

**Doctors' perception of AI implementations in healthcare:
An identity perspective**

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Abstract: This developmental paper reports a work-in-progress study that explores doctors' perception of the influence of Artificial Intelligence (AI) on their professional identity and practices through an identity work lens. Through an inductive qualitative study, we conducted 14 semi-structured interviews with doctors who deal with AI in their medical practices and analysed the data with grounded theory approaches. This paper aims to contribute to identity work and AI literature by understanding how AI, as a unique, 'quasi-social' agent, can interact with doctors and induce their identity work. Preliminary results show that doctors experience AI more as an identity enhancement than a threat. This is likely due to their strong professional identity and the identity work strategies whereby AI is perceived as a *tool* rather than an agentic entity. Furthermore, our findings indicate that AI perception can change over time thanks to individuals' continuous learning and growth. This indicates that the ongoing process of identity work can trigger profound changes in professionals, in this case towards accepting AI implementation in medical practices.

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1. Introduction

Technology has seen a rapid advancement in recent years, as Artificial Intelligence (AI), machine learning (ML), neural networks, and language processing, have tremendously impacted different sectors and professional fields (Kasula, 2023). Among these technologies, AI can be considered the most disruptive one since, with its “quasi-social” nature (Selenko et al., 2022), it can operate on behalf of people, learn throughout the process, and analyse numerous types of data to achieve intended outcomes (Hancock et al., 2020).

Defined as a machine that can perform *cognitive* functions attributed to human intelligence (Byrnjolfsson & Macafee, 2014), AI has been implemented across multiple industries and sectors, among which the healthcare services (Nasr et. al., 2021; Howard, 2019; Tursunbayeva & Renkema, 2022; He et al., 2019), where AI applications have already been used for decades for precision medicine or detection of cancerogenic cells (Davenport & Kalakota, 2019).

Consequently, doctors had to integrate AI into their medical and clinical practices. Even though such integration can significantly vary between different medical specialties (Davenport & Kalakota, 2019), AI implementation can be perceived as challenging the traditional status quo (Sarwar et al., 2019), as well as the essence of what *being* a doctor means, i.e., their medical professional identity (Selenko et al., 2022). An individual’s identity has been defined as a person’s answer to the question ‘who am I?’ to maintain a coherent sense of self (Alvesson et al., 2008), and pillars of individuals’ identities are values, which guide people’s thinking processes, actions, attitudes, and feelings (Carminati & Gao Hélot, 2021). Among each person’s multiple identities, work-related identities, such as professional identities, are particularly important given the amount of time people spend at work in their lives (Carminati & Gao Hélot, 2022). An individual’s professional identity represents the relationship between the performance of an individual and how the individual relates to their work (Chen & Reay, 2021; Pratt et al., 2006). In particular, doctors’ professional identity is grounded in strong and long-lasting values, which date back to the Greek Hippocratic Oath (Jephson et al., 2024). Disruptive technologies, such as AI, can thus influence some of the core aspects of doctors’ medical profession, thus affecting their professional identities (Zaman et al., 2021).

However, though research about how professionals respond to AI implementation and recraft their identities has started to emerge, much remains unclear, especially concerning how and why identities can be altered and changed by the introduction of AI (Selenko et al., 2022). Yet, it is crucial to understand the mechanisms and boundary conditions whereby AI can impact people’s identity in their workplaces and how this unfolds –i.e., how people adjust who they are and do their jobs. Indeed, to make sense of the disruptive changes induced by AI, individuals need to consider what these changes may entail for them (e.g., self-esteem), both in terms of work-related values and behaviours. Hence, they need to consider whether AI represents a threat or an enhancement to their professional identity.

Identity threat can be defined as “an experience appraised as indicating potential harm to the value, meanings, or enactment of an identity” (Petriglieri, 2011, p. 644). The literature acknowledges three main sources of identity threats: the individual, the social world, and the material world (Petriglieri, 2011). Nevertheless, the impact of implementing AI, with its “agentic” nature, autonomous deployment, and self-learning capacities (Selenko et al., 2022), could be considered a special form of identity threat, neither from the individual/social world nor the material world. Hence, doctors may experience a threat to their professional identity if they perceive that AI may substitute pivotal human tasks and processes that they associate with their profession (Jussupow et al., 2022; Strich et al., 2021). Furthermore, the “black box” surrounding how AI generates knowledge or verifies its decisions may lead to

uncertainty and mistrust, thus amplifying doctors' identity threat (Mirbabaie et al., 2022; Selenko et al., 2022).

