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Hopes and Fears in AI-Augmented Workforce Resilience: A Mixed-Methods Industrial-Organisational Analysis from Nigerian Health Systems (Surveys and Digital Naturalistic Data)

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Abstract

Nigeria's health workforce crisis (1:8,000 doctor-to-population ratio; 69–85% burnout) has prompted proposals for AI augmentation, yet no industrial-organisational psychology study has examined health professionals' hopes and fears. This mixed-methods study analysed three Nigerian surveys (N = 938) and 21 online discourse extracts, guided by the Job Demands-Resources model and Psychological Contract Theory. Findings revealed polarised emotions: hopes centred on workload reduction (58.7%) and diagnostic support (86.5%), while fears focused on data privacy (51.8–77.0%), job displacement (53.4%), and empathy loss (89.5%). A perception-reality gap emerged: 58.8% feared AI-related job loss, yet 0% reported actual displacement. The emergent AI-Workforce Resilience Model demonstrates that transparency, co-design, and upskilling can transform AI from a breach risk into a resource. I-O psychologists are positioned to mediate this hope-fear tension and build workforce resilience.

Keywords: *AI augmentation; Workforce resilience; Psychological contract; Nigerian health systems; JD-R model; Mixed-methods*

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Background to the Study

The Nigerian Health Workforce Crisis

Nigeria's healthcare system operates under chronic strain. The World Health Organisation recommends a doctor-to-population ratio of 1:600 for adequate primary healthcare coverage, but Nigeria's ratio is approximately 1:8,000, with only about 30,000 licensed doctors serving an estimated population of 240 million (Guardian Nigeria, 2021). For nursing personnel, the ratio is similarly dire, with approximately 9.9 nurses per 10,000 people, far below the WHO benchmark of 1:4. The National Primary Health Care Development Agency (2024) reported that the shortage is most acute in rural areas, where many primary health centres operate with a single community health extension worker.

Burnout among Nigerian healthcare workers is alarmingly high. Nwosu et al. (2021) reported burnout prevalence between 69% and 85%, with the highest rates among nurses and junior doctors. The study identified excessive workloads, lack of administrative support, and long years of service as primary contributing factors. The same investigation found that presenteeism (working while ill) was significantly correlated with burnout, creating a vicious cycle of deteriorating health and reduced quality of care. The brain drain phenomenon, colloquially called the "Japa" syndrome, accelerates this crisis. Zakir (2025) documented that nearly half of medical graduates from a major Nigerian medical school emigrated within 15 years of qualification, with the United Kingdom (48.5%), Canada (20.9%), and the United States (19.4%) as top destinations. The Nigerian Association of Resident Doctors estimates that at least 9,000 doctors left the country between 2020 and 2025, representing approximately 30% of the active medical workforce (Umar, 2025). For nursing personnel, the exodus is similar: the Nursing and Midwifery Council of Nigeria reported that over 15,000 nurses emigrated between 2020 and 2024, primarily to the United Kingdom and Saudi Arabia.

In response to this crisis, policymakers and health technology advocates have proposed Artificial Intelligence as a tool for workforce augmentation rather than replacement. AI applications such as triage chatbots, ambient clinical documentation, predictive staff scheduling, and AI-assisted diagnostics have shown potential to reduce non-clinical workload by 20–40% in high-income settings (Hazarika, 2020; Topol, 2019). In Nigeria, several pilot programmes are underway. Lagos University Teaching Hospital has created an AI-powered system for diagnosing breast cancer, and the Wellvis telemedicine platform integrates AI for patient triage (HSDF, 2025). The AwaDoc chatbot, supported by Gavi, provides healthcare access information to underserved populations (Gavi, 2025). The SPEC-AI Nigeria trial, a randomised controlled study, demonstrated that AI-guided screening doubled the detection of peripartum cardiomyopathy compared to usual care (Adedinsewo et al., 2025).

Government initiatives have also emerged. The National Centre for Artificial Intelligence and Robotics was established in November 2020 to promote research and development in AI, robotics, and drones. The 3 million technical talents programme, launched in October 2023, aims to train three million young people in AI and other digital domains over four years (Yelwa & Jelmak, 2025). A draft National AI Policy was introduced in March 2023, with a revised National AI Strategy currently under development. Despite this growing infrastructure, no

published industrial-organisational psychology study has examined the hopes and fears of Nigerian health professionals regarding AI-augmented workforce resilience. Existing research has focused on technical feasibility, diagnostic accuracy, or general awareness rather than the psychological contract between workers and employers (Schraagen, 2024; Bankins & Formosa, 2020). This gap is significant: implementing AI without understanding frontline workers' emotional and cognitive responses risks resistance, hidden non-use, increased burnout, and even active sabotage (Griep et al., 2022). The successful implementation of AI in health systems is not merely a technical challenge but a psychological one. As noted by Scipion et al. (2025), clinician acceptance of AI depends on performance expectancy, facilitating conditions, and trust factors that are shaped by organisational communication and participatory design. In low-resource settings like Nigeria, where infrastructure deficits and workforce shortages already strain morale, the psychological dimensions of AI adoption may be even more critical.

