

CyberTherapy & Rehabilitation

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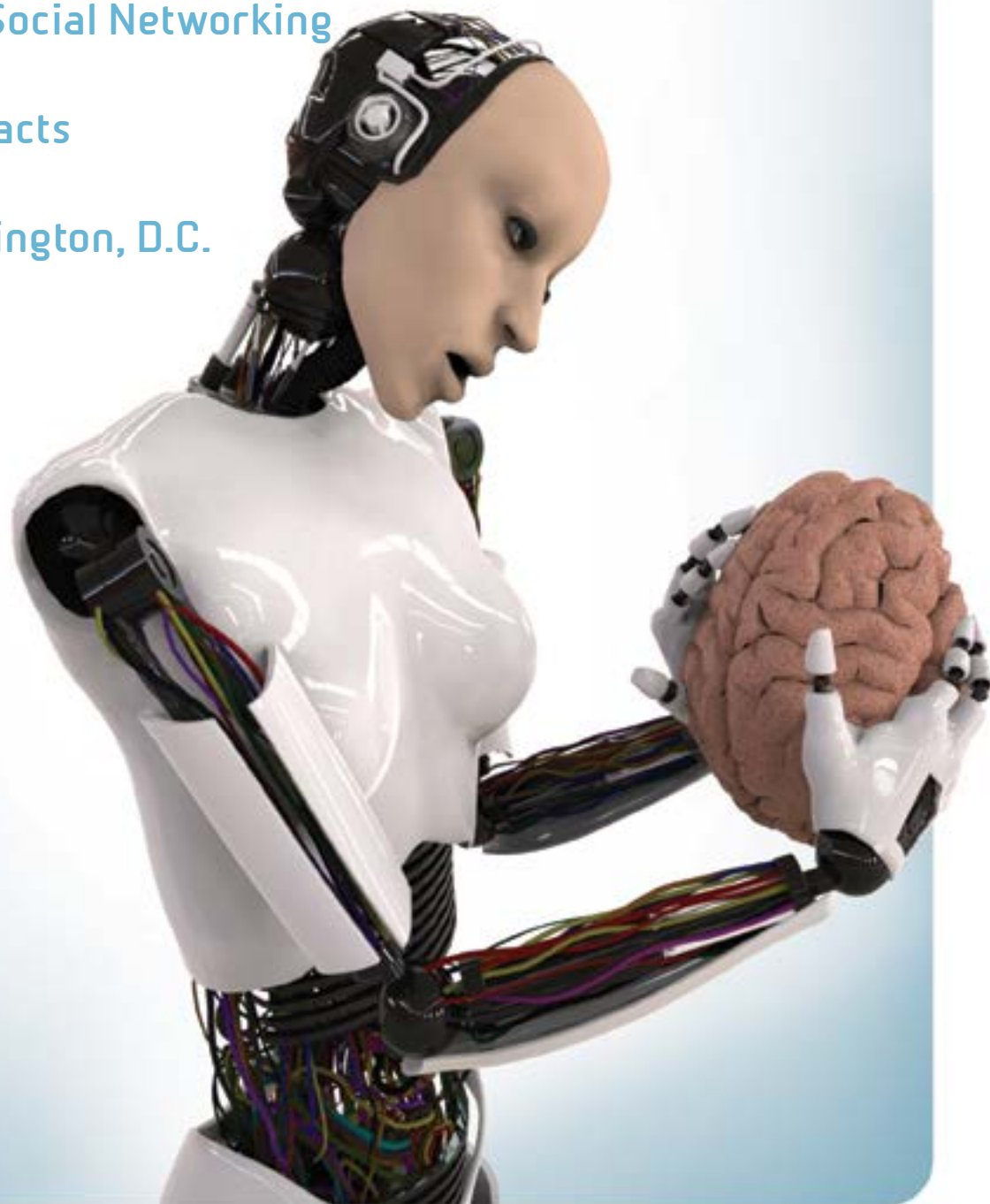
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19th Annual CyberPsychology,

CyberTherapy & Social Networking

Conference Abstracts

June 2014, Washington, D.C.



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Letter from the Secretary General and Editor-in-Chief

Professor Dr. Brenda K. Wiederhold

*Welcome to the 19th Annual CyberPsychology,
CyberTherapy & Social Networking Conference!*

The 19th Annual CyberPsychology, CyberTherapy & Social Networking Conference (CYPSY19) was another great success. This year's theme, "Connecting the Real and the Virtual: Transforming Health and Well-being" explored how a variety of health technologies are changing individual behavior, societal relationships, and interpersonal interactions. The conference invited presentations in Virtual Reality, Games for Health, Augmented and Mixed Reality, Avatars, Shared Virtual Worlds, Video Game Virtual Reality (VGVR), Mobile

mission and work to the foreground this year.

And, finally, to the Interactive Media Institute, Virtual Reality Medical Center and Virtual Reality Medical Institute's teams, led by this year's Conference Coordinator, Chelsie Boyd, I would like to extend my gratitude for contributing their time and resources.

Of course the conference would not have been possible if not

"CYPSY19 was honored to host participants from 16 countries interested and dedicated to enhancing public awareness of how technology can overcome obstacles and increase access to top quality healthcare for all citizens. "

Health, Wireless Health and other emerging applications. CYPSY19 was honored to host participants from 16 countries interested and dedicated to enhancing public awareness of how technology can overcome obstacles and increase access to top quality healthcare for all citizens. We were also honored to have U.S. Congresswoman Grace Napolitano deliver our Keynote Address. Congresswoman Napolitano revitalized the Congressional Mental Health Caucus and has hosted congressional briefings on children's mental health, veterans' mental health, and suicide prevention.

I would like to extend a special "thank you" for all those who made the conference possible. First and foremost I would like to thank my Conference Co-Chair, Dr. Michael Roy, for all his hard work and dedication in making CYPSY19 a success. Professor Stéphane Bouchard who once again served as Workshop Chair was also a highly valued member of the team. My many thanks to our Scientific Committee Chairs, Professors Willem-Paul Brinkman, Jose Gutierrez Maldonado, and Giuseppe Riva as well as the many members of this year's Scientific Committee. This year's scientific program was bound to be outstanding thanks to their immeasurable commitment. Our Website Chair, Pedro Gamito and his team once again helped bring our

for the generosity from our Sponsors and Supporters who continue to believe in our mission. My thanks to the American Telemedicine Association, European Commission, Hanyang University Institute of Aging Society, Interactive Media Institute, In Virtuo, ISfTeH, Istituto Auxologico Italiano, Mary Ann Liebert, Inc. Publishers, National Institutes of Health, National Institute on Drug Abuse, Thought Technology LTD., Universite du Quebec en Outaouais, Virtual Reality Medical Institute, and the Virtual Reality Medical Center. I would also like to thank our attendees for their participation in this year's conference.

Looking forward, CYPSY20, our 20th Anniversary Conference, will be held June 29th to July 2nd 2015 in La Jolla, California on the campus of University of California, San Diego. As a scientific community we have achieved so much in these past 20 years; please help us celebrate by attending! I sincerely hope that you find this issue which contains the conference abstracts an interesting and intellectually stimulating read.

Create your own reality!
Brenda Wiederhold



Letter from the Conference Co-Chair

Dr. Michael Roy, M.D., Col.

*Welcome to the 19th Annual CyberPsychology,
CyberTherapy & Social Networking Conference!*

Our annual CYPsy conference is 19 now, bidding farewell to adolescence and on the precipice of adulthood. There is no question that we have been in the vanguard, on the cutting edge of new applications for technologies that have completely revolutionized the world, from virtual reality to smart phones.

The program for CYPsy19 appropriately reflected both the promise and the peril associated with new technologies. On the bright side, we have new evidence to support the utility of virtual reality in treating eating disorders, social phobia, and PTSD. We documented how computer and phone based approaches can help with pain, addiction, and mood and anxiety disorders. Most notable of all, we had a strong emphasis on the power of positive technology to improve lives, where, when, and how the patient needs it. This represents a significant transformation in the way that we provide psychotherapy in two dimensions: first, rather than requiring the patient to schedule an appointment for when their therapist is available and have to travel to their office, therapy is now available at

“The program for CYPsy19 appropriately reflected both the promise and the peril associated with new technologies.”

the convenience of the patient. Second, rather than focusing on disease and disorder, the focus now is more on reducing stress in daily life to prevent a disorder. However, our program also highlighted the dangers inherent in this brave new world, including cyberbullying, cyberstalking, and on-line addictions.

CYPsy19 returned to Washington, D.C., where the meeting

was last held in 2007. The self-proclaimed capital of the free world has been roiled in controversy over the level to which government should engage in on-line surveillance, walking a tightrope trying to sniff out terrorist plots before they endanger innocent citizens, without unnecessarily invading the privacy of those same citizens. The convenience that is so appealing as a means for facilitating therapy is also a boon to terrorists as well as unscrupulous governments who might wish to clamp down on opposition parties. Washington is not just politics, however. Adjacent to the meeting site was the Shrine of the Immaculate Conception, featuring millions of mosaic tiles, and not much further away was the National Arboretum, with colorful azaleas, koi, and Japanese bonsai trees. The many buildings that comprise the Smithsonian are all free of charge and constitute a remarkable collection of art and items of historic interest. Take a walk on the Washington Mall where flowers are in bloom everywhere, and take a selfie in front of the Lincoln Memorial or the Capitol dome. Take an amphibious duck tour of the downtown and the Potomac River. Have a drink at a rooftop or sidewalk café, dine in a wide array of ethnic restaurants, and listen to jazz at Blues Alley in Georgetown.

I hope CYPsy19 provided an inspiration for new ideas for future research, and establish new collaborations while at CYPsy19, but I also hope that you made Washington your home for a few days and received a good taste of all the city has to offer.

Michael Roy, M.D., Col.
2014 Conference Co-Chair
Division of Military Internal Medicine
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Highlights of the 19th Annual CyberPsychology, CyberTherapy & Social Networking Conference

► By Delaney Balderas

The 19th Annual CyberPsychology, CyberTherapy & Social Networking Conference (CYPsy19), the official conference of the International Association of CyberPsychology, Training & Rehabilitation (iACToR), was held in Washington, DC from June 17-19, 2014. Organized by the Interactive Media Institute and the Virtual Reality Medical Institute the conference hosted prominent academic, government, and industrial participants from Europe, North America, South America, the Middle East and Asia. The wide variety of representatives from 16 countries served as Scientific Chairs and on the Scientific Committee, bringing an impressive range of expertise to the foreground. iACToR's Professor Brenda K. Wiederhold and Dr. Michael Roy served as Conference Chairs. CYPsy19's Scientific Committee was led by Professors Willem-Paul Brinkman, José Gutiérrez-Maldonado and Giuseppe Riva. Additionally Professor Stéphane Bouchard acted as Workshop Chair and Professor Pedro Gamito as Website Chair.

Preconference workshops explored the use of technologies in terms of improving wellbeing and social interactions as well as the applications of behavior therapy in virtual reality exposure therapy (VRET). The workshops coordinated by Giuseppe Riva and Andrea Gaggioli of the Istituto Auxologico Italiano proved successful and allowed participants to exchange ideas and research objectives in an exciting and relevant manner.

CYPsy19 officially began following the welcome remarks by the Conference Co-Chairs on the 18th as participants had the opportunity to examine the applications of ICT research within the health-care field with three symposiums. Carlo Galimberti of the Università Cattolica del

Sacro Cuore di Milano, Italy chaired the Virtual Reality Symposium. This was followed by Advances in CyberPsychology and Virtual Reality chaired by Marta Ferrer-García from the Universitat de Barcelona, Spain. Giuseppe Riva chaired a third symposium on Online and Mobile Health.

