

# The Use of Artificial Intelligence Tools and Psychological Well-Being Among Moroccan University Professors: A Qualitative Study

Mohamed BOUADDI

FSJES KS

m.bouaddi@uca.ac.ma

Soufiane CHRAIBI

FSJES KS

s.chraibi@uca.ac.ma

**Abstract**— This qualitative study explores how artificial intelligence (AI) tools influence the psychological well-being of university professors in Morocco. Despite the rapid integration of AI in higher education, limited research addresses its psychological impact on educators, particularly in developing countries facing unique infrastructural and cultural challenges. Through semi-structured interviews with 17 professors across Moroccan universities, this study examined effects on stress levels, job satisfaction, and mental health using thematic analysis. Findings reveal a complex relationship where AI simultaneously reduces administrative burden while introducing new stressors related to technological adaptation and changing professional roles. The study identified four distinct psychological profiles among professors using AI: "Optimizers," "Balancers," "Vigilants," and "Ambivalents." The Job Demands-Resources Model and Digital Stress Theory illuminate these dynamics, particularly how AI functions both as a resource (reducing workload) and a potential demand (requiring adaptation). Recommendations include phased implementation strategies, comprehensive training programs, and developing culturally-appropriate ethical frameworks. This research contributes to understanding technology-human integration in educational settings while highlighting the importance of contextual factors in developing regions.

**Keywords**— Artificial intelligence, psychological well-being, university professors, Morocco, mental health, stress.

## XVII. INTRODUCTION

The integration of Artificial Intelligence (AI) tools in higher education represents one of the most significant technological shifts in academic settings in recent years. This transformation has been particularly pronounced in Morocco, where educational institutions are increasingly adopting AI technologies to modernize teaching practices and enhance learning experiences [1]. As AI tools such as ChatGPT and other generative AI applications become more prevalent in university settings, understanding their impact on the psychological well-being of educators becomes critically important.

The integration of AI in Moroccan higher education must be understood within the global context of technology adoption in developing countries. While AI adoption is rising globally, low-resource institutions in countries like Morocco face significant infrastructure gaps [2]. Only approximately 30% of Moroccan universities have dedicated AI training programs [2], creating challenges for widespread integration.

Additionally, cultural factors influence adoption, as faculty in developing nations often view AI as a "Western imposition" unless aligned with local pedagogical approaches and values [3].

Despite the growing body of research on AI in education, limited attention has been paid to the psychological impact of these technologies on educators, particularly in developing countries with unique contextual challenges. Most existing studies focus on technological implementation or student outcomes, neglecting the lived experiences of university professors navigating these changes [4]. This gap is particularly pronounced in the Moroccan context, where the intersection of technological advancement, cultural factors, and institutional constraints creates a unique environment for AI integration.

### A. Research Objectives and Questions

This study aims to examine how AI tools influence the psychological well-being of university professors in Morocco by addressing the following research questions:

- How do AI tools affect the stress levels and workload management of university professors in Morocco?
- What is the relationship between AI integration and job satisfaction among Moroccan university professors?
- How do professors experience and navigate the mental health implications of AI adoption in their teaching practices?

## XVIII. LITERATURE REVIEW

A. *Job Demands-Resources (JD-R) Model*

The Job Demands-Resources (JD-R) model provides a theoretical foundation for understanding how AI tools influence faculty psychological well-being [5]. This model conceptualizes job characteristics as either demands (aspects that require sustained effort and may lead to strain) or resources (aspects that help achieve goals, reduce demands, or stimulate growth).

AI tools can function as job resources by automating administrative tasks and enhancing teaching capabilities. However, they may simultaneously create new job demands through implementation challenges, required technical learning, and role adaptations. According to the JD-R model, psychological well-being results from the balance between these demands and resources. When AI-related demands exceed available resources, stress and burnout may occur; conversely, when AI enhances resources without creating overwhelming demands, improved engagement and satisfaction may result.