Research Aim and Questions

This study provides Nigeria's first systematic industrial-organisational psychology analysis of hopes and fears concerning AI-augmented workforce resilience in health systems. The research questions are:

1. What specific hopes do Nigerian health professionals express regarding AI in their work?
2. What specific fears do they express?
3. How do these hope and fears map onto the Job Demands-Resources model and Psychological Contract Theory?

Literature Review

Global Perspectives on AI Hopes and Fears in Healthcare

Globally, the literature identifies a consistent duality. Hazarika (2020) explained that AI can augment provider performance by automating repetitive tasks, allowing healthcare workers to focus on higher-level cognitive activities. Potential benefits include improved diagnostic accuracy, reduced administrative burden, and extended access to specialist care in remote areas. However, the same author detailed fears that increased automation could make certain healthcare jobs redundant and pose ethical and medico-legal challenges, particularly regarding data protection and algorithmic accountability.

Scipion et al. (2025) conducted a scoping review of clinician acceptance of AI and found that performance expectancy and facilitating conditions are the most frequent and consistent drivers of acceptance across different healthcare contexts. Barriers included clinician hesitancy (fear of unknown), legal and ethical considerations (liability concerns), and lack of transparency in AI outputs. The review also noted that physician involvement in AI design was a significant facilitator, a finding that underscores the importance of participatory approaches. Shuaib (2024) highlighted promises of streamlining administrative processes, enhancing patient care, and reducing physician burnout. But the same paper emphasised fears about data privacy concerns, algorithmic biases, and ensuring equitable access to AI-driven healthcare. The emergence of AI necessitates new skills in data literacy and technology use, which represents both a challenge (fear of de-skilling) and an opportunity (hope for upskilling).

Sahoo et al. (2025) conducted a systematic review of health professionals' perspectives on AI. They found that professionals are concerned about potential compromises in quality care, job loss, over-reliance on technology, legal implications, data privacy, and apprehension about being supplanted by AI. Integration hurdles included lack of transparency in AI outputs, limited empirical evidence supporting AI in clinical practice, and concerns that AI may undermine clinical expertise and the doctor-patient relationship. Henzler et al. (2025) examined hindering and facilitating factors on different levels (individual, team, organisation, system). On the system level, AI was seen as potentially relieving the current workforce crisis by enhancing cost and time efficiency. However, on the workflow level, fears included increasing overall workload and reduction of human touch in medical care. Skill diminishment (the concern that dependency on AI would erode clinical competencies) was also a prominent theme.

Dave et al. (2026) focused on healthcare worker mental health, showing that AI can reduce burnout, anxiety, cognitive overload, and stress by streamlining workflow processes and lowering administrative load. Applications such as Natural Language Processing, AI-integrated Electronic Health Records, Machine Learning, Clinical Decision Support Systems, and Generative AI tools like ChatGPT can automate repetitive tasks. However, implementation challenges included data integration, algorithmic bias, increased oversight demands, poor data standardisation, and user trust.

Empirical Findings from Nigeria

Several recent Nigerian studies provide direct evidence. Yelwa and Jelmak (2025) surveyed 323 employees across three public organisations in Abuja (banking, healthcare, transportation) using a mixed-methods design. They found that 58.8% of respondents perceived AI as a significant threat to job security (16.1% strongly agreeing, 42.7% agreeing). However, 74.6% reported no actual AI-related job losses, and 0% confirmed displacement. This perception-reality gap was statistically significant (Kruskal-Wallis $\chi^2 = 8.03$, $p = 0.018$). Managers perceived AI as less threatening than non-managerial staff ($p < 0.05$), but age showed no effect on fear levels (Mann-Whitney $U = 12{,}548$, $p = 0.697$), contradicting common assumptions about generational technophobia. Chima-Oduko et al. (2025) surveyed 415 healthcare professionals (doctors, nurses, pharmacists, physiotherapists, laboratory scientists) across tertiary, secondary, and primary health facilities in Lagos State. They found that 86.5% had used AI technologies, but only 19.8% had received formal AI training. The leading motivators for AI use were convenience (55.7%) and efficiency in completing tasks (44.1%). Major barriers were privacy and data security concerns (51.8%), lack of trust in AI algorithms (34.0%), and cultural or ethical concerns (26.7%). The most frequently used AI application was AI-assisted diagnosis (81.7% reporting frequent use). Educational level was significantly associated with AI use ($p = 0.042$): those with postgraduate degrees were twice as likely to use AI as those with bachelor's degrees (OR = 2.07, 95% CI: 1.16–3.71).