Following the engaging presentations developers and scientists had the ability to demonstrate their work and converse with interested spectators and colleagues at a poster session and Cyberarium. The Cyberarium gave researchers the opportunity to experience their colleagues' work first hand and to generate valuable feedback.

On Day 2 of the Scientific Conference, U.S. Congresswoman Grace Napolitano delivered her Keynote Address. Congresswoman Napolitano aims to make mental health a priority issue in the United States by revitalizing the Congressional Mental Health Caucus and has hosted briefings on children's mental health, veteran's mental health and suicide prevention. As a prominent policymaker, Congresswoman Napolitano played a vital role in the conference, speaking to the importance of research and development within the growing fields of CyberTherapy and CyberPsychology for maintaining the public's health and wellbeing.

After Congresswoman Napolitano's rousing address, another session of oral presentations began, starting with a forum on U.S. and European Funding Programs chaired by Dave Thomas of the National Institute of Health/National Institute on Drug Abuse. Following this was a symposium devoted to Positive Technology chaired by José Gutiérrez-Maldonado of the Universitat de Barcelona, Spain. Upon

the completion of this stimulating discussion, an awards ceremony commenced. Prof. Andrea Gaggioli won the 10th Annual CyberTherapy Lifetime Achievement Award and Dr. Fillipo La Pagaila received the Clinical Cyberpsychology New Investigator Award. The Young Minds Research Awards were presented to Jonathan Shalom from Israel and the lab of Soledad Quero from Spain.

Following the ceremony, there was a Pain Panel symposium again chaired by Dave Thomas. Additionally students were given the unique chance to display their own work at two Early Innovators Sessions chaired by Willem-Paul Brinkman of Delft University of Technology who also serves as the iACToR Student Specialist Interest Group Director. The final symposium explored ways to combat a troubling new trend in technology with discussions on Cyberbullying and Cyberstalking chaired by Andrea Gaggioli.

The final conference highlight included a Gala Dinner at Das Ethiopian Cuisine as participants celebrated the success of the conference made possible by the commitment of many hardworking individuals. The conference was also gratefully sponsored by many institutions and organizations whose support made CYPsy19 possible. For a full listing of these organizations and other information about the conference, please visit our website: www.interactivemediainstitute.com/cypsy19.

Delaney Balderas
Interactive Media Institute
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Highlights of the 19th Annual CyberPsychology, CyberTherapy & Social Networking Conference



U.S. Congresswoman Grace Napolitano delivers her Keynote Address



Participants having discussions during the Poster Session



Participants during a networking break



Attendees discovering new technologies during the Cyberarium



Prof. Andrea Gaggioli won the 10th Annual CyberTherapy Lifetime Achievement Award



Attendees during a CYPsy19 symposium

A Special Thank You To: CYPSY19 Exhibitors & Supporters



International Association of CyberPsychology, Training & Rehabilitation (iACToR) Conference Participation Report 2014

Med-e-Tel

Luxembourg / www.medetel.eu
9 -11 April 2014

The Med-e-Tel 2014 conference program featured presentations of successful business cases, research activities, pilot projects, practical experiences from health and social care providers, and panel discussions, offering both local and international perspectives on eHealth and telemedicine opportunities and experiences. Attending the conference provided opportunities to meet and network with telemedicine and eHealth stakeholders from around the world, to see technologies and solutions in the expo area, and to forge new collaborations and partnerships with other participants.

Biofeedback Federation of Europe Meeting

Venice, Italy / www.bfe.org
24-28 March 2014

Communication Director Chelsie Boyd attended the Biofeedback Federation of Europe Meeting in Venice this past March. The five day meeting included workshops and a Scientific Day where the latest research in the field was presented. Many participants took advantage of their time in Italy to enjoy a few sights and experience the warmth of their Italian hosts. The different backgrounds of the participants made an exchange of knowledge possible which gave space for new ideas in treating clients or setting up research projects. The scientific program with tracks in Italian, neurofeedback and biofeedback made a real exchange of information possible.

NextMed / MMVR

Manhattan Beach, California / www.nextmed.com
20 – 23 February 2014

NextMed/MMVR21 was the 21st gathering of “Medicine Meets Virtual Reality” since its inception in June 1992. Organized to be an educational environment that stimulates communication and collaboration among scientists, engineers, physicians, surgeons, educators, students, military, government, and industry. It supports the development and adoption of advanced medical technologies for medical care and education. Its goal is to improve precision, efficiency, and outcomes in patient care, practitioner training, and public health. Its curriculum, by combining rigorous assessment with speculative vision, aims to create forward-thinking solutions to health problems.

ATA Annual International Meeting & Trade Show

Baltimore, Maryland / www.americantelemed.org
17-20 May 2014

The ATA Annual International Meeting & Trade Show has been one of the premier forums for healthcare professionals and entrepreneurs in the telemedicine, telehealth and mHealth space. Mirroring the exponential growth of the telehealth industry, the 2014 Annual Meeting and Trade Show was ATA's largest meeting to date. Nearly 5000 telehealth professionals from around the world traveled to Baltimore, to share research, learn best practices and connect with the most cutting edge technologies.



Annual Review of Cybertherapy and Telemedicine 2011

Advanced Technologies in the Behavioral, Social and Neurosciences

Editors: B. K. Wiederhold, S. Bouchard, and G. Riva

\$ 167.00

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Virtual Healers

Brenda K. Wiederhold, Ph.D., MBA, BCIA

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Virtual Reality in the Mental Health arena is barely over a decade old. Because VR is still such a young and focused field, the members of its community have come together as a tight-knit family. In *Virtual Healers*, Dr. Brenda K. Wiederhold, herself a pioneer of VR, sits down in casual one-on-one interviews with more than a dozen of the top researchers of this select group.



Virtual Healing

Brenda K. Wiederhold, Ph.D., MBA, BCIA

\$ 19.95

Along with aliens and time travel, virtual reality (VR) is often thought of as a science fiction dream. Though it was developed nearly five decades ago, the use of VR in the private sector, particularly in the field of patient care, has become a possibility only in the past decade. As programmers are creating more detailed and interactive environments, the rapid advancement of technology combined with decreasing costs has turned VR into a promising alternative to traditional therapies.

Virtual Reality Resources

By Brenda K. Wiederhold, PhD, MBA, BCIA

\$19.95

We, at the Interactive Media Institute, realized early on that it was relatively difficult for professionals wanting to break into the Virtual Reality (VR) field to locate relevant information. While the material was out there, there was no clear organizational structure or database to link it. To solve this problem, we have put together *Virtual Reality Resources*, a relevant compilation for researchers and clinicians alike.



CyberTherapy Conference Archives 1996-2005

A Collection of all abstracts from the past 10 years of CyberTherapy

By Brenda K. Wiederhold, PhD, MBA, BCIA

\$ 29.95

A decade ago, CyberTherapy, then still in its infancy, only existed as a specialized Virtual Reality and Behavioral Healthcare Symposium at the Medicine Meets Virtual Reality (MMVR) Conference. It is now clear that in 1996, we had only begun to realize what promise might lie ahead for both VR technology and the CyberTherapy Conference.

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Abstracts:

19th Annual CyberPsychology, CyberTherapy & Social Networking Conference

Oral Presentations

Virtual Reality

Controlling a Stream of Paranoia Evoking Events in a Virtual Reality Environment

Reza Giga ISNANDA^a, Willem-Paul BRINKMAN^{a,1}, Wim VELING^b, Mark van der GAAG^c, Mark NEERINCX^a

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Abstract. Although virtual reality exposure has been reported as a method to induce paranoid thought, little is known about mechanisms to control specific virtual stressors. This paper reports on a study that examines the effect of controlling the stream of potential paranoia evoking events in a virtual restaurant world. A 2-by-2 experiment with a non-clinical group (n = 24) was conducted with as two within-subject factors: (1) the cycle time (short/long) for when the computer considers activation of a paranoia evoking event and (2) the probability that a paranoia-evoking event (low/high) would be triggered at the completion of a cycle. The results showed a significant main effect for the probability factor and two-way interaction effect with the cycle

time factor on the number of paranoid comments participants made and their self-reported anxiety.

Validation of VR-based Software for Binge Eating Treatment: Preliminary Data

Marta FERRER GARCIA^a, José GUTIÉRREZ MALDONADO^a, Mario AGLIARO LÓPEZ^a, Xantal LOBERA ESPIA, Joana PLA^a and Ferran VILALTA ABELLA^a

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Abstract. This study shows preliminary data on the validity of a new virtual reality-based application for cue-exposure treatment of binge eating in bulimia nervosa and binge eating disorder. Thirty-eight undergraduate students without eating disorders were exposed to several virtual environments with different foods in four different contexts (kitchen, dining-room, bedroom, and bakery/café). Participants were asked to indicate the level of food craving experienced in each situation. They also completed the Spanish version of the State and Trait Food Cravings Questionnaires. The results suggest that virtual reality is an effective technology for eliciting food craving, especially in

the case of participants with high reactivity to food cues, and those who were hungry or experienced strong desire to eat during the experiment.

Simulated Job Interview Improves Skills for Adults with Serious Mental Illnesses

Laura Boteler HUMM^{a,1}, Dale OLSEN^a, Morris BELL^b, Michael FLEMING^c, and Matthew SMITH^c

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Abstract. Adults with serious mental illnesses (e.g., Autism Spectrum Disorder [ASD], schizophrenia, post-traumatic stress disorder [PTSD]) often have difficulties obtaining employment. The Job Interview Training System with Molly Porter, developed in collaboration with Yale and Northwestern Universities and vocational rehabilitation specialists with funding from The National Institutes of Health (R43/44MH080496), allows learners to practice job interviews on computers in a stress free environment. The system includes user-driven educational materials, an interactive job application, a practice simulation with a fic-

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iACToR is the official voice and resource for the international community using advanced technologies in therapy, training, education, prevention, and rehabilitation.

MISSION

Our mission is to bring together top researchers, policy makers, funders, decision makers and clinicians, pooling collective knowledge to improve the quality, affordability, and availability of existing healthcare.

Ultimately, through international collaboration with the most eminent experts in the field, we are working to overcome obstacles and increase access to top-quality healthcare for all citizens. By enhancing public awareness of the possibilities that technology offers, we move toward changing and improving healthcare as it currently exists.

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tional interviewer (Molly Porter), and extensive feedback. SIMmersion's PeopleSIM™ technology allows each conversation with Molly to provide a unique interview experience, enabling users to gain confidence while building skills. The on-screen coach provides insight during the conversation, and a comprehensive after-action review provides learners with feedback on the entire interview. In a randomized control trial, the system was proven effective at improving participants' interview skills and confidence. Ninety-six (96) unemployed adults with ASD (n=26), schizophrenia/other (n=37) or PTSD (n=33) were recruited. Participants were randomized into control (n=32) and experimental (n=64) conditions. The control group was "wait-listed" to receive training, and the experimental group used the training system with Molly Porter. Both groups completed pre- and post-intervention role-play interviews and self-assessment questionnaires. Analyses of covariance showed that the simulation provided a highly significant training effect, with experimental group participants scoring better in the role-play interviews and self-assessing higher than control group participants. By increasing skills and confidence, this system may ultimately reduce the length of unemployment for adults with mental illnesses.

