European Conference on
DIGITAL PSYCHOLOGY
FIRST EDITION

European Conference on Digital Psychology

First Edition, February 19th-20th, 2021

Digital Perspectives in Psychology

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European Conference on Digital Psychology

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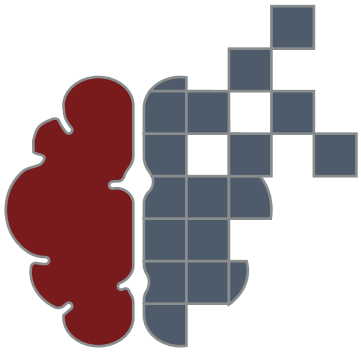

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February 19th, 2021 – ROOM 1 – 9.30-10.30

Technological augmentation in psychological practice: applications and opportunities in the cultural context of the profession

Luca Bernardelli[1]
[1] *Become*

Virtual and augmented realities, devices for neurophysiological monitoring and artificial intelligences: is it possible to use contemporary digital technologies in psychologists and psychotherapists professional practice? Is it possible to augment the patient's experience and the effectiveness of the aid relationship through innovative tools and protocols? What perspectives and opportunities are configured for the psychologist in the mental health scenario of the next decade?
It is now known: the use of digital devices and platforms has extended the action of today's discomforts: physical problems (from the «text neck» to the dry eye syndrome), new psychopathological conditions (from disconnect anxiety to techno-addictions), up to the inevitable social repercussions (from widespread burnout to growing isolation phenomena).
The same technological tools, however, if properly accompanied by the supervision of psychological figures with an multidisciplinary training, could represent not only a valuable source of information, but also an extraordinary engine of individual empowerment and positive change.
From new-concept psychoeducational methods, to the development of coping skills through bio and neurofeedback, from the use of immersive experiences to promote relaxation, to the access to new possible worlds able to stimulate people's imagination, psychological practice can today benefit from unprecedented additions, while triggering an active patient engagement in support paths.
Taking inspiration by main psychotechnological innovations and the recent European regulations on digital therapies, the real opportunities for our profession in the near future will be illustrated.

Virtual reality and multisensory research: theoretical and clinical applications

Rosita Borlimi[1], Greta Riboli[1,2], Mattia Nese[1], Gianni Brighetti[1]
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The use of virtual reality tools for research and clinical activity in psychology and psychotherapy has been an established practice for several years. Numerous cases have been documented in which the use of virtual reality techniques has facilitated and accelerated the effects of traditional forms of psychotherapy. In particular, in the treatment of phobias, the use of virtual reality tools has proven effective and functional. With regard to this pathology, functionality is evident if we refer to the importance of the practice of «exposure» that virtual reality makes easier and safer. Recently the use of

virtual reality techniques has also been applied to other forms of psychopathology such as eating disorders and anxiety disorders, up to the treatment of certain psychotic symptoms. However, the future of the use of virtual reality devices seems to be the one related to multisensory stimulation techniques. The extraordinary potential offered by the so far essentially visual immersion of virtual headset must be integrated with instruments capable of producing sounds, smells, tactile sensations that reconstruct the ecological environment in which we live. Many experiences in this direction have already been tested and validated. The multisensory research model integrates the practice of exposure through the visual channel using numerous portable devices capable of collecting peripheral data from different parts of the body and embody them into the virtual world based primarily on the visual channel. The different sensory afferences are consistent with the real world, but they can be manipulated and produce variable and functional awareness to orient adaptive behaviour. The multisensory practice makes the construction of the virtual world more realistic through the interaction of multiple sense-perceptual channels and is able to manipulate sensory afferences creating worlds different from the real ones. Cross-modal perception increases levels of belief and adherence to constructed pseudo-reality models, promoting behavioural health styles.

February 19th, 2021 – ROOM 1 – 10.30-11.00

Cognitive ergonomics: where psychology meets innovation

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In its essence, ergonomics is the discipline that studies, designs and assesses the interaction between systems and humans, in order to adapt the systems to the person's physical and cognitive characteristics, abilities, activities and goals. Since ergonomics become established, as a multidisciplinary field, late in the '40s, the role of psychology was crucial, contributing to develop some of the pillars of the current approaches, oriented to allow people to function at higher value levels and improve their quality of life. Thanks to the ergonomics, as a research and application area, Psychology expands its range of action and impact, in terms of health, mental health and well-being of individuals. Ergonomics born in safety critical sectors (e.g. aviation, nuclear plants) and soon expanded in manufacturing and industrial sectors (e.g. automotive, TLC), with the assignment to improve the human performance and reduce the occurrence and impact of the human errors in the production processes. It was basically playing a corrective and preventive function downstream in the process. Over time, ergonomics has become a design-oriented discipline, that aims at improving the human wellbeing. Operationally, the ergonomic intervention does not directly address the subject, but applying the Human Centred Approach and actively involving end-users, shapes and adapts the contexts in which individuals live, grow, work, socialize. Technology is integral part of the scenario, that is rapidly changing for the effect of novel «socio-technical paradigms» that introduce new equipment, digital devices, media, innovative services and systems in our everyday life and working activities. It is now recognized that conditions such as interruptions, distraction and information overload can cause cognitive strain of workers. But how the introduction of more technology and increased technology capabilities affect the cognitive strain is still under investigation. The present speech will focus on the specific area of interlace among innovation technology, psychology and ergonomics. Case examples from research projects on disruptive innovation and advanced services leveraging cognitive ergonomics background and methods will be presented. Their analysis will offer insights on the widening the context of action as well as on the most recent developments in research and intervention represented by technology. The cognitive ergonomic approach is at a new turning point: to cope with the complexity related to the global socio-economic scenarios and to technologies that increasingly pervade, mediate and influence our experience in the world, the way we think, feel and behave, the operational models that inspired the human-centered design might require to be updated. Since the information society increases the number of artefacts

we use, and raises the demands to being in control, there is an urgent need for more research in this area, new concepts and methodologies that would help in the process. The challenge nowadays is high: cognitive psychology and ergonomics should be able to assist the innovation process and shape future technologies to have a positive impact on human wellbeing, minimizing risks and maximizing opportunities.

February 19th, 2021 – ROOM 1 – 11.30-13.00

Virtual reality in the assessment, understanding, and treatment of mental health disorders: Lessons learned in a clinical psychologist's journey over twenty years

Daniel Freeman[1]
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In this talk, a twenty-year evidence-based program of work using immersive virtual reality to assess, understand, and treat mental health disorders will be outlined. A chronological presentation of the studies will help show the issues addressed step by step, illustrate how the evolution of the technology has led to greater possibilities, and highlight important areas of focus for the future. VR has extraordinary potential to help people overcome mental health problems because it gets to the heart of successful treatment: making people feel better in everyday life. The case will be made that much greater access to the best psychological treatments can be achieved using automated delivery in virtual reality. With virtual reality simulations, individuals can repeatedly experience their problematic situations and be taught, via evidence-based psychological treatments delivered by a virtual coach, how to overcome difficulties. Importantly, VR therapies need not simply replicate face-to-face therapy but can be used in innovative ways – impossible in the real world - to enhance treatment outcomes.

February 19th, 2021 – ROOM 1 – 15.00-16.30

The use of video-conferencing in mental health care during the Covid-19 pandemic. An Italian experience in the private practice

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Objectives. The COronaVIrus Disease 19 (Covid-19) pandemic called for an urgent reorganization of health systems in the affected countries. The use of video conferencing (VC) systems, little used in Italy before the pandemic, was immediately reconsidered in various areas (work, school, recreation, health and several others). We here described the sudden transition to the use of VC in a private mental health care service in the north of Italy, and its functioning in terms of visits made in VC mode.

Methods. The number of weekly visits dedicated to adults, carried out on site at our center (in office) and through VC, was counted in three distinct periods: from the beginning of the year 2020 to the first Covid-19 emergency declaration in Italy (February 23) (pre-emergency period), in the emergency period before the lockdown was established (February 23- March 11) and during the lockdown period in Italy (11 March - 3 May 2020).

Results. In the Covid-19 pre-emergency period more than 98% of visits were made at the clinician's office. During the transition to VC before the lockdown, we counted 80% of visits made by VC. In the lockdown period almost 90% of visits were done by VC, though a loss of about 17% of weekly visits. The largest drop in visits involved first evaluation visits (-78%) and psychiatric visits (-58%), while 88% of psychotherapy sessions were maintained.

Discussion. The rapid transition to VC allowed to maintain an important quote of mental health visits during the Covid-19 pandemic in Italy. The use of VC is therefore a useful tool to ensure care continuity in situations where the patients have difficulty reaching treatment centers.

Artificial Intelligences and psychological well-being: a tool for the psychologist of tomorrow

Tommaso Ciulli[1], Prof. Giuseppe Riccardi[2], Morena Danieli[2], Carmelo Ferrante[2], Alessandra Cervone[2], Yasin Serdar Ozkanca[2], Aniruddha Uttam Tammewar[2], S. Mahed Mousavi[2]

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Several studies have verified and widely demonstrated the effectiveness of the treatment of Cognitive Behavioural Therapy (CBT) defining it as the «gold standard» of psychological treatments for several reasons (1). The efficacy of CBT has been supported by a comprehensive review of 106 meta-analyses across different clinical groups. CBT interventions are also useful in contexts that are not necessarily clinical, such as prevention and / or stabilization of mental illness.

A fundamental part of CBT interventions is the collection of thoughts, emotions and behaviors by patients in order to reflect on them and then be able to modify them and make their thoughts more rational and their behaviors more functional. Self-monitoring is the basic ability and core of many therapeutic techniques including CBT.

Self-monitoring involves both being able to recognize automatic thoughts, the goal of traditional CBT techniques, and recognizing one's emotional states and this can lead to an increase in one's Emotional Self-Awareness (ESA) and in the regulation of one's emotions. It is common that the lack of emotional awareness turns out to be a factor that can lead to depression and anxiety.

Unfortunately, self-monitoring is influenced by some recall biases and self-reflection at the end of the day or when the stressful event occurs may not be accurate. Furthermore, the evaluation of the stressor must be placed within the natural environment of the individual, therefore it becomes fundamental to detect and recognize stressful stimuli, cognitive and emotional states.

The technology has shown that it can increase the effectiveness of CBT treatments in CCBT (Computerized Cognitive Behavioral Therapy) treatments for depression and anxiety symptoms in adults. One of the benefits introduced by Mental Health Apps on smartphones, is that they are able to monitor people's experiences in real time and in an ecological way during people's normal routines or when they are involved in stressful experiences and this helps to reduce the self-monitoring bias and increase the accuracy of users' self-reflexivity.

A review of some Mental Apps reveals that however many apps provide some services such as guides, exercises etc. (some of which are inspired by CBT) but not when these are necessary. For example, some App contain relaxation exercises but do not encourage the user to implement these techniques when they experience anxiety or other symptoms.

Designing systems that help people generalize what they learned during a CBT course and use it when it is really needed (Tailored CCBT), seems to be the key to greatly increase the effectiveness of therapies, CBT techniques and increase people's coping skills.