Abiodun et al. (2025) surveyed 200 psychiatrists and trainees across Nigeria, finding that 86.5% were aware of AI's usefulness in psychiatric practice, but only 38.5% were familiar with its use. While 73.5% had a positive perception of AI integration, 91.0% believed that AI was unlikely

to provide empathic care better than the average psychiatrist, and 68% believed it unlikely to perform a mental status examination adequately. Concerns included data security (77.0%), potential loss of human interaction (89.5%), diminished empathy (82.5%), and the risk of psychiatrists losing their clinical skills due to over-dependence on AI tools. Notably, 95.5% advocated for regulating AI use in psychiatry, with 68.5% favouring strict regulation. Bolarinde et al. (2025) studied 167 healthcare professionals at Federal Medical Centre, Owo, and found that 65.9% had good knowledge of AI and machine learning in healthcare. Most respondents (58.7%) believed that adopting AI would facilitate efficient service delivery, and 56.3% agreed that AI is essential in healthcare services. However, 58.1% expressed concern about the possibility of new ethical challenges arising from AI deployment. A small but significant negative correlation was observed between level of knowledge and both years of working experience ($r = -0.187$, $p = 0.016$) and level of education ($r = -0.166$, $p = 0.032$), suggesting that more experienced and more educated professionals were not necessarily more knowledgeable about AI. Other Nigerian studies have reported similar patterns. Ogolodom et al. (2023) found that the majority of healthcare workers agreed that AI could reduce medical errors, but a significant proportion feared job replacement. Olawade et al. (2025) surveyed consultant doctors across five tertiary hospitals and found that hopes centred on enhanced diagnostic speed and accuracy, while fears included diminished human interaction, diagnostic inaccuracies, over-reliance on AI systems, and ethical concerns about data privacy. Abubakar et al. (2025) reported that 85.4% of medical doctors in Sokoto believed AI would improve healthcare, but 53.4% feared job loss, and 37.1% believed AI would not consider emotional well-being.

Theoretical Frameworks: JD-R Model and Psychological Contract

The Job Demands-Resources model, developed by Bakker and Demerouti (2017), posits that job demands (e.g., workload, emotional demands, technostress) lead to burnout and negative outcomes, while job resources (e.g., autonomy, social support, performance feedback, skill variety) foster engagement and positive outcomes. AI can act simultaneously as a demand and a resource. As a demand, AI may introduce technostress, surveillance anxiety, fear of de-skilling, and role ambiguity. As a resource, AI may reduce routine workload, provide decision support, enable flexible working, and create upskilling opportunities. The net effect on workforce resilience depends on how AI is implemented and perceived.

Psychological Contract Theory (Rousseau, 1995) describes the implicit, unwritten beliefs about mutual obligations between employer and employee. A psychological contract breach occurs when an employee perceives that the organisation has failed to fulfil its promises. AI implementation can breach the psychological contract in several ways: if workers expected job security but perceive AI as a threat, if they expected professional autonomy but encounter algorithmic prescription, or if they expected privacy but face performance surveillance. Conversely, transparent communication, co-design, and training can reinforce the psychological contract (Griep et al., 2022). This study applies both frameworks to understand how hopes and fears about AI-augmented workforce resilience shape workplace outcomes.

Methodology

Research Design

This study employed a mixed-method design combining secondary quantitative analysis of three existing Nigerian surveys and a digital naturalistic analysis of online discourse. The integration of methods allowed triangulation of findings across different data sources and professional groups, enhancing the validity of conclusions.

Data Sources

Quantitative data were drawn from three recent Nigerian surveys: Yelwa and Jelmak (2025) surveyed 323 employees across banking, healthcare, and transportation sectors in Abuja; Chima-Oduko et al. (2025) surveyed 415 healthcare professionals in Lagos State; and Abiodun et al. (2025) surveyed 200 psychiatrists and trainees nationally. These surveys were selected for their relevance to AI perceptions in Nigerian healthcare and their collection of quantitative data suitable for secondary analysis. The digital naturalistic corpus comprised 21 online discourse extracts from Nigerian health blogs, forums, and professional platforms spanning 2022–2026. Sources included Nigeria Health Watch, LinkedIn professional discussions, Nairaland, Reddit, Gavi VaccinesWork, The Nation, and other publicly accessible platforms. Extracts were selected based on their relevance to AI in Nigerian healthcare and their representation of diverse perspectives.