Effects of Simulation Fidelity on User Experience in Virtual Fear of Public Speaking Training – An Experimental Study

Sandra POESCHL^{a,1} and Nicola DÖRNER^a

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Abstract. Realistic models in virtual reality training applications are considered to positively influence presence and performance. The experimental study presented analyzed the effect of simulation fidelity (static vs. animated audience) on presence as a prerequisite for performance in a prototype virtual fear of public

speaking application with a sample of N = 40 academic non-phobic users. Contrary to state of research, no influence was shown on virtual presence and perceived realism, but an animated audience led to significantly higher effects in anxiety during giving a talk. Although these findings could be explained by an application that might not have been realistic enough, they still question the role of presence as a mediating factor in virtual exposure applications.

Assessing the Mental Frame Syncing in the Elderly: A Virtual Reality Protocol

Giuseppe RIVA^{a,b,1}, Silvia SERINO^a, Pietro CIPRESSO^a, Andrea GAGGIOLI^{a,b}

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Abstract. Decline in spatial memory in the elderly is often underestimated, and it is crucial to fully investigate the cognitive underpinnings of early spatial impairment. A virtual reality-based procedure was developed to assess deficit in the "mental frame syncing", namely the cognitive ability that allows an effective orientation by synchronizing the allocentric view-point independent representation with the allocentric view-point dependent representation. A pilot study was carried out to evaluate abilities in the mental frame syncing in a sample of 16 elderly participants. Preliminary results indicated that the general cognitive functioning was associated with the ability in the synchronization between these two allocentric references frames.

Experimental Investigations of Healthcare Communication Processes Using Immersive Virtual Reality Interactions

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Abstract. There is great need to understand how healthcare providers and patients communicate in clinical visits, and how these interactions influence patient experiences and outcomes. There are barriers to using experimental research approaches to address these questions, particularly when the clinical problems under investigation are novel and future-oriented (e.g., communication about genetics and genomics). Use of immersive virtual reality research approaches can overcome many of these barriers.

Overlap between Cybersickness and Anxiety in a Non VR Immersive Task

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Abstract. A few studies have raised concern about the potential overlap between symptoms of cybersickness measured by the SSQ and symptoms of anxiety during virtual immersions. This study assesses the possible overlap between these symptoms by administering the SSQ before and after a task that induced anxiety (Trier Social Stress Test; TSST) without any immersion in VR. Participants were subjected to the TSST and 72 were retained for analysis because they reported an increase cybersickness after the TSST. A principal component factor analysis and a Varimax rotation of all items of the State Anxiety scale and the SSQ was performed to interpret the results. Our results are corroborating, with a stronger methodology, those of Bouchard et al. (2011) suggesting that items 1 and 9

of the SSQ should be considered too biased by symptoms of anxiety to be used to assess post immersion cybersickness in anxious patients. Options for adapting the SSQ to clinical populations will be discussed.

Advances in Cyberpsychology and Virtual Reality

Virtual Patients And Formative Assessment To Train Diagnostic Skills in Bulimia Nervosa

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Abstract. To carry out a diagnostic interview requires several abilities that need to be trained in controlled environments. Virtual Reality (VR) environments are increasingly used in the training of professionals, as they offer the maximum similarity to reality, without the need of facing the student with situations they are not prepared to deal with as yet. The results of the training of diagnostic skills can be also generalized to any other situation in which effective communication skills play a major role. Our aim with this study has been to develop a procedure of formative assessment in order to increment the influence on learning of virtual simulation systems and then assess their efficacy.

A Personal Health Information Toolkit

for Health Intervention Research

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Abstract. With the emergence of mobile health (mHealth) apps, there is a growing demand for better tools for developing and evaluating mobile health interventions. Recently we developed the Personal Health Intervention Toolkit (PHIT), a software framework which eases app implementation and facilitates scientific evaluation. PHIT integrates self-report and physiological sensor instruments, evidence-based advisor logic, and self-help interventions such as meditation, health education, and cognitive behavior change. PHIT can be used to facilitate research, interventions for chronic diseases, risky behaviors, sleep, medication adherence, environmental monitoring, momentary data collection health screening, and clinical decision support. In a series of usability evaluations, participants reported an overall usability score of 4.5 on a 1-5 Likert scale and an 85 score on the System Usability Scale, indicating a high percentile rank of 95%.

Virtual Reality Graded Exposure Therapy with Arousal Control for the Treatment of Combat-Related Post-traumatic Stress Disorder: A Follow-Up Case Series

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Abstract. Important challenges confronting DOD/military medical care are that of maintaining or increasing quality of care and increasing the effectiveness of treatments for warriors diagnosed with Post-traumatic Stress Disorder (PTSD) secondary to their combat deployments to Iraq and/or Afghanistan. Virtual Reality Graded Exposure Therapy with Arousal Control (VR-GET) has demonstrated a positive treatment effectiveness resulting in significant reductions of PTSD symptom severity. This positive treatment effectiveness has been maintained for up to 22 weeks after VR-GET therapy was completed. A robust methodology for the assessment of Virtual Reality efficacy suggests that the ideal time for follow-up begins at twelve months. Others have suggested that follow-up should occur between two and four years post treatment. In this report we describe the outcome of VR-GET for the treatment of combat-related PTSD with three warriors between five and seven years following their having completed treatment.

Feasibility of Articulated Arm-mounted Oculus Rift VR Goggles for Adjunctive Pain Control During Physical Therapy in Pediatric Burn Patients

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Abstract. For daily burn wound care and physical therapy skin stretching procedures, powerful pain medications alone are often inadequate. This feasibility study provides the first evidence that entering an immersive virtual environment using very inexpensive (\$350) wide field of view Oculus Rift VR goggles can elicit a strong illusion of presence and reduce pain during VR. The patient was a 12-year-old male with severe electrical burns on his head, shoulders, arms, and feet. He spent some of his physical therapy in VR, and some with no VR. He reported going “completely inside the computer generated world.” He rated physical therapy during No VR as “moderately fun” vs. “extremely fun” in VR. He reported thinking about his pain “half the time” during No VR, vs. “no time at all” thinking about his pain during VR. He also reported reductions in pain intensity and pain unpleasantness during VR. Results are consistent with a growing literature showing reductions in pain during VR. Although preliminary, these results suggest that the Oculus Rift VR goggles merit more attention as a potential treatment for acute procedural pain of burn patients. Availability of inexpensive but highly immersive VR goggles would significantly improve cost effectiveness and increase dissemination of VR pain distraction, making VR distraction available to many more patients, potentially even at home, and for a wide range of other VR therapy applications. This is either the first or among the first clinical studies to publish on the use of Oculus Rift for any medical application.

Exposure Therapy for PTSD Returns Brain Function to Normal

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Abstract. Functional magnetic resonance imaging (fMRI) is helping us better understand the neurologic pathways involved in posttraumatic stress disorder (PTSD). We previously reported that military service members with PTSD after deployment to Iraq or Afghanistan demonstrated significant improvement, or normalization, in the fMRI-measured activation of the amygdala, prefrontal cortex and anterior cingulate gyrus following exposure therapy for PTSD. However, our original study design did not include repeat scans of control participants, rendering it difficult to discern how much of the observed normalization in brain activity is attributable to treatment, rather than merely a practice effect. Using the same Affective Stroop task paradigm, we now report on a larger sample of PTSD-positive combat veterans that we treated with exposure therapy, as well as a combat-exposed control group of service members who completed repeat scans at 3-4 month intervals. Findings from the treatment group are similar to our prior report. Combat controls showed no significant change on repeat scanning, indicating that the observed differences in the intervention group were in fact due to treatment. We continue to scan additional study participants, in order to determine whether virtual reality exposure therapy has a different impact on regional brain activation than other therapies for PTSD.

Online and Mobile Health

Cognitive Assessment of Stroke

Patients With Mobile Apps: A Controlled Study

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Abstract. Stroke is a major cause of cognitive impairments. New technologies such as virtual reality and mobile apps have opened up new possibilities of neuropsychological assessment and intervention. This paper reports a controlled study assessing cognitive functioning through a mobile virtual reality application. 15 stroke patients recruited from a rehabilitation hospital and 15 healthy control subjects underwent neuropsychological evaluation with traditional paper-and-pencil tests as well as with a pilot version of the Systemic Lisbon Battery (SLB). The criterion validity was the performance of stroke patients vs. healthy controls – which was lower both on the neuropsychological tests and on the SLB for patients. The pattern of correlations between neuropsychological tests and the SLB sub-tests for the respective dimensions showed overall moderate correlations in the predicted directions. We conclude that the SLB applications were able to discriminate the dimensions that they were designed to assess.

A (Cyber)place for Wellbeing: Managing Interactions in e-Health

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Abstract. Yukendu is a personal mobile coaching service that supports people in reaching good levels of psychological and physical wellbeing through the use of an app and a relationship with a health coach. Presenting Yukendu's app functioning, this paper aims not only to show that by means of web 2.0 tools is possible to manage in a functional way effective e-health coaching

interactions, but also that relationships between a coach and a coachee managed in such a way give birth to what we could call a 'cyber-wellbeing-place'.

Intersubjectivity in Video Interview

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Abstract : The concept of relationship has rapidly evolved over the past few years, since the emergence of the internet network and the development of remote communication and

exchanges. The emergence of cyberculture with the internet development has led to a new representation of the social link, in which communication never stops. In this context, computer mediated intersubjective relationships represent a main line of thinking and research. Thus, can we consider for example that relationship is only composed of an informational exchange? Would there be other dimensions possibly missing in computer mediated relationships? In this case, how could we re-introduce these aspects, "re-humanize" the remote relationships? New practices in psychology emerge with the ICT usage, both in the fields of research and for therapeutic purposes. Some fields like medicine already use remote health

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platforms that have proven useful in certain situations. In the field of remote clinical psychology, different media are used that contribute to the framework definition of the remote clinical interview, where the concept of relation holds a central place. Videoconference enables the introduction of an important element from the point of view of sensoriality: the body image, which engages the subjects' interaction in a different way than in a written or verbal exchange. But is the use of videoconference sufficient to establish a clinical framework comparable to the traditional one? How can the computer-mediated relationship enable and establish a potential object relation, rather than a mirrored one?

Thinking through an online adaptation of the clinical interview framework led to the elaboration of a specific tool dedicated to this purpose and to research into the access to intersubjectivity in clinical video interview. This study's encouraging results have fostered the pursuit of this experience in the form of a platform dedicated to the conduction of clinical interviews through videoconferencing for psychotherapists and patients at large. A methodological analysis accompanies this research work, in order to continuously observe this specific clinical practice, which can be used in different fields of psychology and different psychotherapeutic methods.

The Effectiveness of Streaming Video with Web-based Text in Online Course: Comparative Study on Three Types of Online Instruction for Korean College Students

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Abstract. This study is to identify whether three types of online instruction (text-based, video-based, and video-based instruction without text) and age category have a different influence on students' comprehension and motivation. Online students were randomly assigned

to one of six groups, and they attended two-week online lectures via Course Management System. The comprehension test and the short form of Instructional Materials Motivational Survey (IMMS) were implemented when 114 participants accomplished two-week online lectures. The results revealed that using instructional video in online instruction is more effective instructional medium than text only in order to promote learner's motivation. Besides, older adults aged 41-60 are significantly different from younger adults (21-40 years old) in terms of students' comprehension. Furthermore, three types of online instructions are likely to be influenced by age category.

