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Editorial

Special Issue "Technology for Mental Health"

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1. Introduction

There is an increasing number of research initiatives that utilize modern technology in order to support patients in maintaining or regaining a healthy mental state. Advanced technological solutions have been exploited for treating depression, anxiety disorders, and for coping with stress. This is of utmost importance to provide people with higher quality of life and also to shift a part of monitoring tasks from therapists and caregivers to unobtrusive technological systems. In addition they can provide the patient with self-guidance possibilities that enable a more easily accessible form of treatment. Efforts have started with Internet-based self-help therapies and have continued with an increasing use of ubiquitous computing for providing effective solutions for maintaining and improving mental health. However, technology is always moving towards further miniaturization and increased computational power, constantly challenging researchers to creatively exploit new potentials in order to mitigate the prevalence of mental disorders which affect around a quarter of all people at some point in their life. Therefore, there is a significant need to have platforms for exchanging the latest achievements and motivating further advances in this research area.

This Special Issue on "Technology for Mental Health" contains four significant contributions provided by researchers from both psychological and technological fields that share the same interest of improving both the treatment of mental disorders and wellbeing of healthy individuals.

Wolters et al. describe a promising approach for managing data in the treatment of depression. The system consists of the three components, namely *Personal Monitoring System*, *Virtual agent* with an avatar interface, and *Decision Support System*. The authors describe how the complex data is managed and also they discuss related ethical issues. The proposed solution is interoperable with other applications such as Electronic Health Records.

Cavanagh and Millings discuss the issues related to the user engagement in CCBT (Computerized Cognitive Behavioral Therapies) and propose a quadripartite model of CCBT engagement which should be considered when making decisions about CCBT treatment at an individual or a service level. Their '4 Ps' considers the type of the program, particularities of the problem, user profiles as well as the factors related to the provider. The paper presents the barriers to uptake, engagement and completion of CCBT. In addition, the authors carefully selected and reviewed results reported by the current literature, highlighting the actions which researchers, service developers and providers can take to increase uptake and engagement with the CCBT services.

Cipresso et al. propose the use of Brain Computer Interface (BCI) and Eye-Tracking (ET) technologies for enabling augmentative and alternative communication in Amyotrophic Lateral Sclerosis (ALS). BCI are innovative systems able to generate a control signal from brain responses conveying messages directly to a computer. Eye-tracker systems convey messages from eye-movement to a computer. In this study, the authors explored the use of these two technologies for the cognitive assessment of executive functions in a healthy population and in a ALS patient, also verifying usability, pleasantness, fatigue, and emotional aspects related to the setting.

Serino et al. present so called PsychLog system which is a free open-source mobile experience sampling platform which allows psycho-physiological data to be collected, aggregated, visualized and collated into reports. The authors demonstrated a high accuracy in classifying between relaxing and stressful events, defining the two groups with psychological analysis and verifying the discrimination with physiological measures. A computerized experience sampling method comprising a

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mobile-based system that collects psycho-physiological data appears to be a very promising assessment approach to investigate the real-time fluctuation of experience in everyday life in order to detect stressful events.

We hope that this Special Issue will contribute to the exciting developments in the field of mental health and act as a catalyst to work towards the goal of truly personalized e-Mental Health systems.

The Guest Editors (in alphabetic order)
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