Doctoral contract in management sciences

Funded by the Transformative AI & Social Change (TrAI-SoC) Chair, MIAI Cluster

"Navigating Individual–Collective Tensions in Collaborative Dietary Change: Mechanisms and Consequences of AI-Supported Virtual Coaching"

3 years, starting October 1st 2025

Laboratory: CERAG (Centre d'Etudes et de Recherches Appliquées à la Gestion)- Université Grenoble Alpes, 150, rue de la Chimie, 38400 Saint Martin d'Hères
Doctoral school: Management Sciences
Thesis co-supervisor: Helme-Guizon Agnès (PR, CERAG & Grenoble IAE-INP, UGA)
Thesis co- supervisor: Pelachaud Catherine (DR, CNRS - ISIR, Sorbonne University)
Thesis co- supervisor: Chaby Laurence (MCF HDR, Université Paris Cité)
Type of funding: doctoral grant + support (missions and experiments)
Start of thesis: 1st October 2025 (36 months)

Context

This research project is part of the **Transformative AI & Social Change Chair** (TrAI-SoC), funded by the **MIAI Cluster**, and launched in May 2025. Its work focuses on the social changes brought about by the use of AI. In particular, the chair is developing a research program on the use of AI to induce behaviors that are beneficial to health and the planet. Current work focuses on sustainable eating behaviors.

Scientific Project

Context

In recent years, there has been a rapid expansion in the use of virtual agents and AI-driven systems for health behavior change (Laranjo et al., 2018; Kramer et al., 2020). These agents are increasingly embedded in mobile apps and smart environments and offer personalized guidance, feedback, and motivational support. This project will pay special attention to **eating behaviors**, which are of critical importance in light of the global increase in obesity, diabetes, and other diet-related health issues. The scarcity of health professionals and a drop in purchasing power has laid the foundation for the emergence of digital nutritional tools (mainly text-based chatbots embedded in apps). Characterized by their 24/7 availability, personalization, and daily support, they represent a promising path to inducing behavioral changes in users (Oliveira et al., 2021). The existing solutions have not consistently resulted in healthier eating habits.

Unlike traditional text-based conversational agents, **Socially Intelligent Agents** (SIAs) combine perceptive capabilities, embodiment, and advanced AI (e.g., GPT-4), enabling them to simulate human-like interactions. The literature increasingly examines SIA relationships, exploring various facets, including the impact of anthropomorphism, dialogue, and non-verbal cues on user reactions such as attachment and satisfaction

(Pentina et al., 2023; Uysal et al., 2022). Previous studies have demonstrated AI's capability of AI to influence decisions and behavior.

In parallel, there is growing recognition of the role of **social dynamics** in promoting and sustaining changes in health behavior. Interventions involving couples, peers, or family members have been shown to improve adherence, accountability (Prestwich et al., 2014), and individual weight management efforts (Dailey et al., 2018), indicating that superior outcomes are achieved when two closely associated individuals share a common goal and endeavor to attain it through mutual support.

In the case of dietary change, particularly the **reduction in red meat consumption**, the health benefits (e.g., lower cardiovascular risk; Micha et al., 2017) are matched by environmental imperatives (Clark et al., 2020). However, meat consumption is culturally and emotionally charged, and often embedded in identity, tradition, and social rituals (Ruby & Heine, 2011). When dietary change becomes a shared effort, supported by AI, it creates a complex space in which personal motivations, relational dynamics, and technological mediation converge.

Although AI systems are typically designed to enhance individual self-regulation, **their deployment in a collaborative context introduces new challenges**. In AI-supported dietary change among buddies or small groups, tensions may arise between the individual's autonomy and the group's collective direction. These tensions may manifest as emotional discomfort, disengagement, or even resistance, especially when users perceive misalignment in goals, pacing, or values (Brehm, 1966; Oyserman, 2009).

Despite the increasing use of social or collective framing in digital health interventions, little is known about the emotional and relational mechanisms. Research has yet to adequately address how users experience these tensions, the processes underlying them (e.g., identity threat, perceived pressure, and misalignment), and under what conditions they might be mitigated. Moreover, the design choices of the virtual coach—its tone, framing, and adaptiveness—may unintentionally amplify or buffer these effects.