Online Emotional Regulation System to Deliver Homework

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Abstract. Adjustment Disorders (AD) are one of the most frequent psychological problems within the primary care and hospital settings. However, nowadays there are no evidence-based psychological treatments for this problem. Our research team has developed a Cognitive-Behavioral Treatment (CBT) supported by Virtual Reality (EMMA system) which has already shown its utility for AD. CBT approach gives a crucial role to homework assignments, but the use of Information and Communication Technologies (ICTs) to apply them has received little attention by the scientific community. TEO is a completely open Online Emotional Regulation web-based System that allows creating personalized therapeutic material. Positive preliminary data about the acceptability and ef-

ficacy of TEO system in two cases studies has already been obtained. This work presents preliminary data from a controlled study still in progress about AD patients' preferences and opinion about TEO system versus traditional homework assignments. A web-based system of this kind increases the possibilities for therapy, facilitating the patient's treatment adherence and the therapist's work in designing homework assignments.

The Mediating Role of Facebook Fan Page Users' Interestingness Attitude in Electronic Word-of-Mouth Intentions

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Abstract. Expending dual mediation hypothesis, this study investigates the role of interestingness attitude towards the news in the formation of Facebook Fan Page users' electronic word-of-mouth intentions. A total of 599 Facebook fan page users in Taiwan were recruited, and structural equation modeling (SEM) was used to test the research hypotheses. The results show that both perceived news entertainment and informativeness positively influence interestingness attitude towards the news. Interestingness attitude towards the news subsequently influences hedonism attitude and utilitarianism attitude towards the Fan Page, which then result in eWOM intentions. Interestingness attitude towards the news plays a more im-

portant role than hedonism attitude and utilitarianism attitude in generating electronic word-of-mouth intentions. Based on the findings, the implications and future research suggestions are provided.

How Do Clients and Therapists in Online Text Therapy Experience Their Exchanges and Relationship?

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Abstract. The impact of online therapy text exchanges and the client-therapist alliance was compared to previously published means and standard deviations on face-to-face therapy using an aggregate benchmarking strategy. Further, the moderating effects of 4 participant factors found significant in the face-to-face therapy literature was investigated using mixed modeling analytic techniques. Thirty therapists and 30 clients visited an online site to report weekly to complete session impact and therapeutic alliance measures for a minimum of six weeks, which allowed for a naturalistic and nuanced examination of the process of online text psychotherapy. The impact of exchanges and client-therapist alliance in text therapy were similar to but in some respects more positive than previous evaluations of face-to-face therapy. A notable exception was substantially lower Arousal scores replicating the previously-observed online calming effect. The significance of participant factors previously found to influence impact and alliance in face-to-face therapy was not replicated except that therapists with the more symptomatic clients rated their text exchanges as less smooth and comfortable.

U.S. & European Funding Programs

Opportunities and Strategies for Funding the Development and Test-

ing of Cyber Technologies to Reduce Pain

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Abstract. The funding for research and development of cybertechnologies for the treatment of pain has increased steadily in the new millennium. Yet, funding of these promising technologies remains small relative to that for other types of approaches, most notably pharmaceutical approaches. Given that there is a prescription pain treatment abuse epidemic, many funders more aggressively looking to fund research on non-pharmaceutical options for treating pain. Cybertechnologies appear to offer safe and effective alternatives to drugs for various types of pain, but more research is needed to help them get widely adopted into mainstream medicine. This workshop will explore strategies to secure funding for research and development of cybertechnology-based pain treatment approaches.

Funding Opportunities in the Narrative Dimensions of Therapy: Closing the Loop on Reversing Perseveration Against Traumatic Memories

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Abstract. In this talk, I will discuss recent work identifying neurophysiological correlates of the process of marking events for segmentation and storage in long-term memory structures. Exploring these correlates opens possibilities for closed-loop interactive systems which use narrative rehearsal as a form of cognitive-behavioral therapy to potentially alleviate conditions such as post-traumatic stress disorder. This

discussion will lead to a broader consideration of opportunities for both clinical and non-clinical cyber-mediated neural influence exploration. Our brain evolved to interact in the real world, and virtual worlds offer promise for leveraging these evolved mechanisms to produce technologies that can assist with clinical treatment, behavioral influence, a character development.

Financing Options for Tech-Transfer and Commercialization

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Abstract. This brief presentation will offer the perspective of a private investor in brain related companies. The presenter will offer the perspective and priorities of a private investor, and discuss opportunities and barriers associated with various potential sources of nongovernmental funding such as angel and venture capital funding. The talk will also discuss potential partnership models to accelerate commercialization of brain related or cybertherapy products

Stephen Kennedy Smith is a principal at Park Agency - Kennedy Enterprises, the Kennedy family office. He is a graduate of Harvard University and Columbia law school. an attorney and private investor who serves on the board of a number of medical and clean-technology businesses, including the Marwood Group, a Health care advisory firm which advises many of the largest US and European healthcare investment funds

Positive Technology

Marketing Analysis of a Positive Technology App for the Self-Man-

Wounds of War

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New Tools to Enhance Posttraumatic Stress Disorder Diagnosis and Treatment Invisible Wounds of War

Vol. 108 of NATO Science for Peace and Security Series - E: Human and Societal Dynamics
Editor: B.K. Wiederhold
September 2013, 232 pp., hardcover
ISBN 978-1-61499-188-5
Price: €108 / US\$157 / £92

The number of cases of post traumatic stress disorder (PTSD) affecting both combat veterans and survivors of armed conflict has increased in recent years. Exposure to traumatic events can cause PTSD, and the serious consequences of this disorder can often lead to impulsive and destructive behaviors such as drug abuse and uncontrollable anger. Combat related PTSD is also one of the strongest contributing factors to the high suicide risk in returning troops.

This book will provide a valuable resource for all those whose work involves dealing with post traumatic stress disorder.

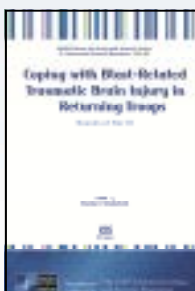
Pain Syndromes – From Recruitment to Returning Troops Wounds of War IV

Vol. 91: NATO Science for Peace and Security Series - E: Human and Societal Dynamics
Editor: B.K. Wiederhold
July 2012, 252 pp., hardcover
ISBN: 978-1-60750-985-1
Price: €120 / US\$174



In October 2011, twenty-seven scientists and representatives from NATO and partner countries met in Südkärnten, Austria for a three-day NATO Advanced Research Workshop entitled “Wounds of War: Pain Syndromes – From Recruitment to Returning Troops.” The book addresses four key questions:

1. Vulnerability to Pain syndromes: Are certain types of people at a higher risk for pain syndromes (background, ethnicity, childhood trauma, etc.)?
2. Diagnosis and Assessment Issues of Pain Syndromes: Which methods are used to diagnose and assess pain?
3. Treatment of Pain Syndromes: What are the latest treatment and therapy opportunities for soldiers who experience pain syndromes?
4. Clinical Updates on Pain Syndromes: What can we learn from recent clinical updates on pain syndromes?



Coping with Blast-Related Traumatic Brain Injury in Returning Troops Wounds of War III

Vol. 86 : NATO Science for Peace and Security Series - E: Human and Societal Dynamics
Editor: B.K. Wiederhold
November 2011, 224 pp., hardcover
ISBN: 978-1-60750-796-3
Price: €120 / US\$174

It has been shown that those who have served in both combat missions and peacekeeping operations are at increased risk for Traumatic Brain Injury (TBI). Research suggests that this may result from their “wounds of war”. Some wounds may be “invisible”, such as depression, stress, and chronic pain, while others, such as physical disabilities, are more obvious. The aim of this publication, is to critically assess the existing knowledge and to identify directions for future actions.



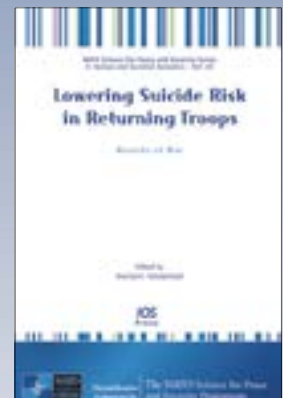
Coping with Posttraumatic Stress Disorder in Returning Troops Wounds of War II

Vol. 68 : NATO Science for Peace and Security Series - E: Human and Societal Dynamics
Editor: B.K. Wiederhold
August 2010, 312 pp., hardcover
ISBN: 978-1-60750-570-9
Price: €135 / US\$196

Military post traumatic stress disorder (PTSD) is a common and disabling consequence of war, terrorism and natural disasters which presents an increasing problem for service men and women around the world. It has been shown that those who serve in both combat missions and peacekeeping operations are at greater risk of developing PTSD as a result of the 'wounds of war'. These wounds may take the obvious form of physical disabilities, but 'invisible' wounds, such as depression, anxiety, stress and chronic pain may also lead to an increased risk of PTSD. This book presents full papers, focused on the key presentations from the NATO Advanced Research Workshop, Wounds of War: Coping with Posttraumatic Stress in Returning Troops, held in October 2009. These papers critically assess existing knowledge in the field and identify directions for future action. The book addresses the five key issues of PTSD: vulnerability, diagnosis and assessment, prevention, treatment and associated disorders. While PTSD may be an invisible illness, its effects are certainly not invisible. Countries must work together to develop prevention and treatment strategies which ensure that service men and women everywhere are able to assimilate back into society to lead productive lives and enjoy the freedom they fought to protect. The purpose of this book is to contribute to this process.

Lowering Suicide Risk in Returning Troops Wounds of War

Vol. 42: NATO Science for Peace and Security Series - E: Human and Societal Dynamics
Editor: B.K. Wiederhold
August 2008, 224 pp., hardcover
ISBN: 978-1-58603-889-2
Price: €115 / US\$167



Lowering Suicide Risk in Returning Troops: Wounds of War discusses the topic of increased suicide risk in service men and women around the world. Research has shown that those who have served in both combat missions and peacekeeping operations are at an increased risk for suicide. Research suggests that this may result from their 'wounds of war'. Some wounds may be more 'invisible'; such as depression, posttraumatic stress disorder, and chronic pain, while others are more visibly apparent; such as physical disabilities. Whatever the wound, however, it seems they may all lead to an increased risk of suicide. In this book, many aspects of military suicide and how to effectively deal with this issue are discussed. Specifically, some of the questions raised are: How do we detect those who are vulnerable to increased suicide risk, possibly due to a combination of genetics and past environmental insults? How do we most appropriately assess for increased risk? Once detected, how do we help to decrease that risk? Are there pre-deployment training methods we can employ to help 'inoculate' individuals against increased risk? Are there in-theater and post-deployment methods most appropriate for dealing with this risk?

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agement of Psychological Stress

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Abstract. The INTERSTRESS project developed a completely new concept in the treatment of psychological stress: Interreality, a concept that combines cognitive behavioral therapy with a hybrid, closed-loop empowering experience bridging real and virtual worlds. This model provides the opportunity for individual citizens to become active participants in their own health and well-being. This article contains the results of the Marketing Trial and analysis of the opinions of individual consumers/end users of the INTERSTRESS product. The specific objective of this study was to evaluate the feasibility, efficacy and user acceptance of a novel mobile-based relaxation training tool in combination with biofeedback exercises and wearable biosensors. Relaxation was aided through immersion in a mobile virtual scenario (a virtual island) featuring pre-recorded audio narratives guiding a series of relaxation exercises. During biofeedback exercises, a wearable biosensor system provided data which directly modified the virtual reality experience in real-time. Thirty-six participants evaluated the product and overall feedback from users was positive, with some variation seen based on participant gender. A larger market study is now underway to under-

stand if there are cultural variations in acceptability of the device.

