Title:

"It takes two": facilitating social interactions in autism – non-autism dyads

Working title/acronym:

SCI-AND (Social Communication and Interaction – Autism and Neurotypical Dyads)

ABSTRACT

Background. Difficulties in social communication and interaction have vast negative consequences on health and quality of life. Autism is a condition characterised by persisting social difficulties. However, these are a function of both one's own social competence and that of the environment, which is predominantly non-autistic. Indeed, interactions between persons sharing similar interpretations and responses to social cues and other socio-emotional or socio-cognitive traits (i.e., sharing a *neurotype*: both individuals with or both without autism) have been shown to be more successful and comfortable than between persons differing in these aspects (i.e., of different neurotype: one with and one without autism). Thus, interventions aiming to facilitate social interactions in dyads of different neurotypes should address both individuals diagnosed with autism and those who are typically developing. Although similar elements have been already incorporated in several public programs (e.g., targeting the social situation and not merely the autistic person), empirical evidence for the optimal type of approach as well as effectiveness of such interventions is scarce. To optimise future interventions, the key is to understand the factors governing social communication and interactions in same- (SN) and mixed-neurotype (MN) dyads.

Objectives and methods. This project aims to fill this gap by creating research tools and empirically testing the effect of providing explicit knowledge about the communication characteristics of the partner on the successfulness of the interaction. The main objectives are to: (1) **propose a tool for the assessment of social communication characteristics**, including verbal and non-verbal elements, (2) **develop measures for quantifying success of social interactions**, comprising a naturalistic social interaction paradigm (a task-oriented interaction requiring transfer of knowledge, collaboration, and task-irrelevant interaction space) and measurements of subjective and objective success of the interaction (including performance, social behaviours, inter-personal exchange, and self-report), (3) empirically **test the effect of providing explicit knowledge about communication modules of the partner on social interaction.** The aim is to test the hypotheses that explicit knowledge improves MN dyad interactions. For this, the tools developed in the previous stages will be combined in an experiment in which SN and MN dyads will interact with or without prior learning about the communication modules of the partner.

Hosts. This project complements, and is complemented by, ongoing research at the proposed host institutions (Dartmouth College, University College London, Humboldt-Universität zu Berlin) – leading universities in the fields of social cognition, autism, and participatory research – thus supporting my development as an expert within this critical for science and society field.

Keywords: autism, social interaction, social communication, social cognition