Objective

This project is conducted within the **context of two closely associated individuals who collaboratively aim to modify their dietary habits** (referred to as *buddies*) through the guidance of an SIA functioning as a virtual nutritional coach.
Its objective is to investigate whether and how in this context AI-supported coaching in dietary change generate interpersonal tensions, misaligned goals, or conflicts in personal values, and how these tensions influence user engagement, experience, well-being and goal achievement (e.g., behavior change).

Methodology

This research will adopt a **mixed-methods approach:** It will combine semi-direct interviews with lab experiments in which virtual coach characteristics will be manipulated.

Practical context

This Doctoral project stands out in several ways. First, it is **co-supervised by researchers from three distinct disciplines** (social marketing, computer sciences, and psychology) who have already collaborated on related topics, including the supervision of PhD students and postdoctoral researchers. The project requires a unique combination of skills in computer science, artificial intelligence, human and social sciences.

Second, this Doctoral project is part of the **MIAI Cluster**, and the **Chair Transformative AI & Social Change (TrAI-SoC)**. Participation in the MIAI Cluster and Chair TrAI-Soc offers an invaluable opportunity for personal development and networking.

Dates and conditions of the Doctoral contract

The contract will run for **36 months, starting October 2025**, on a full-time basis.

The doctoral student will be a full-member **Chair TrAI-SoC.** He or she will be based in Grenoble at **CERAG** (Centre d'Etudes et de Recherches Appliquées à la Gestion) which is dedicated to management sciences at UGA. The laboratory is structured around three research axes, in line with the IDEX project and the CERAG eco-system. The doctoral student will belong to the Responsible Behavior and Societal Issues (CRES). For more details, refer to https://cerag.univ-grenoble-alpes.fr/en/node/105

The doctoral student will have the opportunity to spend time at The Institute of Intelligent Systems and Robotics (ISIR), Sorbonne University, Paris. ISIR researchers help to anticipate transformations in society by working on the autonomy of machines and their ability to interact with human beings. For more details refer to, https://www.isir.upmc.fr/isir/presentation/?lang=en

The doctoral student will also have the opportunity to interact with doctoral students, post-docs and interns in marketing, psychology, information systems, AI, human-computer interaction, emotional computing etc.

Skills required

- **Consumer behavior, cognitive sciences, social psychology**: understanding of social theories, analysis of human interaction (social influence, nonverbal communication and cognitive and cognitive biases); perception and social evaluation.
- **Methodological and analytical skills**: advanced experimental design; statistical analysis; qualitative and quantitative evaluation: competence in collecting and analyzing qualitative (e.g., interviews, surveys) and quantitative (e.g., measurable behaviors) data.
- **Interdisciplinary collaboration** experience or appetence
- **Soft skills**: proven abilities of written and oral scientific communication techniques; autonomy, decision-making ability, adaptability, good initiative and organizational skills.
- **Hard skills**: competencies in computer sciences or AI would be a plus
- **French language**: level A2 minimum is mandatory. The successful candidate will be required to conduct experiments with French participants.
- **English language**: level B2 minimum is mandatory; C1 or C2 would be a plus. The successful candidate will be required to read and write in English and present their work at leading international conferences.

Recruitment process and requirements

The doctoral candidate must have a Research Master's degree, preferably in marketing, psychology or cognitive sciences.

The application must include the following documents:

- Curriculum Vitae (CV): Highlighting experiences relevant to the application
- Cover Letter: Clearly stating research interests, alignment with project goals, and how the candidate's expertise contributes to the position.
- A thesis proposal: (3-5 pages max) showing how the candidate appropriates the subject and could carry it out

- Master 2 dissertation
- Master 1 and Master 2 transcripts.

Interviews will be offered following a pre-selection process. Shortlisted candidates will be contacted for interviews on July 11th 2025 in the afternoon by videoconference. International candidates with a bit of French are more than welcome.

Applications should be sent to agnes.helme-guizon@univ-grenoble-alpes.fr, catherine.pelachaud@sorbonne-universite.fr and laurence.chaby@parisdescartes.fr no later than June 25th, 2025, including "Doctoral contract – SIA & tensions in collaboration" in the email subject line.

References

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