The aim of the research, within the European COADAPT project, is to design an Artificial Intelligence (AI) able, through an App for smartphones and wearable devices, to increase the effectiveness of 8 video calls meetings during two months protocol based on the CBT model and SMT (Stress Management Training) for producing an increase in people's coping skills and a better general adaptation for the management of psychological stress.

The transition to video-conferencing psychotherapy (VCP) during the COrona VIrus Disease 2019 (Covid-19) pandemic: factors associated with VCP adhesion and satisfaction among mental health patients

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Introduction. During COrona VIrus Disease 19 (Covid-19) pandemic, in order to reduce the risk of infections, face-to-face psychotherapy was replaced by video-conferencing psychotherapy (VCP). The purpose of the study was to investigate, in a private mental health service in the north of Italy, the predictors of patients adhesion and satisfaction with VCP. Data analysis is still ongoing and the results of the study will be presented.

Method. We developed and administered to patients a questionnaire divided into three modules. Module A, designed for all patients, collected demographic variables, therapy characteristics, and familiarity, previous use and skepticism regarding VCP; Module B, for patients who accepted the transition to VCP during the Covid-19 lockdown, evaluated difficulties encountered in the use of VCP, perceived differences with face-to-face psychotherapy and the degree of satisfaction with VCP; Module C, for patients who did not accepted, assessed the reasons for decline. One hundred and seventy (170) patients completed the questionnaire. All responses were completely anonymous. VCP adhesion will be evaluated as the percentage of patients who accepted VCP out of the total number of those to whom it was proposed. Data will be analyzed trough descriptive and inferential statistics.

*Expected result*s. Our hypothesis is that the degree of adhesion and satisfaction with VCP will be predicted by demographic variables, such as young age and middle-high education, therapy characteristics (e.g., orientation, duration), patients' previous experience and expectations towards VCP.

Conclusion. The results of the present study could provide useful suggestion regarding the type of patient most likely to accept and appreciate VCP. Further, it could suggest the critical elements to work on with the patient in order to facilitate the adhesion to VCP when necessary.

February 19th, 2021 – ROOM 1 – 17.00-18.00

Problematic Social Media Use: critical reflections on the construct in the light of fifteen years of research

Silvia Casale[1]
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Psychological constructs are not objectively existing constituents of reality but rather efforts to represent it. This implies that social scientists are asked to not forget the «fictional» nature of the «things» they have created and they are also asked to reflect about the meaningfulness and ability of some hypothetical constructs to describe, summarize, represent and, ultimately, explain the human experience.
Since the initial phase of empirical research on the topic, the study of PSMU has been characterized by a confirmatory approach. Problematic Social Media Use (PSMU) has been a priori considered a behavioral addiction that shares many core features with drug addictions and more established behavioral addictions (i.e., gambling). In the light of fifteen years of empirical research, this talk will reflect on whether this disorder exists and if it does adequately satisfy the criteria to be conceptualized as an addiction.
Many concerns have already been raised and documented. Rigorous studies that definitively show behavioral and neurobiological similarities between PSMU and other types of legitimate addictive behaviors are missing. The stability and durability of the dysfunctional use of social media (a factor that is mandatory to define a pathological condition,) has never been ascertained because of the paucity of longitudinal studies. Similarly, the absence of tolerance symptoms (i.e., increased use over time in order to obtain the desired effect), one of the key features of addiction, has been well described. The present talk will be focused on the lack of empirical evidence about the capability of PSMU to meet those addiction criteria that have been less considered by the scientific community, including the missing evidence about the mood regulation criterion.

Problematic social media use: theory, correlates and interventions

Claudia Marino, PhD [1]
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Among the many activities potentially addictive on the Internet, the use of social media has been growing exponentially along with concerns about the impact of social media on well-being. In the last decade, many researchers have focused on problematic social media use and its correlates and negative outcomes in users' life (e.g., individual differences, mental health, and social cues). However, the lack of consensus about theoretical background and measures for problematic social media in literature hampered research on the prevalence of this type of disordered behaviour, thereby obstructing

next steps in this research field. Firstly, based on the need for a better understanding of problematic social media use, the presentation will be aimed at giving a comprehensive picture of problematic social media use. Indeed, given the existing evidence that maladaptive social media use might be addictive, recent theory driven studies on this topic will be presented as well as the prevalence of problematic social media use among adolescents in Italy. Secondly, a further aim of the presentation will be to outline possible empirically-validated prevention programs and clinical interventions for both youths and adults.

February 20th, 2021 – ROOM 1 – 9.00-10.00

Can video games be used to improve people well-being? Suggestions from literature

Claudia Carissoli[1]
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Digital technologies today are playing a growing role in promoting individuals' well-being, in the delivery of healthcare and in individuals' experiences of health and well-being management. Among digital technologies, videogames are the most popular virtual mediated experiences within people's entertainment activities, and they are attracting the interest of researchers about their opportunities for positive individual functioning.
Video games are complex media, multisensory universes that allow players to make hedonic experiences, pleasant, capable of changing the emotional state and mood from negative to positive; eudemonic experiences, able to improve individuals' skills and competences to face life; and social because they allow new interactions and new ways of relating to others that can then be exported in real life.
Overcoming the typical "good–bad" dichotomy in videogame research, interest on this topic is growing toward a deep understanding of the potential positive outcomes of gaming on players' mental health. Videogames, thanks to their characteristics of immersive, interactivity, presence and narrative richness, have interesting potential to increase people's well-being. They have been successfully used to 1) develop of cognitive skills 2) improve stress and anxiety management; 3) train in emotional regulating, 4) create more cooperative psychotherapeutic relationship and 5) increase health compliance, 6) physical activity and 7) social and communication skills. Researches and studies seemed confirmed that these media have great potential for well-being in addition to their entertainment value: they have been shown successful to address specific problems or to teach a certain skill, if used in an aware and guided way.
The question no longer seems to be whether videogames are good or bad, but it is time to understand how to exploit this potential, how to use the richness of these simulated experiences to promote individuals' health.

A threat to health or a tool for well-being? Understanding the psychological implications of videogames

Tiziana Mancini[1], Federica Sibilla[1]
[1] *Università degli Studi di Parma*

The topic of video games often comes along with fears about the negative implications of their use, such as the development of addiction. In this sense, Massively Multiplayer Online Role-Playing Games (MMORPGs) are considered particularly risky. The common concerns also reflected on sci-

entific community, which heavily focused on the negative correlates of video games use. If this strong focus allowed to gather much information on the negative consequences of playing video games, it also prevented from noticing other eventualities that are equally or even more probable, i.e., the positive ones.

Only in the last few years, in light of the Positive Technology approach, science is investigating and recognizing the positive potential of the use of many types of video games in different domains. For example, MMORPGs have proven capable of reducing social discrimination and favoring identity exploration. Furthermore, it has emerged that involvement with MMORPGs can favor individual well-being, especially in negative periods of life.

Re-examining addiction in the light of Positive Technology, it has also emerged that this construct is intrinsically ambiguous, since it can actually indicate a commitment that is negative and risky, as well as an involvement that is positive and associated to well-being.

The new awareness of the positive potential of video games opens the door to research and interventions that see them as beneficial tools. Many current projects successfully follow this direction, developing and employing serious games that are effective in improving skills and increasing the individual and social well-being of people of various ages.

February 20th, 2021 – ROOM 2 – 9.30-11.00

Motivational design & gamification: memorable experiences that help people's change for the better

Oscar Garcia Pañella[1]
[1] *ENTI, Universitat de Barcellona*

We are made of emotions. And we are enabled by fantasies and dreams. Because we are human beings. We are challenged on a daily basis while we work [and play]. And we explore, socialize, communicate, share, help, achieve... because we sense engagement while doing so. In our current times, in this Covid-19 emergency situation, we have accelerated the need of technologies as the top of our «survival chain». But platforms lack a real soul and psychology needs to be there first. Is there a science that explains how to create valuable experiences in relation to technology while augmenting it from the motivational perspective? Can we design in a way that combats the boring effects that underpin the extensive use of platforms? How can we design for the better from both the experiential and memorable views? Welcome to the realms of motivational design and gamification!

Online Gaming Disorder and clinical problems – an accurate picture of the typical gamer? Dependence and clinical problems as outdated concepts in a new world of gaming?

Birgit Ursula Stetina, Armin Klaps, Anastasiya Bunina, Zuzana Kovacovsky & Jan Aden

Problematic online gaming has been evaluated for quite a while now and research in this field is still growing as well as a relevant numbers and variety of treatments. Several studies showed (already in earlier years) that only a very limited number of gamers fulfill the criteria for gaming disorder or other forms of Internet dependency with gaming genres playing a relevant role, the factors gaming motivation, exploration of genres including trends and the role of gender as relevant factor had not been evaluated by then. Starting in 2014 throughout a series of several studies we explored trends in gaming genres, the relation between clinical aspects (Internet Gaming Disorder - IGD), motivation to play and genres as well as gender differences in the male-dominated world of online gaming. According to that the objective of the talk is to show concurrent results on the basis of three quantitative studies that have been carried out by the research group. Methods & Data: Study 1 – trends in online gaming: Using a cross-sectional design with a web-based questionnaire 3898 gamers (mean age 24.24 years; 91.5% male) from German speaking areas were surveyed using several clinical scales (IGD-20, ADS, an adapted version of the «Asheron's call» questionnaire, ...) were used. Study 2 – game play motivation and gender: Using a web-based questionnaire 4238 gamers (14+) (mean age 24.29 years; 91.7% male, 7.8% female, 0.5% transgender/genderqueer) from German speaking areas were surveyed. In addition

to demographic questions the Gaming Motivation Scale (Yee, 2006) and several clinical scales were used. Participants were categorized according to their preferred game into seven genres (MMORPG, Shooter (incl. MMO & Tactical), Casual, Actions RPG (incl. Horror/Survival), MOBA, Simulation, RTS/S). Statistical analyses included MANOVA and ANOVAs.
Study 3 – gender balanced sample: Using an online questionnaire 147 gamers were surveyed (female:n=66, male:n=81) in a cross-sectional design with several (clinical) scales such as IGD-20 (eg Pontes et al. 2014), SIAS (Matttick & Clarke, 1989) and SPIN (Connor et al., 2000).
Results: All studies show a low percentage of participants suffering from clinical problems. But in all gamers (dependent and recreational) significant differences between males and females need to be reported with female gamers showing significantly less symptoms. Relevant differences are found in game play motivation and might be a key construct for further understanding of problematic gaming behavior.
Study 1: All genres differ significantly regarding the so-called Internet Gaming Disorder ($F(8,2628) = 6.226$, $p<.00$), Engagement ($F(8,2562) = 37.056$, $p<.001$), Addiction ($F(8,2585) = 6.547$, $p<.001$) and Depression ($F(8,606.899)=4.154$,$p<.001$) with MOBAs showing the highest scores in all areas. Furthermore t-tests show significant differences between MOBAs and MMORPGs in all questionnaires.
Study 2: Gender differences similar to Yee's (2007) findings were found in all genres with «Achievement» as most relevant differentiating factor (r=.31/ Yee: r=.26) and «Competition» as highly relevant component (r=.31/Yee: r=.17). Genres differ significantly in all factors but «Socializing» with the most relevant differences in «Competition» ($F(6,2585) = 57,489$, $p<.001$, $\eta 2 =.12$) and «Achievement» ($F(6,2534) = 47,060$, $p< .001$, $\eta 2 =.10$) as higher-level factor.
Study 3: First of all results show that the sample includes no dependent gamer (cut-off 71). But the results show a significant difference between males and females with female gamers ($M=33.33$, $SD=11.28$) showing significantly less symptoms ($T(145) = -2.561$, $p=.011$) than men ($M=38.06$, $SD=11.01$); both groups showing no clinically relevant signs of Internet Gaming Disorder.
Discussion: Gaming is often discussed as problematic behavior, although educational and therapeutic games are on the rise. Pathologizing is not the answer. It seems that more than ever it is highly relevant to think of gaming as normal and average behavior, independent from the purpose of the game. Independent from the well-known differences between genres we should start thinking about gaming as a potential adaptive coping strategy and part of our daily lives (eg casual games).