Positive Technology: A Free Mobile Platform for the Self-Management of Psychological Stress

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Abstract. We describe the main features and preliminary evaluation of Positive Technology, a free mobile platform for the self-management of psychological stress (<http://positiveapp.info/>). The mobile platform features three main components: (i) guided relaxation, which provides the user with the opportunity of browsing a gallery of relaxation music and video-narrative resources for reducing stress; (ii) 3D biofeedback, which helps the user learning to control his/her responses, by visualizing variations of heart rate in an engaging 3D environment; (iii) stress tracking, by the recording of heart rate and self-reports. We evaluated the Positive Technology app in an online trial involving 32 participants, out of which 7 used the application in combination with the wrist sensor. Overall, feedback from users was satisfactory and the analysis of data collected online indicated the capability of the app for reducing perceived stress levels. A future goal is to improve the usability of the application and include more advanced stress monitoring features, based on the analysis of heart rate variability indexes.

Pain Panel

Total Pain and Development of an Instrument to Assess Psycho-Socio-Spiritual Healing

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Abstract. Pain is the discomfort caused by a physical malady. Suffering reflects the degree to which people are capable of enduring their pain and involves psychological-social-spiritual issues and questions like “why me?” It also involves relationships and connections to other people, work, the social environment, nature, the arts, pets, and sometimes to a higher power. It involves grief and losses in life. Total pain is physical pain plus suffering. Because of this irrevocable connection between mind and body, healing pain must involve both. What you think and think and feel about pain makes the difference. The stories you tell yourself and others about pain actually organize and make sense of what you’re going through. Treatment involves medication and complementary modalities including acupuncture, hypnosis, cognitive behavioral techniques, biofeedback, pet therapy, massage, reiki, labyrinths, mandalas, prayer and others. In order to assess psycho social spiritual pain we developed an instrument from a qualitative study of individuals with life threatening illness who had positive life transforming events occur. This session will review the development of the instrument and its use in pain.

A Business Model for Commercializing VR Technology

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Abstract. Despite the large number of studies verifying the value of immersive VR for pain distraction, the approach has had trouble migrating from the laboratory out to general use. This presentation will address the challenge of bringing new technology to the medical market, and describe several viable business models for commercializing VR technology.

Specific suggestions for establishing reimbursement will be discussed. A road-map for technology transfer and business development will be presented.

Cybertherapy and Pain Treatment: Making Connections

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Abstract. Much progress has been made in the use of cybertherapy in the treatment of pain. For example, virtual reality has been found to be useful in reducing a wide range of both acute and chronic pain, and has been used in the promotion of effective physical therapy and psychological wellbeing in pain patients. These promising approaches to reducing pain and improving overall function do not rely on drugs, thus prescription drug addiction or dependence are not concerns. Despite this potential with minimal side effects, wide-spread clinical adoption of cybertechnologies in the treatment of pain has not occurred. This workshop will explore ways to promote the translation of cybertechnologies for the treatment of pain into mainstream pain research and clinical treatment.

Early Innovators Session (Student Symposium)

Eye Movement on 3D Sexual Stimuli of Sexual Offenders

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Abstract. This study aimed to investigate uncontrollable emotional arousal on sexual stimuli of sexual offenders by measuring eye movements on two types of 3-dimensional (3D) female body image. Participants were 40 male sexual offenders (20 sex offenders against children; SOC, 20 sexual offenders against adult; SOA) were recruited from the National correctional service in Korea. Eye movement of participants was measured while they are freely looking at adult-child 3D female image pairs and self-report was measured to assess explicit attitude and attraction on adult and child. (Study in progress) We predicted that self-report measures will not figure out group difference while eye movement results will reveal a group difference. SOC will look at child stimuli first whereas SOA will look at adult stimuli first. In addition, attention pattern of SOC will change as their attention shift from child to adult over time; however, SOA will show constant attentional bias on adult stimuli. This result suggests that eye movement on 3D sexual stimuli can be useful to assess pedophilic sexual deviance of sexual offenders relative to the age of victims. Developing pedophilic sexual deviance assessment tool using eye movement on 3D sexual stimuli can introduce novel clinical approach in the correction service area as it involves emotional aspects of sexual arousal.

Grief Support Groups in Second Life

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Abstract. Online grief support groups serve as an avenue of support for the bereaved. In the past, facilitators have criticized the ability to provide group participants with a sense of therapeutic support, given the lack of face-to-face interaction in online groups. However, with the growing technological advances, 3-D virtual worlds, such as Second Life, may increase a participant's sense of presence and improve their group experience. A web-based survey was utilized to explore facilitator attitudes towards grief support groups in Second Life.

Cognitive Assessment of OCD Patients: Neuro VR vs Neuropsychological Test

Filippo LA PAGLIA^{a,1}, Caterina LA CASCIA^a, Rosalinda RIZZO^a, Flavia CANGIALOSI^a, Margherita SANNA^a, Giuseppe RIVA^b, and Daniele LA BARBERA^a

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Abstract. This study is aimed at evaluation the reliability and validity of the Neuro-Virtual Reality as tool for the neuropsychological assessment in OCD patients. We used neuropsychological battery and a virtual version of the Multiple Errand Test (V-MET), developed using the NeuroVR software, in order to evaluate the executive functions, the ability

to plan ahead on complex problem solving tasks in daily life in 30 obsessive compulsive disorder (OCD) patients and 30 healthy controls. The results showed the presence of difficulties of OCD patients: lower level of divided attention and higher levels of errors; higher mean rank of inefficiencies, interpretation failures and rule breaks and longer time of execution of the whole task. By contrast, controls have higher level of efficiency and better performance. In addition, significant correlation found between the V-MET and the neuropsychological battery confirm and support the ecological validity of neurocognitive assessment through NeuroVirtual Reality.

Usability Assessment of a Virtual Multitasking Test (V-MT) Intended for Elderly People

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Abstract. In the last decades an increasing number of psychological researches have used Virtual Reality (VR) technology in different fields. Nevertheless, a few studies used VEs with a sample of older users. The aim of the present study is to assess the usability of the Virtual Multitasking Test (V-MT), which consists in a virtual apartment created to assess cognitive functions in elderly people. This study reports the preliminary results to support the development of a Virtual Environment (VE) in which elderly people feel present and fully immersed.

Reducing Automatic Action Tendencies to Approach Alcohol Using the Virtual Alcohol Approach Avoidance Task (VA-AAT)

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Abstract. The study aims to retrain hazardous drinkers by counter-conditioning their automatic action tendencies toward alcohol-related environmental stimuli using the Virtual Alcohol Approach Avoidance Task (VA-AAT). 50 undergraduate hazardous drinkers were randomly assigned to either of experimental conditions: implicitly retrained to avoid alcohol (training condition) (n=25), or the control condition in which they receive bogus training (n=25). In the retraining group, automatic action tendencies are reduced by repeated counter-conditioning between their action tendencies and actual movement in the computer screen. The participants were instructed to respond to color signals which appeared immediately after watching the scenes of the alcohol or non-alcohol-related situations and asked to pull or push a joystick. Subsequently, retraining effects were assessed with both implicit and explicit measures: the Implicit Association test (IAT) and the Alcohol Urge Questionnaire (AUQ-K). Expected results were following: After the VA-AAT, compare to participants in the control condition, average IAT D-score of the retraining group would increase and mean AUQ score would decrease. The results from the present study suggest that action tendencies to approach alcohol changed with retraining condition using VA-AAT. Thus, the V-AAT would help develop the virtual environmental alcohol therapy.

Addressing Cultural Contexts in the Management of Stress via Narrative and Mobile Technology

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Abstract. In developing applications for stress management and mental health, developers have largely ignored cultural context in design, opting instead to produce apps for a general audience. However, apps designed without a specific population in mind actually have limited reach. Generally stress trackers and so-called “therapists in your pocket”, these apps tend to be lost among a jungle of other generic apps that appeal only to the quantified self population and those already predisposed to help-seeking behavior. To reach a broader audience, designing for a specific population may have appeal.

The AppHappy Project’s Journey to the West is a mobile app being developed by a multidisciplinary group of students at the University of Pennsylvania. The objective is to promote better stress management and mental health among Asian international college students and facilitate their social integration with the general student population. With a prevalence of depression twice that of domestic college students, a reluctance to engage in help-seeking behavior due to stigma, and the challenge of cultural integration, creating interventions for this population requires a different approach to app-mediated therapy.

Journey to the West packages bite-sized pieces of Cognitive Behavioral Therapy techniques within the framework of a role-playing game. Every element of its design—from its characters to its art style, from its narrative to its mechanics to its approach to community features—is rooted in a culturally appropriate context. An avatar serves as a surrogate of self while experiencing externalized stressors. Each quest blends therapeutic elements into gameplay with the goal of building resilience towards stressful events.

Exploring Identity Motives in Twitter Usage in Saudi Arabia and the UK

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Abstract. This study explores identity motives for using a microblogging site (Twitter) among Internet users in Saudi Arabia and the UK. The former boasts the world's highest per capita use of Twitter, which provides a forum in which users have more opportunity for self-expression than they do in the offline world, and is not subject to the heavy censorship which the Saudi government imposes on other Internet content [1]. Approximately 5000 tweets from the period April-May 2013 were coded and analyzed,

using Motivated Identity Construction Theory as a conceptual framework [2]. This theory proposes six universal identity motives of meaning, belonging, continuity, distinctiveness, efficacy, and self-esteem. We consider these motives in turn, and examine their relative prominence in an online context. Support was found for all six universal motives, but the relative prominence of motives and the ways in which they were pursued appeared to depend on the affordances of both the OSN in question, Twitter and the cultural context in which the user was posting: Saudi users appeared to seek distinctiveness, whereas for British users, belonging was a more salient motive. Themes related to meaning, efficacy, and self-esteem were detected frequently, whereas themes related to continuity were less apparent.

Cyberbullying and Cyberstalking

The Impact of Cyberstalking

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Abstract. Cyberstalking can have a major psychosocial impact on individuals. Victims report a number of serious consequences of victimization such as increased suicidal ideation, fear, anger and depression, as well as post traumatic stress disorder (PTSD) symptomology. The present study aimed to examine individuals who define themselves as having been cyberstalked and the associations between cyberstalking, levels of anxi-



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ety and trauma and the associated symptoms of PTSD.

Parental Mediation and Cyberbullying – A Longitudinal Study

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Abstract. Parents use active and restrictive mediation strategies to guide and regulate children's online participation and the online risks they encounter but changes in parental mediation do occur over time and the effectiveness of these strategies on cyberbullying demands for further empirical investigation. The current study addresses these issues with a sample of 1084 students (49% girls) in a longitudinal, three-wave design. Gender differences were tested via multi-group analyses. Longitudinal growth models showed that parental use of both active and restrictive mediation decreased over time. For both types of mediation, the mean rate of change had a significant effect on boys' engagement in cyberbullying, but not for girls. Initial levels of restrictive mediation, but not active mediation, were found to be significantly predictive of cyberbullying in both genders. Girls had higher initial levels of both parental mediation types in comparison to boys. The results reveal that the effectiveness of active and restrictive mediation in relation to students' cyberbullying differs and informs us on gender differences. The implications of these results for parental education in online mediation are discussed.