Nevertheless, given some of the benefits AI can likewise offer, doctors may perceive AI as enhancing their own role (Huang et al., 2019). Identity enhancement can be defined as an experience individuals perceive as complementary and synergetic to their multiple identities (Ramarajan et al., 2017). Indeed, besides being a threat, AI could provide doctors with ad-hoc patient support and more prompt decision-making processes (Edison, 2023), as well as help deliver personalized treatment plans (Le Nguyen & Do, 2019). Consequently, whether AI represents a threat, or an enhancement of doctors' professional identity depends not only on how they relate to the AI technology but also on how AI is implemented in their daily tasks (Selenko et al., 2022; Petriglieri et al., 2011).

Regardless of being a threat or an enhancement to their identity, to maintain a unique and coherent sense of self, individuals will engage in identity work, the process of constantly making changes, revising, or trying to strengthen their identities (Brown, 2017; Sveningsson & Alvesson, 2003). Still, it is unclear how this identity work process unfolds when AI interplays with the identity values of professionals (Selenko et al., 2022). Therefore, the goal of this research is to analyse how doctors perceive and respond to AI implementations (i.e., identity threat or/and enhancement) and make sense of it in relation to their professional identity. The research question (RQ) is thus the following:

RQ: How do doctors perceive and respond to AI implementations on their professional identity and practice?

This work thus contributes to the literature on identity work and AI in two main ways. Firstly, it sheds light on how AI can influence doctors' professional identities (in terms of both values and behaviours), by highlighting those boundary conditions surrounding AI implementation and impacting its perception either as a source of threat or enhancement. Secondly, it extends our current knowledge on identity work by offering insights and nuances on how this intrapersonal process unravels when triggered by the unique nature of AI.

2. Methods

2.1. Research design

For this paper, we conducted an inductive, qualitative study using grounded theory approaches (Strauss & Corbin, 1990). Two reasons guided our choice: Firstly, given that the purpose of grounded theory approaches is to extend current, or develop new, theoretical insights into how individuals understand and make sense of reality subjectively, they are particularly appropriate for studying deeply subjective phenomena like identity work (Suddaby, 2006). Secondly, grounded theory approaches are often well-suited when the research focuses on unpacking processes and patterns in human behaviours related to the experience under examination (Suddaby, 2006). Through an interpretive lens (Miles & Huberman, 1994), our purpose was thus to produce a rich account of participants' perspectives by interpreting and giving meaning to their voices. In this way, we aimed to extend current knowledge on the interplay between AI and identity work through the emergence of novel insights and nuances (Strauss & Corbin, 1990).

2.2. Data Collection

To investigate how healthcare professionals perceive AI implementation and adoption, we purposively selected doctors who work in different medical specialties (e.g., oncologists, anesthetists, pediatricians, radiologists, etc.) and implement AI in their medical practices. Indeed, doctors, as a prototypical profession (Pratt et al., 2006), have been pioneering technological innovations in medicine, such as AI (Tursunbayeva & Renkema, 2022), which has become increasingly important in the healthcare sector and has been used for many

preventive and diagnosis tasks (Davenport & Kalakota, 2019). Therefore, doctors and the healthcare sector represent an excellent exemplary case to investigate individuals' perceptions around AI adoption and implementation.

2.3. Research Instruments

We interviewed 14 doctors (8=F, 6=M) during the period October-December 2024. The semi-structured interviews were conducted face-to-face to establish a deeper connection with the participants. We specifically chose semi-structured interviews since, on the one hand, they facilitate the identification and comparison of the emerging themes through a standard set of questions (Miles & Huberman, 1994): on the other hand, they also allow the interviewer to tailor and adjust the questions according to the interviewee's answers (Silverman & Marvasti, 2008). This is deemed particularly important to reach a greater depth of content and to uncover people's sense of self and identity (Miles & Huberman, 1994). Interviews lasted between 45 and 60 minutes, were audio recorded, and then transcribed verbatim, concealing any personal information or details from participants. Ethical approval to conduct the research was obtained from the University Ethics Committee.