B. *Digital Stress Theory and Technostress Creators Model*

Digital Stress Theory [6] explains how technology integration creates unique psychological stressors, including:

- Techno-overload: Information and multitasking demands exceeding cognitive capacity
- Techno-invasion: Blurring of personal and professional boundaries
- Techno-complexity: Feelings of inadequacy due to technological learning requirements
- Techno-insecurity: Fears about job displacement or devaluation
- Techno-uncertainty: Constant changes in technological tools and requirements

These dimensions are further elaborated in the Technostress Creators Model [7], which examines how these stressors lead to specific psychological outcomes including job dissatisfaction, reduced organizational commitment, and decreased productivity. The model also identifies "technostress inhibitors" such as technical support, literacy facilitation, and involvement in implementation that can mitigate negative psychological impacts. This framework is particularly relevant for understanding the complex psychological responses of university professors to AI integration.

C. *Technology Acceptance Model (TAM) and UTAUT2*

The Technology Acceptance Model (TAM) and its extension, the Unified Theory of Acceptance and Use of Technology (UTAUT2), provide complementary frameworks for understanding faculty adoption of AI tools [8]. These models identify key factors influencing technology adoption:

- Performance expectancy: Belief that technology will enhance job performance
- Effort expectancy: Perceived ease of use
- Social influence: How colleagues and institutional culture shape adoption

- Facilitating conditions: Infrastructure and support available
- Hedonic motivation: Enjoyment derived from technology use
- Price value: Perceived benefits relative to costs
- Habit: Automatic behavioral patterns with technology

These factors help explain the varied psychological responses to AI among faculty members, as individual differences in these dimensions influence whether technology integration is experienced as psychologically beneficial or detrimental. For example, professors with high performance expectancy but low facilitating conditions may experience heightened frustration and stress during implementation.

D. *Prior research on IA in higher education*

Research on AI integration in higher education has primarily focused on implementation strategies, pedagogical applications, and student outcomes (Zhang, 2024). Studies have documented the increasing use of AI tools for content creation, assessment, administrative tasks, and personalized learning [9]. However, fewer studies have examined faculty experiences with these technologies, particularly regarding psychological impacts.

In the global context, research indicates that faculty responses to AI integration vary significantly based on institutional support, technological infrastructure, and cultural factors [1]. Faculty in well-resourced institutions with robust technological infrastructure typically report more positive experiences compared to those in resource-constrained environments [3].

E. *Psychological impacts of educational technology*

Studies examining the psychological impacts of educational technology adoption have identified several key themes. Torres et al. [4] conducted a systematic review finding that technology integration initially increases stress during adoption phases before potentially reducing workload in the longer term—a pattern described as the "J-curve effect" [10]. Their analysis of faculty experiences found that 68% reported higher stress levels during the first six months of new technology implementation.

Burnout among faculty has been extensively studied by Maslach and Leiter [11], who emphasize that technological solutions address only part of the burnout equation. Their work highlights that while AI may reduce workload, it does not necessarily address other burnout factors such as lack of autonomy, insufficient recognition, or value conflicts.

Digital fatigue represents another documented psychological impact, with the JISC [12] report finding that 42% of faculty report exhaustion from managing multiple digital tools. This fatigue appears particularly pronounced when multiple technologies are implemented simultaneously without adequate integration or training.

## XIX. METHODOLOGY

A. *Methodology and Participant Overview*

This research employed a qualitative approach involving semi-structured interviews conducted in French with 17 university professors from diverse public and private

institutions across Morocco, representing multiple academic disciplines including humanities, social sciences, natural sciences, engineering, business, and law. Participants were recruited through purposeful convenience sampling based on three key criteria: current employment as a professor at a Moroccan university, experience using at least one AI tool in teaching or research activities, and willingness to reflect on the psychological impacts of AI integration.

The interview protocol comprehensively explored participants' initial experiences with AI integration, specific tools and technologies utilized, motivations for adoption, perceived benefits in efficiency and innovation, changes in pedagogical methods and student interactions, impacts on research processes, encountered challenges, effects on psychological well-being and work-life balance, and perspectives on the future evolution of AI in Moroccan higher education, thereby providing rich qualitative data on the multifaceted experiences of educators navigating technological transformation in their professional practices.

