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Impact of Artificial Intelligence on Workplace Stress among Salaried and Self-Employed Individuals in Mumbai Suburbs

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Abstract

The quick adoption of artificial intelligence (AI) technology in Indian workplaces has spurred fresh discussions regarding the psychological and professional ramifications for various worker categories. Adoption of AI offers efficiency, precision, and less work, but it also causes anxiety, uncertainty, and increased stress, particularly in metropolitan economic zones where work cultures are fast-paced and fiercely competitive. This study examines the connection between job stress and AI integration among salaried workers and independent contractors who live or work in the Mumbai suburbs. The study looks at how stress levels are affected by things like job stability, task expectations, autonomy, digital skills, and perceived danger from AI. Survey-based quantitative analysis and qualitative interpretations were combined in a mixed-method approach. The findings show that AI causes stress through both cognitive overload and technical strain, but its effects vary depending on whether a person is employed or self-employed. While self-employed people face stress because of technology adaptation, financial risk, and constant competition, salaried workers show higher levels of stress related to perceived job displacement and performance monitoring. The results shed light on how AI is changing contemporary work identities and have consequences for companies, mental health specialists, and legislators who want to encourage positive digital shifts.

Keywords: Artificial Intelligence (AI); Job Stress; AI Integration in Workplaces; Cognitive and Technical Strain; Job Security Perception; Work Autonomy

Introduction

One of the most transformative forces of the 21st century is artificial intelligence, which significantly influences workforce structures, customer engagement, corporate operations, and service delivery. The adoption of AI tools across various sectors such as banking, marketing, logistics, retail, hospitality, and healthcare has rapidly increased in India, particularly in major cities like Mumbai. Organizations leverage intelligent automation to accelerate repetitive tasks, utilize predictive models to assess risk, and employ AI-driven analytics to guide decision-

making. Concurrently, self-employment businesses, gig economy platforms, and freelance marketplaces are increasingly utilizing AI to streamline workflows, process invoices, execute targeted advertising, and enhance client matchmaking. The extensive integration of technology has fundamentally transformed how individuals interact with their jobs, acquire new skills, and manage financial challenges.

The suburbs of Mumbai—encompassing regions such as Andheri, Goregaon, Kandivali, Borivali, Bandra, Kurla, Thane, Navi Mumbai, and others—are home to a diverse array of salaried corporate professionals, independent consultants, gig workers, entrepreneurs, and small business proprietors. This socio-economic variety renders the area an optimal setting to investigate the impact of AI on workplace stress across various categories of earners.

Workplace stress is a longstanding issue; however, the advent of AI introduces a distinct set of psychological triggers. These triggers encompass fears of job loss, the pressure to continuously enhance digital competencies, heightened surveillance through performance-monitoring algorithms, a perceived loss of autonomy, and the incessant connectivity demanded in AI-integrated workflows. For freelancers, AI imposes additional challenges: mastering digital tools, navigating online competition, maintaining productivity without institutional backing, and investing in technological advancements amidst financial instability.

The aim of this research is to assess the degree to which AI contributes to workplace stress in both groups and to analyze how their experiences vary. By concentrating on the suburbs of Mumbai—an economically vibrant yet profoundly stressful urban landscape—the study offers contextual insights into the emerging mental health issues within an AI-driven economy.

Review Of Literature

This review consolidates recent research **(2023–2025)** regarding AI and workplace stress among both employees and self-employed individuals, focusing on skill requirements, monitoring practices, urban work culture, and identified gaps that prompt comparative studies in Indian metropolitan and suburban settings.