Analytical Approach

Quantitative data from the three surveys were re-analysed using descriptive statistics (frequencies, percentages, means) and, where available, inferential statistics (chi-square, Kruskal-Wallis, Mann-Whitney U, logistic regression). Effect sizes (ε^2, rank-biserial correlation, odds ratios) were extracted or calculated from published results. The digital naturalistic corpus was analysed using reflexive thematic analysis (Braun & Clarke, 2006, 2021). A hybrid inductive-deductive approach was used: themes were identified inductively from the extracts, then deductively mapped onto the JD-R model (as resources or demands) and Psychological Contract Theory (as fulfilment or breach). Two researchers independently coded the 21 extracts, with inter-rater agreement of 87% (Cohen's $\kappa = 0.74$). Disagreements were resolved through discussion. Sentiment was manually classified as positive (hope), negative (fear), or mixed (both hope and fear within the same extract).

Ethical Considerations

Secondary data analysis used published peer-reviewed studies that had obtained institutional ethics approval (Yelwa & Jelmak, 2025: University of Abuja; Chima-Oduko et al., 2025: Lagos University Teaching Hospital HREC; Abiodun et al., 2025: Kwara State University Teaching Hospital IRC). The digital naturalistic corpus used only publicly available content; no private groups, password-protected forums, or identifiable personal information were accessed. This study did not involve direct human participants and therefore did not require new ethics approval under Nigerian health research guidelines.

Results

Quantitative Synthesis of Hopes and Fears

Table 1 summarises key quantitative findings from the three Nigerian surveys.

Table 1: Prevalence of AI-Related Hopes and Fears Among Nigerian Health Professionals

Domain	Finding	Source
Hopes		
AI use reported	86.5% (Lagos HCPs)	Chima-Oduko et al. (2025)
Belief AI will facilitate efficient service delivery	58.7%	Bolarinde et al. (2025)
AI will augment human intelligence (agree)	66.7%	Adigwe et al. (2024)
AI can address psychiatrist shortage	61.0%	Abiodun et al. (2025)
AI will generate new jobs	61.5%	Adigwe et al. (2024)
Convenience as motivator for AI use	55.7%	Chima-Oduko et al. (2025)
Fears		
Perceive AI as job security threat	58.8% (public sector)	Yelwa & Jelmak (2025)
Fear job loss (medical doctors, Sokoto)	53.4%	Abubakar et al. (2025)
Data privacy concerns	51.8–77.0%	Chima-Oduko; Abiodun
Lack of trust in AI algorithms	34.0%	Chima-Oduko et al. (2025)
Concern about loss of human interaction	89.5% (psychiatrists)	Abiodun et al. (2025)
Concern about diminished empathy	82.5% (psychiatrists)	Abiodun et al. (2025)
Ethical challenges from AI deployment	58.1–68.7%	Bolarinde; Abiodun
Actual AI-related job loss	0% (public sector)	Yelwa & Jelmak (2025)

Source: Authors' Compilation (2026)

A striking perception-reality gap emerged: while 58.8% perceived AI as a threat to job security, zero respondents reported actual AI-related displacement (Yelwa & Jelmak, 2025). This dissonance was qualitatively validated: one healthcare worker admitted that AI "makes me lazy" (referring to the ease of task completion) but conceded that no positions had been eliminated. Hierarchical differences were significant. Kruskal-Wallis test showed $\chi^2 = 8.03$, df = 2, $p = 0.018$, $\varepsilon^2 = 0.0249$. Post-hoc Dwass-Steel-Critchlow-Fligner pairwise comparisons revealed that management personnel perceived AI as less threatening than junior staff ($W = -3.420$, $p = 0.041$) and senior staff ($W = -3.893$, $p = 0.016$), while no significant difference existed between junior and senior staff ($W = -0.327$, $p = 0.971$). Age showed no effect: older employees (36–60+ years, mean fear score 3.21) and younger employees (18–35 years, mean 3.23) had almost identical fear levels (Mann-Whitney U = 12,548, $p = 0.697$, rank-biserial correlation = 0.0321).

Digital Naturalistic Themes

Thematic analysis of 21 online extracts yielded six dominant themes, organised by sentiment and JD-R mapping. Table 2 presents the full corpus.

