Futuristic trends in Psychology

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The fundamental basis of analyzing the psychological impact on the internal and external environment is observation. Our civilization is a fluid framework which is subject to constant changes. This makes psychologists an integral part of society in observing change and to create awareness of the mental health issues and problems around us. Furthermore, this enables psychologists to understand the needs of individual or unitary groups as a whole, thereby opening the door to working in an interdisciplinary arena.

In the recent few years our society has been flowing through accelerated fluctuations in business, medical, social, education, forensic, culture, and many such areas, resulting in increasing the demand of psychological services simultaneously making this fraternity an inclusive and interesting field of study and research. With the growing demand, psychological practioners are also adopting novel methods of practice and counseling. Based on the current patterns it can be hypothesized that the capricious transformations in the society will be a stable and key element in the future.

1) Artificial Intelligence and Mental Health

Artificial intelligence has revolutionized the field of Machine Learning. In simple terms, Artificial Intelligence refers to the development of computer-based systems concerned with human like cognition of decision making, problem solving including the ability to see, talk, understand and translate spoken and written language. The need of A.I. is less researched in the psychological field; however, it appears to have a wide scope in shaping mental health disorders involving speech, listening, learning, and writing skills. Having said that, A.I. based tools such as text-to--to-speech can be developed for the visually impaired. A.I. is driven by innovation; therefore, integrative tools converting conscious thought to speech can be developed for the speech impaired. Furthermore, A.I. augmentation can be cultivated to scan brain areas in unknown disorders having a psychological impact. Additionally, A.I. can be used to predict future abnormalities by brain mapping the present psycho-social and emotion regulating abilities and behavior of individuals. Along the same lines, a progression of present psychological abnormalities can be analyzed using A.I. Finally, certain A.I. wearable

tools like digital commonly known as smart watches can be designed in a curated manner to identify the distorted thoughts of an individual and thereby lead to prevention of suicide.

2) Artificial Intelligence and Psychometrics

An article published in Behavior Research and Therapy notes that, digital technology has made the task of surveying people easier for researchers by improving how assessment questionnaires are delivered and interpreted which, “until recently, have been largely in pencil-and-paper format and manually scored”. Therefore, amalgamating the efficient systems of Artificial Intelligence with Psychometrics can lead to creating tools that will measure aspects that are often overlooked in present paper-pencil tests particularly involving variables of intelligence, personality as well as psychological disorders such as anxiety, depression, suicidal tendencies and anti-social activities.

3) Novel drugs

Psychedelics are a subclass of hallucinogenic drugs that have the main effect of stimulating non-normal mental states (called psychedelic experiences or psychedelic "trips") and/or apparent expansion of consciousness (GK Aghajanian & GJ Marek, 1999). Sometimes, they are called classic hallucinogens, serotonergic hallucinogens, or serotonergic psychedelics. The classical psychedelic drugs include mescaline, psilocybin, dimethyltryptamine (DMT) and d-lysergic acid diethylamide (LSD) which is a synthetic compound that was first synthesized in 1938. Many classic psychedelics are naturally occurring, but can also be synthesized from plant-derived materials. mescaline is derived from the peyote cactus and psilocybin from numerous species of mushrooms. DMT and many of its analogues can be synthesized, but DMT is found in numerous plants indigenous to South America. Ayahuasca, contains DMT which is found in the jungles of South America, has been used by traditional cultures for centuries. It also contains monoamine oxidase inhibitors (MAOIs) which block the breakdown of DMT in the liver and thereby facilitate its hallucinogenic effect. The renaissance of psychedelic research has highlighted the neurophysiology of altered states of consciousness induced by classical psychedelics, such as psilocybin and LSD, whose effects are mainly mediated by agonism of serotonin receptors.

According to Dr. Jerrold Rosenbaum, the director of the newly established Center for the Neuroscience of Psychedelics at Massachusetts General Hospital and former psychiatrist-in-chief at MGH, emphasized that Psychedelics induce the brain to change transiently in ways that appear to allow a reset to take place and permit alterations in previously frozen,

monotonous and distorted ways of feeling and thinking about certain things. Psychedelics function in several ways namely, creating brief new connections in the neural networks while the resting state of the brain loses connectivity then it restores itself. In this way, psychedelics shift the stuck patterns of thinking. Also, new connections between neurons are formed, a process widely known as neuroplasticity. Finally, the psychedelic drugs themselves can put patients into a transient state where they can better process memories, feelings, and past trauma, and can re-emerge with a new perspective on them that is freeing and healing also called psychedelic-assisted therapy.

Integrating psychedelics in therapeutic practice will require advisory and regulatory guidelines. Relatively recent research published *Psychedelic Spotlight* in 2022, involved clinical trials, mainly in high-income countries, presented early yet promising results on the potential use of psychedelics to treat a range of mental health disorders in combination with conventional psychotherapies. Additional research indicates incorporating psychedelics into therapy as a pharmacological alternative particularly for those who are resistant to, or cannot tolerate, the conventional treatment interventions involving pharmaceutical drugs such as selective serotonin reuptake inhibitors or other non-pharmaceutical interventions and psychotherapies as well as for patients with severe mental health disorders, such as PTSD.