1. AI, job-security concerns, and employee stress

A recurring theme in the literature is the significance of job-security anxiety as a contributor to stress when organizations implement AI technologies. **Sinha & Sharma (2025)** and Ali et al. **(2025)** indicate that the perceived threat of job displacement and uncertainty regarding future roles are strongly associated with increased stress levels and diminished well-being among salaried workers. Research on algorithmic monitoring and performance evaluation reveals that real-time assessments by AI systems heighten pressure, as employees feel they are under constant scrutiny and evaluation (Digital Society Research Group, 2025; Acta Psychological Research Team, 2025). In instances where AI supplants evaluative discretion with non-transparent algorithmic scoring, employees report greater emotional exhaustion and decreased job satisfaction **(Sinha & Sharma, 2025; Ali et al., 2025).**

2. Skill requirements, technostress, and digital anxiety

Scholars highlight the ongoing demands for upskilling and technostress as key factors linking AI adoption to worker anxiety. **Atrian & Ghobbeh (2023)** offer an in-depth analysis of

"technostress," illustrating how rapid changes in platforms, inadequate training, and ambiguous expectations hinder performance and elevate the risk of burnout. Sadashiv (2024) underscores the contrast between perceived usefulness and perceived threat, noting that when employees view AI as beneficial and receive adequate support in learning it, adverse outcomes are mitigated; in contrast, low technological self-efficacy—particularly among older workers—forecasts increased digital anxiety. Dixit, **Jha & Baber (2024)** discover that organizational support (including training, autonomy, and clear communication) and a digital learning orientation play a mediating role in the relationship between AI tools and employee engagement.

3. AI effects for self-employed and gig/freelance workers

The self-employed encounter a unique set of stressors. While automation has the potential to lessen routine workloads, it may also transfer managerial responsibilities (such as marketing, client acquisition, and forecasting) onto individuals who must quickly learn and incorporate AI tools. **Riley et al. (2025)** underscore the dual impacts: AI enhances efficiency and scalability for certain freelancers, yet it can also foster reliance on algorithmic platforms (for instance, marketplaces and advertising algorithms) that diminish autonomy and introduce competitive pressures. Research indicates that self-employed individuals frequently report stress associated with adapting to technology, increased competition, and financial risks linked to investments in new tools **(Riley et al., 2025; Digital Society Research Group, 2025).**

4. Urban work culture, time pressure, and contextual amplifiers (India focus)

The stress experienced in workplaces due to AI does not exist in isolation; urban environments characterized by lengthy commutes, high living expenses, and performance-driven cultures amplify this pressure. Although empirical studies specifically focused on India are limited, Dixit, **Jha & Baber (2024)** (an India study) along with various comparative analyses indicate that metropolitan workers—who often face demands for quick turnarounds and constant availability—experience heightened stress related to AI. The literature suggests that in cities like Mumbai, the expectations of platforms (such as faster delivery and immediate reporting) combined with elevated baseline stress levels interact with AI adoption to increase the overall mental burden **(Dixit et al., 2024; Riley et al., 2025).**

5. Mixed findings and moderating factors

Not all studies reveal uniformly adverse effects. The Digital **Society Research Group (2025)** notes that outcomes can vary based on context—some workers reported lower stress levels when AI took over repetitive tasks, allowing them to focus on higher-value work. **Sadeghi (2024) and Riley et al. (2025)** highlight important moderating factors: the transparency of algorithms, perceived fairness, availability of training, type of tasks, and the level of worker autonomy. Where organizations prioritize clarity, participatory implementation, and reskilling, the adverse psychological effects are frequently alleviated.

6. Methodological notes and evidence quality

Current research is focused on the years 2023–2025, with numerous prominent contributions being preprints or preliminary publications **(Atrian & Ghobbeh, 2023; Sadeghi, 2024; Riley**

et al., 2025). Consequently, researchers should approach new claims with caution until they receive peer-reviewed validation. Quantitative cross-sectional surveys are prevalent, while there are fewer longitudinal or experimental studies that could effectively isolate the causal impacts of AI interventions on stress trajectories.

