# Persistence, Emergence, and Fadeout: Influence of AI Teammates on the Salience of Human Identities at Work

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## Abstract

*Increasingly communicative and autonomous artificial intelligence (AI) technologies are becoming essential partners in workspaces and changing how people work. However, it is not yet well understood how introducing AI teammates into working contexts may impact how people see themselves—especially as AI imitates human intelligence to perform tasks usually done by humans. To address this gap, this experimental study examined how the ontological category of office-work teammates (human or AI) may influence the salience of people's identities. Participants were assigned to work with a teammate (human or AI) in an office-process simulation; they named salient general and work-related identities before and after completing the simulation. Findings indicate AI teammates alter the salience of some human identities, as some new identities emerge and others fade as irrelevant—however, some identities persist or are reframed as people make sense of the work arrangement.*

**Keywords:** Identity, identity salience, AI, future of work, human-AI teaming, serious games

## 1. Introduction

Artificial intelligence (AI) is a fundamental business solution for organizations (Chui, 2017), and enterprises are increasingly bringing AI into workplaces. In these integrations, AI is not merely a passive instrument but often an active teammate of sorts, working together with people (Seeber et al., 2020). Advances in AI have accelerated its agentic and collaborative role in contemporary work, enabling it to assist humans in various tasks and improve performance. The notion of forming synergistic teams of humans and AI is of increasing interest to practitioners and researchers (Seeber et al., 2020), as human-AI teaming (HAT) promises to combine the benefits and advantages of both for maximum effectiveness (Dellermann et al., 2019). As a result, AI has been widely discussed as an integral part of the future of work (e.g., Jarrahi, 2018).

However, human users will ultimately decide whether to accept AI teammates. Thus, understanding and integrating human users' social perspectives is critical (Makarius et al., 2020) when organizations consider bringing AI agents into workplaces. AI integrations mean that humans may have to adjust their behavior, skills, or attitudes to cater to AI's abilities and limitations. In both private and professional contexts, adjustments may force people to seek new answers to the question: "Who am I?" (Strich et al., 2021).

People have multiple identities but these myriad identities cannot simultaneously occupy one's thoughts (Kettle, 2019)—to try to manifest them all would be overwhelming. Thus, some identities may become "more or less active in one's thoughts over time, owing to any number of factors" (Kettle, 2019, p. 31), including who they are with and the type of situation (Goffman, 1959). With AI increasingly integrating into and even shaping people's daily lives and work, some studies have discussed that AI is challenging and changing people's identities (e.g., Bowen et al., 2020; Mirbabaie et al., 2022). This may be especially true of people's professional role identities (Strich et al., 2021). However, identities do not simply manifest and dissipate—they are held in mind to some extent. From that holding, they become more or less salient given the particulars of the situation (Banks, 2017). By "salience" we mean that they become top of mind as they are cognitively recruited as relevant to the situation. The details about the nature and dynamics of these ostensible shifts in identity salience are underexplored. If we are to understand the effects of human-AI teaming, we must understand the subjective and self-reflective processes that unfold in those collaborations. Our aim with this research was to address questions of whether and how working with AI teammates affects people's self-perception in terms of salient personal and professional identities. More specifically, we explored what identities are salient to individuals when they work with AI teammates. In particular, three research questions motivate our current investigation:

**RQ1:** What identities are salient to individuals before and after they work with AI teammates?

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**RQ2:** How does post-work identity salience differ between individuals who work with AI teammates compared to those working with human teammates?

**RQ3:** How do people explain the salience of their identities after working with AI teammates?

In addressing these questions, we take up the notion of identities as referring to self-referential descriptions that encapsulate a particular way a person sees themselves (Ashforth et al., 2008). Past research indicates that working with AI teammates threatens employees' professional identities (e.g., Mirbabaie et al., 2022). Importantly, though, individuals bring more than work-role identities into work environments—they bring in whole selves that may comprise work-related social, trait, and ability identities as well as non-work social, cultural, and individual identities (see Nishii, 2013). Because AI integration effectively introduces a new and different actor into the work environment, those actors may or may not affect a broader range of identities beyond professional roles. Thus, this research aims to supplement more insights into the effects of AI on a fuller spectrum of human identities.