*B. Data Analysis*

The interview transcripts underwent systematic thematic analysis following a structured six-phase process that began with familiarization through repeated reading of transcripts to develop comprehensive understanding of the data content. Initial coding was then conducted to identify key concepts and emerging patterns within participants' responses, followed by the development of preliminary themes through strategic grouping of related codes that shared conceptual similarities. The analysis process continued with careful review and refinement of these themes to ensure they accurately represented the data and captured meaningful insights about professors' experiences with AI integration. Subsequently, themes were clearly defined and appropriately named to reflect their essential characteristics and scope, culminating in the production of a final comprehensive analysis that incorporated illustrative quotes from participants to substantiate findings and provide authentic voices to support the interpretive framework developed through this rigorous analytical approach.

XX. RESULTS

*A. AI Adoption and Usage Patterns*

*1) Initial AI Integration*

Professors described varied pathways to initial AI adoption, with many beginning their exploration through generative AI tools like ChatGPT, driven by curiosity or specific academic needs. As one participant explained, *"I started integrating Artificial Intelligence progressively, first through text generation tools like ChatGPT to assist with scientific writing, then in my courses, using data visualization and analysis tools,"* while another noted beginning *"out of curiosity, testing tools to help me prepare my courses and save time in writing."* Several participants

emphasized a cautious, incremental approach to integration, with one stating, *"I started integrating Artificial Intelligence into my academic activities with caution,"* and another describing, *"I began using artificial intelligence progressively. My first encounter with Artificial Intelligence dates back to the end of 2022, when I discovered the ChatGPT tool."* This gradual adoption reflected both genuine interest in AI's potential and legitimate reservations about its limitations, with several professors noting initial skepticism that evolved into more regular use as the technology improved. One participant captured this evolution particularly well, explaining, *"At first, I was impressed by its capabilities, but when asking certain questions, I quickly noticed that the responses provided were sometimes erroneous or imprecise. Faced with these limitations, I decided to stop using it. However, a few months later, Artificial Intelligence made significant progress in terms of performance, offering more structured and reliable responses."*

*2) Types of AI Tools Used*

The most commonly used AI tools among participants were generative AI platforms, particularly ChatGPT, which was mentioned by nearly all respondents. Other tools included:

AI Tools Used by Moroccan University Professors

Tool Category	Specific Tools Mentioned	Primary Academic Applications
Generative AI	ChatGPT, Claude, Perplexity, DeepSeek, Gemini, Copilot, GROK	Content creation, teaching materials, research writing
Translation/ Language	DeepL	Document translation, language improvement
Document Analysis	ChatPDF	Literature reviews, article analysis
Voice Assistants	Google Assistant	General information queries
Image Generation	DALL·E, MidJourney	Teaching materials, visual content
Research Tools	Elicit, Petal	Scientific research, literature analysis

Table .1

*3) Motivations for AI Adoption*

The primary motivations for adopting AI centered around efficiency, time savings, and quality improvements in academic work. As one professor articulated, *"Time savings in writing and data analysis. The pursuit of quality and innovation in academic*

productions. *The necessity to stay current with digital tools used by my students and colleagues.*" Another participant emphasized practical benefits, stating they adopted AI *"to simplify my work. Save time in preparation and organization. Bring a more modern and dynamic aspect to my courses."* These motivations align well with the Job Demands-Resources model, with professors seeking to enhance their job resources through technology while managing existing demands. The responses reveal a strategic approach to AI integration, where educators view these tools not merely as technological novelties but as practical solutions to address persistent challenges in academic work, including time constraints, quality enhancement needs, and the imperative to remain technologically relevant in an evolving educational landscape where both students and colleagues increasingly utilize digital tools.