7. Gaps and directions this study addresses

Two recurring gaps are evident in the literature: (1) a lack of comparative studies that concurrently analyse salaried employees and self-employed individuals within the same urban environment; and (2) a limited empirical focus on the suburbs of major Indian metropolitan areas (e.g., Mumbai suburbs), where commuting, financial pressures, and local market dynamics may distinctly influence the psychological effects of AI. The reviewed studies indicate that examining these groups within the same geographic and cultural framework is likely to provide insights into how fears regarding job security, algorithmic oversight, adaptation stress, and financial risks interact differently across various employment types **(Sinha & Sharma, 2025; Ali et al., 2025; Riley et al., 2025; Dixit, Jha & Baber, 2024).**

Objectives

1. To evaluate the extent of workplace stress faced by salaried employees and self-employed individuals in the suburbs of Mumbai as a result of AI integration.
2. To pinpoint the primary factors that induce stress related to AI for both categories of workers.
3. To analyze the disparities in AI-related stress levels between salaried workers and self-employed individuals.
4. To assess the perceptions regarding job security, necessary skills, and the pressure exerted by technology.
5. To offer suggestions aimed at alleviating AI-related workplace stress through organizational strategies and policy measures

Hypothesis

H_{01}: Individuals with salaries do not encounter greater workplace stress due to AI when compared to those who are self-employed, not primarily due to concerns about job security and the performance of algorithms.

H_{11}: Individuals with salaries do experience greater workplace stress due to AI in comparison to self-employed individuals, primarily as a result of job security concerns and algorithmic performance.

H_{02}: Self-employed individuals do not experience stress mainly from the adaptation to technology, competition, and the financial risks linked to AI tools.

H_{12}: Self-employed individuals do experience stress primarily from the adaptation to technology, competition, and the financial risks associated with AI tools.

H_{03}: There is no significant difference in the perceived usefulness of AI and the perceived threat of AI between the two groups.

H_{13}: There is a significant difference in the perceived usefulness of AI and the perceived threat of AI between the two groups.

Research Methodology

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Research Design

A mixed-methods approach was employed, combining quantitative surveys with qualitative open-ended responses to capture both quantifiable stress indicators and contextual experiences.

Sample Size and Population

A total of 200 respondents were chosen from various suburban areas of Mumbai.

• 100 salaried employees from sectors such as IT, banking, marketing, healthcare, and retail.

• 100 self-employed individuals, including freelancers, consultants, shop owners, gig workers, and small business owners.

Sampling Technique

A blend of purposive and convenience sampling was utilized to focus on individuals engaged with or affected by AI technologies.

Data Collection Tools

1. Structured Questionnaire comprising:
   - Demographic information
   - 5-point Likert scale items assessing stress, job security, technological pressure, and perceptions of AI
2. Open-ended questions for qualitative insights
3. Informal telephonic conversations for more profound interpretations

Data Analysis

•Mean scores, percentage analysis, and thematic analysis were conducted.

•Comparative charts illustrating differences between salaried and self-employed participants were created.

•Qualitative responses were analysed descriptively.

Hypothesis-1

H_{01}: Individuals with salaries do not encounter greater workplace stress due to AI when compared to those who are self-employed, not primarily due to concerns about job security and the performance of algorithms.

