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

The traditional approach of paper-pencil tests has been transformed by advancement of technology. Several researches demonstrate the link between the use of digital technology and psychological assessment of human beings. Therefore, amalgamating 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

Hallucinatory drugs popularly known as Nootropics are substances that provide mental enhancement of cognitive functions as well as mental stimulation leading to different mental states. Sometimes, they are called classic hallucinogens, serotonergic hallucinogens, or serotonergic psychedelics. The traditional psychedelic drugs include dimethyltryptamine (DMT), psilocybin, mescaline and d-lysergic acid diethylamide (LSD) which is a synthetic compound that was first synthesized in 1938. There are naturally occurring psychedelics

which can be synthesized from plants. Ayahuasca, contains dimethyltryptamine (DMT) which is a plant based psychedelic native to South America which has been used by indigenous cultures for centuries to provide hallucinogenic effect. A tradition of research on psychedelics has highlighted the neurophysiology of altered states of consciousness induced by classical psychedelics.

Research at Center for the Neuroscience of Psychedelics at Massachusetts General Hospital 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 emotional and cognitive functioning about certain things. Psychedelics function in several ways namely, creating brief new connections in the neurons while the brain experiences a 'switch' between the resting state and renewal stage. 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 effective in producing large, rapid, and sustained antidepressant effects in patients with major depressive disorder. A 2021 study published in *Nature* indicated that MDMA-assisted therapy showed promise 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. 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

Cardiac Behavioral Psychology is a novel field blended with psychology. Cardiac Psychology is focused on understanding the psychological changes and impact that psychosocial stressors have on the heart. The perspective of observing heart diseases through psychological lens is growing. Recent research published by John Hopkins Medicine revealed that undetected depression can be one of the risk factors in the development of coronary artery disease. Dr. Robert Allan's work is focused on patients who are diagnosed with or are at high risk for coronary heart disease. He proposed certain initiatives to expand cardiac practice which include creating awareness of the potential involvement of psychological and social factors in the development of Coronary Heart Disease, narrowing the gap between conventional and psychological risk factors by understanding them, curating cost-effective interventions Digital health applications, group-based counseling, and behavioral management programs and finally accepting and in recognizing that a single therapy or treatment will not show similar impact or improvement with respect to behavioral interventions. In the future, these criteria can lead to educating specialist who may focus on developed behavioral interventions involving psychosocial factors that play a role in heart diseases. A 2012 study by Fisher and Collins revealed that Mental stress is a recognized risk factor underlying cardiac dysregulation. Understanding the physiological impact of psychological stressor is vital. Individuals who are vulnerable to psychological stressors particularly emotional traumas could trigger a panic attack causing chronic or permanent cardiac damage or arrythmias. 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 a scientific discipline focused on understanding psychological processes involved in interaction between humans and computers and digital devices and its emotional impact on human brain. Cyberpsychology is also called Internet psychology or Digital Psychology. Psychological studies on the interconnectedness between humans and technology have broadened over the years. In a broad sense, the internet has remodeled the patterns of human interaction in terms of overt social interactions and covert expressions as well between groups as well as individuals. The nature of communication through technology is not limited to language alone but has widened with the use of emoticons. Research suggests that Emoticons or commonly known as Emojis is one of the largest used languages in the world across various cultures. Research literature in the area of cyberpsychology have primarily attended to personality variables, perceptual processes, emotional functioning, and behavioral responses. Intensive research by Julie R. Ancis published in *Technology, Mind and Behavior* identified five domains that are broadly define the world of cyberpsychology, particularly, the patterns of an individual's behavior online and his underlying and personality which is the comparison between online and offline behavior based on the personality traits of individuals; Social Media Use and Psychological Functioning which includes the study of psychological impact that social media has on various strata of population; Games and gaming identifies the motivation underlying an individuals engagement with video games and the fulfilment of needs for competition, connection through online interaction, and sense of independence and control. Future research holds potential in the field of gaming. To illustrate games can be designed for children and adults who have ADHD (Attention Deficit Hyperactive Disorder) for

improvement on focus and concentration in completing a task. ; telepsychology directs the use of digital platform to provide therapy and facilitate with emotions through virtual meetings, email and live texting. There is a wide scope in this area as various software and applications can be developed curated to particular disorders such as anxiety specifically panic disorders, depression specifically individuals with suicidal ideation social disorders like selective mutism and lifestyle disorders specifically eating disorders where individuals can keep a track of their progress which can be virtually shared with the therapist irrespective of the time and location. Several studies indicate Digital therapeutics, including use of digital health devices to reach individuals who are hesitant to meet in person for therapy but digital therapy can be the first step towards therapy. Digital therapy holds a wide potential in the future as psychological assistance can be delivered beyond country boundaries and time. The study identified the fifth domain as Virtual Reality. Virtual reality (VR) is a highly developed form of human-computer interaction that allows individuals to communicate within an artificially simulated environment. Real-time applications are simulated with the use of Artificial Intelligence. Due to the real-life experience of within an artificially simulated environment, individuals' and groups sense and respond to the events and situations as if they were real. A 2005 study by Sanchez-Vives & Slater defined this experience as 'presence'. In the future, VR can be incorporated to treat PTSD, panic disorders and phobia by redefined techniques such as Systematic Desensitization, Flooding and exposure by activating behaviors of individual and transforming them as required.

