Title: New technologies adoption for the enhancement of distraction strategies, graphomotor and cognitive skills through psychological interventions in pediatric patients with oncohematological diseases

PI: Marta Tremolada

Abstract: Children with onco-haematological diseases could have serious cognitive, motor, and psychological short and long-term sequelae due to cancer treatment. This project should respond to the needs of continuity of care adopting technological supports, building several distraction, fine motor and cognitive strengthening/rehabilitation activities with a friendly appeal.
The state of art suggests that these health problems during childhood are increasing and that the preventive psychological, cognitive, motor, and medical interventions could be very helpful to avoid short- and long- term sequelae in children. The impact of this project could be identified in the use of mixed intervention techniques both in presence in the hospitals and at home.
The study should adopt a mixed-method approach using tests, self- and proxy-questionnaires and interviews.

Title: Effectiveness of nature based activities in reducing stress and promoting well-being

PI: Angelica Moè

Abstract: A sedentary style life concurs to the development of physical and psychological disease posing at risk to develop illness. Instead a physical active life style as well as connection to nature favor well-being and healthy habits. The research project will involve special populations in nature-based activities by assessing the benefits on both psychological and physiological outcomes. Groups of people at risk of metabolic disease will be involved in 5 weeks, 3-days a week, forest-bathing activities in Padua or close surroundings to observe a decrease in stress, inflammatory markers and an increase in positive affect and overall well-being. Follow-up assessments will also confirm the maintenance of the benefits over time.

Title: Disentangling psychological interventions for mental disorders into a taxonomy of active ingredients (DECOMPOSE)

PI: Ioana Alina Cristea

Abstract: Psychological interventions are generally effective treatment options, but crucial aspects related to mechanisms and personalization are still unclear. Severe mental disorders such as psychotic, bipolar, substance use, eating and borderline personality require knowledge of mechanisms of change and a more individualised approach, beyond the application of one-size-fit-all treatment packages. A fundamental problem is that psychological interventions are complex and composite. The EU-funded DECOMPOSE project will dismantle these into their constituent parts, integrate components into a taxonomy, and recast treatment efficacy and personalization from a novel perspective: components instead of brands and categories. The final goal is to create an open clinical decision support system, where users can “assemble” and “dismantle” interventions, visualising gain or loss of treatment effectiveness.

Title: Trajectories of phonological working memory in infancy

PI: Silvia Elena Benavides Varela

Abstract: Project Summary: The project aims to provide new insights into how verbal memory capacities vary as infants’ brains evolve in the first months of life. It also aims at exploring whether verbal working memory capacities account for concurrent and later language outcomes in laboratory tasks and the real world. The project will address these issues using an innovative approach that combines behavioral techniques and naturalistic recordings in typically developing infants and

infants at-risk for language impairments. Candidates with experience in infant research, the use of eye-tracking methods or language environmental analyses are welcome to apply. Skills with the use of software for programing experiments and statistical analyses are recommended.

Title: Development of a new Digital Wellbeing model integrated into an Agentless solution for monitoring and protecting children

PI: Alessio Vieno

Abstract: The introduction and increasing diffusion of information and communication technologies, digital communication in society, have produced radical changes in all areas of our lives, from economic to social and cultural. This has led to diffusion, also in educational and training environments, of a growing debate on the subject of how the use of such devices can become part of the lives of minors and how the use of these can influence their growth and training.
The development of the parental control model is the result of the research, with rules of application control, web content and the respective times of use, will come later implemented and integrated into a digital product and subsequently used by parents to monitor and regulate the use of digital devices by minors.

Title: Development of policies to support the implementation and acceptance of sustainable made in Italy technologies

PI: Enrico Rubaltelli

Abstract: The project will focus on a series of studies on the implementation and acceptance of sustainable technologies in industries that are part of the Made in Italy. From a psychological perspective, the project will apply paradigms from behavioral economics and risk perception using an array of different methodologies going from basic research in the lab to surveys administered to consumers and collaboration with companies. A fitting example of a Made in Italy industry that will be targeted by the project is fashion. This industry is undergoing important changes to become more sustainable although it is unclear whether consumers accept and understand what sustainable fashion really means. Other industries of the Made in Italy could be targeted as well.