Determinants of Effective and Ineffective Coping With Cyberbullying: a Delphi Study

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Abstract. A three round Delphi study was conducted to obtain an overview of all relevant variables involved in ineffective and improved coping behavior as it pertains to cyberbullying among adolescents, in order to systematically develop a theory- and evidence-based intervention. First, 20 key experts listed possible relevant determinants, next 70 experts scored these determinant on its relevance and finally, experts rerated the relevance of each determinant based on group median scores. The experts agreed on 115 variables predicting ineffective (62) and effective (53) coping behavior. New determinants which are found were the extent to which one can adjust behavior upon feedback, impulsivity, self-confidence, communication style, personality, decision-making skills, conflict resolution skills, previous participation in personal resilience training, social relationships, rumors and self-disclosure. We conclude that the Delphi technique is useful and can enable the discovery of new and relevant determinants of behavior.

Online Perspective-Taking as an Intervention Tool against Cyberbullying

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Abstract. This study will examine the use of an online role-playing experiment as a cyberbullying intervention tool. The study will be carried out among 14 – to 18-year old adolescents (N = 200). Respondents will be assigned a fictitious character and a role (perpetrator, victim or bystander) in a cyberbullying situation.

They will be asked to identify with this character and act accordingly in an initiated mock, but realistic online bullying situation. We expect, based on role playing literature and bullying prevention programs, a positive change in the adolescents' behavioral intentions (e.g. defending a victim).

The Experience of Cyberstalking

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Abstract. Cyberstalking (CS) can have major psychosocial impacts on individuals. Victims report a number of serious consequences of victimization such as increased suicidal ideation, fear, anger, depression, and posttraumatic stress disorder (PTSD) symptomatology. Research is largely limited to quantitative outcome research. This study examines the diversity of experiences reported by people who define themselves as having been cyberstalked. Thematic analysis was used to explore 100 CS victim narratives, gathered by means of an online survey questionnaire designed to capture structured text responses. Five emergent themes were evident in the data: control and intimidation; determined offender; development of harassment; negative consequences; and lack of support. Findings identify similarities and differences to traditional stalking, along with the necessity of support for victims and illustration of the negative impacts this form of harassment produces.

Stress and Cyberbullying: Differences Between Victims, Bully-victims and Children not Involved in Bullying



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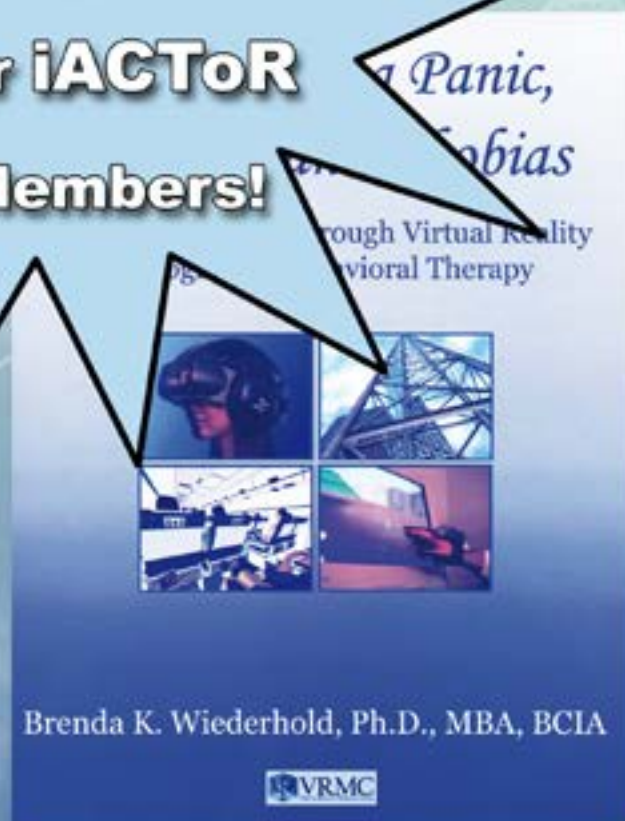
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Abstract. This study examined how coping strategies to deal with daily stressors and cyberbullying are related to depressive feelings and health complaints among victims of cyberbullying between 11 and 12 years old.

Being cyberbullied was measured with the Cyberbullying Questionnaire, general coping with the Utrecht Coping List, and cyberbullying-specific coping with a questionnaire developed for this study. Health complaints were measured with the Short Questionnaire for Experienced Health and depressive feelings with the shortened Children's Depression Inventory.

The results showed that 24.1% of the children between 11 and 12 years old were cyberbullied. It was found that victims differed significantly from bully-victims (i.e. victims that also bully) and from children not involved in cyberbullying, in that they use certain emotion-focused coping strategies for daily stressors in general more than others. Additionally this study found among victims of cyberbullying that coping through emotional expression, avoidance and depressive coping in daily life will lead to more cyber specific depressive coping when confronted with cyberbullying. This in turn will lead to more depressive feelings and/or health complaints for victims of cyberbullying.

Establishing Norms of Deviant Online Behaviors

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Abstract. INTRODUCTION: Victims of online abuse suffer measurable negative effects equivalent to survivors of traumas such as bombings and sexual assaults. Despite this, an attitude exists among the general population that such online behavior is acceptable, and victims often report receiving little support. To better understand individuals' attitudes to specific Deviant Online Behaviors (DOBs) attitudes towards behaviours previously associated with such negative consequences for victims were measured. By investigating individuals' attitudes towards such behaviours we sought to gain an insight into emerging norms of unacceptable online behaviours.

METHODS: Participants were 118 psychology undergraduate students who rated 11 examples of deviant behaviors on a scale of severity. Measures of online cognitions and interpersonal sensitivity were also collected to measure individual differences.

RESULTS: A factor analysis revealed 3 categories of online behaviors: False Information (theft of identity, tricking others), Unsolicited Behavior (unsolicited e-mailing/messaging), and Persistent Communication (frequent contact and use of multiple identities). An ANOVA showed that 'Persistent Communication' was viewed as more unacceptable than 'Unsolicited Behavior' and 'False Information'. None of the measured individual differences significantly predicted attitudes.

CONCLUSION: These findings demonstrate for the first time how specific DOBs are viewed and how individual differences are associated with these perceptions. They also reveal which behaviors are seen as most unacceptable, highlighting the roles played by persistence and repetition in negative communications. This provides an insight into emerging behavioural norms in on-

line domains and can be used in future research in DOB and to educate and the public about acceptable conduct online.

ICTs Tools for the Prevention of Depression:

Improvement of Anxiety and Depression Symptoms

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Abstract. Depression is one of the most common health problems worldwide. According to the World Health Organization it will become the second most important cause of disability in 2020. People suffering from depression often use maladaptive emotion regulation strategies and have low coping behaviour that contributes to the presence of clinical symptoms. It is important to develop strategies to monitor coping and promote emotion regulation in people exposed to high levels of stress which contributes to early detection and prevention of depression. Information and Communication Technologies (ICTs) can help us in this task. The computerization of Cognitive Behavioural Therapies (CBT) has shown to be a powerful means for effective deployment on general mental health care provision. Also, the use of sensors to monitor mood states and changes in stress-related physiological variables can be useful in order to enhance and personalize the psychological treatments. We have developed an intervention program ICT based: Smiling is Fun, which is a self-applied CBT program via the Internet that includes the possibility

of using three types of physiological sensors. The aim of the present work is to present pre-treatment, post-treatment and the 3 month follow up data of the main primary measures.

The Effect of Pleasant and Unpleasant Odours on Presence and Reality in a Virtual Environment

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Abstract. This study compares the levels of presence and reality between pleasantly scented, unpleasantly scented, and unscented virtual environments (VE). Sixty participants are briefed that the project aims to quantify the influence of visual details on presence (they are unaware of the exposure to odorants). To this end, they visit a virtual apartment and verbally rate their levels of presence and reality in five rooms which, according to the (untrue) instructions given to the participant, are depicted to a different level of visual detail. The following scenario serves as background to the immersion: a murder has been committed in the neighbourhood; as a member of a security team, the participant is to search the apartment and look for the murder weapon (the murderer has been sighted nearby). After a period of accommodation in the entrance lobby, the experiment begins when the participant steps into the apartment. From then on, he/she is exposed to suspense/thriller type soundtracks in the hallway and in each of the rooms. While the first four rooms are unscented for all participants, the kitchen is unscented for the control group, and scented with either an odor of apple pie or an odor of urine for the experimental groups. Post-immersion, a questionnaire measures presence in the kitchen. Throughout

the immersion, heart rate and galvanic skin response levels are used as a surrogate measure of presence. Anxiety questionnaires are administered pre- and post-immersion.

The Effects of Inhibition of Body Postures on Emotion: Psychophysiological Responses to Film Stimuli

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Abstract. The goal of this study is to investigate the effects of inhibition of body postures as a strategy for regulating negative emotions. Each of 20 participants was randomly assigned to the three groups (expression, inhibition and control group) and were shown three negative emotional types of movie-clip; sadness, anger, and fear. Inhibition group was informed not to move and keep their body for the whole time, while expression group was instructed to pose certain. Participants in control group watched a movie clip with no instruction. The change in the level of emotional feelings was measured by self-questionnaire and psychophysiological recordings; Skin Conductance Level and Heart Rate. Those who were instructed to inhibit their body postures would rate each clip lower than those in expression and control group. Participants in inhibition group would get lower scores on Skin Conductance Level and Heart Rate than those in expression and control group. These results would indicate that inhibition of body postures may become an essential role of regulating negative emotions.

Development of a VR Application for Binge Eating Treatment: Identification of Contexts and Cues Related to Bingeing Behavior in Spanish and Italian Patients

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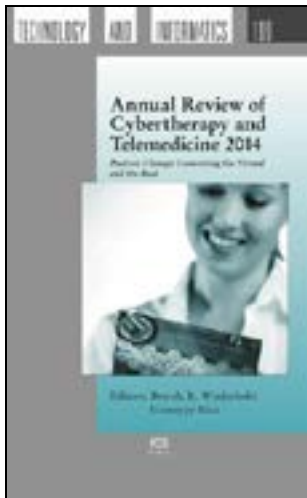
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Abstract. The objective of this study was to identify frequent situations and specific cues that produce the craving to binge in Spanish and Italian samples of patients with eating disorders (ED). There were two main aims: to assess transcultural differences in the contexts and cues that elicit food craving; and to develop valid, reliable VR environments for effective cue-exposure therapy (CET) for patients from both countries. Twenty-six Spanish and 75 Italian ED patients completed an ad hoc questionnaire to assess contexts and cues that trigger the craving to binge. No differences between groups were found. All patients reported experiencing higher levels of craving in the afternoon/early evening and in the late evening/night, between meals, when alone, and more frequently at the end of the week. Being in the dining room, the kitchen, the bedroom, the bakery and the supermarket were the specific situations that produced the highest levels of craving to binge. We used the questionnaire results to develop a virtual reality application for CET.

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Annual Review of Cybertherapy and Telemedicine 2014

Positive Change: Connecting the Virtual and the Real

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The evolution of healthcare delivery systems has included an increased reliance on technology. There has been a significant shift in the nature of care prevention, diagnosis and treatment, which has decreased the importance of traditional methods of care delivery. Cybertherapy has started to make progress in treating a variety of disorders, but more work is needed in a number of areas, including the development of easy-to-use and more affordable hardware and software and objective measurement tools, the need to address potential side-effects, and the implementation of more controlled studies to evaluate cybertherapy in comparison to traditional therapies.