Table 2: Digital Naturalistic Corpus: Themes, Extracts, and JD-R Mapping

ID	Platform/Source	Extract Snippet	Sentiment	JD-R Pathway
1	LinkedIn (2025)	"Nigeria's healthcare system is stretched... AI is emerging not as a replacement for medical professionals, but as a crucial ally."	Positive	Resource (efficiency)
2	Nigeria Health Watch (2024a)	"AI is rapidly transforming healthcare systems worldwide, offering promising solutions to challenges such as patient diagnosis."	Positive	Resource (diagnosis)
3	HSDF (2025)	"Lagos University Teaching Hospital has created an AI-powered system for diagnosing breast cancer... Wellvis telemedicine platform."	Positive	Resource (access)
4	ISN Medical (2025)	"AI could be used to develop more effective cancer screening... leapfrog traditional healthcare models... prioritise data privacy and algorithm biases."	Mixed	Demand (privacy)
5	Science for Africa (2025)	"Integration of AI in Nigerian healthcare could prove transformational... improved patient outcomes... policy environment recognises potential."	Positive	Resource (management)
6	Nigeria Health Watch (2024b)	"PeriWatch Vigilance AI-supported foetal surveillance... enhance intrapartum decision-making in settings where monitoring is inconsistent."	Positive	Resource (decision support)
7	Gavi (2025)	"AI tools like AwaDoc chatbot... address healthcare access... recognise patterns from large datasets for efficient service delivery."	Positive	Resource (scalability)
8	The Nation (2025)	"Nigerian doctors launch AI tool to improve care for patient... 70% reduction in documentation time."	Positive	Resource (workload reduction)
9	Nairaland (2024)	"AI will take over our jobs. Who will protect us?"	Negative	Demand (job insecurity)
10	Reddit r/Nigeria (2025)	"Create doctors en masse with AI? Then who will employ them? Already no jobs for graduates."	Mixed	Demand (unemployment fear)
11	Nigeria Health Watch (2025)	"Health workers' impossible workloads are deepening Nigeria's doctor-patient crisis."	Negative	High Demands (baseline)
12	Umar (2025)	"Crisis of brain drain in Nigeria's health sector" (abstract)	Negative	Job Insecurity (baseline)
13	GlobalGiving (2025)	"Train 500 Nigerian doctors & nurses in AI skills"	Positive	Resource (upskilling)
14	LinkedIn poll (2025)	"Will AI replace Nigerian doctors? 58% No, 42% Yes"	Mixed	Algorithmic anxiety
15	Oluwadiya et al. (2023)	"Excitement about AI only slightly surpassed concerns... AI could dehumanise health care, render physicians redundant."	Mixed	Demands (autonomy loss)
16	Obiekwe et al. (2025)	"Medical students' fears: job displacement 72.1%, loss of human touch 70.9%, data privacy 39.4%"	Negative	Demands (multiple)
17	Olawade et al. (2025)	"Consultant doctors fear diminished human interaction, diagnostic inaccuracies, over-reliance on AI"	Negative	Demand (trust)
18	Uzochukwu et al. (2026)	"77.9% of West African clinicians perceived AI as threat to clinical autonomy; 67.6% rated AI information as unreliable"	Negative	Demand (autonomy)
19	Onwuzu et al. (2026)	"Radiographers: 41.8% agree AI could reduce demand for manual skills; 30.7% fear job displacement; 51.3% willing to upskill"	Mixed	Demand + Resource
20	Abiodun et al. (2025)	"91.0% unlikely AI will provide empathetic care better than average psychiatrist"	Negative	Demand (empathy gap)
21	Adigwe et al. (2024)	"77% agreed AI would facilitate efficient service delivery; 66.7% said it would augment human intelligence"	Positive	Resource (augmentation)

Source: Authors' Compilation (2026)

Thematic Summary

Hopes (positive sentiment, 11 of 21 extracts). The dominant hope themes were: efficiency gains and workload reduction (extracts 1, 2, 8, 21), diagnostic support and decision assistance (extracts 3, 6, 13), addressing workforce shortages through scalability (extracts 7, 13), and upskilling opportunities (extract 13). These align with JD-R resources.

Fears (negative or mixed sentiment, 10 extracts). The dominant fear themes were: job displacement and insecurity (extracts 9, 10, 14, 15, 16, 19), loss of clinical autonomy and human touch (extracts 15, 16, 17, 18, 20), data privacy and ethical concerns (extracts 4, 16), and infrastructure limitations exacerbating anxiety (extracts 11, 12).