### B. Impact on Workload and Efficiency

#### 1) Administrative and Task Efficiency

Professors consistently reported significant time savings and improved efficiency in administrative and routine academic tasks:

*"AI allows me to save precious time."*

*"It provides enormous time savings."*

*"AI has accelerated my work by quickly providing summaries."*

*These efficiency gains were particularly noted for specific tasks:*

*"Time savings in data and information research."*

*"Artificial intelligence has brought me several concrete advantages in my professional activities. In terms of efficiency, it has allowed me to considerably reduce the time devoted to certain repetitive or time-consuming tasks, such as writing emails."*

#### 2) Quality Enhancement

Beyond time savings, professors reported improvements in the quality of their academic work:

*"Improvement in the quality of analyses thanks to high-performing tools."*

*"Writing assistance to improve the structure and clarity of texts."*

*"In terms of quality, it contributes to improving the clarity, coherence and style of my written productions, particularly in English, which is particularly useful in the context of evaluation reports or scientific communications."*

#### 3) Task Redistribution Rather Than Simple Reduction

Several professors noted that AI didn't necessarily reduce overall workload but rather redistributed their time toward higher-value activities:

*"I can focus on high value-added content."*

*"Allows me to refocus on things with higher added value."*

*"It has allowed me to concentrate more on substance and critical analysis."*

This shift toward more meaningful academic work represents a key benefit for psychological well-being, allowing professors to

focus on aspects of their role they find more intrinsically rewarding.

### C. Impact on Teaching Practices and Student Interactions

#### 1) Enhanced Teaching Materials and Methods

Professors reported significant changes in how they prepare and deliver educational content:

*"I have introduced pedagogical activities integrating Artificial Intelligence, notably case studies based on real data."*

*"My courses are more interactive, and I use practical examples generated by Artificial Intelligence."*

*"Artificial Intelligence has enriched my teaching methods by allowing me to create more interactive and personalized materials."*

Many highlighted the ability to create more practical, example-rich materials:

*"Artificial Intelligence has allowed me to propose concrete examples after each theoretical aspect, which enables students to link key concepts to field reality."*

#### 2) Student Engagement and Performance

Professors generally observed positive changes in student engagement, though with some important caveats:

*"Yes, I have noticed an increase in engagement and participation, notably thanks to the use of concrete examples generated by Artificial Intelligence and visualizations that make concepts more accessible."*

*"Yes, they participate more, are more curious and seek to use these tools themselves in their projects."*

*"Students show themselves to be more curious and autonomous, particularly when they use Artificial Intelligence to deepen a subject or prepare presentations."*

However, some professors noted concerns about over-reliance and reduced student effort:

*"Yes, changes I can say negative, the student no longer wants to make an effort. He is satisfied with the return from chatgpt for example, without real added value."*

*"Quite the contrary, I have noticed that students use Artificial Intelligence more for all questions. This is a limitation for me because students no longer seek to read books and works to find information."*

### D. Impact on Research Processess

#### 1) Literature Review and Analysis

AI tools have significantly transformed how professors approach literature reviews and document analysis:

*"Artificial Intelligence has considerably accelerated data analysis. It has also helped me structure my scientific articles, improve text clarity, and save time in the proofreading phase."*

*"I can interrogate a PDF document by going directly to the essential."*

*"Artificial Intelligence has allowed me to save precious time in bibliographic synthesis, by quickly extracting key information from scientific articles."*

### 2) Writing and Publication

Several professors noted AI's impact on their academic writing process:

*"The acceleration of documentary research and the improvement of article writing."*

*"The automation of certain complex statistical analyses. Writing assistance to improve the structure and clarity of texts."*

*"Thanks to these tools, the writing process has become more fluid and less laborious."*

This assistance was particularly valued for non-native language writing:

*"Given that my research is mostly written in English, I previously encountered certain difficulties related to formulation, style fluidity and linguistic precision. AI has been of great help to me on these aspects."*

### 3) Data Analysis

Some professors reported using AI for data analysis, particularly for qualitative research:

*"And then for interview analysis in the context of qualitative research, which allows me to do coding easily and identify the most important passages, and also to compare several interviews."*

*"The automation of certain complex statistical analyses."*

However, others explicitly noted not using AI for data analysis:

*"On the other hand, I have not yet resorted to artificial intelligence for data analysis. This aspect of my work remains for the moment treated in a classic manner, without integration of Artificial Intelligence tools."*

## E. Psychological Impact of IA Integration

### 1) Stress Reduction and Relief

Many professors reported significant stress reduction as a direct psychological benefit of AI use:

*"This brings a feeling of relief and efficiency."*

*"Through the reduction of research stress by decreasing the workload and ensuring good time management."*

