

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 appetite
- **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

- Clark, M. A., Domingo, N. G., Colgan, K., Thakrar, S. K., Tilman, D., Lynch, J., ... & Hill, J. D. (2020). Global food system emissions could preclude achieving the 1.5° and 2°C climate change targets. *Science*, 370(6517), 705–708.
- Dailey, R., Romo, L., Myer, S., Thomas, C., Aggarwal, S., Nordby, K., ... & Dunn, C. (2018). The buddy benefit: Increasing the effectiveness of an employee-targeted weight-loss program. *Journal of health communication*, 23(3), 272–280.
- Eyssel, F., Kuchenbrandt, D., & Bobinger, S. (2011, March). Effects of anticipated human-robot interaction and predictability of robot behavior on perceptions of anthropomorphism. In *Proceedings of the 6th international conference on Human-robot interaction* (pp. 61–68).
- Kramer, J. N., & Kowatsch, T. (2020). Using conversational agents to promote healthy behavior change: A systematic review. *JMIR Mhealth and Uhealth*, 8(7), e18835.
- Laranjo, L., Dunn, A. G., Tong, H. L., Kocaballi, A. B., Chen, J., Bashir, R., ... & Coiera, E. (2018). *Conversational agents in healthcare: A systematic review*. Journal of the American Medical Informatics Association, 25(9), 1248–1258.
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- Ruby, M. B., & Heine, S. J. (2011). Meat, morals, and masculinity. *Appetite*, 56(2), 447–450.
- Uysal, E., Alavi, S., & Bezençon, V. (2022). Trojan horse or useful helper? A relationship perspective on artificial intelligence assistants with humanlike features. *Journal of the Academy of Marketing Science*, 50(6), 1153–1175.

GÉRER LES TENSIONS INDIVIDUELLES ET COLLECTIVES DANS LE CADRE D'UN CHANGEMENT ALIMENTAIRE COLLABORATIF : MÉCANISMES ET CONSÉQUENCES DU COACHING VIRTUEL ASSISTÉ PAR L'IA

NAVIGATING INDIVIDUAL-COLLECTIVE TENSIONS IN COLLABORATIVE DIETARY CHANGE: MECHANISMS AND CONSEQUENCES OF AI-SUPPORTED VIRTUAL COACHING

Etablissement **Université Grenoble Alpes**

École doctorale **EDSG - Sciences de gestion**

Spécialité **Sciences de Gestion**

Unité de recherche **Centre d'Etudes et de Recherches appliquées à la gestion**

Encadrement de la thèse **Agnès HELME-GUIZON**

Financement du 01-10-2025 au 30-09-2028 *origine* **Chaire MIAI Cluster**

Début de la thèse le **1 octobre 2025**

Date limite de candidature (à 23h59) **25 juin 2025**

Mots clés - Keywords

changememnt de comportement, agent socialement intelligent, collaboration, IA générative

behavior change, socially intelligent ai, collaboration, Generative AI

Description de la problématique de recherche - Project description

Ce projet de recherche doctorale, financé par la Chaire IA Transformatrice et Changement Social (TrAI-SoC) de MIAI Cluster, vise à étudier les tensions individuelles et collectives qui apparaissent lorsque deux individus étroitement liés (copains) modifient leurs habitudes alimentaires de manière collaborative, avec l'aide d'un Agent Socialement Intelligent (ASI) faisant office de coach nutritionnel virtuel.

L'étude explorera les mécanismes sous-jacents et l'influence de ces tensions sur l'engagement, l'expérience, le bien-être et la réalisation des objectifs des utilisateurs, et les moyens de les atténuer.

Le projet adoptera une approche mixte, combinant expérimentations en laboratoire et entretiens semi-directs.

This doctoral research project, funded by the Transformative AI & Social Change (TrAI-SoC) Chair, MIAI Cluster, aims to investigate the individual-collective tensions that arise when two closely associated individuals (buddies) collaboratively modify their dietary habits with the guidance of a Socially Intelligent Agent (SIA) functioning as a virtual nutritional coach.

The study will explore how these tensions emerge and influence user engagement, experience, well-being, and goal achievement, and how they can be mitigated.

The project will adopt a mixed-methods approach, combining lab experiments and semi-direct interviews.

Thématique / Domaine / Contexte

Changement de comportement alimentaire collaboratif sous l'impulsion d'un coach nutritionnel virtuel

Comportement du consommateur & Numérique

Ce projet de recherche se situe à la convergence de 3 phénomènes majeurs : l'urgence pour la santé et la planète d'adopter massivement une alimentation durable (Micha et al., 2017; Clark et al., 2020), le développement d'outils basés sur l'IA dans le domaine de la santé (Laranjo et al., 2018; Kramer et al., 2020; Oliveira et al., 2021)) et les effets positifs de la dynamique collective voire collaboration pour atteindre des objectifs de changement de comportements alimentaires (Dailey et al., 2018)

Objectifs

L'objectif de cette recherche est d'étudier si et comment, dans le contexte d'individus souhaitant changer ensemble leur comportement alimentaire, le coaching assisté par l'IA génère des tensions interpersonnelles, des objectifs mal alignés ou des conflits de valeurs

personnelles, et comment ces tensions influencent l'engagement, l'expérience, le bien-être et la réalisation des objectifs des utilisateurs (par exemple, le changement de comportement).

Méthode

Cette recherche adoptera une approche mixte : elle combinera des expériences en laboratoire dans lesquelles les caractéristiques des coachs virtuels seront manipulées avec des entretiens semi-directs.

Résultats attendus - Expected results

Identification des facteurs liés au coach, à la situation et aux buddies qui génèrent / apaisent les tensions entre les buddies de manière à maximiser l'expérience, l'engagement et le changement de comportement alimentaire

Références bibliographiques

Dailey, R., Romo, L., Myer, S., Thomas, C., Aggarwal, S., Nordby, K., ... & Dunn, C. (2018). The buddy benefit: Increasing the effectiveness of an employee-targeted weight-loss program. *Journal of health communication*, 23(3), 272-280.

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Précisions sur l'encadrement - Details on the thesis supervision

PELACHAUD Catherine
CHABY Laurence

Conditions scientifiques matérielles et financières du projet de recherche

Financement par un contrat temps plein + accompagnement pour couvrir les missions et les frais d'expérimentation (10k€)

Objectifs de valorisation des travaux de recherche du doctorant : diffusion, publication et confidentialité, droit à la propriété intellectuelle,...

Conférences et publications internationales ; valorisation auprès du grand public

Profil et compétences recherchées - Profile and skills required

Le/La doctorant(e) doit être titulaire d'un master recherche, de préférence en marketing, psychologie ou sciences cognitives.

- Compétences en comportement du consommateur, sciences cognitives, psychologie sociale : compréhension des théories sociales, analyse des interactions humaines (influence sociale, communication non verbale et biais cognitifs et cognitifs) ; perception et évaluation sociale.
- Compétences méthodologiques et analytiques : conception expérimentale avancée ; analyse statistique ; évaluation qualitative et quantitative : compétence en collecte et analyse de données qualitatives (par exemple, entretiens, enquêtes) et quantitatives (par exemple, comportements mesurables).
- Expérience ou appétence en collaboration pluridisciplinaire.
- Compétences relationnelles : maîtrise avérée des techniques de communication scientifique écrite et orale ; autonomie, capacité de décision, adaptabilité, sens de l'initiative et sens de l'organisation.
- Compétences techniques : compétences en informatique ou en IA seraient un plus.

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

Skills in 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 appetite
- 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

Dernière mise à jour le 6 juin 2025