Serious Games in Psychotherapy: Effectiveness and willingness of use of psychotherapists and patients

Christiane Eichenberg

Background. Compared to Internet and mobile communications, video and computer games are underused for the treatment of mental illnesses. This

also applies to Serious Games, i.e., interactive computer games that train cognitive or behavioral skills in a digital learning environment. The few existing studies on the effectiveness of Serious Games in psychotherapeutic treatment have shown positive results, but there is still limited knowledge of the international acceptance and experience of Serious Games use in therapeutic settings.

Research Questions. How effective are Serious Games as a tool in psychotherapy? Are psychotherapists and patients willing to use Serious Games? Do psychotherapists and patients in various countries differ in their attitudes towards the use of Serious Games in psychotherapy?

Methods. Two studies were carried out.

Systematic review on the effectiveness of Serious Games in the treatment of mental disorders.

Opinion polls on the application of Serious Games in the psychotherapeutic context are currently being assessed through the use of two online surveys (cf. Eichenberg, Grabmayer & Green, 2016), one version for psychotherapists and one for patients. The investigating countries include European (e.g. Great Britain, The Netherlands, Italy etc.), North American (USA and Canada), Asian (e.g. China, Japan, etc.) and Australasian regions (Australia and New Zealand) in order to represent a broad and varied sample.

Results. The results of the systematic review show that there is empirical evidence that Serious Games are effective in treating various mental disorders (e.g., phobias, depression, PTSD).

The previous empirical findings of the surveys revealed that only 10% of the German-speaking psychotherapists and patients were familiar with the utilization of Serious Games, but 90% of both samples can imagine a therapeutic use (ibid.). The usage of modern media has already been integrated into the health care systems of some countries, e.g., New Zealand, Australia etc., which is probably why 53% of the psychotherapists and 23% of the patients in New Zealand stated to know about Serious Games.

Conclusion. Country-specific attitude patterns can be helpful to derive contextual conditions, which promote a positive perception of media applications in general and favor a higher usability of Serious Games for psychotherapy in particular.

February 20th, 2021 – ROOM 1 – 10.00-11.00

Brain-Computer Interface: Clinical Perspectives

Regina Gregori Grgič, PhD [1]
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A Brain-Computer Interface (BCI) is a system acquiring, analyzing, and translating brain signals into commands that are relayed to output devices that carry out desired actions. A variety of methods for monitoring brain activity might serve as the input side of a BCI: electroencephalography (EEG) and more invasive electrophysiological methods, magnetoencephalography, positron emission tomography, functional magnetic resonance imaging, and optical imaging. However, only EEG has relatively short time constants, can function in most environments (thanks to its portability), is not invasive, and requires relatively simple and inexpensive equipment, thus offering the real possibility of a non-muscular communication and control channel.
BCIs have been developed and applied with the main aim of controlling external devices (e.g., a cursor or a wheelchair) and restoring communication abilities to people suffering from neurodegenerative and muscle disease, such as amyotrophic lateral sclerosis (ALS), that may lead to severe or complete motor paralysis.
However, BCI has also other potentialities; here we will address some clinical perspectives: cognitive assessment and training. Indeed, the evaluation of cognitive abilities in paralyzed patients is crucial and not obvious, since standard assessment tools for cognitive abilities usually imply a motor response. Various BCI-based protocols have been developed to overcome this practical problem. Furthermore, BCI can also be used to enhance attention and other cognitive abilities both in healthy and in pathological populations, based on the principle of neurofeedback therapy.
Efficacy and validity of these clinical applications of BCI are still controversial issues, but we will discuss how future research should improve the methodology and try to resolve the still open questions in order to allow the use of BCIs in the clinical practice.

Implicit associations among genetics, early care experiences, and adult relationships to social media behaviour

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Introduction. Humans are social beings whose experiences are ruled by complex interactions between genetic and environmental factors. In-person

social interactions represent the first means of sharing beliefs and making comparisons with others. Caregivers embody the first actors in social education. The attachment with one's parents can be stable across development and can affect adult relationships. Nowadays, social interaction has rapidly expanded through virtual environments like social networking sites (SNS). However, the quality and the frequency of online and in-person interactions may differ across individuals. We explored these variations in online interactions from the perspective of behavioural genetics, investigating whether the quality of early care experiences and of one's adult relationships could affect the frequency in the online sociability of users who are genetically sensitive to experiences.

Method. The measures on the quality of in-person relationships we focused on are the parent-child attachment and the adult attachment, as recalled by Singaporean participants in the *Parental Bonding Instrument* (maternal care, maternal overprotection, paternal care, paternal overprotection; *N* = 57; 41 females) and the *Attachment Style Questionnaire* (confidence, discomfort with closeness, relationships as secondary, need for approval, preoccupation with relationships; *N* = 58; 42 females). The genetic factors we examined are the polymorphisms within the regions rs2254298 (G/G homozygotes, A-carriers), rs53576 (A/A homozygotes, G-carriers) of the oxytocin receptor gene and the region rs25531 (T/T homozygotes, C-carriers) of the serotonin transporter gene. According to the sensitivity hypothesis, a genetic component can be either a risk or a protective factor to social distress in relationships. From Instagram, we extracted three variables as a proxy for the frequency of online interactions: the number of a) published posts, b) people that the user follows («followings») and c) followers. The Social Desirability Index (SDI) was estimated as the ratio of followers to followings.

*Results***.** We hypothesized multiple interaction effects between genetic groups and attachment scores on Instagram parameters, independent of the gender. We found a gene*environment interaction for rs2254298 on the number of Instagram posts. In line with our expectations, participants with a genetic risk factor (A-carriers) and a past of poor paternal care produced less Instagram posts than those without this risk factor (G/G genotype). A significant interaction between maternal overprotection and rs2254298 also emerged for Instagram SDI. Interestingly, the same pattern emerged between maternal care and rs25531 on the SDI.

Specifically, users genotypically more sensitive to environmental influences (A-carriers; T/T genotype) exhibited an increasing trend in the Instagram SDI when they experienced positive maternal caregiving. In contrast, a decreasing trend of the same index was observed for those who recalled a negative relationship with their mother. T/T homozygotes also showed a greater number of Instagram followings than C-carriers when they reported a high level of confidence towards people in adulthood.

*Conclusion***.** A positive relationship with parents, as well as a high level of trust towards peers, affects the way genetically vulnerable Instagram users post, search for other users and increase their social likability.

February 20th, 2021 – ROOM 1 – 11.30-13.00

The transition to video-conferencing psychotherapy (VCP) during the COrona VIrus Disease 2019 (Covid-19) pandemic in Italy: the role of therapists' VCP technical and theoretical knowledge, previous use, skepticism and therapeutic orientation

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Background and aim. During COrona VIrus Disease 19 (Covid-19) pandemic, the use of video conferencing systems, little used in Italy before the pandemic, was immediately reconsidered in various areas of health care, including mental health. The purpose of the study was to evaluate, in a private mental health service in the north of Italy, whether the degree of familiarity with video communication systems (familiarity), theoretical knowledge (knowledge) of video-conferencing psychotherapy (VCP), previous VCP use (experience), skepticism and psychotherapeutic orientation, may have influenced the adhesion to VCP by the patients, in such a particular period as the Covid-19 pandemic.

Methods. We developed and distributed a questionnaire divided into three modules to fill-in therapists. Module A was designed for all therapists, Module B (31 items) for therapists who had used VCP during the most critical period of the Covid-19 pandemic in Italy (23 February - 3 May 2020), Module C for therapists who had not (13 items). Eighty six therapists completed the questionnaire. VCP adhesion was evaluated as the percentage of patients who accepted VCP out of the total number of those to whom it was proposed. All responses were completely anonymous. Quantitative data were analyzed with descriptive and inferential statistics.

Results. The variable that most predicted greater adhesion to VCP was the therapist's previous experience. The latter correlated with the other variables considered. Using post-hoc regression models, the therapists' familiarity, knowledge, and skepticism towards VCP also had impact on patients' compliance with VCP. Discussion. The results of the present study suggest that a consolidated practice of VCP, based on theoretical and technical training, facilitates the acceptance and transition to this modality by the patients. These data are in line with previous evidence regarding the importance of adequate training in VCP in the acceptance, compliance and success of VCP itself.

Virtual Coaching Interventions for Healthy Coping with Type 2 Diabetes Mellitus

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Behavioural intervention technologies (BITs) are receiving growing attention as possible ways of supporting the self-care in persons with Type 2 Diabetes Mellitus (2DM), particularly regarding their coping with psychological distress. Indeed, previous studies show that anxiety, stress and depression symptoms represent a very common psychological conditions in patients with 2DM. These psychological symptoms have been shown to present a negative effect on diabetes treatment outcomes and patient self-efficacy. BITs could enable patients to better self-manage their mental state, improve coping strategies, as well as their adherence to healthy lifestyles including also the areas of physical activity and nutrition.
This project aims to design, implement and assess a psycho-educational intervention for healthy coping with 2DM delivered by an interactive chat-bot powered also by screening and monitoring psychological instruments for ensuring patient's mental well-being. The screening tool and process allows to identify changes in mood and mental well-being of patients in order to deliver the appropriate support.
The assessment of the intervention will involve a sample of adults patients (age range 25-70 years old) with 2DM who will be screened for level of anxiety, depression, stress and coping strategies. Screening will be made pre-post intervention and at follow-up, while mood rating measures will be used to monitor the patients' well-being levels during the healthy coping intervention.
We expect that the healthy coping intervention will improve the patients' self-care and 2DM management both in the short and long-term, as a consequence of delivering an intervention strengthening patients' abilities to cope particularly with anxiety, stress and depression.