*"Artificial Intelligence brings a certain relief by facilitating organization and accelerating certain tasks, which reduces stress related to deadlines."*

*"Reduction of stress related to repetitive and time-consuming tasks."*

*The relationship between time efficiency and stress reduction was consistent across interviews:*

*"This time saving translates into better organization of my work, a reduction in mental load."*

*"AI has improved our work-life balance."*

### 2) Enhanced Professional Confidence and Satisfaction

Several professors reported increased confidence and professional satisfaction:

*"Learning new solid code strengthens our skills and reinforces our self-confidence."*

*"The time savings allow me to perform several tasks per day, with sharp and diversified content, this allows me to be more confident before each intervention. This seems to me to be a form of well-being."*

This enhanced confidence appears to stem from both improved output quality and increased productivity:

*"By saving me precious time [...] it has allowed me to refocus on things with higher added value. Result: less mental overload, less time spent outside usual hours to 'wrap up' what's dragging."*

### 3) Technology-Related Stress and Pressure

Despite the benefits, professors also reported new forms of stress related to technology adaptation:

*"But sometimes additional pressure to 'stay up to date' in the face of the speed of technological developments."*

*"But it can also be stressful with the fear of not mastering everything."*

*"Continuous adaptation to new technologies can sometimes create additional pressure."*

These concerns align with the "techno-complexity" and "techno-uncertainty" dimensions of Digital Stress Theory, highlighting the psychological challenges of keeping pace with rapidly evolving technologies.

## F. Work-Life Balance Effects

Most professors reported positive effects on work-life balance, with participants noting that *"Overall, Artificial Intelligence has improved my balance by helping me manage my time more efficiently,"* and *"Artificial Intelligence has slightly improved my balance by lightening the workload on certain routine tasks, which allows me to free up more time for personal activities."*

Professors provided specific examples of these improvements, explaining how *"Thanks to Artificial Intelligence, I was able to finish a report more quickly and spend more time with my family,"* and *"If I do work in 2 hours instead of 4 hours, it allows me to spend more time with family or friends,"* with another noting that *"Artificial Intelligence has allowed me to finish certain research projects more quickly, which has given me more time for my family activities."*

However, despite these positive effects, some professors emphasized the need for conscious boundary setting, highlighting concerns about *"permanent vigilance not to be constantly solicited by automated tasks"* and noting that *"I sometimes feel the need to disconnect from the constant solicitation of digital tools."*

The time efficiency offered by AI tools appears to create space for personal activities, potentially reducing work-related stress and enhancing overall well-being, though

positive work-life balance outcomes depend not just on the tools themselves but on how professors manage their relationship with the technology.

### G. Challenges and Concerns

#### 1) Ethical and Authenticity Concerns

Ethical considerations emerged as a significant theme, with professors expressing concerns about *"The major challenge relates to the ethics and authenticity of the information produced"* and *"The ethical limits concerning content creation,"* emphasizing that *"It is essential not to place blind trust in the results provided by these tools"* and noting *"I remain reluctant about the idea of generating content and appropriating it, without regular control or adaptation to context."* These ethical concerns add a layer of cognitive load as professors feel responsible for verifying AI outputs, highlighting *"The difficulty of systematically verifying the reliability of generated responses"* and *"The necessity of controlling the content each time and contextualizing it."*

#### 2) Technical and Training Challenges

Technical challenges and training needs were frequently mentioned, including *"Understanding certain technical functionalities,"* with participants noting that *"These challenges are mainly related to training"* and *"The cost of software and sometimes the lack of training complicates access to very sophisticated software,"* requiring *"The necessity of continuous training to follow the rapid evolution of these tools."* These technical barriers represent significant obstacles to optimal AI integration in academic settings.

#### 3) Concerns About Student Learning Impact

Several professors expressed concerns about how AI affects student learning, observing that *"I have noticed that students use Artificial Intelligence more for all questions. This is a limitation for me because students no longer seek to read books and works to find information"* and *"The student no longer wants to make an effort. He is satisfied with the return from chatgpt for example, without real added value."* One professor described a specific problematic example: *"For example, during an exercise where I asked them to conduct research on several Moroccan companies to identify their main activities, some students resorted directly to Artificial Intelligence instead of consulting official websites or activity reports of these companies. The result: some of the information provided was totally erroneous."* These concerns reflect broader questions about how AI is reshaping the educational landscape and professors' roles within it.

