Dimension	Illustrative questionnaire items
Job Replacement Anxiety	Concern that AI may replace current tasks;
AI Learning Anxiety	Anxiety about learning new AI-related technologies;
Technological Uncertainty	Uncertainty about how AI will change the job;
Loss of Control	Feeling that AI may reduce control over work;

Data Analysis Techniques

Technique	Purpose
Frequency & Percentage	Describe respondent profile
Mean & Standard Deviation	Measure average levels and variation
Cronbach's Alpha	Test internal consistency/reliability
Pearson Correlation	Examine relationships between variables
Multiple Regression	Test predictive influence of AI Anxiety
Independent-sample t-test	Compare two groups where appropriate
One-way ANOVA	Compare AI Anxiety across sectors
Post-hoc Analysis	Identify specific sector differences
SEM / PLS-SEM	Optional advanced analysis

Ethical and Research Considerations

The questionnaire should be administered with appropriate respondent information and voluntary participation. Employee perceptions should be treated confidentially, and responses should be used for research purposes. Since AI Anxiety and Job Security are perception-based measures, individual differences and differences in actual AI exposure should be considered during interpretation.

Proposed / Illustrative Data Analysis

Important note: The numerical results below are illustrative and were constructed in the source manuscript to demonstrate how analysis could appear after collecting 500 responses. They are NOT actual survey results and must be replaced by results from collected data before empirical or journal submission.

1. Demographic Profile

Variable	Category	Frequency	Percentage
Gender	Male	312	62.4%
	Female	188	37.6%
Age	Below 30	142	28.4%
	30–40	181	36.2%
	41–50	119	23.8%
	Above 50	58	11.6%
Experience	Below 5 years	137	27.4%
	5–10 years	165	33.0%
	11–20 years	136	27.2%
	Above 20 years	62	12.4%

2. Descriptive Statistics

Variable	Mean	SD
Job Replacement Anxiety	3.46	0.91
AI Learning Anxiety	3.18	0.88
Technological Uncertainty	3.54	0.86
Loss of Control	3.21	0.89
Overall AI Anxiety	3.35	0.72
Perceived Job Security	3.08	0.83

3. Reliability Analysis

Construct	Items	Cronbach's Alpha
Job Replacement Anxiety	4	.87
AI Learning Anxiety	3	.84
Technological Uncertainty	3	.86
Loss of Control	3	.82
Overall AI Anxiety	13	.91
Job Security	6	.88

All illustrative alpha values exceed .70, suggesting satisfactory internal consistency. Actual reliability values must be calculated from collected responses.

Correlation and Regression Analysis

1. Illustrative Pearson Correlation Matrix

Variables	Replacement	Learning	Uncertainty	Overall AI Anxiety	Job Security
Replacement	1	.54**	.62**	.84**	-.48**
Learning	.54**	1	.58**	.81**	-.35**
Uncertainty	.62**	.58**	1	.87**	-.52**
Overall AI Anxiety	.84**	.81**	.87**	1	-.56**
Job Security	-.48**	-.35**	-.52**	-.56**	1

2. Illustrative Regression Results

A multiple regression model may be used to examine whether AI Anxiety predicts perceived Job Insecurity.

Predictor	β	t	p
Job Replacement Anxiety	.31	7.12	<.001
AI Learning Anxiety	.14	3.21	.001
Technological Uncertainty	.29	6.51	<.001
Loss of Control	.12	2.84	.005

3. Hypothesis Testing

Hypothesis	Illustrative result
H1: AI Anxiety is significantly related to Job Security	Supported
H2: Job-Replacement Anxiety influences Job Insecurity	Supported
H3: AI Learning Anxiety influences Job Insecurity	Supported
H4: Technological Uncertainty influences Job Insecurity	Supported
H5: AI Anxiety predicts Job Insecurity	Supported
H6: AI Anxiety differs across sectors	Supported
H7: Organizational support reduces Job Insecurity	Requires actual data

Sector-wise Analysis and Discussion

1. Illustrative Sector-wise AI Anxiety

Sector	Mean AI Anxiety
Banking / Financial Services	3.61
Industries / Manufacturing	3.48
Other Services	3.37
Healthcare	3.24
Colleges / Education	3.12

2. ANOVA

An illustrative one-way ANOVA gives $F(4, 495) = 7.84$, $p < .001$, indicating a statistically significant difference in AI Anxiety across sectors in the constructed example. A post-hoc test such as Tukey's HSD would be required to identify which specific sectors differ significantly.

Discussion

The proposed findings suggest that AI Anxiety is an important psychological factor influencing employees' perceptions of employment security. The negative relationship between AI Anxiety and Job Security is consistent with the theoretical proposition that employees interpret AI as a potential threat to valued resources such as employment, skills and professional identity.

From the perspective of Cognitive Appraisal Theory, employees evaluate AI according to perceived threat and coping capacity. Conservation of Resources Theory similarly suggests that employment, professional skills and career opportunities are valuable resources. When employees believe AI may reduce the value of these resources, they may experience stress and insecurity.

Implications for Human Resource Management

- **AI Reskilling:** Provide continuous AI-related training and communicate AI as a tool that can augment employee capabilities.
- **Transparent Communication:** Explain why AI is introduced, which tasks and jobs may change, required skills and available training.

Implications for Organizations in Bilaspur

Organizations in Bilaspur can adopt a Human-Centred AI Strategy. A practical sequence is: AI Awareness → AI Training → Skill Development → Employee Participation → Career Support → Continuous Evaluation.

Conclusion

Artificial Intelligence is likely to transform the nature of employment rather than simply eliminate employment. The psychological response of employees to this transformation is therefore an important HRM issue. The proposed study provides a framework for examining AI Anxiety and Job Security among 500 employees across industries, banks, colleges and other organizations in Bilaspur, Chhattisgarh.

The illustrative analysis suggests that AI Anxiety may have a significant negative association with perceived Job Security, with Job Replacement Anxiety and Technological Uncertainty appearing particularly important. The central implication is that AI adoption should be accompanied by employee development rather than employee uncertainty. Organizations that provide reskilling opportunities, transparent communication, employee participation and career support may be better positioned to reduce AI-related anxiety.

Limitations

- The cross-sectional design cannot establish long-term causal relationships.
- The study focuses on Bilaspur, so findings may not generalize employees in Chhattisgarh or India.
- AI exposure may differ considerably among organizations.

Suggestions for Future Research

- Conduct longitudinal studies to examine changes in AI Anxiety over time.
- Compare metropolitan and non-metropolitan cities and public- versus private-sector employees.
- Examine AI literacy and organizational support as moderators.

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