Blended CBT: overview and future directions

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Since 80s, relationship between CBT and new technologies developed through several attempts to fully computerized therapy (cCBT). Subsequently, a variable involvement of a human therapist has been reintroduced, thanks to the spread of Internet (iCBT).
The advent of smartphones has introduced new therapeutic and self-help tools by using mental health applications (Mobile Therapy), mainly focused on psychoeducational material and / or specific exercises inspired by standard CBT protocols (e.g. Watts, Mackenzie, Thomas, & Griskaitis, 2013). There are two ways in which mental health applications were developed:

(1) as a tool to support a treatment conducted in a face-to-face setting and (2) as an autonomous service that does not require the guidance of a professional.

Research suggests that these tools could improve the effectiveness of interventions for depression, stress and substance use, especially if applications are employed in a blended care treatment. Blended CBT combines face-to-face therapy and online elements: both the components are agreed, personalized and flexibly managed by therapist. A highly personalized combination seems to be the most promising for maximizing adherence and satisfaction of both patients and therapists.

Several studies have already confirmed that working alliance does not show differences between face-to-face therapy and Internet-based CBT; also, effectiveness of the two treatments does not show significant changes. On the contrary, online support seems to ease the application of techniques learned during sessions and encourage compliance with the treatment. Recent findings have made possible to design and disseminate applications in Italy, in order to promote blended care treatments and reinforce outcomes in CBT.

EYME-Explore Your Meanings: A digital platform for the exploration of identity values and conflicts

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Keywords: digitally assisted-psychotherapy; repertory grid technique; technology transference; virtual reality

It is becoming increasingly evident that the sense of personal identity is a keystone of psychological life and of the thorough understanding of human activity in virtually all domains. However, the exploration and study of self and identity has proved to be elusive and methodologically complex. Personal construct theory uses the notion of «core constructs» to explain the sense of continuity and coherence that characterizes personal identity. In this approach, personal constructs (distinctions that we make in our experience of self, others and the world) are explored with the repertory grid technique (RGT). It is a complex assessment method with more than 3,000 publications used in many areas. Rather than using pre-established items, the RGT begins with a semi-structured interview for the elicitation of the constructs a person uses to construe self and others (or products) using a rating scale. The resulting data matrix permits the computation of self-discrepancy and other measures of cognitive structure as well as implicative dilemmas and dilemmatic constructs (cognitive conflicts in the construction of self and others). Compared to more traditional instruments, the RGT has the advantage of providing idiographic self-knowledge (both content and structure) and, at the same time, quantitative measures with already studied psychometric properties. However, psychologists and researchers have difficulties to access and use the RGT because lack of knowledge or the amount of training needed for administration, data analysis and interpretation.

Our research group at the Universitat de Barcelona, after more than 30 years of experience and innovation with the RGT, was able to transfer this knowledge by creating EYME-Explore Your Meanings (www.eyme-vr.com) a technological tool that overcomes all the barriers for grid administration and analysis as well as providing advanced technological solutions. EYME begins with an automated interview eliciting the patient's views of self and others expressed in a data matrix which, after multivariate analysis, allows for a 3D representation of these views. Then, with the use of a VR headset, patients have an immersive experience to reflect on their self and significant others, mapped according to their meaning system, and to explore possibilities for change.

EYME is perfectly devised as a coadjutant tool for the psychotherapy pro-

cess. It provides a pathway for self-exploration and self-discovery in which therapists can guide their patients to the full exploration of their potential growth. However, since EYME captures the perceptions, attitudes, and values of a person (or team) it can be also used for coaching and consulting in organizations as well as market research (exploring consumers' perceptions of a set of products) allowing to explore all these aspects in an immersive way with the aid of VR.

Novelty of this research: The use of VR in psychotherapy is not new but mainly limited to exposure procedures which are of application to only a limited group of disorders. The innovative potential of EYME is its focus on identity and self-exploration, issues that have proven central for many disorders and for personal development in a broad sense.

GRID CONSULTOR (GRIDCON): A 3D Tool for the Exploration of Professional Identity in Organizations

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Personality and competence standardised questionnaires are the most commonly used instruments for consultancy in organisations. Although this standardized approach was key for the advancement of personality science, it shows more limited usefulness for assisting individuals exploring their personal identity and improving their leadership assets. On the other hand, it is becoming increasingly evident that professional identity is a keystone of our professional activity and in our overall psychological well-being. However, its exploration and study has proved to be elusive and methodologically complex. Our alternative proposal is GRID CONSULTOR (GRIDCON), a digital platform and 3D-visualisation system which might help managers to understand their professional identity and to explore desired changes leading to personal development and better leadership competences. GRIDCON is based the Repertory Grid Technique (RGT), a method for the personalized assessment of personality aimed at providing a display of the personal constructs with which people categorize (in their own terms) their Self, Ideal Self, and others, which might provide a glimpse of their personal identity, goals and desired changes. The RGT has been adapted for use in a wide variety of areas including consultancy and coaching practices. It incorporates sophisticated statistical ways of analysing the data matrix which reveal the patterns of relationships among constructs expressing each person's idiosyncratic construal. These analyses have allowed researchers and professionals a detailed and personalized understanding of clients' and service users' personal views of themselves and others. However, usual data representation and graphic displays are limited to printable 2D documents and, therefore, of little use to trigger relevant therapeutic processes if shared with clients and users. At present, we have extensive experience in

the use and applications of the RGT and created GRIDCON, an application to visualise results from the RGT in a web-based 3D display accessible for smart phones, tablets and computers. We have been using it in the clinical practice of psychotherapy but in this project we want to prove its usefulness in the consultancy area in organizations. Several studies showed the potential of the use of the RGT (2D display) for helping managers to expand their self-knowledge and improve their leadership competences. However, we expect that the 3D visualisation and navigation system provided by GRIDCON will enhance the effectiveness of the RGT in consulting with these managers by enabling a more careful and dynamic exploration of their professional identity, thus achieving better outcomes in terms of leadership competences. GRIDCON is perfectly devised as a coadjutant tool for the consultancy process. It provides a pathway for self-exploration and self-discovery in which coachs can guide coachees to the full exploration of their potential growth. However, since EYME captures the perceptions, attitudes, and values of a person (or team) it can be also used as well as market research (exploring consumers' perceptions of a set of products) allowing to explore all these aspects with 3-D visualization.

ReMIND: Real Matters IN Developmental psychopathology. Digital assessment and monitoring in clinical research and psychiatric epidemiology.

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Introduction: In the digital era, clinical research benefits from the advantages of technological devices and online platforms. Our 15-years follow-up ReMIND project aims to re-assess an epidemiological and a clinical sample of adults who had been assessed in preadolescence and adolescence, by evaluating symptoms trajectories and their relationship with genetics/epigenetics, environmental risk factors and neuroimaging measures. Indeed, the relationship between longitudinal trajectories of internalizing and externalizing symptoms and biological and environmental risk factors needs further investigation in Italian samples. Through digital platforms, we can obtain socio-demographic, behavioural, internalizing/externalizing symptomatology and diagnostic data and to monitor through time our clinical and epidemiological samples — more quickly and more inexpensively than standard methods.

Here, we aim to present our digital platform, the methodology and preliminary results of our 15 years longitudinal study.

Methods: 3418 and 1225 subjects respectively from the epidemiological and clinical samples were recruited throughout the Italian territory 15 years ago and re-evaluated 5 years later. In both phases, social, environmental, clinical, cognitive/neuropsychological, neuroimaging, genetic and epigenetic

data were collected. Social, environmental, clinical, cognitive/neuropsychological data were collected through traditional pencil and paper methods.
For the current phase, a new online platform (MedicalBit) has been developed. It allows to quickly and inexpensively gather socio-demographic, clinical and diagnostic information through standardized checklists and interviews, as Adult Self Report (ASR- Achenbach & Rescorla, 2003) and Development and Well-Being Assessment for adults (DAWBA- Goodman et al., 2000).
Results: ReMIND Project is currently ongoing. From January 2020 we began to contact epidemiological and clinical participants. To date, we collected sociodemographic and clinical data from 59 epidemiological subjects and 8 clinical subjects. The online platform MedicalBit enabled us to collect informations remotely, also during the lockdown period due to Covid19. To the best of our knowledge, ReMIND is the first Italian project using an online platform built for a 15-years follow up research in psychopathology.
Conclusion: The remote data collection through the on-line platform will enable us to address domains that represent potential predictors of psychopathological trajectories and outcomes in a money- and time-saving way. Moreover, the remote data collections could help clinical research to monitor subjects easily and allow greater adherence by participants. Future data collection and analyses will allow us to disentangle the role of environmental, genetic, epigenetic factors on internalizing and externalizing trajectories.

February 20th, 2021 – ROOM 1 – 15.00-16.30

Let's play and learn! The use of gamification in education to improve children's abilities and motivation

Angela Cattoni

One of the main ways in which children learn is by playing. Playing can enrich learning and help children in developing essential skills for their everyday life. Furthermore, games, if significant, can possibly make students active and participating, as well as creative, motivated and sociable.
The word 'gamification' refers to the use of typical game elements in different and not-gaming contexts. It is a methodology that originates from computer and serious games and from which effective design principles can be extrapolated for educational activities. It also offers the opportunity to design engaging activities which can lead to the satisfaction of needs underlying the development of intrinsic motivation.
In the wake of an ongoing Doctoral study, the lecture aims to discuss the potential that new Information Technologies and, in particular, the use of gamification, can offer in terms of improvement of motivation and different skills in children both with typical development and with Specific Learning Disorders.
The research in this field has a significant impact both at an educational and social level as the use of ITs allows for the promotion of an integrated intervention of traditional and innovative activities, mediated by the use of digital devices.

Enjoy Your Learning Trends and emerging models for learning in an economic and social context characterized by digital transformation

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The economic and social context in which we are living is characterized by the Digital Transformation caused by the internet revolution that has potentially amplified our capabilities both as professional and people. We are the protagonists of a new humanism inspired by new principles such as sharing and cooperation. That is why most business models web-based are focused on a deep sense of sharing. Nowadays, experience and sharing are relevant keywords. In the actual economy of shared experience, sharing an experience on social media amplifies the value of the same experience in terms of memorability and social status of those who share it. It could be a purchase, a vacation, an interview, a lesson or a job: it doesn't matter because in all these cases we are looking for emotions to post in order to support our narrative on social media. A possible explanation is due to the pure-tech-companies that have improved our consumer experiences with their technologies, mak-

ing them immediate, safe and pleasant. How should the teaching processes change in an experiential world, which is organized according to the principles that inspire internet? How should the teaching and learning processes change, especially in relation to new technologies? How does the figure of the teacher change? This contribution aims to provide answers with a theoretical approach, based on both a careful analysis of the international literature and learning projects conducted with both students and managers of different companies. It follows the possibility of outlining an emerging model for learning that can be a continuum between university and companies. The founding pillars of this model, i.e. active and participatory learning, will be illustrated and then declined in the two macro contexts examined, namely the university and the enterprise. In both cases, the learning model must be inspired by guiding principles, enabled by new technologies, such as the participation, the interaction and the emotional involvement of learners.

