breakthrough which will allow to effectively treat mental disorders and will bring psychiatry back to the realm of medicine Computational Psychiatry together with advances in technology, will transform psychiatry beyond recognition: With the development of the connecting internet and sensor technology (e.g., face speech recognition) mental status examination can be easily extracted and delivered over distance (tele-psychiatry). With the help of AI the extracted psychiatric phenomenology can be interpreted to match most of the diagnostic process of a skilled psychiatrist. Once achieved a continual psychiatric monitoring coupled with new technology of wireless dry-electrode electrophysiological brain imaging can begin and collect big-data. Big-data analysis stand a good chance to reveal the etiological correlations between mental disorders and their brain-related origins. Thus, etiology for mental disorders can begin to unravel. Neural modulation technology will be the answer for effective therapeutic interventions (i.e., future brain pacers).

Disclosure: I am in a preliminary effort to develop a Digital application in the field of Psychiatry
Keywords: psychiatry; diagnosis; digital; Brain

S0039

Digital phenotyping in psychiatry

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doi: 10.1192/j.eurpsy.2021.71

Digital phenotyping represents a new approach aimed at measuring the human behavior by using smartphones and personal device sensors, smartphone apps, keyboard interaction, and various features of subject's voice and speech. Data collected by a digital phenotyping smartphone application are divided into two categories: a) active data (i.e., those usually collected by using a survey modality) which require an 'active participation' from the subject to be generated; and, b) passive data (for instance, those data collected by using Global Positioning System (GPS) traces), usually collected without any participation or action from the subject. Digital phenotyping may theoretically enhance clinicians' ability to early identify, diagnose and manage any mental health conditions and favoured a more personalized diagnostic and therapeutic approach to several mental conditions. The innovative and insightful approach applied by the digital phenotyping appears to find an interesting and useful application in the field of psychiatry. The digital phenotyping is in line with the new paradigm of the precision psychiatry, i.e. the new approach performed to help clinicians in customizing a psychiatric treatment for each patient, by integrating information about individual phenotypes and genotypes with biographical, clinical and biological data. A precision psychiatry approach would ideally allow clinicians to tailor clinical decision-making and stratify patients to each available treatment according to each one's likelihood of treatment response and prognosis. Our aims are at providing a comprehensive panorama on evidence-based applications of digital phenotyping in psychiatry.

Disclosure: No significant relationships.
Keywords: digital diagnosis; digital psychiatry; digital phenotping

S0040

Diagnostic automated algorithms in neurodevelopmental disorders: Focus on automatic motor assessment

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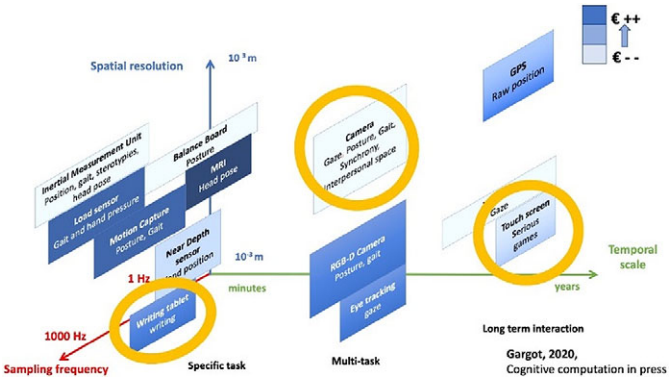
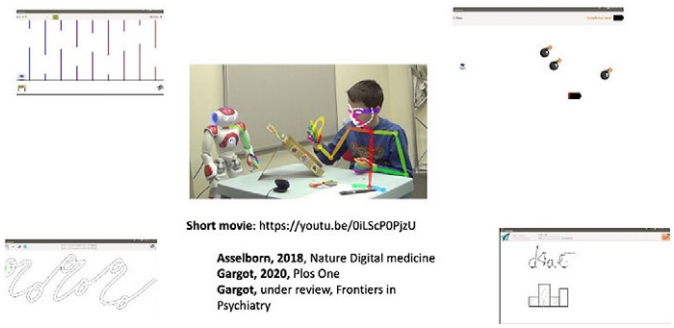
doi: 10.1192/j.eurpsy.2021.72