Title: A digital battery for visuospatial and socio-relational skills in typical and atypical development

PI: Irene Mammarella

Abstract: The project should include the presentation of a new battery for assessing visuospatial and socio-relational skills in typical populations and in neurodevelopmental disorders. The theoretical background, the choice of the sample, the methodology as well as the coherence to the topic will be evaluated.
The successful candidate should have a background in developmental psychology and in neurodevelopmental conditions; s/he should have acquired knowledge and/or previous experience on neuropsychological assessment in typical and atypical children; the candidate should have basic knowledge on research methods, statistical analyses, as well as computer programming; finally, s/he should have previous experience in data collection of developmental populations (and possibly in neurodevelopmental conditions), and previous experience as how to recruit participants (at schools and clinical centers).

Title: Foster mathematical attainment towards digital testing and intervention in primary school children: cognitive and emotional aspects

PI: Sara Caviola

Abstract: The research proposal should focus on creating a new digital battery for assessing mathematical competencies in primary school children, which may come in handy for both typical and atypical populations. In this regard, the project should also emphasize a clear understanding of the multiple aspects (cognitive, emotional, contextual) involved in the learning process of this complex subject. To realize the project, the candidate is expected to spend a period in a digital company (Anastasis Società Cooperativa Sociale, Bologna, Italy).

The successful candidate should have a background in developmental psychology. S/he should demonstrate basic knowledge of psychometric properties, research methods, statistical analyses, and computer programming. Moreover, the candidate should have a track record of school recruitment and previous experience in data collection with children.

Title: Adaptive cognitive control in typical and atypical neurodevelopment: from the neurofunctional organization to the neuropsychological profile

PI: Giovanni Mento

Abstract: Adaptive cognitive control (ACC), the ability to adjust goal-directed behavior according to changing environmental demand, can be instantiated bottom-up by implicit knowledge. Recent evidence suggests that this cognitive ability emerges during childhood but keeps developing until adolescence.

Furthermore, it may reflect a dimensional neuropsychological aspect of potential clinical relevance or many neurodevelopmental disorders (i.e., ADHD, Autism). However, the neurofunctional bases of ACC in typical and atypical development remain to be elucidated.

The aim of present three-year PhD project is to provide a comprehensive understanding of the neurocognitive bases of ACC by using both central (HD-EEG) and peripheral (eye-tracking, heart rate variability, skin conductance) psychophysiological measures in typical, atypical and at-risk (i.e., siblings) developing populations.

Title: Nudging strategies to simplify public policy;

PI: Lorella Lotto

Abstract: This project was developed in collaboration with the Municipality of Padova and aims at promoting the well-being of citizens and communities. The main objective is to increase citizens' awareness of how important public health is, looking at it from a physical, psychological, and social well-being perspective. An initial analysis of the needs of the Padova citizens will be followed by an intervention phase to test strategic policies capable of reducing risky behavior and future health challenges. The research project will make use of the most recent results from the literature on decision-making processes and nudging interventions. It will test the effectiveness of the interventions and use these findings to develop further solutions to increase the well-being of Padova citizens.

Title: Application of web-based artificial intelligence systems for the adaptive assessment and personalized training of cognitive functions in populations with neurodevelopmental disorders

PI: Luca Stefanutti

Abstract: The project for this doctoral position at the School of Psychological Sciences is a follow-up of activities carried out within a PRIN project entitled “Computerized, Adaptive and Personalized Assessment of Executive Functions and Fluid Intelligence. The web-based system PsycAssist that is under development within this project collects the most important assessment and training tools that will be applied by the doctoral student to populations with neurodevelopmental disorders. The objectives of the doctoral project are: (1) to apply PsycAssist to children, adolescents and adults with neurodevelopmental disorders; (2) to collect the data that will be used for estimating

the parameters of the PsycAssist assessment models; (3) to develop, apply and test new training tools for the executive functions, and fluid intelligence.