Enriched environment to promote plasticity in neurodevelopment disorders: A lesson from action video games

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Video games are very popular because - being stimulating and fun - they can activate the reward circuits, a domain general mechanism necessary to promote the neural plasticity underlying learning. Some types of video games, called action games, have been particularly studied in recent years, as they increase the efficiency of selective attention, another domain general mechanism fundamental for learning. So demonized by adults, so praised by children and young people, action video games (e.g., «Fortnite») can be considered a sort of enriched environment in which players are immersed in a virtual multisensory world where attention have to be quickly deployed in order to plan and then perform complex motor actions requested from the game. With a series of experiments our laboratory has shown how a rehabilitation program of about 15 hours (distributed in 2 or 4 weeks) based on this type of video games can improve: (i) reading skills in children with developmental dyslexia; (ii) mathematical cognition in children with developmental dyscalculia; (iii) phonological skills in children with speech disorder. Furthermore, some preliminary evidence suggests that this enriched environment human paradigm may also be useful for increasing social cognition in children with autism spectrum disorders. In addition to these long-term effects, our laboratory has recently also demonstrated some short-term plasticity effects induced by the short (60 minutes) use of this type of video games also on motor skills in children with development coordination disorder. It is concluded that action video games are capable of promoting both short- and long-term neural plasticity also in several neurodevelopmental disorder. It is proposed that these video games can be used as innovative rehabilitation and prevention tools, theoretically enhancing the limited effects of traditional domain specific treatments (e.g., phonic treatment for dyslexia) in several neurodevelopmental disorders.

Boosting social competence through robotics: extended social cognition and neurodevelopmental disorders

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The notion that cognitive and social abilities do not rely exclusively on the capacities of the human brain is relatively old. From an ontogenetic perspective, the external environment shapes and supports social and cognitive abilities during the different stages of individual development. A similar concept can be traced back already in Vygotskij's theory of Zone of Proximal Development, postulating that the children's capabilities evolve because of external prompting. Even from a phylogenetic perspective, the human species adapted constantly to external resources that allowed for the expansion of our cognitive capabilities through scaffolding processes. According to some authors, this adaptation shaped our mind as well as our neural system. The active interaction with the external environment and with its means is claimed to reshape the computational capabilities of human's cognitive system, making mental processes easier, faster and more reliable. This hypothesis, related to human cognitive functioning, is defined as «the extended mind».

Some authors claim that new technologies, in particular, humanoid robots, can be exploited as tools of social scaffolding. According to this view, such artificial agents might be able to assist and guide the individual during the different steps of social learning, providing the person with physical and cognitive support. Indeed, to some extent, robots can resemble human beings and even reproduce a simplified version of their behaviors. The development of devices that can boost and compensate cognitive and social abilities of individuals is crucial for assistive care and clinical practice.

The advent of social robotics provided researchers and clinicians with novel paradigms to approach cognitive and social impairments. In particular, neurodevelopmental disorders seem to benefit from exposure to social robots during rehabilitation activities. Data from literature pointed out that social robots might represent a compensatory technology to social impairments that neurodevelopmental disorders entail. On the technical side, robots represent, for the individual with a disability, a safe, predictable and coherent environment to experience different prototypes of social interaction.

Considering the extensive control that can be exerted on such technologies, robot-assisted therapies can be tailored to individual specific needs, providing the person with an ad-hoc artificial scaffolder, which can enact simplified social behaviors. According to this view, and in line with the extended mind hypothesis, the technological tool becomes an integral part of the human social cognition, granting impaired individuals with an access door to the social world.

However, despite the promising results, a considerable amount of research-

ers draw their conclusions based on small samples of patients, using a huge variety of methods, often adopting only observational and qualitative measures. Such a heterogeneous approach does not allow the generalisability of results in terms of clinical efficacy.
The proposed contribution will address the issues of results generalisability related to the recent literature on assistive robotics, with a particular focus on neurodevelopmental disorders. The hypothesis of extended mind will be presented, as well as its applicability to social robotics domain, emphasizing the related ethical and methodological limitations.

«What a Difference a Robot Makes»: Bridging the gap between research and practice to create sustainable robot-based interventions for children with autism

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With the advent of robots capable of understanding and communicating in a human-like way, robots are expected to pervasively enter our everyday environments and become social agents with which people will socially engage for a variety of purposes. Recently, social robots - i.e., artificial agents created to assist people with everyday tasks and provide entertainment through simple forms of verbal and nonverbal communication – have been successfully introduced in educational scenarios to improve the effectiveness of psycho-educational interventions targeting children with autism spectrum disorders. Despite their showing great promises, concerns remain regarding the potential of such robots in educational settings, as they are not yet considered usable outside controlled research or clinical environments. As a consequence, the interest from educators in adopting potentially useful social robots is challenged by the difficulties professionals face in integrating such innovative platforms within their everyday school practices and settings.
In light of these considerations, in this contribution I will argue that overcoming such challenges would require a multi-dimensional approach that combines available knowledge on the cognitive mechanisms at the core of child-robot interaction with the understanding of the pedagogical, technical and service-related requirements needed to implement and maintain effective robot-based psycho-educational interventions in school settings. Practical examples of such approach will be provided by describing an innovative multidisciplinary public service program specifically designed to allow educators and health professionals (1) understanding the potentials of social robots, (2) developing personalized group-based and one-to-one psycho-educational activities, and (3) assuring the sustainability of implementing complex robot-based platforms in school settings. Preliminary evidence on the effectiveness of the program will be presented along with future educational scenarios in which social robots, machine learning and virtual reality are combined to create more inclusive educational opportunities for all.

To Trust and Decide: the Role of Psychologists in eXplainable Artificial Intelligence

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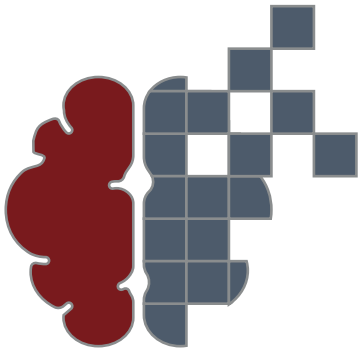
Artificial Intelligence (AI) is changing the world: machine learning algorithms exist within technologies people use on a daily basis, such as email or digital advertising. However, in the near future people will interact directly with AIs to perform numerous tasks. An example is the medical field: with an expected global investment of 6.6 billions of dollars before 2021, Artificial Intelligence (AI) will guide the revolution of healthcare: machine learning technologies analyze genomic data, patient characteristics, and scientific literature to identify diagnosis and treatment. Scientific literature reports many examples of AIs that outperform human doctors: yet, it is still the human doctor who has to take decisions affecting patients' health. On the one hand, a still-underdeveloped field is that of AI-human interface and explanation. Indeed, AIs are not exempt from errors, and they operate as «black boxes», not able to explain their own outcomes, even when those are counterintuitive or unexpected. On the other hand, doctors today face a dramatic increase in medical controversies, so that they are more doubtful when taking medical decisions and adopt problematic strategies to avoid disciplinary measures, such as the so-called defensive medicine (i.e., prescribing more medical exams than needed). It is fundamental to understand how to develop effective collaboration between human users and AI, in order to improve trust and transparency, and final decisions as well; within XAI or eXplainable Artificial Intelligence, the discipline focused on this aim, the insight is emerging that psychology and social sciences should take a fundamental role in teaching to AIs how to communicate effectively. What is an explanation? What makes an AI output understandable and trustworthy from the viewpoint of a human user? How can we implement such capacity within an AI system?

After an introduction to the AI scenario (with a focus on the healthcare field), this lesson will deal with the recent research results on XAI and users' attitudes towards AI, and provide guidelines for the psychological contribution to the design and evaluation of future AIs, especially those to be employed in delicate contexts. Last but not least, the lesson will deal with the opportunities for using AI in mental health and psychotherapy, innovative solutions that are just been developed within this emergent form of Human-Technology Interaction.

European Conference on Digital Psychology

Posters



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DIGITAL PSYCHOLOGY

FIRST EDITION

The effect of avoidant attachment with the partner on the number of followed users on instagram: a g×e study

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Introduction. In existing literature, researchers have primarily focused on the understanding of social behaviour through the analysis of environmental influences, such as attachment styles, and their interaction with genetic factors like the serotonin-transporter gene. Although we have gathered a broad knowledge of in-person interactions, little is known about online social behaviour. To explore online sociability, this research examines how serotonin-transporter gene and adult attachment with a romantic partner interact in moderating Instagram users' behaviour.

Methods. The Experience in Close Relationships-Revised questionnaire was adopted to collect participants' (N = 57; 41 females) adult attachment with their partner in terms of avoidance and anxiety, and the genetic factors within the region rs25531 of the serotonin-transporter gene (T/T, T/C) were assessed. Users' number of posts, number of followed users (followings) and number of followers on Instagram were obtained by using an ad-hoc Python script.

Results. We hypothesized an interaction effect between genetic groups and ECR-R scores on the number of posts and followings. Although we did not detect specific gene-environment interactions, we identified an avoidance effect on Instagram followings' number. Specifically, independently of their genetic signature, participants with high avoidance towards their partner showed a lower number of followings, as compared to those who reported low scores in avoidance.

Conclusion. As reported for in-person social behaviours, the tendency to refrain from intimacy with one's partner could result in an extended avoidant behaviour in online social interactions, and also in social networks like Instagram.

Feeling engaged and relaxed: a comparison between natural and urban virtual environments

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Introduction. Researches show how the increase of psychophysical disorders can be linked to the reduced exposure to natural contexts. On the other hand, current literature suggests that even a brief experience in natural scenarios can have positive effects on people's health and wellbeing. Nevertheless, the access to natural contexts is not always possible. Therefore, lately there has been a growing interest towards virtual solutions. The present study aims to investigate the participants' psychophysiological and cognitive responses to natural virtual environments.
Method. 34 healthy participants (F=24; mean age=28±13) wore a head-mounted display (Oculus Rift) which showed two virtual environments, both used as experimental conditions: i) a forest and ii) an office room. During each experience, participants were asked to visually explore the scenario and to undergo an attentional task, while their physiological parameters (heart rate, skin conductance level and respiration rate) were being recorded. After each condition, participants were also required to fill out a questionnaire about their experience.
Results. Participants referred a higher level of relax in the virtual forest. Moreover, their skin conductance levels were significantly higher in the forest, suggesting that the forest elicited higher physiological arousal than the office room. By contrast, no differences between the two scenarios were found on the attentional task.
Conclusion. Results suggest that a natural virtual environment can lead people to feel more relaxed and physiologically engaged than an indoor scenario. Nevertheless, these feelings do not seem to be linked with a change in attentional performance.