## 2. Literature Review

### 2.1. Human-AI Teaming

AI is differently defined across disciplines but broadly refers to a machine's ability to perform human-like tasks (Rai, 2019) and is an umbrella term for various such technologies (Jarrahi, 2018). AI is argued to provide a way to replace, complement, and augment the specific roles and tasks currently performed by humans within the workplace and in society in general (Dwivedi et al., 2021). Through complementary and augmentative functioning, in particular, AI can be said to be members of working *teams*—two or more agents with common goals, role assignments, and interdependence (Salas et al., 1992).

With some AIs' emerging abilities to dynamically adjust to human behaviors and to detect human goals, these technologies' involvement in work is increasingly manifesting as meaningfully collaborative teamwork (Seeber et al., 2020). Thus, AI is likely to be gradually embraced as a *teammate* rather than just a tool (Rix, 2022). We here take up concept of human-AI teaming to describe situations in which people and AI technologies coordinate to perform tasks as an integrated unit or partnership (Seeber et al., 2020). However, collaborative work is inherently social, and AI teammates are likely to fundamentally change people's workplace sociality and labor (Bednar & Welch, 2020). Thus, HAT will likely bring changes to organizational, psychological, and sociological dimensions of work—all of which may have an impact on the salience of human identities in work contexts.

### 2.2. Identity and Identity Salience

Identity is "a way of organizing information about the self" (Clayton, 2003, p. 45) and also involves "beliefs about who we are and who we want to be" (Clayton & Opotow, 2003, p.5). Thus, different identity names (e.g., mother, expert, introvert) can be seen as different category labels offering people a way to understand themselves and express themselves. Each identity represents an individual's specific characteristics and functions in different roles, relationships, and contexts. People may use different identities to refer to different aspects of self, and these aspects become more or less relevant in certain circumstances (such as the teammates they work with or the goal of the work).

Due to "the many aspects of one's self-concept cannot all be simultaneously occupying one's thoughts" and "individual aspects may become more or less active in one's thoughts over time" (Kettle, 2019, p.31). Thus, individuals' identities would dynamically become more salient or less salient. In other words, different identities may be more or less relevant to individuals in different situations (see Banks, 2017)—that is, they are more or less *salient*. Identity salience is relevant to how people function in the future of work since one's contextualized, self-referential descriptions help to determine how they will behave in those contexts (Kettle, 2019).

### 2.3. Potential AI Influences on Human Identities

A review of relevant literature points to two primary observed effects on human identities. First is AI's influence on professional identities. Because AI technologies may perform tasks more quickly and accurately than humans, AI may negatively impact employees' identifications with their jobs (Mirbabaie et al., 2022). For instance, AI is changing project management functions, including project selection and prioritization, monitoring progress, accelerating reporting, and facilitating testing (Nieto-Rodriguez & Vargas, 2023), such that human project managers must shift focus away from administrative and manual tasks to more coaching and stakeholder management. Thus, they may identify more with those coaching and management roles instead or even identify as 'one who has been replaced.'

Second, AI may be seen by people as supplementary or augmenting technologies—and so see them as augmenting or even being part of one's self.

People may extend themselves by considering particular possessions in order to supplement themselves, and digital possessions can be potential extensions of the self (Belk, 2013). For example, people may expand their self-concepts by incorporating the capabilities of their smartphones (Carter et al., 2013), and wearable technologies may even be experienced as *part of their* embodied selves (Nelson et al., 2019). In AI teammate contexts, as people feel connected to AI, it is possible they may meaningfully influence identity salience as well by shifting contexts that make some identities more or less relevant.

### 2.4. Summary

As HAT increasingly emerges as a new type of work, the salience of human workers' identities may shift to cope with changing competencies, roles, and relationships. Under these new situations, an important question to consider is whether AI teammates will influence people to reconsider the question: "Who am I?" In considering potential shifts in identity salience in HAT contexts, current literature tends to focus principally on professional role identities and examine these identities after people have already begun working with AI. For example, Strich et al. (2021) surveyed how employees strengthened and protected their professional role identity after enterprises introduced substitutive decision-making AI systems. What is still not very clear is whether people's general salient identities, beyond their professional roles, will be affected by AI teammates. And, before and after AI integration, what differences in people's salient identities in both general and work identities?

