

RESEARCH ACTIVITY SHEET

2025 PhD selections

YOUR DETAILS

* Name & Surname

Gabriella Pravettoni

* Affiliation IEO

PHD PROJECT DETAILS

* Title of the proposed project

Promoting cancer prevention by adopting behavioral change models and artificial intelligence

* Short description of the project (up to 300 words)

Europe's Beating Cancer Plan has highlighted the central role of healthy behaviors in reducing the risk of being diagnosed with cancer. It has emphasized the urgent need for tailored digital health solutions that integrate AI algorithms and behavioral change models to promote their adoption and long-term maintenance among EU citizens. Furthermore, a growing body of evidence in the cancer field has stressed that psychological and emotional well-being are key modifiable factors connected with cancer incidence and its progression by influencing health behaviors and biological processes. Thus, the psycho-emotional wellbeing has to be integrated into the cancer prevention recommendations, joined with smoking, alcohol, diet, sleep quality, and physical activity. In this vein, there is a need to gain evidence-based knowledge about the role of psychological factors in cancer prevention, their interaction with other modifiable factors, and how AI algorithms can be used to tailor interventions based on individual cancer risk and achieve sustainable behavior change.

The aim of this PhD project will be to:

- Explore the role of the psychological and social variables affecting cancer onset and the most effective technological digital interventions to support behavioral change.
- Develop and evaluate the usability and effectiveness of a health digital solution and an AI algorithm for supporting long-term behavioral change using the reinforcement learning technique.

The candidate will be required to apply knowledge and expertise from psychological, neuropsychology, and social domains to clinical care, using quantitative and qualitative methodology.

* Indicate the main research area for the project described above Medical Humanities

If needed indicate a second research area for the project described above -

* Provide up to 3 key words for project:

Cancer prevention; behavioral change; reinforcement learning

YOUR LABORATORY ACTIVITIES DETAILS

* Main topic/s of the lab

Decision-making

The lab activities are focused on the study of decision-making process in medicine in order to study the factors involved both from doctors' and patients' point of view, in conditions of uncertainty and risk, often characterized by an increased emotional burden. With this background the Lab promotes a multidisciplinary perspective, which aims at developing a new psycho-cognitive approach for decision-making in medicine. In addition to strictly medical matters and biological data, by developing a personalized approach that takes into account the analysis and interpretation of the cognitive components (information needs, preferences, decision-making, beliefs and knowledge about the disease and health), the psychological components (level of stress, anxiety, depression) and the behavioural (lifestyle) components of each patient, we aim to promote patient empowerment and increase participation in the process of care, compliance and overall satisfaction. Within the Lab, applied research programs aim to promote increasingly advanced and evolved techniques and methods of treatment of the individual as a whole, and clinical activities aim to support the person both throughout the treatment period and in the subsequent phase of recovery and return to everyday life.

Within the Lab, the PhD candidate will:

- Collaborate with supervisors and research team members to formulate robust and innovative research designs. This includes conducting literature reviews, identifying key research questions, defining objectives, and selecting appropriate methodologies and tools for data collection and analysis.
- Design and implement quantitative and qualitative experimental studies. This may include laboratory studies, surveys, interviews, and/or focus groups.
- Plan and track research progress, manage time effectively, and ensure timely completion of milestones and deliverables.
- Use statistical software and qualitative analysis tools to analyze and process data.
- Draft, revise, and submit manuscripts for national and international peer-reviewed journals. This may include writing research papers, reviews, or case studies, responding to reviewers' comments, and collaborating with co-authors to ensure high-quality manuscripts.
- Assist in identifying funding opportunities and preparing applications for research grants, fellowships, or institutional support.
- Support undergraduate or master's students through tutoring, supervising thesis projects, or assisting with lab sessions.
- Participate in outreach activities and scientific dissemination initiatives to increase the visibility and impact of the research.

* Recent bibliography (max 5 references)

- Sebri, V., Dorangricchia, P., Monzani, D., Marzorati, C., Grasso, R., Conti, L., ... & Pravettoni, G. (2025). The Implementation of Decision Aids During Medical Consultations for Lung Cancer Patients: A Focus Group Within I3LUNG Project. *Journal of Cancer Education*, 1-13.
- Filipponi, C., Masiero, M., Chichua, M., Traversoni, S., & Pravettoni, G. (2025). Navigating the emotional landscape: exploring caregivers' journey alongside breast cancer survivors with chronic pain. *Supportive Care in Cancer*, 33(1), 32.
- Sebri, V., Durosini, I., Strika, M., Pizzoli, S. F. M., Mazzocco, K., & Pravettoni, G. (2024). Virtual body and emotions: A pilot study on the use of virtual reality for the management of unpleasant sensations after cancer. *Counselling and Psychotherapy Research*, 24(4), 1632-1640.
- Chichua, M., Mazzoni, D., Marzorati, C., & Pravettoni, G. (2024). The journey of patients in cancer clinical trials: A qualitative meta-synthesis on experiences and perspectives. *Patient Education and Counseling*, 108469.
- Vaz-Luis, I., Masiero, M., Cavaletti, G., Cervantes, A., Chlebowski, R. T., Curigliano, G., ... & Pravettoni, G. (2022). ESMO Expert Consensus Statements on Cancer Survivorship: promoting high-quality survivorship care and research in Europe. *Annals of Oncology*, 33(11), 1119-1133.

* Group composition: total members, and roles distribution (PhD, postdoc, technician, etc.)

6 Clinical Psychologists - IEO
 7 Research psychologists - IEO
 1 Full Professor - UNIMI
 4 Associate Professors - UNIMI
 2 Postdoc Psychologists - IEO
 2 Project Managers - IEO
 1 Ethicist - IEO
 6 PhD students - UNIMI
 1 Technician - UNIMI

Institutional page link

<https://www.ieo.it/en/RESEARCH/People/Researchers/Pravettoni-Gabriella/>

Lab website link, if any

Social media links, if any

If you prepare a video to promote your lab/project, please include the link below

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