Study protocol for a Virtual Reality Supported Therapy for the Negative Symptoms of Psychosis

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Background. Negative symptoms (NS) in people with schizophrenia is associated with reduction of normal functioning and poor long-term outcomes of health. Despite being important predictors of recovery, a dearth of evidence-based interventions for NS exists for services to offer service users. However, developments in our understanding of psychological mechanisms that underpin NS may have revealed new targets for intervention.
Aims. To test feasibility and acceptability of a novel virtual reality assisted therapy, called Virtual Reality Supported Therapy for the Negative Symptoms of Psychosis (V-NeST).
Methods: This is a single-blind randomised study with two conditions; V-NeST plus treatment-as-usual (TAU) vs. TAU alone. The study will recruit thirty people with psychosis from community care teams. Assessments will be at baseline and 3-month post-randomisation. Feasibility will be assessed by proportion of eligible service users consenting to and remaining in the study; acceptability by session attendance, study dropout, and themes arising from semi-structured interviews with participants of the study interven-

tion. We will estimate population variances of the main outcomes for power calculations for a future efficacy study.
Implication.: This study is introducing and evaluating a novel intervention building upon developments in our understanding of the psychological mechanisms underpinning NS. The novel use of VR is employed to create therapeutic environments targeting mechanisms in a controlled and graded but also immersive and stimulating manner, something that could be challenging to do in face-to-face therapy. This new therapy aims to fill the gap in service provision for people with psychosis and ultimately improve recovery prospects.

Enhanced disengagement of auditory attention and phonological skills in action video gamers

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Introduction. Video games play a major role in the everyday life of children, teenagers, and adults. Several studies show that action video games (AVGs) improve visual attentional efficiency. AVGs also appear to improve reading speed and could serve as complementary training to improve reading fluency and phonological skills in children with developmental dyslexia. These results have been linked to the intrinsic characteristics of AVGs, in which fast disengagement of multisensory attention allows for efficient extraction of relevant dynamic information, a skill that is crucially also involved in phonological and reading skills.
Method. We tested the hypothesis that AVG players demonstrate faster auditory attention disengagement and better performance in phonological and reading skills than non-players. Attentional shifting in the auditory modality was tested with an auditory spatial attentional orienting paradigm.
Results. We found that AVG players are faster in spatial localization of auditory targets and show enhanced attentional disengagement as indexed by a smaller cuing effect. AVG players also showed better phonological decoding and working memory skills. Moreover, our results show that the cross-modal beneficial effects of AVGs, as measured by faster attentional disengagement, are linked to better phonological and reading skills in adult AVG players.
Conclusion. We suggest that more efficient attentional disengagement - controlled by the posterior parietal cortex - induces enhanced multisensory processing in AVG players.

Intensive and preventive GraphoGame training promotes print knowledge in children at cognitive risk for dyslexia

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It is well established that interventions based on grapheme-phoneme coupling (GPC) and blending exercises are most effective to tackle decoding difficulties faced by dyslexic readers. In addition, early preventive reading interventions in kindergarten or first grade generally appear to be more effective than remediation at a later age. Nowadays, GPC and blending exercises are often embedded in a digital game-based learning platform. An example of such a platform is the GraphoGame learning environment (Richardson & Lyytinen, 2014). Despite the evidence for the importance of early reading intervention, to our best knowledge, no study has ever investigated the cognitive-linguistic effects of an intensive and preventive GraphoGame training, before the start of reading instruction at school. To complete this gap, 88 pre-reading Flemish children at cognitive risk for dyslexia were randomly assigned to one of three intervention groups: a GraphoGame group, an active control and a passive control group. Word decoding, phonological skills, language and general-cognitive skills were administered in kindergarten before and immediately after the intensive 12-week intervention period. Results of a mixed model analysis revealed larger improvements in the GraphoGame group only on explicitly trained skills such as word decoding, productive and receptive letter knowledge. No transfer-effects to other reading-related cognitive-linguistic skills were found. These findings suggest that playing GraphoGame in kindergarten is beneficial for the development of print knowledge in at-risk children. However, long-term follow-up is needed.

Auditory intervention effects suggest head start for reading acquisition in children at cognitive risk for dyslexia

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Dyslexia is characterized by phonological processing problems, and many studies show that these are related to deficits in auditory temporal processing. Emphasizing onset cues and reinforcing the temporal structure of the speech envelope, i.e., envelope enhancement, showed potential to reduce speech perception deficits in individuals with dyslexia. An issue is that interventions are mostly only provided after the most effective intervention period, which can be solved by designing preventive interventions. We provided a preventive intervention to kindergarteners at cognitive risk for dyslexia and investigated their auditory temporal processing with a rise time

discrimination task. A sample of 91 children at cognitive risk for dyslexia (aged 5) was divided into three groups. The intervention groups received a phonological intervention and played a story listening game either with (n=31) or without (n=31) envelope enhancement. A control group (n=29) played control games and listened to non-enhanced stories. Training took place six times a week for a period of 12 weeks. The intervention was tablet-based and was performed in the home environment. Rise time discrimination performance was measured directly before and after the intervention, as well as one year later. The results showed that while the groups listening to non-enhanced stories mainly improved after the intervention, the group listening to enhanced stories improved during the intervention. Our results seem to indicate that auditory interventions such as envelope enhancement can accelerate improvements in basic auditory processing skills that are important for the development of phonological skills, hence providing a possible head start for reading acquisition.

Therapeutic Space: from the face-to-face setting to the virtual room

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Introduction. During the lockdown psychotherapists had the chance to use E-therapy with their patients. The current pilot study aimed to investigate how clinicians and patients dealt with it. We surveyed the expectations of both clinicians and patients relative to different aspects of the process and setting features.
Method. We developed therapist- and patient-report questionnaires that were completed by 145 psychologists and 70 adult patients, respectively, in Liguria (Northwestern Italy).
Results. Psychotherapists reported a perceived satisfying level of comfort (73.1%) and self-efficacy (81.1%), and that psychotherapy did not turn into psychological support (81%). Interestingly, the theoretical approach did not have a significant impact on these variables. Limits seemed to be more related to practical issues (e.g., a slow internet connection), the difficulty to find the required privacy, and the type of patient population (e.g., children, psychotic patients). Also, clinicians generally reported a good ability of their patients to adapt to the altered situation, which they did not expect, and both groups perceived E-therapy as a resource, suitable for other situations (e.g., temporary hindrances) and interventions, too. On the patients' side, they reported to be comfortable (81.4%) and felt contained (97.2%). Most of them appreciated the possibility to continue despite the physical distance. Limits were mainly related to a lack of privacy in their homes and the peculiarity of the face-to-face setting.
Conclusion. Beyond the current situation, further research is recommended in order to understand when a face-to-face therapy can be integrated with

E-therapy, which seems to be a flexible resource both for therapists and patients.
Novelty of research. This is the first investigation of the perceived effects on therapists and patients of the shift forced by the pandemic from the face-to-face setting to the E-therapy in an Italian context.

BRAVO – Beyond the tReatment of the Attention deficit hyperactiVity disOrder

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Introduction. Attention-deficit hyperactivity disorder (ADHD) is a neurodevelopmental disorder characterized by inattention, impulsivity and hyperactivity. This disorder affects the development of normal learning skills and thinking and reasoning strategies, resulting in reduction of school learning and limitation of social interactions.
Method. An ADHD child has to focus on three main elements: learn to self-control, make and keep friends and feel good about themselves. The BRAVO (Beyond the tReatment of the Attention deficit hyperactiVity disOrder) project aims to realize an immersive therapeutic game context, based on an innovative ICT system, with which improving the relationship between young patients and therapies (administered by means of serious games and gamification). By using wearable equipment and Virtual and Augmented Reality devices, new personalized processes of therapy have been implemented. Such processes are able to dynamically change in order to follow the patients evolution and support the therapists in the rehabilitation program management.
Results. The system was evaluated as part of a pilot test at the Rehabilitation Center Villa delle Ginestre Srl. 59 children with ADHD were involved, some with ADHD in co-morbidity with autism or specific learning disorder. Among them 46 were boys and 13 were girls. Depending on age, 3 subgroups were created: preschool age (5-6 years), school age (6-9 years) and children in secondary school age (9-12 years). These subgroups were randomly and homogeneously divided between the control and experimental group. In the control group, each child was weekly engaged only to traditional therapy. In the experimental group, each child was engaged to both the traditional therapy and the therapy based on the BRAVO system. The pilot test lasted 6 months. Standardized test batteries were used before and after the experimental session. The results show an improvement of cognitive functions in both groups, an increased involvement and satisfaction with therapy in the experimental group.
Conclusion. BRAVO project has resulted in the innovative start-up IAMHERO, whose mission is developing digital therapies for the treatment of neuro-development disorders. The IAMHERO system as BRAVO's evolution, is currently accessible as an educational system and is undergoing clinical trials aimed at recognizing the system as digital therapeutics.

Perfect Image: The Role of Images-Related Activities and Appearance Comparison on Instagram in Predicting Acceptance of Cosmetic Surgery Among Young Italian Women

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Introduction. Instagram is a photo-based social network that has risen in popularity among young women, also in Italy. Appearance-related activities on Instagram a detrimental impact on women body image. Some research has shown that social media might encourage people to do something to modify one's appearance, including cosmetic surgery that is deeply diffused among women also in Italy. Nevertheless, some research suggests that body satisfaction does not increase in women who have undergone some cosmetic surgical procedures. Appearance comparison on Instagram is strongly associated with its use, therefore it could be a risk factor for the interest in unnecessary cosmetic surgery.
Method. Participants were 322 Italian women (mean-age=23), who completed a questionnaire containing the variables of interest. Descriptive analysis and hierarchical regressions were performed.
Results. Regressions showed that image-related activities and appearance comparison on Instagram predicted the consideration of cosmetic surgery and its acceptance for social reasons. The acceptance of cosmetic surgery for intrapersonal reasons was predicted by the image-related activities only, no predictive role of appearance comparison was found.
Conclusion. This research is one of few analyzing how specific activities of the Instagram use could and appearance comparison influence women's acceptance of cosmetic surgery. These findings contribute to the understanding of the social media activities and its related psychological processes that trigger women's interest in cosmetic surgery.

Instagram Filters and Camera Effects: Possibile Outcomes on Mental Health

Lucia De Rose

Introduction. The paper explores the nature, limits and potentiality of a methological framework designed to analyze the possible outcomes that the use of «filters and camera effects» on Istagram stories can determine for the users. In literature many studies underline the Instagram negative impact on mental health by highlighting the risk factors and possible symptomatic drifts in the users, such as: depression, anxiety, eating disorders, distortion of body image, feeling of inadequacy and low self-esteem.
Methods. The analysis is carried out along two methodological frameworks: review and classification of specialist literature of Instagram impact on mental health; classification of the most frequent disorders and risk factors related to the use of the specific «effects and filters» option for Instagram stories. The analysis is mainly focused on different Instagram stories effects and filters that allow to alter and modify the body and physiognomy: particular emphases to «plastic surgery effects» and their potential harmful effect.

Results. The use of Instagram filters and camera effects, especially the «plastic surgery effects», can develop a distorted representation of oneself and others' image. It is also possible to find repercussions on self-esteem, concept of personal identity, embodiment, mood and anxiety of users.
Conclusion. From the analysis of the different variables described above, the conclusions of the paper will therefore concern the methodological formalization of an analytical framework for the identification, prevention and management of risk factors related to the symptomatic onset of disorders related to the use of Instagram stories filters and camera effects.