This book, the 2014 Annual Review of Cybertherapy and Telemedicine (ARCTT), presents a carefully structured overview of subjects related to the area of cybertherapy and telemedicine. The book is divided into six sections. An introductory editorial explains the focus of this year's issue, and is followed by a section entitled Critical Reviews, which summarises and examines emerging cybertherapy topics. The third section includes chapters on Evaluation Studies, and the contributions in section four, Original Research, deal with new cybertherapy methods and approaches. The fifth section, Clinical Observations, includes case studies and research protocols with long-term potential, and the final sixth section presents papers describing future research work.

The book will be of interest to both health professionals and patients, and to anyone else interested in the continued improvement of healthcare systems.

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working Sites?

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Abstract. The purpose of this study was to explore people's conceptual understanding of Social Networking Sites (SNSs) through exploring the combined use of a range of popular SNSs, including Facebook, Twitter, Myspace, Instagram, Tumblr, LinkedIn and Google Plus. Seventy-three adults, aged 18 to 63, participated in an online survey that used open-ended questions to ask how participants define and use different SNSs. Four themes were identified, including the explicit presentation and interpretation of different selves, the love-hate relationship with SNSs, privacy and danger concerns, and limited SNS knowledge. The findings from this study suggest that researchers need to consider how people use SNSs in combination as this influences the decisions people make about which SNS accounts they use and how they present themselves on these sites.

Thinking Outside the Box When Using Virtual Environments with Patients

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Abstract. The evidence for the efficacy of virtual reality (VR) as a treatment tool for different mental disorders has been growing rapidly in the past few decades. Every year, new virtual environments (VEs) are created and new perspectives in treatment are developed. However, in the mind of many people, the possibilities of using a VE in research or

treatment often seem limited to the specific disorder it has been developed for. This mindset restricts the dissemination of this technology. Thus, the objective of this paper is to broaden the horizons of how VEs could be used in clinical settings. This demonstration will be done with the help of case illustrations. The advantages of such perspective are also discussed.

The Effect of Interpersonal Trust in the Contagion of Anxiety by the Smell of Fear

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Abstract. For this study, we attempted to replicate the effect of the smell of fear on the anxiety of another person subject to this scent, adding an interpersonal context presented in a standardized way through virtual reality. The study has two distinct phases. First, we collected perspiration odours from the armpits of 14 male participants aged 18 to 50 years. The two samples were collected by gauze during the viewing of either fear or joy inducing film clips. The second phase involved 52 women aged 18 to 50 years. While immersed in a bar presented in virtual reality (six-sided CAVE-like system) and exposed "blindly" to one of the scents that had been generated during the first phase, these women were asked to rate the level of trust felt towards a standardized virtual character. Participants exposed to the odour of fear were significantly more stressed. Results also suggest that the effect of the smell of fear is influenced by social dimensions of the virtual character, which is the unique contribution of this project. More specifically, the more partici-

pants trusted the virtual character, the less the smell of fear induces anxiety.

Poster Presentation Abstracts

An Online Self-applied Program for Drug Use Prevention in Adolescents (PREVEN-TIC FORMATIVO): the Professionals' Assessment

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Abstract. Drug use is a major public health problem that affects all society. There is general agreement on the importance of prevention, especially in adolescents. In recent years there has been a great effort to design, validate and implement prevention programs among children and adolescents. These programs emphasize the importance of strengthening "protective" factors in children and adolescents, in order to prevent the onset of drug use. New Technologies of Information and Communication Technologies (ICTs) are becoming a very useful tool in this area, allowing to combine learning and fun, which makes the process of learning new knowledge or skills more attractive to teenagers. Our group has developed the program named PREVENTIV FORMATIVO, an online program, self-administered via a web page, which allows training strategies that promote assertiveness, autonomous decision-making, identification, expression and control of emotions, and acquisition of social skills such as handling peer pressure. The objective of the present work is to present preliminary data regarding the program PREVENTIV FORMATIVO assessment by health professionals and experts in usability. The sample was composed of 17 health professionals and technicians of usability. Results show that professionals evaluated the program positively and they consider that it is useful, ease of using, and even better than other existing pre-

vention programs known by these professionals.

An Exploration of the Impact of the Utility of a PCIT Mobile App on Treatment Efficiency and Attrition

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Abstract. PCIT is an evidence-based behavioral intervention for children exhibiting emotional and behavioral disorders (Brinkmeyer & Eyberg, 2003). PCIT has been found to have several profound short- and long-term effects for families who graduate from treatment. However, attrition rates for PCIT have ranged from 32 to 56%. Children who prematurely drop out of treatment continue to demonstrate significant problems over time. Another particular difficulty of behavioral parent training programs is generalization of skills to natural environments. That is, PCIT therapists find that families may not practice the learned parenting skills outside of session in the manner that they were intended. Parents may also have difficulties using the skills effectively during real interactions with their child in their natural environment versus a simulated interaction during actual therapy sessions. While PCIT Therapists provide parents with handouts that explain skills in more detail, parents often misplace handouts given to them. Further, the extent that written materials match a parents' learning style may also dictate rate of CDI and PDI concept and skill acquisition. These treatment limitations may impact the rate at which families complete treatment and ultimately the number of families who can receive PCIT. As such, mechanisms for increasing family engagement in therapy and retention into services are needed to improve the overall long-term functioning of families.

To help increase family engagement in therapy and retention into services, UM PCIT and UM TeleHealth

is developing a mobile PCIT app. This mobile app will provide families with constant access to support and resources outside of therapy sessions. Specifically, this app will provide parents with a multimedia resource that includes video and audio demonstrations and examples of skills and treatment strategies (e.g. video examples of using PRIDE skills during special time and in natural environments, how to use time-out in public places, etc.). The aim of the study is to determine if usage of a PCIT app during therapy increases the efficiency of treatment and allows families to graduate in fewer sessions relative to traditional PCIT. Specifically, families will be randomly assigned to receive traditional PCIT services or receive PCIT plus mobile app services. Results will be measured by examining the number of sessions needed to reach CDI and PDI mastery and treatment completion with the mobile app compared to traditional PCIT. Further, it is expected that there will be less attrition in the PCIT plus mobile app group as families will have access to more resources to learn and understand PCIT skills. Gaining insight on the ability of a PCIT app to improve treatment efficiency may not only help more children who exhibit emotional and behavioral disorders, and strengthen the quality of parent-child interactions, but also result in significant healthcare savings, as shorter treatment length means less costs associated with therapist time, family transportation, space, materials, and equipment.

NeuroDRIVE: A Novel Approach to Cognitive Rehabilitation for Traumatic Brain Injury in a Virtual Environment

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Abstract. Driving is cognitively challenging, requiring synchronization of multiple processes, includ-

ing reaction time, visuospatial skills, attention, executive functions, and planning. TBI survivors can experience cognitive deficits that interfere with these processes, increasing the risk for motor vehicle accidents. Currently, there is a need for cognitive rehabilitation that integrates both cognitive and functional approaches to improve driving skills, with translation to more general cognitive abilities. Virtual reality (VR) driving rehabilitation can provide the challenge necessary to stimulate a range of cognitive and motor processes.

Research has shown training attention and working memory improves overall cognitive functioning. Our group has developed an innovative approach to cognitive rehabilitation delivered within a VR driving environment. The training incorporates a three-tiered approach, focusing on attention, working memory, and driving aspects integrated within realistic scenarios. This novel approach provides rehabilitation of specific cognitive modalities, while facilitating improvement in real-world activities. Preliminary data of this VR system suggest VR driving rehabilitation can improve driving ability for those with moderate-to-severe TBI. This presentation will provide information about the NeuroDRIVE intervention to be employed in an upcoming study among individuals with TBIs of all severities. We expect NeuroDRIVE will enable improvements in cognitive functioning for all severities.

NeuroDrive is a unique approach to cognitive rehabilitation. Support for this intervention would result in better functional treatment for TBI survivors. This training could then be evaluated within other conditions in which driving ability may be influenced by cognitive impairments, such as stroke, and brain tumors, ADHD, and multiple sclerosis.

Social Anxiety and Physiological Arousal in Computer-mediated vs. Face-to-Face Communication

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Abstract. Surveys point to specific effects of computer mediated communication (CMC) on individuals with high social anxiety. However, little is known about the actual experience of CMC for the socially anxious and in what ways it differs from experience in face to face (FTF) interactions. Using an experimental interaction task, we assessed participants with high and low social anxiety during interactions in both CMC and FTF. We assessed self-reported anxiety, arousal, avoidance, perceived performance, and perception of control in CMC and FTF. In addition, we assessed physiological indices of arousal during both CMC and FTF. Both interaction tasks were associated with significant increases in subjective and objective measures of arousal compared to baseline. Although subjective anxiety and arousal were higher in FTF than in CMC, objectively measured physiological arousal showed no significant differences across the two conditions. Highly social anxious individuals experienced higher subjective anxiety and arousal, but no differences were found in physiological arousal during the two tasks. Perception of performance differed across the two conditions only for the socially anxious group. Results indicate that although CMC interactions involve some anxiety (physiological arousal), subjective experience of anxiety is lower than in FTF. The attraction of CMC for those with high social anxiety may be driven by a more positive perception of their own performance during CMC. Further study of subjective and objective indices of anxiety is needed in a range of CMC to better understand the experience and potential effects of CMC to the socially anxious.

The Effects of Evaluative Conditioning and Virtual Alcohol Approach-avoidance Task to Modify Drinking Attitudes in Alcohol Abusers

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Abstract. The present study aimed to investigate the change of emotion and motivation through Evaluative conditioning (EC) and virtual alcohol approach avoidance task (VA-AAT) for alcohol-related attitudes and behavior on alcohol abusers. Sixty hazardous drinking participants were recruited by the scores on Alcohol Urge Questionnaire (AUQ-K). Participants were randomly assigned to one of the three groups (EC group, n=20; EC & VA-AAT group, n=20; EC & control group, n=20), and their explicit (AUQ-K) and implicit (IAT) attitudes toward alcohol were measured in 3 sessions for 2 weeks. The results of participants in EC and VA-AAT group significantly would decrease both explicitly and implicitly toward alcohol-related behaviors than the other groups. These results indicate that the three of session the EC and VA-AAT would effect in alcohol treatment. These results would imply that the change of the emotion and motivation through EC and VA-AAT effects on alcohol attitudes and behavior.

Peer Influences Positively Predicted Adolescent Internet Addiction via Positive Outcome Expectancy of Internet Use among Junior High School Students in Taiwan: One-year Follow-up Study

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Abstract. Introduction Although peer influences and outcome expectancy have been found to be predictors for substance use among adolescents, their roles in internet addiction (IA), although are becoming more prevalent in recent years, remains unclear. The present study incorporated a longitudinal study design to examine the

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prevalence of IA and whether peer influences positively predicted adolescent IA via positive outcome expectancy of IA among adolescents. **Method** A representative sample of 2290 junior high school students were recruited by a stratified and cluster sampling in 2011 and were followed in 2012. Participants completed the Scale for Outcome Expectancy of Internet Use, the Peer Influences of Internet Use Questionnaire and the Chen Internet Addiction Scale. **Results** The prevalence of IA among junior high school students was 12.1 % for 2011 and 13.5% for 2012. Hierarchical multiple regression analyses and Sobel Test revealed that positive outcome expectancy of internet use (1st year) significantly and positively predicted IA (2nd year) after controlling for IA scores (1st year). Moreover, peer influences positively predicted adolescent IA via positive outcome expectancy of internet use (2nd year). **Conclusion** This is the first study to report the prevalence of IA among junior high school students in Taiwan. Positive outcome expectancy of internet use predicted and mediated the effect of peer influences on IA among adolescents. **Discussion** Coping skills should be taught on how to deal with peer pressure and modifying techniques can be incorporated on the outcome expectancy of internet use when designing intervention programs for IA among adolescents.