2.4. Data Analysis

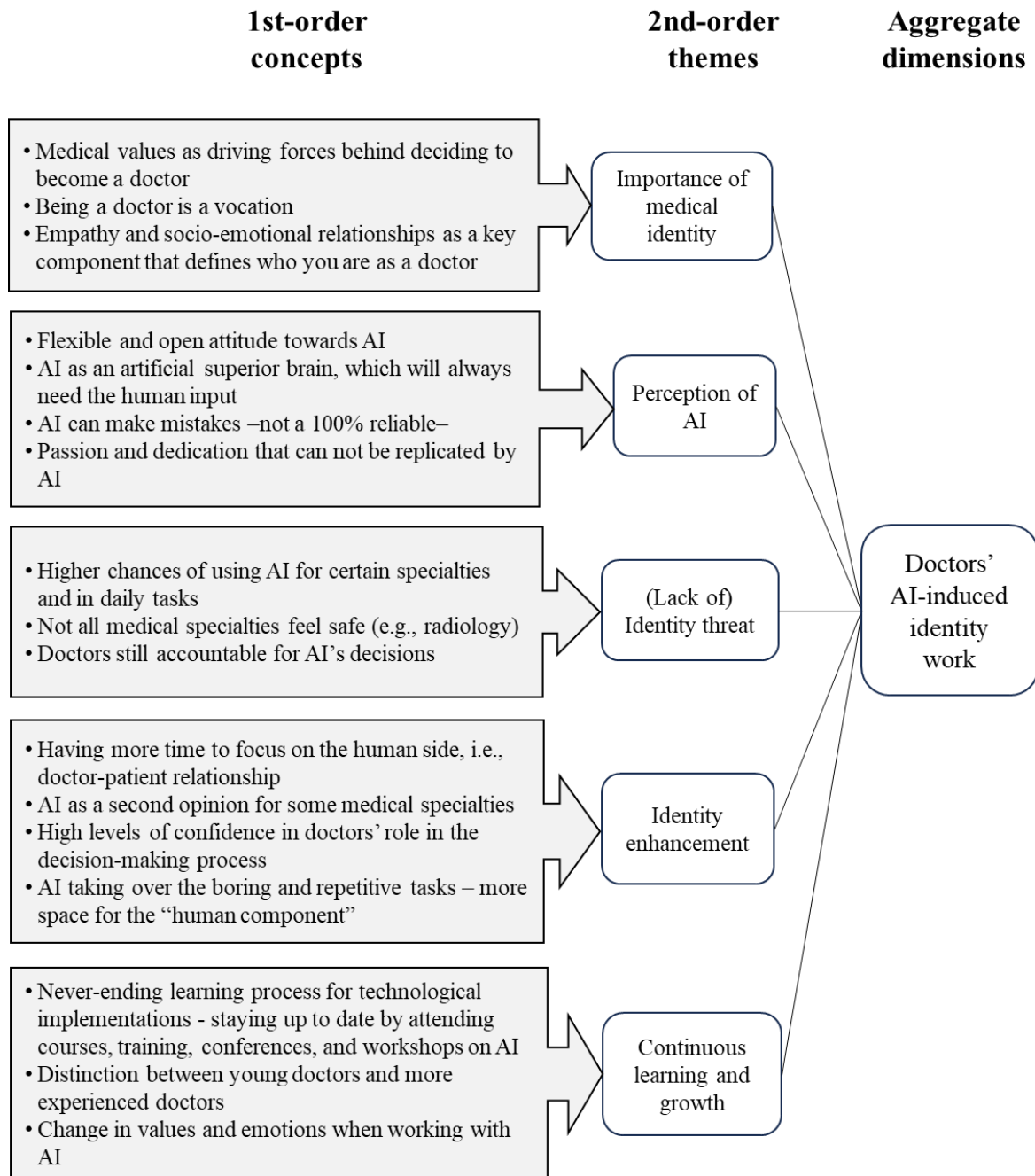
We iteratively analysed the data, comparing the data and the previously coded texts with newly coded sentences and the emerging structure of themes (Strauss & Corbin, 1990; Miles & Huberman, 1994). Discarding some schemes, merging similar codes, and adapting others allowed us to gather more substantial evidence in our data whenever we saw a new conceptual category. In this phase, we engaged in lengthy discussions regarding the potential interpretations and structure of the data to establish strong inter-rater reliability. Furthermore, we relied strictly on the participants' language to frame the concepts in our findings and maintain a connection with the raw data. When no new codes emerged, this gave us confidence that we had reached saturation, and no further data could yield novel insights (Strauss & Corbin, 1990).

3. Results & Future Steps

This paper is a work in progress as part of a Master's thesis project. Data collection was completed at the point of submission, and the results have been preliminarily analysed. From this preliminary overview, it seems that due to their strong professional identity, the majority of the doctors we interviewed did not experience AI as a threat, but rather as an additional *tool* that can strengthen their identity and practice. Hence, on the one hand, AI is “reified” and deprived of its “quasi-social” nature; on the other hand, it supports doctors in many medical and clinical tasks, which consequently allows them to dedicate more time to those socio-emotional aspects specific to their profession (e.g., doctor-patient relationship). Thus, the doctors in our sample mostly experienced AI-induced identity enhancement. Furthermore, we found interesting nuances showing that AI perception can change over time, becoming a strength after being perceived as a challenge. In this sense, the identity work doctors engaged with was mostly to optimise the integration of AI into their professional identity without creating disruptive sense-making processes. Figure 1 shows our current data structure. Further refinements and interpretations in our analysis (and thus the data structure) will be implemented, especially to highlight the boundary conditions of the identity work process. Moreover, this will allow us to ensure that our findings and current literature build on each other. In the subsequent months, we will also work on our discussion part, so that, had the paper been accepted, we could present a preliminary version of the full paper during the

BAM Conference. Through the round-table discussions, we hope to get valuable feedback for improving our work.

Figure 1. Data Structure



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