An international comparison study about psychotherapists' and patients' attitudes towards the use of Serious Games in psychotherapy

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Introduction. Video and computer games are underused for the treatment of mental health disorders in comparison to Internet and mobile communications. This also applies to Serious Games, i.e. interactive computer and video games that train cognitive, behavioral or social skills in a digital learning environment. The few existing studies on the effectiveness of Serious Games in mental health treatment have shown promising results, but there is still limited knowledge of both national and international acceptance of Serious Games use in psychotherapeutic context, which leads to the following research question: Do psychotherapists and patients in various countries differ in their attitudes towards their willingness to deploy serious games in psychotherapy?
Methods. Opinion polls on the usage of Serious Games in the mental health context are internationally being carried out through the use of two online surveys, one version for psychotherapists and one for patients. Currently, the collected data from Australia, Canada, China, Finland, Germany, Italy, Mexico, The Netherlands, Slovenia, South Africa, etc. will be analyzed, compared and followingly presented.
Results. The previous empirical results revealed that only 10% of the German-speaking psychotherapists and patients were familiar with the usage of Serious Games, but 90% of both surveyed samples advocated a psychotherapeutic utilization (ibid.). The application of novel technology has already been integrated into the health care systems of some countries, e.g. New Zealand, Australia, the Netherlands, etc., which is probably why 53% of the psychotherapists and 23% of the patients in New Zealand stated to know about Serious Games.
Conclusion. Country-specific attitude patterns can be helpful to derive contextual conditions, which promote a positive perception of media applications in general and favor a higher usability of Serious Games for psychotherapy in particular.

Sex robotics: Can artificial touch heal? Options for the use of sex robots in sexual therapy

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Background. Sex robots are sex dolls with artificial intelligence that interact and have an anthropomorphic appearance. The debate on robot sex was already triggered in international specialist literature in 2007 by David Levy's monograph «Love and Sex with Robots». In current discussions about technology and the future of human relationships, sex robotics is receiving increasing attention.
Methods. In survey studies at Sigmund Freud University Vienna, internet users (N=203) and German-speaking sex therapists (N=72) were asked about the imaginability of using sex robots in general and also as a tool in sexual therapy. In addition to self-constructed questionnaires, standardised scales were used to investigate the influence of predictive variables (e.g. affinity for technology, personality) on the willingness to use robots of both groups. To deepen the results, we conducted a qualitative interview study with N=5 sex therapists.
Results. Internet users show a high degree of openness towards sex robots; 83% of those questioned can imagine using them to improve their own psychological well-being and 82% to work on a sexual problem (e.g. Ejaculatio Praecox). The majority of sex therapists (89%) can also imagine a general use of sex robots. The therapists' attitudes were more critical when it came to recommending sex robots in therapy, whereby differences in attitude with regard to sex, age and professional group were noted. Conceivable options for use, for example, for people with social or emotional blockages, older people and people with disabilities were identified, while other possible uses were assessed in various ways; in particular the treatment of paedophile patients with sex robots proved to be controversial.
Discussion. The results will be critically discussed with the inclusion of psychoanalytical concepts on the subject of artificial touch.

Trust in health applications with artificial intelligence: an online survey

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Background. Support systems based on artificial intelligence (AI) are becoming part of everyday life. Especially in medicine, diagnostic tools and apps for chronic diseases and mental health are gaining more and more importance. However, for most people many aspects of AI are still «black boxes», which means that AI can trigger negative emotions in personally relevant areas. Lack of traceability as well as negative emotions contribute to problems of trust and acceptance when using AI-based systems - especially in

health applications these aspects play an important role.
Question. What are predictors of trust in AI health applications?
Method. 3 examples of health applications (HA) with AI from the areas «Diagnostic Tool» (Ada), «Mental Health» (Woebot) and «Chronic Disease» (M-Sense) were used. The factors influencing trust were examined: Personality (BFI-10), general trust in technology, affinity for technology (ATI), health-related quality of life (SF-36), hypochondria (Whiteley Index) and general privacy concerns (CFIP). Data were collected through an online questionnaire distributed in online forums with N=201 (w: 52.2%, m: 46.3%, others: 1.5%, age: M=39.0).
Results. Half (52.2%) said they knew about HA with AI, but only 18.1% used them. Women used more HA than men and older people (< 50) used HA more often than younger.
It was shown that the level of confidence in HA «Mental Health» (Woebot) was significantly lower than with the other applications. Predictors for confidence are (+ means positive correlation, - negative correlation):
- Woebot: affinity for technology (+), general confidence in technology (+)
- Ada: Energy levels (+), general confidence in technologies (+)
- M-Sense: general privacy concerns (-), neuroticism (+), conscientiousness (+), energy levels (+), general trust in technology (+).
- General (for all): tendency to trust general technologies: subscale: «belief» + subscale: «trusting attitude» (+) General health perception (+), comprehensibility (+).

Psychotherapy in times of COVID-19: Video treatments in psychodynamic psychotherapy – A qualitative interview study with patients and therapists

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Introduction. In the course of the corona crisis, video-based treatments have undergone a trend reversal. Thus, a systematic examination and reflection of the therapeutic transition from traditional treatment to the video-based setting (and back again) is essential in order to discuss indications and contraindications in a well-founded and differentiated manner. This study investigates how psychodynamic therapies have been experienced to be influenced by the change from traditional treatment to the video-based setting during the corona crisis. In addition, factors related to the non-use of video therapy during this situation were ascertained.
Methods. With the aim of gaining a broad first thematic insight, an exploratory qualitative research design was implemented. Group-specific, semi-structured interviews were used to examine how the change from traditional treatment to the video-based setting and its influence on the therapeutic relationship had been experienced by therapists (n = 6), therapists in training (n = 6), and patients (n = 6). Further, factors related to the non-use of video therapy, for therapists (n = 6), therapists in training (n = 6) and patients (n

= 6), were investigated.
Results. Results show that the majority of participants, therapists as well as patients, prefer traditional treatment over video therapy and assessed the effectiveness of video treatments as worse compared to the traditional setting. Nevertheless, most participants highlighted the need to enable video therapy in the current situation in order to avoid therapy interruptions. Interestingly, argumentations showed systematic group differences.
Conclusion. These findings indicate specific barriers for therapists and patients that need to be further differentiated in order to provide useful information on indications and contraindications for video therapy.

Do psychotherapists feel competent to treat digital media problems? An online survey among psychotherapists in Austria and Germany

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Introduction. The inclusion of media-related behavioral addictions in DSM-V and ICD-11 illustrates the necessity of a media anamnesis as secondary prevention in terms of early detection in psychotherapy. Aim of the study: To document different media problems in the therapeutic practice, to explore the self-assessment of therapists to treat them competently and to identify factors related to exploration (media anamnesis).
Method. Online survey of N=160 psychotherapists (PT); a self-constructed questionnaire was used as well as standardized scales such as the subscales E1 and E2 of the Therapeutic Identity Questionnaire (ThId), the scale for technique affinity (TAEG) and personality (BFI-10).
Results. 60% of the questioned psychotherapists encounter media problems of patients in therapy. The relatives of those affected are also patients and seek therapeutic support (53%). Only half (54%) consider themselves competent to treat media related problems. 72% did not take part in any further training on the topic; however, when one was attended, most (60%) did not feel that they had found a safe way of dealing with it. 64% do not or rather do not discuss media consumption of patients in their anamneses. The exploration of media consumption was significantly related to participation in further education and the personality dimensions of neuroticism and openness.
Conclusion. Current training courses do not meet the needs of PT and should be adapted. The personality dimensions of PT play a role in addressing the problem. The higher the neuroticism level, the more likely it is to explore media use of patients. The current state of research shows that neuroticism, among other things, is related to the excessive use of social networking sites. A research desideratum would be whether PT with higher neuroticism values might also have their own experiences with excessive media use and are therefore sensitized to the topic. The higher the openness values, the less attention is paid in PT to the exploration of media problems - the general openness to new technologies could blur the view of the risks of new media for mental health if they are misused.

Digital Media use in psychotherapy: A survey among psychotherapists in Austria and Germany

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Introduction. Although online interventions can be integrated into therapy in a demonstrably profitable way, they are only slowly spreading in everyday practice. What is the attitude of psychotherapists towards the therapeutic use of media and which factors moderate certain attitudes? The aim of this study was to examine especially the psychotherapist variable in relation to media integration.
Method. Online survey (11/2019-03/2020) to N= 160 psychotherapists from Germany and Austria; a self-constructed questionnaire was used as well as standardized scales such as the subscales E1 and E2 of the Therapeutic Identity Questionnaire (ThId), the scale for technique affinity (TA-EG) and personality (BFI-10).
Results. Before the Covid-19 pandemic, the vast majority (85%) did not or rather did not practice on a digital basis. In relation to the wide range of possible uses of media, only a small percentage uses digital therapy options. The degree of personality traits as extraversion and enthusiasm for technology is related to the use of digital media in therapeutic work.
Conclusion. The higher the degree of extraversion, the lower the use of digital therapy options by psychotherapists. This personality trait could affect the attitude towards online interventions by giving preference to personal contact and exchange over digitally mediated therapeutic work due to the defining characteristics of extraversion. Furthermore, a difference in the evaluation of digital media in the work and leisure environment is becoming apparent. The higher the enthusiasm for technology, the lower the willingness to use it in therapeutic work - it can be assumed that the pleasure of technology in the private sphere does not automatically transfer to the professional environment. In addition, current training offerings do not appear to have an impact on utilization - according to research literature, however, explicit practical training elements could have a greater influence on therapeutic attitudes to digital media and should be investigated further. It still remains to be clarified whether the openness to alternative and modern forms of treatment currently experienced will continue to exist «after» the Covid-19 pandemic. It would be particularly important to further investigate factors that moderate the perception of obstacles and difficulties, i.e., a negative attitude towards digital media in PT. Personality traits of therapists, in particular extraversion, could be a possible research approach.

Action Video Games Improve Multisensory Perceptual Noise Exclusion in Children with Dyslexia

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Keywords: reading (dis)abilities, selective attention, neuropsychological rehabilitation, neural noise, multisensory processing

Introduction. Developmental dyslexia (DD) is not only characterized by a reading difficulty, but also by phonological, motor and visual attention deficits. Some studies have argued the crucial role played by altered auditory and visual mechanisms of perceptual noise exclusion in DD.
Method. To test the causal role of perceptual noise exclusion in reading abilities, we proposed two different training with action and non-action video games (AVG and NAVG) to a group of 14 children with DD (aged 7 to 11 years, mean = 8,8 years) using a randomized, controlled crossover experiment. Reading and phonological decoding skills as well as auditory and visual perceptual noise exclusion efficiency were measured before and after AVG and NAVG training sessions.
Results. Our findings show that phonological decoding skills (i.e., pseudoword reading speed) as well as multisensory (auditory and visual) perceptual noise exclusion efficiency were significantly improved only after the AVG training session.
Conclusion. This study supports the conclusion that a disorder of the multisensory perceptual noise exclusion mechanism is causally linked to the reading deficits that characterize DD. Indeed, a training that enhances the efficiency of this attentional mechanism appears to improve phonological decoding skills in children with DD.
Aspects of Novelty in Research. This research is consistent with some previous studies that have shown that AVG training appears to improve, not only visual selective attention, but also auditory and phonological processing in healthy adults and in children with DD. In this study we directly investigated the causal role of multisensory mechanisms of perceptual noise exclusion in children with DD by using AVG training.