Towards the Integration of New Technologies in Clinical Practice: the Facebook Case

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Abstract. In the era of Web 2.0, social networking and more specifically Facebook are essential means of exchange for all young people. The current case study examines whether digital activity and self-presentation patterns within this virtual interface, by bearing traces of different conflict resolution arrangements, are inscribed in personal psychological dynamics. In other words, the objective is to investigate if (and if so how) the

subjects' current psychological issues and their attitude towards those are reflected in their Facebook activity. To examine this issue, two teenage girls were initially given the projective Rorschach test and then they completed two questionnaires about their narcissism and self-esteem and a questionnaire concerning the girls' Facebook activity. All data collected in this way is analyzed in the light of clinical impressions shaped during the consultation as well as of elements of their personal history. Results indicate that certain conflicts at stake for the two teenage girls in question along with their defensive operations are highlighted through the analysis of their online self-presentation. The analysis of the digital activity within Facebook could, in addition to traditional tools (clinical interview, projective methods, scales / questionnaires), be supportive to our clinical approach. New technologies constitute a solid component of our everyday activity and current clinical practice should by all means benefit from those.

The Virtual Multitasking Test as an Ecological Assessment Tool for the Study of Executive Ageing

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Abstract. Executive function is a complex cognitive entity that begins to slowly decline in late adulthood. Traditional paper-pencil clinical assessment of organization, flexibility, decision making, and inhibition is known to lack sensitivity and ecological validity [1]. Virtual reality offers the possibility to more sensitively address the executive functions and to create assessment close to daily living demands as well as highly ecological environment. The Virtual Multitasking Test (V-MT) is a virtual environment designed to generate cognitive overload through multiple tasks, to measure organization, time management, cognitive flexibility and prospective memory [2]. This environment includes a vir-

tual apartment with an entryway, a kitchen, a living room, a bathroom, two bedrooms, and an office. The aim of this study was to compare elderly, without motor or cognitive impairment, and young adults V-MT performances while controlling for immersive tendencies and feeling of presence. Total time, time to complete important tasks, number of tasks completed, and order of tasks completion were all performance measures. Compared groups analysis (t-test with Bonferroni adjustment) yielded three significant results: elderly were slower to complete the whole test ($t(17) = 4.53$; $p < .001$), they were less organized ($t(17) = 2.95$; $p < .01$) and got more cognitively overloaded ($t(17) = 3.10$; $p < .01$). Interestingly, no immersive tendencies or presence differences were detected. However, immersive tendencies remained the best predictor of overall efficacy ($r = .71$, $p < .001$; $R^2 = .59$). These findings are highly encouraging for the novel field of cognitive ageing research through virtual reality technology.

Systematic Development of Pestkoppenstoppen, an Intervention for Cyberbully Victims

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Abstract. The 'Online Pestkoppenstoppen' (Stop Bullies Online) program is a theory- and evidence-based, fully automated web-based tailored advice for cyberbully-victims (12-15 years), developed with the Intervention Mapping protocol. This article gives an integrative insight into the development of the program, the program goals, relevant determinants and the intervention content.

Indirect Assessment on Cognitive Association of Sexual Offenders: Using Computerized IAT

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Abstract. Because sexual offence is serious crime, It is important to find their nature specifically. But, there was difficulty to discriminate sexual offenders relative to victim's age using explicit measure. Implicit Association Test (IAT) is novel tool which make up for it. IAT measures implicit attitude that makes assessment accurately. And it is computerized, so easy to use and modify. In this Study in progress, five kinds of explicit measurements and two kinds of IAT are used to measure sexual offender's cognitive distortion and to discriminate them; 19 sexual offenders against child (SOC), 21 sexual offenders against adult (SOA) and 21 The program consists of three web-based advices - delivered over three months - that are tailored to the participant's personal characteristics such as self-efficacy, personality, coping strategies used and (type of) irrational thoughts. The first advice aims to teach participants how behavior is influenced by the thoughts they have. They will learn how to recognize, dispute, and replace irrational thoughts with rational thoughts.

In the second advice, participants will learn about the use of effective coping strategies in order to stop (online) bullying, how bullying emerges and how their behavior influences bullying. Tailored to their scores on health and behavioral problems they receive additional lessons aimed at improving social skills (e.g. starting a conversation, asking questions, empathy, planning social activities).

In the third advice, participants will learn how to use the Internet and mobile phones in a safe manner. Tailored to their performance, participants will also receive additional lessons in changing irrational thoughts and effective coping strategies.

All learned skills are transferred to practical situations via coping planning and implementation intentions. Other methods used are for example modeling, guided practice, persuasive communication and consciousness raising. To ensure the program's implementation, the intervention was pretested in the target-popu-

lation and an implementation plan was designed.

The College Students' Satisfaction Related to Expectation and Interaction in the Online Counseling Courses

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Abstract. Online education is moving forward with more interactive environments due to the availability of new technologies. In addition, many researchers have represented that interaction and high motivation are very critical factors in order to improve students' motivation and teaching effectiveness in online learning and education. Therefore, it is very meaningful for students and educators that motivation and effectiveness are observed by positive expectation and interaction satisfaction in their online counseling courses. For this study, two important instruments are used: Modified Short Forms of Instructional Materials Motivation Survey and Student Evaluation of Online Teaching Effectiveness. Results show that high expected students who are satisfied with interaction indicate higher motivation and evaluation on the online teaching effectiveness than low expected students who are not satisfied with interaction.

Patients' Expectations and Satisfaction with Traditional CBT Versus CBT Supported by ICTs

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Abstract. Within evidence-based

cognitive-behavioral treatments (CBT), the use of exposure is one of the great success stories in the field of mental health treatment. However, despite the proven efficacy of this technique, it is not widely used among therapists due mainly to ethical concerns about its safety and tolerability. Information and Communication Technologies (ICTs) could help to improve these issues. The aim of this study was to compare the patients' expectations before treatment and treatment satisfaction towards Traditional CBT versus CBT supported by ICTs. The sample was composed of 276 patients with emotional disorders. In general, all participants reported high expectations and satisfaction with the treatment. However, differences were found in terms of acceptability: VR was better considered than other ICTs and the traditional condition was assessed as more aversive compared with ICTs.

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VRMI is a Belgian SME with expertise in simulation technologies in three main areas: 1) treating patients with stress, anxiety, and trauma, 2) training for military medical and civilian first responder populations, and 3) enhancing medical educational programs. A relatively new start-up, VRMI has established affiliates in both China and the U.S.

VRMI serves on the EU grants as both a Dissemination and Exploitation Workpackage Leader and a Clinical Partner, using a Combined Communications Platform of an annual international conference, specialized workshops, clinician training courses, a peer-reviewed scientific journal, a quarterly magazine, and a website information portal as tools to inform and educate the general public, policymakers, funding agents, industry and academia.

In addition VRMI has a private clinic at the Brussels Life Sciences Incubator for patient care to transition protocols and clinical products developed in the laboratory setting into actual clinical use. Having been involved in R&D projects in Europe, Asia, and the U.S. for the past 25 years, the principals of VRMI have won over 50 competitive government contracts and are now actively involved in marketing the developed products and protocols. (<http://www.vrphobia.eu> and <http://www.vrphobia.com>).

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The Interactive Media Institute (IMI) is a 501c3 non-profit organization working to further the applica-

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The Institute is also active in conducting research and clinical trials, and specializes in virtual reality, telehealth, videogame virtual reality, and human-computer interaction research. IMI is actively working with world leaders who are experts in utilizing virtual reality, multimedia, computer-generated avatars, personal robots and other technologies to treat patients with both mental and physical disorders. IMI is approved by the American Psychological Association to offer continuing education for psychologists.

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VRMC currently uses virtual reality For the past 10 years, The Virtual Reality Medical Center (VRMC) has been using simulation technologies in three main areas: 1) treating patients with anxiety disorders, 2) training for both military and civilian populations, and 3) enhancing various educational programs. With U.S. offices in San Diego, West Los Angeles, Palo Alto, California and an office and manufacturing facility in Orlando, Florida, VRMC is a world leader in applying virtual reality technology in combination with physiological monitoring and feedback for training, therapy, and emerging applications. We are also focused on developing a comprehensive protocol to address an array of needs for military personnel and civilian first responders as well as emerging technologies for various security and intelligence operations.

-VRMC operates and manages psychology clinics staffed by licensed clinical psychologists devoted to using cognitive-behavioral techniques

combined with virtual reality exposure therapy for the treatment of various disorders in both adults and children.

-VRMC designs, develops and markets advanced virtual reality systems for mental health care.

-VRMC performs and participates in several researches funded by government.

-VRMC's non-profit company IMI sponsors national and international workshops, meetings, and continuing education courses.

As a company specializing in developing simulation software and virtual reality systems to facilitate medical therapy, our mission is to create, test, validate and deliver highly effective experiences using innovative technology integrated with medical science. We have extensive knowledge in the creation of interactive software for clinical treatment, and our graphics and software teams are skilled in the development of interactive 3D worlds. Our clinically validated products include Airport and Flight VR, Fear of Heights VR, and Virtual Reality Pain Distraction. We support military medicine by providing PTSD treatment, Stress Inoculation Training, and Combat Medic VR training programs for military medical personnel. Our diverse customer base shows we are committed to expanding our advanced technology to additional medical areas and delivering improved products for clinical use.

The Virtual Reality Medical Center uses Virtual Reality-enhanced Cognitive Behavioral Therapy (VR-CBT) to treat clients with panic disorder, specific phobias, agoraphobia, and social phobia. Specific phobias are conditions such as fear of flying, fear of heights, claustrophobia, fear of driving, fear of thunderstorms, arachnophobia, and fear of public speaking.

Virtual reality exposure therapy places you in a computer-generated world where you "experience" the various stimuli related to your phobia. You will wear a head-mounted display with small TV monitors and stereo earphones to receive both visual and auditory cues.

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Annual Review of CyberTherapy and Telemedicine
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Advanced Technologies in Behavioral, Social and Neurosciences

Volume 167 Studies in Health Technology and Informatics

Editors: B.K. Wiederhold, S. Bouchard and G. Riva

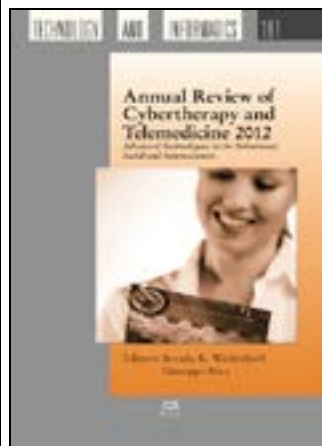
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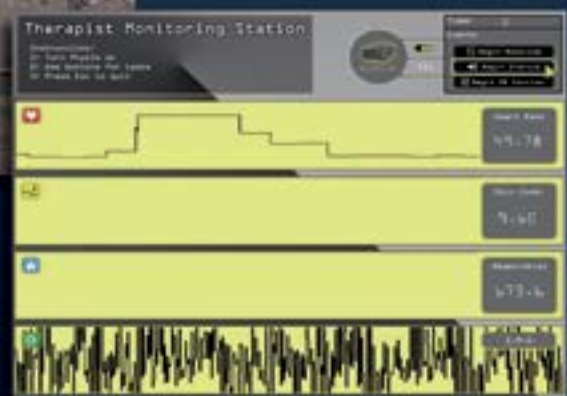
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