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The Medically Induced Effects of Creative Arts

The fields of medicine and art often seem to conflict, being frequently thought of as polar opposites. However, these fields have more affinity than one might believe. In fact, the most successful of scientists rely on their creative thinking and artistry to make innovative discoveries. Before medical treatments and procedures became commonplace and proven by research, the field of medicine was typically not held in high regard, as surgeries were often fatal and remedies rarely had positive effects. Although treatments were deemed untrustworthy at the time, cultures worldwide had implemented different forms of creative arts for centuries, and for good reason. Throughout time, they used “pictures, stories, dances, and chants” as remedies, resembling the common creative arts therapies used today (Stuckey, Nobel). Although their specific benefits had not been understood until later, people noticed the healing powers of music, visual arts, dance, and creative writing. Even so, people today experience the benefits of creative arts therapies, but few understand their definite effects, both mentally and physically. Especially until recently, the effects of the arts were mainly discussed philosophically, rather than through empirical data. But through intensive research, compiling studies, and drawing conclusions from data, the impacts of music, visual arts therapies, movement-based expression, and expressive writing begin to unfold. By demonstrating increased knowledge and understanding of each specific therapy, medical practitioners and psychologists can better conduct future research and administer specific therapies with effectiveness.

Before delving into specific studies and hypotheses, one might ask: What exactly defines each therapy? Put simply, music therapy serves as a means to “decrease anxiety” and “restore emotional balance,” by “achiev[ing] control over pain” (Stuckey, Nobel). Through auditory stimulation, music allows one to “calm neural activity in the brain,” leading to decreased anxiety and restored immune system functioning through the "amygdala and hypothalamus” (Stuckey, Nobel). On the other hand, visual arts therapy grants meaning to the patients’ sicknesses, weaving their illness into their life story to give it meaning. Through the visual arts, the painting becomes “a refuge” from the negative emotions of an illness, allowing one to express their grief through an outlet (Stuckey, Nobel). Though visual arts and movement-based expression appear as contrasting forms of creative expression, dance also allows “stress and anxiety” to be relieved, but through bodily movement rather than artistic creation (Stuckey, Nobel). Although dance is not the most standard form of creative therapy, its merits often prove more valuable than those of more common remedies. And above all, expressive writing is unique, as there is no single theory to prove its effectiveness. From the cognitive, emotional, social, and even biological viewpoints, creative writing is incredibly complex, occurring on multiple levels and causing difficulty for researchers to pinpoint the exact causes of its effectiveness. Though each creative therapy is unique in its own way, each practice exercises methods to aid in bodily and mental ailments.

Beginning to investigate the most common forms of creative arts therapies: music and visual arts, their strengths and weaknesses unravel through detailed studies and observations. Both produce similar benefits, but music allows a patient to engage many regions of the brain, such as the “sensory-motor processing, cognitive memory, and emotional components” of the mind (Zaatar et al.). Through involving these areas of the brain, music serves as a calming therapy, evoking emotional relief and sentiment. A study involving patients engaging in musical

therapy demonstrated that their “apical heart rates” lowered, whilst their “peripheral temperatures” had increased over the course of the therapy, demonstrating signs of relaxation and mental resilience (Zaatar et al.). By serving as a multisensory stimulus, music activates the “motor and pre-motor regions….[such as the] cerebellum,” etc., changing based on the emotions of the music (Zaatar et al.). Specifically, the pitch and rhythms activate the cerebellum, basal ganglia, premotor cortex, supplementary motor area, etc., leading to positive effects on “social bonding, cognitive abilities, and language processing” in the long run (Zaatar et al.). In addition to music consumption, musical performance can even benefit the mind if done with high precision. Music performance allows the patient to engage areas related to motor planning and execution, leading to improved coordination over time (Zaatar et al.). Comparable to the effects of music, visual art therapies engage a multitude of brain regions. Through active or passive engagement in visual arts, neural circuits such as the “mPFC and amygdala” are consistently activated in adaptive emotional regulation (Barnett, Vasic). This act of visual arts therapy allows one to receive emotional stabilization, leading to improved mood and mentality. Additionally, creative arts and emotional processing may share similar activation mechanisms, leading to a correlation between the act of visual arts and an improved understanding and acceptance of emotions (Barnett, Vasic). Essentially, similar activation mechanisms could lead to a definitive reasoning on the why and how behind the effects of visual arts therapy. In contrast to music, visual arts therapy provides specific emotional improvements in control and understanding, as these mechanisms may even be interconnected with one another. In fact, a study represented the struggles of women with heart disease, yet as they expressed their illness through art and illustration, they achieved an advanced understanding of their illness (Stuckey, Nobel). Through the use of art, the women were able to accept and acknowledge their emotions. By exploring