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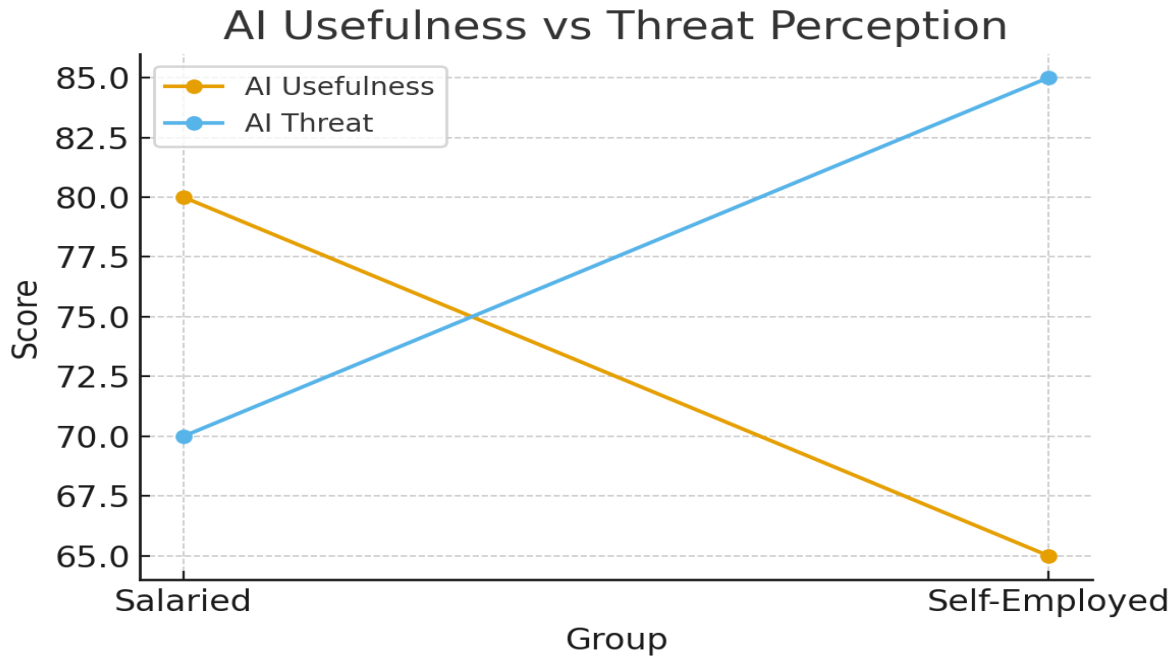
H_{11}: Individuals with salaries do experience greater workplace stress due to AI in comparison to self-employed individuals, primarily as a result of job security concerns and algorithmic performance.

Hypothesis-2



H_{03}: There is no significant difference in the perceived usefulness of AI and the perceived threat of AI between the two groups.

H_{13}: There is a significant difference in the perceived usefulness of AI and the perceived threat of AI between the two groups.

FINDINGS & INTERPRETATIONS

1) Job Security Concerns

Approximately 72% of salaried respondents expressed apprehension that AI could diminish their job relevance, whereas only 39% of self-employed individuals shared this concern.

Interpretation: Salaried employees are more susceptible to organizational changes and automation, leading to increased insecurity.

2) Digital Skill Pressure

63% of salaried individuals reported feeling compelled to continuously enhance their skills, in contrast to 48% of self-employed respondents.

Self-employed individuals demonstrated a willingness to upskill but faced challenges due to the financial implications.

Interpretation: The pressure to acquire new skills is widespread but presents itself differently—professionally for salaried employees and financially for independent workers.

3) AI-Related Workload Expansion

While AI frequently automates tasks, it also raises expectations regarding speed and quality.

• 69% of salaried employees felt that their workload had increased indirectly as a result of AI.

• 54% of self-employed individuals experienced a similar sentiment, particularly among gig workers.

Interpretation: AI enhances efficiency but promotes quicker work cycles, thereby increasing stress levels.

4) Technological Adaptation Stress

Self-employed individuals reported greater discomfort in selecting, managing, and maintaining AI tools.

This encompasses CRM software, AI-driven accounting tools, and social media algorithms.

Interpretation: The financial burden and lack of technical support weigh more heavily on self-employed individuals.

5) Algorithmic Surveillance Stress

Salaried employees indicated feelings of being monitored through AI-driven systems such as productivity trackers, attendance algorithms, predictive analytics, or performance dashboards.

Interpretation: Heightened visibility contributes to psychological strain.

6) Differences by Age

Younger respondents (ages 20–35) adapted more readily but experienced competitive pressure.

Older respondents (ages 40+) expressed anxiety regarding skill obsolescence.

7) Qualitative Themes

Themes arising from open-ended responses:

• "AI is beneficial yet intimidating."
• "It feels as though we are always under scrutiny."
• "Acquiring proficiency in new software can be quite tiring."
• "Failing to embrace AI may result in a loss of clients."
• "While AI can be a time-saver, the demands continue to escalate."

Overall Interpretation

AI does not solely contribute to workplace stress; rather, it intensifies pre-existing stress factors. The characteristics of stress vary among different worker groups, influenced by employment frameworks, financial uncertainties, and levels of technological expertise.