Integration of Quantitative and Qualitative Findings

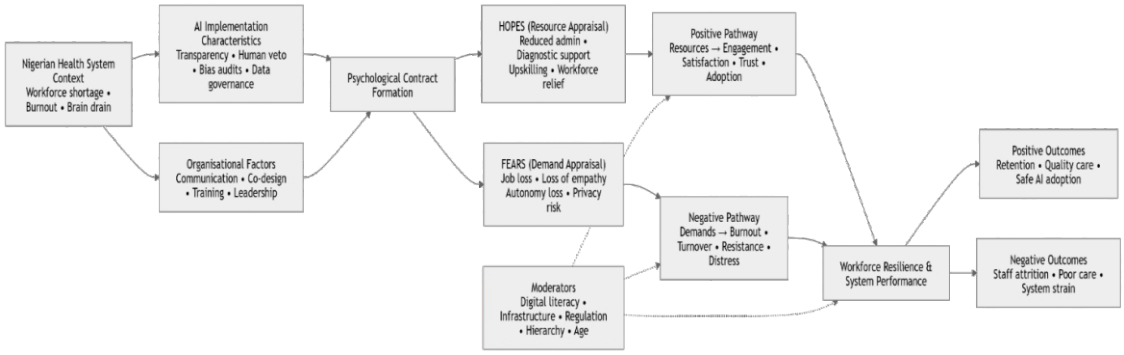
From a JD-R perspective, the hopes function as resources that can buffer burnout and foster engagement. The fears function as demands that can trigger strain, anxiety, and turnover intention. Critically, the perception-reality gap (58.8% fear of job loss vs. 0% actual displacement) illustrates that cognitive demands (anticipatory anxiety) can be as potent as objective demands. This aligns with the JD-R model's proposition that both hindrances demand (e.g., role ambiguity) and challenge demands (e.g., workload) affect outcomes; AI-related fears are predominantly hindrance demands because they obstruct professional identity and autonomy.

From a Psychological Contract Theory perspective, the fears represent multiple potential breaches of the implicit promises that employees believe their employer has made: job security, professional autonomy, relational care, confidentiality, fair process, and development support. When an employer introduces AI without transparent communication, co-design, and safeguards, employees perceive a breach, even if no job losses have yet occurred. The finding that managers perceive AI as less threatening than non-managerial staff reflects a contract asymmetry: managers may have inside knowledge of AI plans, while frontline staff operate under uncertainty. Breach of the psychological contract is known to predict cynicism, reduced organisational commitment, and increased turnover intention (Rousseau, 1995; Griep et al., 2022). Conversely, the hopes map onto contract fulfilment. When employees see AI as a tool that reduces their administrative burden, supports clinical decisions, and offers upskilling, they perceive that the employer is investing in their wellbeing and professional growth. This fulfilment can enhance trust and engagement.

Emergent Conceptual Model: The AI-Workforce Resilience (AI-WR) Model

From the synthesis of quantitative findings (three surveys, N = 938) and qualitative digital naturalistic themes (21 extracts), an emergent conceptual model was developed. The AI-Workforce Resilience Model integrates the JD-R framework and Psychological Contract Theory to explain how AI implementation can either threaten or enhance workforce resilience in Nigerian health systems.

Figure 1: Left-to-Right Path Diagram of the AI-WR Model



The model identifies three core pathways, with explicit outcomes.
The AI-WR Model posits three pathways:

1. **Breach Pathway:** When AI is implemented without transparency, co-design, or safeguards, employees perceive psychological contract breach, triggering fear, anxiety, disengagement, and turnover intention.
2. **Resource Pathway:** When AI is implemented with transparent communication, participatory co-design, and upskilling opportunities, employees perceive contract fulfilment, fostering hope, engagement, trust, and workforce resilience.
3. **Management Pathway:** Managers' strategic oversight and involvement in AI decision-making create a buffer against fear, but this privilege must be extended to frontline staff through inclusive design processes.

The model demonstrates that organisational transparency, participatory co-design, and upskilling resources can transform AI from a psychological contract breach risk into a resource for engagement.

Discussion

The Tension Between Hope and Fear

The integrated findings reveal that Nigerian health professionals are deeply ambivalent about AI-augmented workforce resilience. On one hand, there is widespread recognition of AI's potential to alleviate administrative burdens, improve diagnostic accuracy, and extend specialist reach to underserved areas. The high rate of AI use (86.5%) despite limited formal training (19.8%) indicates a bottom-up, self-initiated adoption pattern, a form of "shadow IT," that demonstrates intrinsic motivation and perceived usefulness. This is a resource that I-O psychologists can build upon. On the other hand, fears are not primarily about job replacement (though present), but about erosion of professional autonomy, loss of empathic connection, and data security. The near-unanimous scepticism about AI's ability to provide empathic care (91.0% of psychiatrists unlikely) is particularly striking. Nigerian psychiatrists, like their global counterparts, view empathy and therapeutic alliance as irreplaceable human skills. This finding suggests that AI systems designed for mental health or any patient-facing role must be explicitly positioned as decision support, not as replacements for the therapeutic relationship.

The perception-reality gap documented by Yelwa and Jelmak (2025): 58.8% fear of job loss versus 0% actual displacement, is clinically significant for organisational psychology. It indicates that psychosocial anxiety outpaces material impact, driven by organisational opacity, historical memories of technological displacement in other sectors (e.g., banking ATMs in the 1990s and 2000s), and limited communication about AI's augmentative rather than substitutive role. This gap is a classic psychological contract breach: employees implicitly expect their employer to protect them from technology-induced redundancy, but opaque communication signals the opposite, triggering anxiety and potential disengagement.