Difficulties in motor development are frequent and impairing. However, the assessment of these motor learning skills is difficult and limits early stage rehabilitation. Electronic sensors and algorithms can help to measure motor difficulties more easily and objectively. We will present a systematic review detailing these methods and challenges in Autism Spectrum Disorders (ASD). Electronic tablets, give access to handwriting features that are not usually evaluated in classical assessments. We describe how such digital features (in static, dynamic, pressure, and tilt domains) allow diagnosing dysgraphia and how they evolve during children development. From a finer analysis, three different clusters of dysgraphia emerge, longitudinal studies will allow to underline different patterns of development that seemingly require tailored remediation strategies. However, those digital features are not used in the context of conventional pen and paper therapies. It is possible to engage children with typical development in handwriting exercises by asking them to teach a robot to write. We implemented a long-term case study (20 sessions, 500 minutes in total) observing a child with severe Developmental Co-ordination Disorder who did not progress anymore with a classic pen and paper approach by enriching this setup with various training activities using real-time feedback loops (on tilt, pressure, dynamic, pauses). We show how this new method tackles previous child's behaviour avoidances, boosting his motivation, and improving his motor and writing skills. This talk demonstrates how new motor digital features allow the implementation of innovative motor remediation interventions, which rely on fostering children's personal characteristics and adaptation skills.





Disclosure: The work presented in this talk was conducted during a PhD in computer science (funded by APHP and Paris 8 University, France). A company was funded by a PhD collaborator, dynamico.ch. The presenter does not have consultancy or financial connection with d
Keywords: motor assessment; neurodevelopment disorders; Digital phenotyping; autism

Next chapters in the story of internet-based CBT: Implementation, personalisation and ai-driven decision support tools

S0041

Individually tailored digital self-care, with and without therapist-guidance

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doi: 10.1192/j.eurpsy.2021.73

Introduction: Digital mental health services have been a part of routine care at a few locations worldwide since almost 15 years, most often in the form of Internet-based Cognitive Behavioural Therapy (ICBT) with scheduled weekly therapist-guidance. Personalization in the form of individual tailoring of treatment content is promising in ICBT. Digital Self-care, interventions constructed to be self-guided, would need to be constructed carefully to achieve equal levels of adherence and symptom reductions compared to therapist-guided interventions, especially when including individually tailored content.
Objectives: To construct an individually tailored self-care intervention including a technical solution, acting as a proof of concept that self-guided digital interventions for mental health can be administered in a safe, effective, personalized and cost-effective way.
Methods: In step I, a new digital platform is created based on the experience from previous successful implementations of ICBT together with experts on user experience. A series of digital mental health tools based on ICBT are tested for safety, usability and credibility. In step II these tools are combined into individually tailored package interventions for different conditions and optimized for greater efficiency. In step III these optimized interventions would be compared to their counterpart therapist-guided interventions in randomized trials.
Results: Preliminary results from step I will be presented, including the current development of the digital platform and feasibility data from the first three studies.

Disclosure: No significant relationships.
Keywords: personalized treatment; Internet; psychological interventions; e-mental health

S0042

Experiences with tailoring treatment modules in online versus face-to-face CBT

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doi: 10.1192/j.eurpsy.2021.74

Guided self-help interventions are effective in treating symptoms of various mental disorders, including depressive, anxiety, and posttraumatic stress disorders. Research also suggests that these interventions may be effective for refugee populations. However, proportion of drop-out and non-response are substantial, especially in this highly vulnerable group of patients. Tailoring treatments to the individual patient may be an important step towards improving patient-treatment fit and may help to increase success rates. While tailoring can be easily realized in face-to-face treatments, it becomes more complex in Internet-based treatments where treatment sequences are usually defined in advance. In this talk, we will present our theoretical considerations and decisions regarding the tailoring process in a randomized-controlled comparison of transdiagnostic CBT for refugee patients in an online versus face-to-face format. The trial will include N=320 Arabic speaking patients suffering from an emotional disorder. The transdiagnostic treatment includes modules for symptoms of depression, anxiety, substance abuse, post-traumatic stress, aggression, and suicidal ideation. Modules are tailored to the specific patient. We will discuss who or what should inform the tailoring decision (patient, therapist, questionnaire data, diagnostic interview) and when tailoring decisions should be made (prior and/or early and/or later in treatment). We will present options of how tailoring decisions can be standardized and be kept comparable in different treatment formats. We will present our first experiences with tailoring treatment modules to severely impaired and highly comorbid patients.

Disclosure: No significant relationships.
Keywords: tailoring; internet-based; Transdiagnostic; Cognitive-Behaviour Therapy