A chatbot-based intervention to promote healthy coping in young adults

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Introduction. Transition from highschool to university can be a critical moment. Students find themselves in new conditions that can generate anxiety and pre-existing mental health difficulties might even worsen the capacity to cope with these challenges. New stressors derived from Covid-19 pandemic and social distancing regulations have also impacted the quality of interpersonal relationships and general well-being. Since mHealth interventions are ideal solutions to reach people everywhere and anytime and young people are familiar with instant messaging systems, interacting with

a text based chatbot can provide an innovative way for facilitating their psycho-education and access to healthcare interventions.
Methods. A virtual coaching system, aimed at promoting well-being also by means of mindfulness practice, was piloted in a sample of 90 university students. Users interacted with a Telegram hosted chatbot twice a week, for a 4 weeks period. A blended training methodology including dialogues, short videos and audio tracks was deployed. Pre and post intervention questionnaires measuring stress, anxiety and mindful attitude were administered and the User eXperience (UX) with the chatbot was analysed also through qualitative techniques.
Expected results. Data collection is still in course. An improvement in participants' general well-being and mindful attitude (in terms of observation and description skills, non-judgmental attitude, awareness and capacity to manage reactions to inner emotions) is expected. The feedback on UX will be the basis for the refinement of this and future mHealth interventions.
Conclusion. Piloting mHealth interventions confirmed to be a crucial phase in user centered design approach, in order to tailor interventions on users' real needs.

Action video-games temporarily enhance the dorsal pathway hampering the ventral pathway

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Introduction. Several studies have shown that action video-games (AVGs) improve visual attentional skills, reading speed and phonological skills. The long-lasting beneficial effect of several hours of AVG training, could be linked to their ability to improve the magnocellular-dorsal (MD) pathway functioning (Gori et al., 2016), inducing cascade effects on specific-domain cognitive skills.
The aim of this randomized controlled cross-over study was to investigate the transient effect induced by a single session of an AVG or a non-action video-game (NAVG) on MD and parvocellular-ventral (PV) pathways during visual search.
Method. A sample of 53 adults were tested in two sessions. They performed a computerized conjunction visual search task after 20 minutes of AVG or NAVG playing. Their transient effect on MD or PV gabor patch - briefly presented before the visual search display - was compared to a baseline condition (no gabor patch).
Results. After the NAVG both gabor patch conditions facilitate the visual search task in comparison to baseline condition, showing the typical warning effect. In contrast, after the AVG only the MD gabor patch ameliorates the visual search task, whereas no PV warning effect was found.
Conclusion. This study demonstrates that a single session of AVG could improve the sensitivity of the MD pathway, reducing the sensitivity of the PV pathway.

TherapyRoom. A Website Putting Psychotherapists and Clients Together Online

Ceyda Kıyak, Giada Bonzi

Introduction. TherapyRoom is a website designed specifically for online psychotherapy sessions, which was conceived due to the lack of a tool specialized for online sessions. It will include several ad hoc functionalities: video-meeting platform (with captions, recordings, timer, backgrounds changing/sharing and a newly designed function, a virtual transparent notepad), archive, calendar, payments, notifications, chat system.
Methods: We used a User-centered design approach to test for the service's requirements mostly appreciated by clients and therapists. 1. Through Qualtrics we designed a questionnaire inquiring about the users' opinions (n=84); 2. We conducted a User Test showing mock-ups to 12 users, following the think-aloud protocol.
Results. Ratings to the surveys were used to prioritize requirements. The survey was compiled by 84 people; we used those scores and the User Test feedbacks to understand how TherapyRoom would be received: results show that both clients and people will receive this service enthusiastically.
Conclusions. According to the results most people are not fully satisfied with the already existing platforms used for psychotherapy: they would use a tool that makes therapy easier and ensures privacy and security. We plan to develop also a virtual waiting room and specific environments for different mental health needs, and the support for VR and avatar-based therapies, and a mobile application.
Project's Impact. TherapyRoom would help many mental health professionals and clients during the COVID-19 pandemics, but it would also be extremely useful in the future since e-health rates have been rising and there is no other platform providing the same service.

European Conference on Digital Psychology

February 19th-20th, 2021

SCIENTIFIC PROGRAMME

European Conference on
DIGITAL PSYCHOLOGY

February 19th, 2021

ROOM 1

9.00

WELCOMING *Pritz, Sassaroli*

9.30

9.30-10.00 SESSION: Virtual Reality *Chair: Riboli*
Bernardelli Technological augmentation in psychological practice: Applications and opportunities in the cultural context of the profession

10.00

10.00-10.30 SESSION: Virtual Reality *Chair: Riboli*
Borlimi, Brighetti Virtual reality and multisensory research: Theoretical and clinical applications

10.30

10.30-11.00 SESSION: Extra *Chair: Forresi*
Frisiello Cognitive ergonomics: Where psychology meets innovation

11.00

Break

11.30

12.00

11.30-13.00 LECTIO MAGISTRALIS: DANIEL FREEMAN

Chairs: Sassaroli, Gregori Grgič

12.30

Virtual reality in the assessment, understanding, and treatment of mental health disorders: Lessons learned in a clinical psychologist's journey over twenty years

13.00

13.00-14.00 Lunch Break

14.00

14.30

14.00-15.00 POSTERS VIEWING AND NETWORKING LOUNGE

15.00

15.00-15.30 SESSION: E-Therapy *Chair: Caselli*
Porcelli The use of video-conferencing in mental health care during the Covid-19 pandemic. An Italian experience in the private practice

15.30

15.30-16.00 SESSION: E-Therapy *Chair: Caselli*
Ciulli Artificial intelligences and psychological well-being: A tool for the psychologist of tomorrow

16.00

16.00-16.30 SESSION: E-Therapy *Chair: Caselli*
Staccini The transition to video-conferencing psychotherapy (VCP) during the Corona Virus Disease 2019 (Covid-19) pandemic: Factors associated with VCP adhesion and satisfaction among mental health patients

16.30

Break

17.00

17.00-17.30 SESSION: Social Media *Chair: Nese*
Casale Problematic social media use: Critical reflections on the construct in the light of fifteen years of research

17.30

17.30-18.00 SESSION: Social Media *Chair: Nese*
Marino Problematic social media use: Theory, correlates and interventions

18.00

"Please note that all sessions are indicated in Central European Time (CET). We remind you that the video recordings of the lectures will be available on the online platform for a month starting from the end of the conference."

February 20th, 2021

	ROOM 1	ROOM 2
9.00	9.00-9.30 SESSION: **Videogames** *Chair: Riboli* **Carissoli** Can video games be used to improve people well-being? Suggestions from literature	
9.30	9.30-10.00 SESSION: **Videogames** *Chair: Riboli* **Mancini, Sibilla** A threat to health or a tool for well-being? Understanding the psychological implications of videogames	9.30-10.00 SESSION: **Videogames** *Chair: Marino* **Garcia Panella** Motivational design & gamification: memorable experiences that help people's change for the better
10.00	10.00-10.30 SESSION: **Extra** *Chair: Ferro* ***Gregori Grgič*** Brain-Computer Interface: Clinical perspectives	10.00-10.30 SESSION: **Videogames** *Chair: Marino* **Stetina** Online gaming disorder and clinical problems – An accurate picture of the typical gamer? Dependence and clinical problems as outdated concepts in a new world of gaming
10.30	10.30-11.00 SESSION: **Extra** *Chair: Ferro* ***Bonassi*** Implicit associations among genetics, early care experiences, and adult relationships to social media behaviour	10.30-11.00 SESSION: **Videogames** *Chair: Marino* **Eichenberg** Serious Games in Psychotherapy: Effectiveness and Willingness of Use of Psychotherapists and Patients
11.00	*Break*	*Break*
11.30	11.30-12.00 SESSION: **E-Therapy** *Chair: Stoppa* ***Olivetti*** The transition to video-conferencing psychotherapy (VCP) during the COrona VIrus Disease 2019 (Covid-19) pandemic in Italy: The role of therapists' VCP technical and theoretical knowledge, previous use, skepticism and therapeutic orientation"	11.30-12.00 SESSION: **Digital Tools** *Chair: Desideri* ***Feixas*** EYME-Explore Your Meanings: A digital platform for the exploration of identity values and conflicts
12.00	12.00-12.30 SESSION: **E-Therapy** *Chair: Stoppa* ***Bassi, Salcuni*** Virtual coaching interventions for healthy coping with type 2 diabetes mellitus	12.00-12.30 SESSION: **Digital Tools** *Chair: Desideri* ***Feixas*** GRID CONSULTOR (GRIDCON): A 3D tool for the exploration of professional identity in organizations
12.30	12.30-13.00 SESSION: **E-Therapy** *Chair: Stoppa* ***Baldetti, Offredi*** Blended CBT: Overview and future directions	12.30-13.00 SESSION: **Digital Tools** *Chair: Desideri* ***Grazioli*** ReMIND: Real Matters IN Developmental psychopathology
13.00	*13.00-14.00 Lunch Break*	*13.00-14.00 Lunch Break*
14.00	14.00-15.00 **POSTERS VIEWING AND NETWORKING LOUNGE**	14.00-15.00 **POSTERS VIEWING AND NETWORKING LOUNGE**
14.30		
15.00	15.00-15.30 SESSION: **Digital Learning** *Chair: Scaini* ***Cattoni*** Let's play and learn! The use of gamification in education to improve children's abilities and motivation	15.00-15.30 SESSION: **Robotics and AI** *Chair: Mihalits* ***Ghiglino*** Boosting social competence through robotics: Extended social cognition and neurodevelopmental disorders.
15.30	15.30-16.00 SESSION: **Digital Learning** *Chair: Scaini* ***Cioffi*** Enjoy your learning: Trend and emerging models for digital learning	15.30-16.00 SESSION: **Robotics and AI** *Chair: Mihalits* ***Desideri*** "What a difference a robot makes": Bridging the gap between research and practice to create sustainable robot-based interventions for children with autism
16.00	16.00-16.30 SESSION: **Digital Learning** *Chair: Scaini* ***Facoetti*** Enriched environment to promote plasticity in neurodevelopment disorders: A lesson from action video games	16.00-16.30 SESSION: **Robotics and AI** *Chair: Mihalits* ***Triberti*** To trust and decide: The role of psychologists in explainable artificial intelligence
16.30	*Break*	*Break*
17.00	17.00-17.45 PANEL DISCUSSION *Chairs: Gregori Grgič, Saltini* ***Lanzi, Matteucci, Paolini*** ICT and and psychology working together	17.00-17.45 PANEL DISCUSSION *Chairs: Gregori Grgič, Saltini* ***Lanzi, Matteucci, Paolini*** ICT and and psychology working together
17.30		
18.00	17.45 - 18.00 FINAL GREETINGS *Sassaroli, Caselli*	17.45 - 18.00 FINAL GREETINGS *Sassaroli, Caselli*

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