A 2021 randomized clinical trial study published in *JAMA Psychiatry* revealed that psilocybin-assisted therapy was efficacious in producing large, rapid, and sustained antidepressant effects in patients with major depressive disorder. Another 2021 study in the *New England Journal of Medicine* found that patients with moderate to severe major depressive disorder who received two doses of psilocybin did just as well if not better at six weeks than patients who received daily dosages of the antidepressant medication escitalopram. A 2021 study published in *Nature*, which was a randomized, double-blind, placebo-controlled study (the gold standard for research), showed that MDMA-assisted therapy is highly efficacious in individuals with severe PTSD, and treatment is safe and well-tolerated.

Psychedelic assisted therapy does not involve the use of psychedelics alone for therapeutic purposes. It is the combination of psychological therapies like Cognitive Behavioral Therapy (CBT) along with psychedelics that facilitate recovery and enhance improvement in patients with mental health disorders. Given the combination of conventional therapies with psychedelics psychedelic-assisted psychotherapy, encompasses meticulous preparation involving professionally trained psychiatrists, psychotherapists and other facilitators. The preparations include an intake and medical screening of the patient, one or multiple hours-

long supervised psychedelic (administered) sessions that are guided and supervised by trained therapists, and then extensive integration sessions. (Tupper et al., Kyle T. Greenway et al.; Marseille, Bertozzi, and Kahn). Therefore, it is to be that it is not the psychedelic substances singularly that is eliciting recovery but their combination with the broader sequence of psychotherapy with trained psychiatrists and psychotherapists that ensures the therapeutic benefit. As at February 2023, there were 450 registered clinical studies on the use of psychedelics, conducted mainly in the United States, Canada and Europe, that are looking into the therapeutic effects of psychedelics (Andrew Penn et a.; Evgenia Fotiou). Many of these clinical trials involve multidisciplinary teams and different approaches. Although the past and current research provides supervised use of psychedelic substances, additional research may be required to establish protocols, medicinal guidelines as well as working in an interdisciplinary network to expand the psychedelic assisted therapy. Additionally, the most of the researches are mainly based in high-income countries, therefore expanding the approach of incorporating psychedelics into therapeutic and medicinal use in middle-low-income countries already rich in tradition of consciousness altering substances may be researched in near future. These studies suggests that such medical treatment will require demanding infrastructure and substantial resources, along with abundant research and clinical trials in the future.

4) Cardiac Behavioral psychology

In Cardiac Psychology, Dr. Robert Allan demonstrates his approach to working with patients who have or are at risk for coronary heart disease, the leading cause of death and disability in Western civilization. To date, there has been relatively little translation of this growing knowledge base into cardiology practice. Four initiatives are proposed to meet this challenge: 1) promulgating greater awareness of the potency of psychosocial risks factors; 2) overcoming a current "artificial divide" between conventional and psychosocial risk factors; 3) developing novel cost-effective interventions using Internet and mobile health applications, group-based counseling, and development of tiered-care behavioral management; and 4) in recognition that "one size does not fit all" with respect to behavioral interventions, developing specialists who can counsel patients in multidisciplinary fashion and use evidence-based approaches for promoting patient motivation and execution of health goals. According to a study conducted by Fisher and Collins in 2012, revealed that mental stress is now also recognized as a risk factor in cardiac dysregulation. Due to an epigenetic psychobiologic susceptibility-the nexus of psychophysiologic reactivity and biopsychosocial vulnerability acute emotional traumas could “trigger a panic attack in some and transient or

permanent cardiac damage or life-threatening arrhythmias or death in others". Based on these lines, it can be hypothesized that our thoughts have a directional impact on our physiology, therefore Mindfulness based interventions along with other therapies can be incorporated in the near future for the treatment of psychosomatic disorders.

5) Cyber Psychology

Cyberpsychology is the field of research that relates to the emotional effects of using computers and digital devices on the brain and how people interact with computers and digital devices. Cyberpsychology is also called Internet psychology or Internet psychology. Research studies on the interaction of technology and human behavior through the lens of psychology have expanded. The internet has transformed social interactions, communication patterns, and even our identities. Research literature in the area of cyberpsychology have primarily attended to personality variables, perceptual processes, emotional functioning, and behavioral responses. According to a study by Prensky published in Institute for Information Technologies in Education in 2001 illustrated that the combination of new technologies and "digital natives" that is, those who have grown up using the internet, computers, and mobile devices, transformed the ways in which we learn, communicate, and socialize in the world. Another intensive research by Julie R. Ancis published in *Technology, Mind and Behavior* identified five major areas that are relevant to the field of cyberpsychology include;

(a) Online Behavior and Personality which is the comparison between online and offline behavior based on the personality traits of individuals.