such neural correlations, this allows for increased understanding and implications for future therapeutic practice.

Unlike the orthodox art forms such as music and visual arts, movement-based expression and creative writing therapies are often overlooked and under-researched. Traditionally, dance is often not the first art form that comes to mind, but its therapeutic potential for pathologies and medical disorders is certainly worth noting. A study involving the effects of dance among breast cancer survivors demonstrated "significant quality of life improvements" after engaging in dance therapies (Stuckey, Nobel). Over time, the breast cancer survivors experienced "increased shoulder range of motion" and improved "body image," leading to a growth in confidence, and even physical improvements in joint flexibility and bodily function (Stuckey, Nobel). Compared to the previous therapies, movement-based expression provides both "physiological and psychological benefits" to "children and adolescents" (Tao et al.). As researchers studied multiple dances and their real-world applicability for physical education provision, they concluded that dance can even serve as a feasible alternative to typical physical activity (Tao et al.). Not only does dance provide therapeutic benefits such as improved mentality and confidence, but it even acts as a proper physical alternative for traditional exercises, supplying the patients with enough physical activity to promote a healthy lifestyle among both children and adults. The application of movement-based expression is distinct, providing significant physical and psychological benefits to both healthy and medically impaired individuals. Conversely, the strength of expressive writing lies in its effectiveness as an emotional therapy. In a study, students who continuously wrote about their thoughts and feelings experienced a positive influence on their "frequency of physician visits, immune function, stress hormones, blood pressure," etc. (Stuckey, Nobel). Through consistent practice, expressive writing supports an

improved mental stability and overall decrease in stress on the body, supporting mental and physical benefits over time, similar to dance (Stuckey, Nobel). Besides journaling and recording thoughts, a group of researchers decided to take their research a step further by investigating writing changes and evolution over a period of time (Faccio et al.). Through the use of a diary, they observed writing style changes in a patient with hypochondria over the course of 2 years (Faccio et al.). Throughout those 2 years, the scientists took note of an improved awareness of her thoughts and feelings, more integrated positions on her identity, as well as improved flow and reader enjoyment revolving around her writing overall. Essentially, the more effectiveness and consistency put into expressive writing, the increasingly effective benefits that one will reap, from simply improving writing skills to gaining emotional stability, and even improving immune function. A common theme centered around movement-based expression and expressive writing lies in its effectiveness in improving mental health and bodily function, whereas music and visual arts therapies specifically target emotions and the mind.

In any case, whether it be music, visual arts, dance, or creative writing, every creative arts therapy discussed has its own merits and weaknesses. Though some are more commonly practiced than others, in no way does that impact their effectiveness as a whole. Even though expressive writing was found to be the least researched out of the 4 sub-topics, expressive writing connects personally with the writer across many levels, supporting the patient mentally, physically, and in unexpected ways, proving the capabilities of creative writing therapy in its own merits. As psychology remains one of the least researched STEM fields, continuing to allocate time and resources to pursue further studies in an underrepresented field will eventually lead to significant discoveries. By persistently studying the mental and physical impacts of

creative arts, further investigation can provide reasoning and understanding for current processes, but also allow the development of new therapies and treatment methods for patients.

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