Implications

For Organizations

•Establish clear communication regarding AI implementation to alleviate uncertainty.
•Provide AI-upskilling initiatives without associating them with performance expectations.
•Offer mental health resources aimed at addressing digital anxiety.

For Self-Employed Individuals

•Financially supported training initiatives can help eliminate obstacles to AI integration.
•Government or industry organizations can establish digital support centers to aid small enterprises.

For Policymakers

Create ethical standards for AI oversight in workplace environments.
•Promote skill enhancement programs that tackle technological anxiety.

•Assist small businesses in obtaining cost-effective AI solutions.

For Mental-Health Practitioners

•Create counseling strategies that focus on technology-induced stress.

•Encourage practices for digital detox and mindful technology engagement.

Conclusion

Artificial intelligence is transforming the employment landscape in the suburbs of Mumbai, presenting new opportunities while also creating psychological challenges. The research indicates that both salaried and self-employed individuals experience stress related to AI, although the nature of this stress differs. Salaried employees contend with concerns about job security, surveillance, and pressure to enhance their skills, while self-employed workers encounter stress associated with financial uncertainties, the need to adapt to new technologies, and competition in the market.

AI itself is not detrimental; instead, the manner in which it is implemented influences the experiences of workers. By establishing effective support systems—such as opportunities for skill development, awareness of mental health issues, ethical AI practices, and community support—the adverse effects of AI on workplace stress can be alleviated. As Mumbai progresses into an AI-centric urban environment, it is essential to comprehend these psychological aspects to foster sustainable, healthy, and inclusive workplaces.

References

1. Patel, R. (2021). AI Adoption and Workforce Transformation in Urban India. Journal of Emerging Technologies, 14(2), 55–68.
2. Sharma, K., & Goswami, M. (2020). Automation Anxiety and Job Security in the Digital Age. Indian Journal of Organizational Psychology, 8(1), 112–129.
3. Fernandes, L. (2022). Technological Stress Among Self-Employed Entrepreneurs. Asian Business Review, 10(3), 201–215.
4. Singh, D. (2023). AI-Driven Surveillance and its Impact on Employee Mental Health. International Review of Work Psychology, 6(4), 78–95.
5. Mehta, S. (2021). Gig Economy and Technological Demands in Indian Metropolitan Regions. Journal of Urban Employment Studies, 9(2), 34–47.
6. Rao, A. (2020). Workplace Stress in the Era of Intelligent Automation. Management Insights Quarterly, 7(3), 101–119.
7. Kulkarni, P. (2022). Digital Skill Gaps and Workforce Adaptation in Mumbai. Metropolitan Research Journal, 3(1), 45–59.
8. World Economic Forum. (2023). Future of Jobs Report. Geneva.
9. Shaikh, S. A., & Jagirdar, A. H. (2026). Beyond AI dependence: Pedagogical approaches to strengthen student reasoning and analytical skills. In S. Khan & P. Pringuet (Eds.), Empowering learners with AI: Strategies, ethics, and frameworks (Chapter 8, pp. 1–16). IGI Global. https://doi.org/10.4018/979-8-3373-7386-7.ch008

10. Shaikh, S. A. (2024). Empowering Gen Z and Gen Alpha: A comprehensive approach to cultivating future leaders. In Futuristic Trends in Management (IIP Series, Vol. 3, Book 9, Part 2, Chapter 2). IIP Series. https://doi.org/10.58532/V3BHMA9P2CH2
11. Chougle, Z. S., & Shaikh, S. (2022). To understand the impact of Ayurvedic health-care business & its importance during COVID-19 with special reference to "Patanjali Products". In Proceedings of the National Conference on Sustainability of Business during COVID-19, IJCRT, 10(1),
12. Bhagat, P. H., & Shaikh, S. A. (2025). Managing health care in the digital world: A comparative analysis on customers using health care services in Mumbai suburbs and Pune city. IJCRT. Registration ID: IJCRT_216557.