These foci present important limitations to our current understanding of AI-influenced identity salience in that (a) under ideal, inclusive work conditions, people bring whole selves into workspaces, including personal identities beyond mere work identities (Nishii, 2013) and (b) by only examining identities *after* AI integrations, there is no way to meaningfully discern whether and how identity salience has shifted from pre-AI self-concepts. To address these gaps, this study examines the identity salience of human workers both in terms of personal and professional identities, as well as before and after exposure to a simulated HAT work context.

## 3. Method

To address the research questions, we conducted an experiment comparing participants' salient identities before (Time 1; T1) and after (Time 2; T2) an office simulation (within subjects) and qualitatively compared T2 salient identities between those who had worked with human teammates and with AI teammates in the simulation (between subjects). All procedural, instrumentation, stimulus, and analysis documentation is available in the online supplements for this project: https://osf.io/6bynu/

### 3.1 Participants

Participants ($N$ = 43) were undergraduate and graduate students at a U.S. university who are fluent in Mandarin Chinese, recruited via posted announcements and snowball sampling. They were 52.3% male, 47.5% female (none reporting as nonbinary), and aged $M$ = 25.36 ($SD$ = 3.47). A slight majority (59%) of participants were in academic majors related to data science, information/technology management, or computer science in which they may have a higher-than-average knowledge of AI. This was an appropriate sample for considering the reactions of people completing university and entering the workforce, who may also be more likely to work with AI in their careers.

### 3.2 Procedure

Participants were scheduled for a time to come into a campus laboratory. Upon signing up, they were randomly assigned to one of two experimental conditions—working with human or AI teammates. On arrival at their scheduled session, they were welcomed to the lab, invited to be seated, and presented with informed consent information. The investigator (first author) reviewed the consent information and documented the agreement; no potential participant declined to continue. Participants were asked to sit at a desk equipped with a computer and were guided through three phases of the lab procedure over approximately one hour. In the first phase (T1), participants were asked to complete web-based survey questions on the computer, including items about how they see themselves (i.e., salient identities), their experience working with particular kinds of teammates, and experience working in particular kinds of environments. In the second phase, the investigator gave a brief training session on the stimulus office simulation, including the objectives and how to use the controls. Participants complete the simulation at their own pace. Finally, in phase three (T2), participants were asked to complete another web-based survey, including items about how they see themselves at that moment, their feelings about the cooperative work situation they just encountered, knowledge of work technologies, and demographics. The experimental design along with the pre- and post-test capturing of salient identities permits the comparison across human and AI teammates as well as inferencing the causal influence of different-agent

teaming on identities. See online supplements for the investigator's procedural script for the lab session.

### 3.3 Stimuli

Participants were randomly assigned to one of two conditions, with each condition including an office-operation simulation with either human or AI teammates. The experimenter verbally informed participants that the teammates they work with in the game are human or AI teammates to ensure salience of the agent type, but participants were not aware that there was another option. Meanwhile, as shown in Figure 1 below, the simulation also displayed the icons of human teammates or AI to further increase the player's cognizance of the teammate type. AI teammates were represented as humanoid embodied robots; this struck a balance between making the ontological category of the teammate easily and continuously visible and interpretable, while also keeping them comparable in morphology to the human character for experimental parity.

The custom-created simulation (presented in the Chinese language) simulated a manufacturing industry business workflow. Players are required to manage four departments' business which include: Marketing department, production department, purchasing department, and warehouse department. As seen below in Figure 1, players need to finish this fixed business workflow to make sure business is conducted properly. This also ensures that the tasks operated by all players on the simulation platform are consistent. We asked players to run the business for 12 simulated months and gave them an initial amount of simulated money (¥800,000). The objective was to run the business with their teammates for those 12 months without going bankrupt. If the account cash became negative, the platform prompted the player that their session was over. The interface is an office environment, as shown in Figure 1. There is a 'teammate' employee icon for each department, and players visit specific departments by interacting with different department teammates. For more walkthrough of the simulation, please see online supplements.

