Record Nr. UNINA9910136807003321 **Titolo** Advances in virtual agents and affective computing for the understanding and remediation of social cognitive disorders [[electronic resource] /] / edited by: Eric Brunet-Gouet, Ali Oker, Jean-Claude Martin, Ouriel Grynszpan and Philip L. Jackson Pubbl/distr/stampa [Lausanne, Switzerland]:,: Frontiers Media SA,, 2016 ©2016 Descrizione fisica 1 online resource (138 pages): illustrations; digital, PDF file(s) Collana Frontiers Research Topics. Frontiers in Human Neuroscience. Disciplina 004.01/9 Social interaction - Computer simulation Soggetti Cognition disorders - Social aspects Cognition disorders - Treatment Cognitive psychology Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di bibliografia Includes bibliographical references. Sommario/riassunto Recent advances in computer technologies and research now enable to simulate realistic social interaction thanks to the use of increasingly complex computer models. Virtual agents reproducing both human appearance and expressive behaviors are now available for supporting affective interactions with users. Two deeply intertwined fields of knowledge already benefit from such innovations concerning virtual agents and affective computing: psychiatry and social neurosciences. Indeed, these techniques offer a good compromise between reproducibility and ecological validity when designing paradigms that address complex issues such as human interaction, intersubjectivity or

social behavior. Firstly, the use of virtual reality may boost research in the field of social neurosciences which requires naturalistic, although reproducible, experimental situations of increasing complexity. In the past recent years, many researches shed light on contextual effects that may influence social judgments/interactions and the related disorders.

New techniques such as virtual expressive agents and computational models of emotions and social interaction offer new ways to address the issues of the social cues (e.g. facial expressions, bodily expressions, etc.) that are integrated by a person while he/she performs empathetic evaluation, mentalizing (theory of mind or mental state attribution), agency judgments, etc. Although its potential for psychological experimentation is obvious, no consensus on experimental methods in virtual interfaces has been reached yet. The almost infinite degrees of freedom of experimental paradigms make it difficult to rely on traditional designs. Indeed, interactive settings require taking into account the unpredictable and even chaotic dynamics that arise from multiple agent interactions. Secondly, considering the therapeutic use of virtual agents or affective computing technologies, the main asset of these techniques relies on the possibility to reproduce interactive social situations without the threatening or distressing consequences of such situations in the real world. For instance, cognitive rehabilitation is already investigated with schizophrenic and autistic participants within virtual immersive environments. It appears that theoretical insights and experimental data are necessary to address the issues of effectiveness, acceptability, motivation, and to better integrate these innovations within integrated remediation programs. Keeping in mind the very innovative nature of the fields described here, the aim of the present topic is to delineate the added value of expressive virtual agents and affective computing techniques for the experimentation on naturalistic social interactions and/or for the remediation of social cognition disorders.