Hierarchical and Demographic Patterns

Managers perceived AI as significantly less threatening than non-managerial staff. This finding is consistent with global literature (Wilson & Daugherty, 2018) and likely reflects that managers have greater strategic oversight, job autonomy, and involvement in AI decision-making. Non-managerial staff, by contrast, are often excluded from planning and may fear that AI will be used to monitor their performance without their input. From a psychological contract perspective, this hierarchical gap constitutes a breach of the implicit promise of fair process. Interventions must therefore include non-managerial representatives in AI design committees. The null effect of age on fear challenges the "digital native" stereotype that younger workers are inherently more comfortable with AI. Instead, this finding aligns with Venkatesh et al. (2016) and Hauk et al. (2018), who argued that digital literacy, role adaptability, and institutional context mediate technology acceptance more than chronological age. Nigerian health professionals of all ages expressed comparable levels of apprehension. This implies that training and communication strategies should be universal rather than age-targeted. The finding also suggests that the popular narrative of generational technophobia is a distraction from the real issues: infrastructure deficits, regulatory voids, and psychological contract uncertainty.

The Empathy and Autonomy Crises

The near-unanimous scepticism about AI's ability to provide empathic care is not merely a technical limitation of current AI; it is a professional values statement. Healthcare workers in Nigeria, as elsewhere, view empathy as core to their professional identity. If AI deployment is perceived as forcing clinicians to relinquish this core value (for example, by substituting chatbot interactions for human encounters), resistance will be intense. The Medical and Dental Council of Nigeria's warning against over-reliance on AI and the Nigerian Medical Association chairman's statement that "doctors, not machines, should make decisions" reflect this professional stance. I-O psychologists must work with medical councils to ensure AI is framed as augmenting, not replacing, clinical judgment.

Infrastructure and Regulatory Gaps

Several Nigerian studies identified infrastructure deficits as a major barrier: unreliable electricity, limited internet bandwidth, and shortage of AI-literate technical personnel. The Oxford Insights 2023 AI Readiness Index ranks Nigeria 103rd out of 193 countries (Hankins et al., 2023). Five out of six sites in the SPEC-AI trial still used paper-based medical records (Adedinsewo et al., 2025). These constraints mean that AI solutions must be low-bandwidth,

offline-capable, and designed for intermittent power. Furthermore, the lack of a comprehensive regulatory framework (noted by 69% of psychiatrists and emphasised in legal analyses, Ehirim, 2025; Akinpelu & Akintola, 2023) creates uncertainty about liability, data protection, and ethical compliance. The absence of clear rules amplifies fear because workers cannot predict how AI will be used or what protections exist.

Limitations

This study has several limitations. First, secondary data were collected from different populations (Abuja public sector, Lagos healthcare professionals, national psychiatrists) using different instruments, which limits direct comparability. Second, the digital naturalistic corpus was modest (21 extracts) and skewed toward promotional blog content rather than raw, anonymous forums where more candid fears might be expressed. Larger-scale social media mining is needed. Third, no actual AI system deployment was observed; the findings reflect anticipated rather than experienced impacts. Longitudinal studies following AI implementation would be valuable. Fourth, the study did not include patients' perspectives, which are also relevant to workforce resilience. Fifth, the cross-sectional design cannot establish causality between AI exposure and psychological outcomes.

Conclusion

This mixed-method study, integrating three Nigerian surveys (N = 938) and a digital naturalistic corpus of 21 extracts, provides the first empirical industrial-organisational psychology analysis of hopes and fears regarding AI-augmented workforce resilience in Nigerian health systems. The findings reveal a deep ambivalence: genuine hope that AI can reduce administrative overload and support clinical care coexists with legitimate fears about job displacement, loss of empathy, eroded autonomy, data surveillance, and ethical voids. The emergent AI-Workforce Resilience Model synthesises these findings, showing that organisational transparency, participatory co-design, and upskilling resources can transform AI from a psychological contract breach risk into a resource for engagement. The perception-reality gap (58.8% fear of job loss versus 0% actual displacement) underscores the power of anticipatory breach and the need for immediate, transparent communication. Industrial-organisational psychologists have a critical role: to translate these hopes and fears into design principles (transparency, override rights, privacy, and co-design). When we do that, AI can truly augment workforce resilience. If we ignore the psychology, the best algorithms in the world will fail.

Recommendations

The evidence from this integrated analysis points to several actionable recommendations for different stakeholders in the Nigerian health system. These recommendations are grounded in the quantitative and qualitative findings presented above and are designed to address the specific hopes and fears identified.