### 3.4 Elicitations and Measures

Two questionnaires elicited participants' salient identities before (T1) and after (T2) the simulation. Specifically, The T1 questionnaire asked players to write down up to 10 identities that they think are most important to who they are (i.e., general identities). In a subsequent question, we ask them to list up to 10 identities that they think they already have at the moment that are most relevant if they were to be an office manager (i.e., work identities; since they would be shortly in the simulation). Then, participants completed relevant measures for potentially relevant covariates. Past studies indicate that *a priori* attitudes about technology can influence judgments about


**Figure 1. Stimulus simulation: Office with AI teammates, with a close-up of the AI teammate sprite.**

machine agents, so technophobia (α = .721, *M* = 2.66, *SD* = 1.03) and technophilia (α = .844, *M* = 5.59, *SD* = .96) were measured at T1 using a two-factor scale (Martínez-Córcoles et al., 2017). Because we were comparing responses to AI against responses to humans, we adapted that same scale to focus on people to measure what we are calling anthrophobia (α = .819, *M* = 2.53, *SD* = 1.28) and anthrophilia (α = .831, *M* = 5.19, *SD* = 1.05).

At T2, participants were again asked to name salient work identities, but this time requested identities most relevant specifically to their manager role in the simulation experience. Then, they were again asked to name salient general identities. After each T2 listing task, we asked participants to explain their rationale for listing those listed identities. Then, participants completed a manipulation check in which they were asked to identify whether their teammates were human or AI. Two participants in the human-teammates group condition failed this check, so they were excluded from the analysis and new participants were recruited to replace them. Finally, participants completed open-ended demographic questions.

Additional questions and measures were also included, but that data is not analyzed in this report. The surveys were administered in Chinese; the Chinese version and an English-translation version of captured data are available in the online supplements.

### 3.5 Analytical Approach

Because the study was conducted in Chinese but this work is reported in English, the Chinese responses were translated into English by the first author. The analysis was conducted in Chinese by the first author and in English by the second author. To ensure validity and semantic parity across the languages, outcomes were validated by comparing analyses in the two languages and resolving any disagreements. The English translations are presented here.

The research questions posed consider whether salient identities (RQ1) shift before and after working with AI and (RQ2) whether post-work salient identities differ between those working with AI versus human teammates. To address those questions, we took a multi-phase approach.

In the first phase, participants' T1 general identities were inductively analyzed for emergent themes, per Braun and Clarke's (2015) six-step procedure: Deep reading for familiarization, generation of initial codes, code collation into sub-themes and then into themes, theme review for internal consistency and cohesion, theme definition and naming, and finally writing. The first and second authors conducted that analysis separately and then resolved divergences in induced themes. That analytical process was then repeated for the T1 work identities. A variation on that process was then repeated separately for T2 work and general identities, in which the T1 thematic hierarchy was used as a loose guide, with careful attention to potentially different patterns in post-simulation salient identities. The resulting thematic hierarchy for T2 was then checked against and compiled with T1 identities for a single thematic hierarchy that addressed salient-identity variations at both T1 and T2. A 'theme' was determined to be sufficiently represented in the data if it comprises mentions equivalent to at least 10% of the total number of coded identities. Complete documentation for this process is available in online supplements.

In the second phase, a codebook was developed from the phase-one thematic hierarchy. That codebook was used to assign quantitative codes to the four sets of identities (i.e., general identities and work identities at T1 and T2). The first and second authors independently coded the identity data at the participant level—that is, each participant was coded for whether each type of identity theme was (1) or was not (0) present in their named identities. We then resolved disagreements, since the smaller sample size did not support a meaningful analysis of intercoder reliability. Then, the first author leveraged those quantitative codes as a signifier of 'prevalence' to identify (RQ1) how some identity types may be more or less prevalent after working with AI and (RQ2) whether the post-work prevalence of salient identity types differ between human and AI conditions.

## 4. Results

There was no significant difference between experimental conditions in T1 technophobia, technophilia, anthrophobia, anthrophilia, current work status, or past office-work experience, or in demographics captured at T2 (see online supplements), so they are not considered in further analyses.