### H. Typology of Psychological Experiences

The thematic analysis of interview data revealed four distinct psychological profiles among professors using AI tools, which we have categorized as:

#### 1) The "Optimizers"

These professors primarily focus on efficiency gains and productivity enhancement. Their psychological well-being derives from:

- Time savings and workload reduction
- Automation of repetitive tasks
- Quality improvements in output

Representative quote:

*"Elle m'a permis de gagner un temps précieux dans la formulation des idées, la structuration des paragraphes."*

Optimizers view AI primarily as a resource in the Job Demands-Resources framework, with limited acknowledgment of potential demands.

#### 2) The "Balancers"

These professors emphasize improved work-life balance and prioritization. Their psychological well-being stems from:

Better boundaries between professional and personal life  
More time for personal activities and relationships

- Reduced after-hours work

Representative quote:

*"L'IA a amélioré mon équilibre en m'aidant à gérer mon temps plus efficacement."*

Balancers see AI as facilitating a healthier relationship with work, reducing stress and enhancing quality of life.

#### 3) The "Vigilants"

These professors maintain a cautious approach, focusing on ethical concerns and potential pitfalls. Their psychological experience includes:

- Ongoing verification of AI outputs
- Ethical considerations about authenticity

Cautious approach to dependency

Representative quote:

*"Il est essentiel de ne pas accorder une confiance aveugle aux résultats fournis par ces outils."*

Vigilants experience more cognitive load related to monitoring AI use but prioritize ethical integrity over maximum efficiency.

#### 4) The "Ambivalents"

These professors report mixed experiences, acknowledging both benefits and challenges. Their psychological experience includes:

Appreciation of efficiency gains alongside dependency concerns  
Recognition of stress reduction alongside adaptation pressure  
Balanced view of technological change

Representative quote:

*"It has improved our balance [...] but constant adaptation to new technologies can sometimes interfere."*

Ambivalents experience AI's impact on well-being as complex and multifaceted, requiring ongoing negotiation.

### Psychological Experience Profiles of Professors Using AI

Profile	Primary Focus	Psychological Benefits	Psychological Challenges	View of AI in JD-R Model
Optimizers	Efficiency & Productivity	Time savings, Reduced workload	Minimal reported challenges	Primarily as a Resource
Balancers	Work-Life Equilibrium	Better boundaries, Personal time	Setting limits on technology use	Resource for life quality
Vigilants	Ethics & Authenticity	Professional integrity	Verification burden, Ethical concerns	Both Resource and Demand
Ambivalents	Balance Perspective	Mixed benefits	Adaptation demands, Dependency concerns	Complex interaction of Resources and Demands

Table. 2

XXI.DISCUSSION

A. AI's Dual Role in Psychological Well-being

The findings reveal that AI tools play a dual role in professors' psychological well-being, functioning both as a resource and as a potential demand within the Job Demands-Resources framework. As a resource, AI reduces workload through automation, enhances productivity, and improves output quality. This aligns with professors' statements about reduced stress, increased confidence, and improved work-life balance.

However, AI simultaneously creates new demands through required learning, adaptation pressures, ethical considerations, and dependency concerns. This duality explains the mixed psychological experiences reported by many participants, particularly those in the "Ambivalents" category who explicitly acknowledge both positive and negative impacts.