6) Epigenetics and Genetic potential

The novel and well-researched field of epigenetics holds huge potential in the prevention of disorders with a genetic base. A promising new pathway towards identifying, replacing, repairing and treating psychological disorders with a genetic base is CRISPR. CRISPR has revolutionized the field of epigenetics. CRISPR refers to Clustered Regularly Interspaced Short Palindromic Repeats. CRISPR is a technology that is adopted by scientists to modify DNA of living organisms. CRISPR has opened doors to prevention of the development of genetic disorders. Through CRISPR, scientists can harness the gene-editing technology to modify, delete and replace the DNA sequence of a defective gene. Psychological disorders such as Fragile X Syndrome and Down Syndrome with a genetic foundation usually involve behavioral therapies that are focused in regulating the behavior than its underlying genes. Down Syndrome is a condition where the individual is born with one extra chromosome or an extra copy of chromosome 21. This means that they have a total of 47 chromosomes instead of 46. Down syndrome causes physiological changes in the brain and body after birth. This genetic disorder is often detected at prenatal stage. Identifying and analysing the development of embryo at prenatal stage is vital. Therefore, CRISPR can provide a ray of hope for parents as well as the child with a genetic disorder. Although controversial, it should always be noted that scientific advancements in the medical field should be looked closely with the laws surrounding them. New scientific advancements involving germline modification of embryo should be taken with a grain of faith as well as intellect. In the future, specialists can understand the potential of Epigenetics in the early identification of genetically driven psychological illness and preventing them by developing evidence-based approaches surrounding gene-editing technology and further advancements.

7) Climate change and Mental Wellness

Rapid climate change is leading to increasingly unstable weather. The psychosocial impact of rapid climate change is gradually reshaping the ways in which humans curate their living surrounding uncertain and unstable weather. Studies suggest a strong link between climate change and its impact on psychological health of individuals. Climate Anxiety, also known as eco-anxiety, eco-grief, eco-guilt is an emerging terminology among individuals facing huge impact of climate change. American Psychological Association (APA) defines climate anxiety as a chronic fear of environmental doom. It should be noted that anxiety is also accompanied with grief and fear. Research surrounding climate anxiety suggests that heightened thoughts and emotions regarding uncertain climate and rapid change can lead to panic attacks, irritability, loss of appetite, feeling of helplessness and wakefulness in young population. A 2003 study by Scott Wright and colleagues reveal that older generations have a feeling of guilt perceiving themselves as responsible for climate destruction. Furthermore, several psychosocial factors make older individuals vulnerable to the impact of changes such as heat waves and other extreme weather events, poor air quality, and infectious diseases. The role of psychologists as suggested by Climate Psychology Alliance indicates that supportive and acceptance-based therapies must be developed to support individuals and communities to facilitate with the expression and exploration of emotions surrounding drastic changes. Although growing evidence identifies the psychological social impact of increasing climate change, there is huge research gap between the effect of climate change on physical health and psychological health on ground level. In the future, additional research surrounding therapies is required to develop evidence-based supportive therapies involving acceptance, resilience and incorporating adaptive responses to growing climate change.

8) Spirituality and Mental Health

Globally, the importance of spirituality is growing in mental health industry. Therapists are incorporating traditional rituals in therapeutic practices to improve mental well-being of individuals. The significance of traditional spiritual rituals is widely being understood. The essence of spirituality is not limited to unconscious aspects alone. The amalgamation of spiritual aspects with therapy is supported by scientific research. These researches demonstrate the healing transformation spirituality has on the beliefs, thoughts, behavior and lifestyles of people. It is vital to note that researches on spirituality focuses not only on the mind but also the body in improving the psychological well-being of young people. The cognitive benefits of spirituality include enhancement of coping strategies with daily stressors. The emotional benefits help in regulating emotions and increasing psychological adjustment. People with severe mental disorders emphasize that spirituality influences their sense of purpose and meaning of life beyond their disorders and helps in reducing the burden of their illness as well as living with the long-term mental illness. The effect of religious and non-religious cognitive-behavioral therapy has varied effects on religious and non-religious patients illustrating that more than half of the patients revealed a significant decrease in depression levels as well as increase in social adjustment of people with people with disorders. Therefore, synthesizing spiritual beliefs respecting the patient's culture into therapeutic practice can significantly facilitate coping with daily stressors and improving mental well-being. The fact that spirituality is currently considered of significance in therapy provides insight that it will evolve in dynamic ways in the future.

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. Incorporating novel gene-editing technology in the prevention of genetically based psychological disorders holds huge promise in the recent future. More research projecting the impact of climate change on health and mental well-being of humans and subsequently developing adaptive therapies is expected in the future. Finally, with growing 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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