### 4.1 Phase 1: Thematic Analysis of Salient Identities

Five themes were induced during thematic analysis of general identities at T1:

**(a) Demographic** identities are those in which the person ascribes themselves a label pertaining to common demographic, geographic, and cultural demarcations—gender, sexuality, region/nation, ethnicity, language, religion, political ideology, or an overarching worldview.

**(b) Relational** identities are those in which the person ascribes themselves a label pertaining to specific connections with other people, especially in terms of

socially constructed or familial bonds—family, significant other, animal caretaking, friend.

**(c) Affinity** identities are those in which the person ascribes themselves a label according to things or practices they are fans of or enthusiasts for, either passively (by enjoying the consumption of it) or actively (by participating in and producing it)—sports, food, music, design, outdoors activities, technical efforts, gaming, travel, creativity.

**(d) Attribute** identities are those in which the person ascribes themselves a label that describes a temporary or enduring characteristic—personalities, tendencies, dispositions, or skills.

**(e) Expertise** identities are those in which the person ascribes themselves a particular societal topical expertise role, especially one related to professional endeavors—leader, worker, income-seeker specific professions, student status, academic major.

Of note, a sixth category we call 'Agent identities' theme did not meet the 10% benchmark, however given that the motivation for this investigation is related to how different ontological categories are (and are not) made salient by working with human and machine partners, we retained it for consideration at T2 as it may emerge as relevant at that point (per Braun and Clarke's 'keyness' criterion): **(f) Agent** identities are those in which the person ascribes themselves a label acknowledging their own agency—as an actor, as a 'self,' as a human, or as a thinker or doer.

From analysis of T1 work identities, we saw all six general-identity themes present in the data. In the specific identities listed, additional criteria were added to two themes. For expertise identities, people often mentioned having general or specialized training, high intelligence, skill in job functions, and particular work or professional experience. For agent identities, participants here mentioned being an intense 'doer' such as being a taskmaster, an implementer, or being especially efficient or serious in the 'doing' of work.

Two additional themes emerged from T1 work identities:

**(g) Director identities** are those in which the person ascribes themselves a label that conveys formal leadership roles (e.g., manager, supervisor, controller, overseer), informal roles (decision-maker), or specific directing objectives (coordinator, integration, planner), as it may pertain to people, events, or organizations. Also included in this category is someone who 'directs' or takes leadership over ideas, such as an innovator or entrepreneur.

**(h) Connector identities** are those in which the person ascribes themselves a label indicating they build bridges among people, organizations, or ideas. This could include someone who emphasizes cooperation, collaboration, and being a team player; it could also be someone who is a strong communicator or someone who helps to support and advance other stakeholders (e.g., an assistant to people, including assistant to leaders like a deputy). Finally, connector identities include 'diplomat' identities in which someone serves as a peacekeeper, facilitator of diversity and engagement, negotiator (or in contrast, an agitator), as well as people who see themselves as particularly sensitive or emotionally intelligent such that they can empathize with others and understand their challenges.

These eight themes, together, comprise the salient-identity categories coded in phase 2. They constitute the categories of salient identities that may be compared over time and between experimental conditions.

## 4.2 Phase 2: Content Analysis of Salient Identities

To facilitate a more objective consideration of how identities are differently prevalent over time and between experiences with human/AI partners, we conducted a content analysis of salient identities. A codebook was developed to guide the quantitative coding of salient identities, with inclusion/exclusion rule sets for each of the eight identity-themes detailed above. (See online supplements for the complete codebook and coded data.) The percentage of participants naming identities in each of the eight identity categories is provided in Table 1, parsed into percentages for T1 and T2 and for general- and work-identity sets.

Regarding **RQ1** (What identities are salient to individuals before and after they work with AI teammates?), we here compare the standardized percentage of participants in that condition before and after the work simulation. For general (i.e., personal) identities, all participants mentioned expert identities (e.g., student, researcher), with most mentioning relational identities (e.g., daughter, husband, friend) and affinity identities (e.g., game lover, NBA fan) and many mentioning demographic (e.g., Chinese, Christian, female). Only a small minority mentioned director identities (e.g., manager). After working with AI teammates, there was a notable increase in the prevalence of connector identities (e.g., listener, conflict coordinator) but a large decrease in the prevalence of demographic, relational, affinity, and expert identities. Director, attribute, and agent identities exhibited little change (equivalent to $< 2$ participants with shifted salience).