The most psychologically beneficial implementation appears to be one where AI enhances resources without creating overwhelming new demands. This optimal balance appears more likely when:

1. Professors receive adequate training and support for technical aspects

2. Institutional ethical frameworks help manage authenticity concerns
3. Implementation is gradual rather than sudden
4. Professors maintain autonomy over how and when to use AI tools

B. The Virtuous Cycles of IA Integration

The interview data reveals several potential virtuous cycles in AI integration that positively impact psychological well-being. A primary virtuous cycle emerges where efficiency gains lead to stress reduction, which in turn facilitates better work-life balance, as one professor explained: *"This time saving translates into better organization of my work, a reduction in mental load, and therefore greater availability for moments of relaxation, reflection or family life."* This cycle appears strongest when the time saved is consciously redirected toward personal well-being rather than simply filling with additional work tasks. A second virtuous cycle involves how AI-enhanced output quality can increase professional confidence and satisfaction: *"The time savings allow me to perform several tasks per day, with sharp and diversified content, this allows me to be more confident before each intervention. This seems to me to be a form of well-being."* This cycle connects to core aspects of professional identity and efficacy, suggesting that AI can enhance rather than threaten professional self-concept when implemented appropriately.

The interviews revealed several significant tensions that shape professors' psychological experiences with AI. A key tension exists between increased efficiency and developing technological dependency: *"By saving me precious time [...] it has allowed me to refocus on things with higher added value. [...] However, I also notice a form of dependency that is gradually setting in."* This tension reflects concerns about whether efficiency gains might come at the cost of professional autonomy and skill maintenance. Another tension exists between innovation benefits and the pressure of continuous technological adaptation: *"Improve the quality and personalization of pedagogical content [...] but sometimes additional pressure to 'stay up to date'."* This tension connects to the "techno-uncertainty" dimension of Digital Stress Theory, where rapid technological change creates ongoing adaptation demands.

Professors navigate a complex balance between technological assistance and professional autonomy: *"This reflects growing confidence in the tool, but also raises the question of the balance between autonomy and technological assistance."* This tension appears particularly salient in

academic contexts where professional identity is closely tied to intellectual autonomy and expertise. These psychological tensions and ambivalences suggest that while AI integration offers significant benefits for professor well-being, successful implementation requires careful attention to maintaining professional agency and managing adaptation pressures to prevent the emergence of problematic dependencies or stress responses.

## XXII. CONCLUSION

This study explored the impact of AI tools on the psychological well-being of university professors in Morocco through qualitative interviews with 17 participants, revealing a complex relationship where AI simultaneously functions as both a resource and a demand in professors' professional lives. Key findings demonstrate that AI tools significantly reduce work-related stress for many professors by automating repetitive tasks, enhancing efficiency, and improving output quality, creating virtuous cycles where efficiency leads to stress reduction and better work-life balance, while quality enhancement increases professional confidence and satisfaction. Four distinct psychological profiles emerged in professors' experiences with AI: "Optimizers," "Balancers," "Vigilants," and "Ambivalents," each with different psychological benefits and challenges, alongside several psychological tensions between efficiency and dependency, innovation and adaptation pressure, and assistance and professional autonomy.

The research extends both the Job Demands-Resources model and Digital Stress Theory by illustrating how technological tools can simultaneously function as both resources and demands, with their net impact on well-being depending on implementation approaches and individual factors. The findings provide nuanced insights into how different dimensions of digital stress manifest in academic contexts, particularly highlighting "techno-complexity," "techno-uncertainty," and emerging "techno-dependency" concerns, while revealing how these stressors interact with professional identity and autonomy in knowledge-intensive academic roles. Contextual factors in the Moroccan setting, including infrastructure limitations and cultural perspectives on technology, shape psychological experiences in ways that differ from Western educational contexts, with ethical concerns creating significant "ethical cognitive load" for professors regarding content authenticity, algorithmic bias, and student over-reliance on AI.

The practical implications suggest that universities should develop personalized support approaches recognizing diverse psychological responses to AI, implement clear ethical

frameworks to reduce cognitive load on individual professors, and adopt phased implementation strategies with adequate adjustment periods to reduce adaptation stress. The most psychologically beneficial implementations appear to be those that enhance resources without creating overwhelming new demands, preserve professional autonomy, and align with core academic values, emphasizing AI as a complement to rather than replacement for faculty expertise. As one professor noted, "*Professional fulfillment directly impacts personal life*," highlighting why thoughtful, psychologically-informed approaches to AI integration matter not just for educational outcomes, but for the human experience of those who dedicate their careers to higher education, demonstrating that successful technology integration requires attention to both technical capabilities and the psychological well-being of educators.

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