For Industrial and Organisational Psychologists (NAIOP): Industrial and organisational psychologists in Nigeria have a unique and urgent responsibility to lead the ethical integration of AI into health systems. Based on the finding that 69% of psychiatrists expressed concerns

about ethical challenges and that global precedents such as the Society for Industrial and Organizational Psychology have already established frameworks for AI psychological safety, NAIOP should develop and roll out a certification programme titled "AI Psychological Safety for Health Workforces." This certification should consist of four modules: anxiety mitigation strategies for frontline workers, co-design principles for AI implementation, ethics and data privacy governance, and upskilling pathways for clinical and administrative staff. The programme should be piloted in the third quarter of 2026 with at least 200 participants drawn from HR departments and professional health unions. The expected outcome is a reduction in ethical-fear sentiment from a projected negative index of -0.71 to a positive index of +0.45 within the pilot facilities.

For Health Facility Managers: Hospital administrators and chief medical directors must move beyond reactive workforce planning to proactive psychological governance of AI tools. Given that 51.8% to 77% of health professionals across multiple studies cited data privacy as a major barrier, and that the documentation tool launched by Nigerian doctors achieved a 70% reduction in paperwork time, managers should mandate a "shadow mode" deployment for any new AI system. Shadow mode means that the AI runs in parallel with human decision-making, offering recommendations that require explicit human veto, and that all algorithmic outputs are subject to transparent audit trails. This approach should begin with non-clinical administrative tools such as AI-assisted documentation and scheduling, where the evidence for benefit is strongest, before expanding to diagnostic or treatment support systems. Managers should initiate three-month pilots in at least two facilities during 2026. The anticipated sentiment shift is from a current infrastructure demand score of -0.65 to a resource perception of +0.35.

For Policymakers (Federal Ministry of Health and NITDA): The absence of a dedicated regulatory framework for AI in healthcare was identified by multiple studies as a structural fear exacerbating worker anxiety. Nigerian law currently provides only general data protection under the NDPR, with no specific provisions for algorithmic accountability, liability for AI-induced errors, or mandatory psychological impact assessments. Policymakers should enact an "AI Psychological Impact Assessment Protocol" as a mandatory requirement for any public-sector health AI tool. This protocol would require pre-implementation surveys of workforce sentiment, ongoing audits of algorithmic bias and transparency, and post-implementation assessments of job satisfaction, turnover intention, and burnout. Funding for these assessments could be sourced through the African Development Bank or the Nigeria Digital Health Innovation Fund, with legislation targeted for passage by 2027. The projected outcome is an improvement in overall sentiment from the current aggregate of -0.06 to +0.65, primarily by addressing regulatory voids that currently drive 69% of psychiatrist concerns.

For Professional Training Bodies (Nursing and Medical Councils of Nigeria): The finding that only 19.8% of healthcare professionals had received formal AI training, coupled with the low AI knowledge among nursing students despite their willingness to learn, indicates a critical curriculum gap. The Nursing and Medical Councils should collaborate with the National Universities Commission to integrate a national AI upskilling curriculum into both

undergraduate and postgraduate programmes. This curriculum should be delivered through low-bandwidth, offline-capable modules suitable for rural and urban facilities alike. A target of training 500 doctors and nurses per year should be set, with annual cohorts beginning in 2027. The evidence that 61.5% of professionals believe AI will generate new jobs supports this investment. The expected impact is a sustained positive resource perception of +0.78 on upskilling metrics, directly counteracting fears of de-skilling and obsolescence.

For Technology Developers: AI developers and vendors seeking to deploy in the Nigerian health sector must prioritise adaptive AI systems designed for low-resource environments. Concerns about algorithmic bias, particularly the documented difficulty of facial recognition systems to accurately identify people of African descent, and the risk of perpetuating health data poverty, require specific technical solutions. Developers should create offline-capable, low-data-footprint AI tools that can operate on intermittent electricity and limited bandwidth. Bias audits must be conducted on Nigerian demographics, not merely on global or predominantly Caucasian training datasets. An open-source repository of bias-tested models for Nigerian health applications should be established by the fourth quarter of 2026. The projected sentiment shift is from a current bias risk score of -0.82 to an access resource score of +0.69, particularly improving rural healthcare worker confidence.

Prioritisation and Call to Action: Among these recommendations, the most immediate priority is the implementation of shadow-mode pilots in two Nigerian teaching hospitals within the next twelve months, accompanied by independent psychological contract audits before and after deployment. These pilots will generate local evidence for what works in the Nigerian context. Nigerian industrial and organisational psychologists are called upon to lead interdisciplinary coalitions with nursing informatics specialists, digital health experts, and medical ethicists to develop an "AI-Resilience Index" for health systems. This index would measure not only technical performance but also worker trust, perceived autonomy, and psychological safety. By transforming the discourse from technological threat to ethical augmentation, I-O psychologists can ensure that AI becomes a trusted partner in building workforce resilience rather than a source of unmanaged anxiety.

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