As for work identities, at T1, those working with AI teammates indicated higher salience of expert (e.g., software engineer, HCI researcher), director (e.g., monitor, associate director), and connector (e.g., research assistant, counselor) identities; this was

**Table 1. Prevalence of identity themes by condition (human/AI), time (T1/T2), and identity prompt (general/work-specific).**

| | Condition: Human Teammate ($N = 21$) | | | | Condition: AI Teammate ($N = 23$) | | | |
|---|---|---|---|---|---|---|---|---|
| | T1-Gen | T1-Work | T2-Gen | T2-Work | T1-Gen | T1-Work | T2-Gen | T2-Work |
| Director | 0.0% | 42.9% | 14.3% | 66.7% | 8.7% | 47.8% | 8.7% | 69.6% |
| Connector | 0.0% | 52.4% | 9.5% | 38.1% | 0.0% | 39.1% | 17.4% | 30.4% |
| Demographic | 47.6% | 0.0% | 4.8% | 0.0% | 47.8% | 4.3% | 0.0% | 4.3% |
| Relational | 71.4% | 4.8% | 28.6% | 0.0% | 73.9% | 4.3% | 26.1% | 4.3% |
| Affinity | 100.0% | 14.3% | 19.0% | 4.8% | 73.9% | 21.7% | 21.7% | 0.0% |
| Attribute | 42.9% | 23.8% | 9.5% | 14.3% | 21.7% | 21.7% | 17.4% | 21.7% |
| Expert | 95.2% | 71.4% | 52.4% | 61.9% | 100.0% | 60.9% | 56.5% | 65.2% |
| Agent | 19.0% | 9.5% | 4.8% | 9.5% | 21.7% | 13.0% | 13.0% | 17.4% |

Note: Values indicate the percentage of participants who mentioned at least one instance of that category of identity. Percentage is presented due to differences in cell sizes between conditions. T1 = Time 1 (pre-work), T2 = Time 2 (post-work), Gen = Salient General Identities, Work = Salient Work-related Identities.

unsurprising because they were asked to indicate their own identities relevant to the imminent office-management scenario. At T2, we saw an increase in director identities and a noticeable decrease in affinity identities, while other identity categories remained largely consistent within the sample.

In sum, working with AI teammates resulted in increased salience of general identities related to communication of work identities related to director roles, as well as a decrease in both personal and work identities that may be considered individuating identities (demographic, relational, affinity, expert).

Regarding **RQ2** (How does post-work identity salience differ between individuals who work with AI teammates compared to those working with human teammates?): As Table 1 demonstrates, T2 salience of identity categories was similar across the human and AI conditions, with less than 10% difference between the groups (that is, fewer than 3 people differing). Given this, we explored the qualitative nature of the named identities in the two groups. Of particular interest were differences in how people named expert identities when asked about salient work identities. In the human teammates group, participants mainly described expert identities related to general managerial tasks and responsibilities: Arranger, executor, general controller, operator, order purchaser, task scheduler, and decision maker. In the AI teammates group, the same identities mentioned in the human group were named, but there were also expert identities unique to the AI teammates group, including AI troubleshooter, supervisor of AI jobs, and emergency solver.

In general, working with human teammates or AI teammates has a similar impact on individuals' identities is similar, except for the expert identity in which people shifted the target of their expertise to be AI-related rather than more general.

Regarding **RQ3** (How do people explain the salience of their identities after working with AI teammates?): AI-condition participants' T2 explanations for their named identities (both general and work-specific) were interpreted in relation to the T1 and T2 identities and any changes between them. This analysis suggests there are three key ways that people make sense of their post-work identity salience:

**Persistence of pre-work identities:** Based on the answer to RQ1, we see that some participants' past identities are both salient before and after they work with AI teammates—pre-work identities can persist. Explanations indicate that some participants thought their expert identities (e.g., Ph.D. student, education researcher) were still very important when they work with AI teammates: *"As a doctoral student, I can quickly and clearly know the reasons and measures to be taken when dealing with some new problems…*" and "*Because I feel that my role as an HCI researcher can help me better understand and learn how AI works and suggest modifications.*"