(b) Social Media Use and Psychological Functioning which includes the study of psychological impact that social media has on various strata of population;

(c) Games And Gaming: - Research on the motivators of video game use has identified human needs for competence, social connection, and autonomy. Gaming may provide social opportunities and reductions in depression, for example, for youth who have more limited social support. This may be due to the fact that gaming has become a social activity and many gamers play with others, either physically together or online. The use of games to improve cognitive functioning and social connection in older adults, as well as relieve symptoms of post-traumatic stress disorder (PTSD) such as intrusive memories and depression, improve mood, and reduce stress has also been demonstrated.

(d) Telepsychology: - Telepsychology is defined as the provision of psychological services using telecommunication technologies (American Psychiatric Association, 2013). Several studies indicate Digital therapeutics, including use of digital health devices, software, and applications, using videoconferencing, email, real-time chats, text messaging, and telephone

formats are designed to treat a variety of disorders such as depression, sleep disorders, substance abuse disorders, and attention-deficit/hyperactivity disorder (Weir, 2018; (Griffiths et al., 2006; Spijkerman et al., 2016; adults with panic disorder and agoraphobia (Bouchard et al., 2004), children with depression (Nelson et al., 2003), combat veterans with PTSD (Frueh et al., 2007), adolescents and adults enrolled in smoking cessation programs (Spohr et al., 2015; Woodruf et al., 2007), and adolescents with symptoms of disordered eating (Heinicke et al., 2007).

(e) virtual reality (VR): - Developments in simulated experiences and environments via VR and AI have converged with clinical, diagnostic, and educational applications for a range of psychological and social issues. VR is an advanced form of human–computer interface that allows users to interact with and/or become immersed within a computer-generated simulated environment/virtual environment (VE). Real-time computer graphics and sensory input devices are utilized., artificial intelligence (AI), and applications. Developments in cyber have had a profound impact on practically every aspect of human life, including education, healthcare, the workforce, and mundane activities such as shopping. The affective, cognitive, and behavioral implications on an individual, dyadic, and group level are in many ways just beginning to be researched and understood. A study by Sanchez-Vives & Slater conducted in 2005 showed that People act and respond to events and situations within VR as if these were real, also known as "presence". A.I. replicates or simulates human intelligence in machines whereby technological devices are programmed with the perception of a responsive being. AI includes virtual human agents such as animated avatars and robots. Therefore, in the future immersive exposure experiences through VR and AI provide an opportunity to activate emotional and behavioral responses and modify them as needed (such as in the case of phobias and trauma/PTSD), or distract one from the real world (such as in the case of pain management).

6) ***Spirituality and Mental Health***

Current research studies illustrate the significance that spirituality has on the beliefs, thoughts, behavior and lifestyles of people. Considerable research highlights the role of spirituality in mental well-being. In a landmark 2020 study in *Health Psychology,* Polish researchers surveyed 595 college students from six different universities whose study programs either focused on the human body or the human mind and spirit. Results showed that spirituality not only improved students' psychological well-being, but also conferred health benefits to them. Another survey research published in *Religions* by Swiss researcher René Hefti (2011) indicated that 70–80% use religious or spiritual beliefs and activities to

cope with daily difficulties and frustrations. Religion may help patients to enhance emotional adjustment and to maintain hope, purpose and meaning. Patients emphasize that serving a purpose beyond one's self can make it possible to live with what might otherwise be unbearable. Therefore, integrating spiritual beliefs into therapeutic practice can significantly facilitate coping with daily stressors and improving mental well-being. A comparative interventional research conducted by Rebecca Probst from the Department of Counseling Psychology, Portland, aimed to study the efficacy of religious and non-religious cognitive-behavioral therapy with religious and non-religious therapists on religious patients with clinical depression revealed that religious individuals receiving religious cognitive-behavioral therapy (RCT) reported increased reduction in depression (BDI) and higher levels of improvement in social adjustment (SAS) and general symptomatology (GSI, SCL-90-R) than patients in the standard cognitive-behavioral therapy group (CBT). These findings supported the notion that religious faith is an important resource for religiously oriented patients and is associated with therapeutic outcomes. Redefining therapeutic approaches by integrating spiritual-cultural element will enable psychologists to carry out comprehensive studies of analytical and comparative nature, and generate groundbreaking results in this research field.

Summary:

With the expanding awareness of psychological therapies and novel treatment approaches, the future holds promise in substantially larger and stable improvements in understanding humans from a psycho-social perspective thereby incorporating Artificial Intelligence, Spiritual experiences and beliefs into therapy. With the growing technology, cyberpsychology provides a potential framework to expand this in the area of education and research. Finally, with several literature connecting the psychological aspects to physiological changes, cardiac behavioral psychology is an essential area that can be well-researched in the near future and can prevent as well as regulate the health of patients with heart diseases from a lifespan perspective.

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