Several participants also explained why their relational identities (e.g., daughter, mother) and affinity identities (e.g., outdoor activities lover) persisted and were salient when they worked with AI teammates. Principally, participants saw AI as taking on some of their workloads so they could reallocate time to relationships and enjoyable activities: "*After AI helps me, I have more time to focus on my family life and affairs*" *and* "*AI assistance can help save a lot of work time and can allow me to spend more time participating in outdoor activities.*"

**Emergence of new identities:** After teaming with AI, participants reported many new, salient identities at T2. In explaining this shift, participants reported believing that they should have had some new expert identities (e.g., data analyst) when they needed to work with AI teammates. One participant said: "*I found that I would see myself as a data analyst in data record viewing and order viewing."* Some participants also mentioned leader identities (e.g., AI supervisor, AI mistake checker) because of AI fallibility: "*Because there is still unavoidable mistrust when working with AI,*

*corrective checks are needed to confirm that there are no errors.*" Several participants mentioned agent identities (e.g., learner) as initiatives they must take up in order to be better able to partner with their teammates: "*The learner is the most important because I don't know much about how AI works and don't trust it.*"

**Fadeout of pre-work identities:** Several types of identities were not salient in T2 compared to T1. Responses indicate some expert identities (e.g., student, decision-maker) are not relevant to HAT. For example, "*The cost of trial and error is low when you are a student, mistakes at work can lead directly to financial losses.*" Some participants mentioned attribute identities (e.g., social phobia) are not important again. For instance, *"…because AI can replace me in tasks, I am not good at and reduce my socialization with people in the workplace."* Some people also no longer considered director identities (e.g., decision-maker) as salient: "*AI is the person who made the decision without asking my thoughts…However, I don't mind about it considering I did not have financial and industry management experience. I think in this case, the AI actually fulfills my capabilities.*" In other words, the worker's shortcomings and AI's skill justified the release of their authoritative identity in the work context.

## 5. Discussion

In this study, we found that AI teammates can change the salience of people's identities. First (RQ1), after working with AI, there was increased salience on people's work identities tied to connector and director identities and a decrease in salience for general identities, including demographic, relational, affinity, and expert identities. Second (RQ2), comparing the post-work identity salience between AI and human teams, we found similar impacts except for expert identity which shifted the qualitative focus to AI-related expertise. Third (RQ3), we identified three key ways that people make sense of their post-work identity salience: persistence of pre-work identities, emergence of new identities, and fade-out of pre-work identities. Overall, our findings suggest that although AI can shift the salience of some identities, many of the shifts may be more about the work itself than the partner (given parallel changes after working with human partners), and many of the changes were explained by participants as productive rather than problematic.

### 5.1. Theoretical implications: The upside to AI's impact on identity salience

This research builds on past literature on AI's influence on human identity, and we make three specific contributions that help to advance theory in this domain.

First, the eight identity categories generated in this study provide a useful framework for classifying the kinds of identities salient to people in working with both humans and AI. In this, our findings are copacetic with but more nuanced than existing frameworks. Cornelissen et al. (2007) discussed three identity categories: Social, organizational, and corporate identities. Mirbabaie et al., (2022) summarized the impact of AI on people's identities in three categories: General identity, professional identity, and IT identity. As these categories are quite broad, there is some overlap with our identified identity types. For instance, our observed director and expert identities can be seen as aligned with corporate identity or professional identity. The present typology, however, helps to parcel out the *particular* identities emerging as salient in this ostensible future-work context. Meanwhile, this identity typology and our observed patterns are copacetic with theorizing around the overlap between personal and professional identities in work—specially the incorporation of general (i.e., non-work) identities as salient in work contexts—as well as the susceptibility of identity salience to various forces including co-worker ontologies (see Ramarajan & Reid, 2013).

Second, we find that common assumptions about AI 'losing' or negatively impacting human identities aren't necessarily the case. Rather, people (a) have persistent identities, (b) build new identities, or (c) reconsider the relevance of pre-AI identities and make sense of them in ways that are meaningful in the HAT context. This could be because (per Self-Affirmation Theory; Steele, 1988) we tend to seek information that reinforces our self-concepts or to engage self-relevant information that helps to deal with stress or threats. In tandem, it is also possible that, in considering how AI may change working roles, people were engaging tendencies toward resilience by orienting themselves to resilient stances by persisting or adapting their self-concepts to the novel HAT context (cf. Adger, 2000).

Third, in comparing identity-salience shifts between the human-teaming and AI-teaming work conditions, we see that the shifts are mostly parallel between conditions. This suggests that any changes to identity salience are more about the work itself than the teammates with whom one works. This insight aligns with current literatures noting that work is a self-relevant activity in which people build identities at the intersection of their ideal self and the work situation in which they are embedded (Ashforth & Schinoff, 2016).

### 5.2. Practical Implications: AI Design

Our study's findings also have important practical implications. First, findings point to possible directions

in the design, development, and introduction of AI teammates within organizations. We found that working with AI teammates can qualitatively shift the salience or emergence of identities, and changes in salience are explained by workers to sometimes be an outcome of whether identities are useful or relevant. This suggests it may be beneficial to design AI that aligns with needs and expectations of workers based on dynamic matching with their salient identities. Other times, identity salience is a matter of resource allocation—where can the worker best invest time and energy, and what identities are associated with that investment? This could potentially assist organizations in precisely designing the distribution of work roles within HAT and guide them to develop training programs that bolster skills or abilities related to salient identities. Moreover, the decreased salience of individuating identities like social or ethnic group membership could present a risk in that people may not feel wholly present and invested in their work. Thus, ensuring that the introduced AI can support or respect people's non-work identities will better improve user experience and acceptance of AI teammates in the future of work.

Third, this study serves as a proof of concept: The office-work simulation used in this study can serve as an innovative tool to create an environment where people can easily, inexpensively experience cooperation with AI teammates in a low-risk situation. This approach enables organizations to investigate the potential impact of AI on their employees' identities prior to its introduction.

### 5.3. Limitations and Future Research

As with any simulation or self-report study, the present investigation has important limitations. First, the office-simulation approach is inherently subject to questions of authenticity as it may have different characteristics from actual HAT scenarios, especially in that participants were not immersed in a physical and social AI-integrative office environment. Nonetheless, the simulation presents a productive first step since the exact and ideal workplace for human-AI cooperation is still under exploration (Seeber et al., 2020). Second, due to the limitations of the experimental design itself, participants answered the same questions about their identity twice before and after the game in under an hour. In addition to risks like physical or mental fatigue, some similarities in salient identities between T1 and T2 could be an artifact of participants simply remembering earlier answers. However, this concern is mitigated by the fact that many identity categories were different at T2. Third, asking people questions about identity is an obtrusive method for surveying identity salience, and the approach could have activated expectations about the identity that should be named rather than the individual's real self-concept (Kettle, 2019). Indeed, in answering RQ3, we noticed many participants would talk about the identities they saw as expected in the work role. However, this does not necessarily invalidate those identities in that the ideal self is also one crucial part of the whole self (Bak, 2014) and likely contributes to how people see themselves in HAT.

Acknowledging those limitations, this exploratory study nonetheless serves as a useful springboard for future research directions. Future work should include (a) empirical studies exploring mechanisms and results of AI's influence on people's identity types beyond professional role identities; (b) attempts to understand the causes of personal psychological characteristics on AI's effect on people's identity changes; and (c) considering the impact of different types of AI or different interactive ways on people's identity changes. Specifically, as mentioned above about the limitations of this experiment, this study initially explored the impact of AI on people's various types of identities salient through an office simulation, but will these types of identities still be salient in physical and social environments, especially in actual workplace environment where people work with AI? What causes identities to persist, face, or emerge? Further, we observed that some participants held different attitudes toward the impact of AI on their different identities, for instance, people hold negative or positive attitudes toward AI as it may displace workers, so exploring the different personal characteristics in reinforcing versus diluting on which specific identities still deserves more attention (Reed & Forehand, 2016). Finally, the types of AI in simulation platforms were automated AI; exploring different forms of AI, such as generative AI and robots, also requires careful inquiry to better understand the complex question of how HAT will influence how people answer the question: "Who am I?"

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