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# Reparation of Dignity: A Literature Review of Trauma-Informed Addiction Treatment with Expressive Arts Therapy

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Reparation of Dignity: A Literature Review of Trauma-Informed Addiction

Treatment with Expressive Arts Therapy

Capstone Thesis

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### Abstract

Substance Use Disorder is a public health problem that impacts society and individuals on many levels. In 2016, the National Institute on Drug Abuse (NIDA) documented 64,000 deaths in America due to overdose (NIDA, 2017). The economic burden related to substance abuse is estimated at \$740 billion annually in the United States (Priddy et al., 2018). High rates of relapse, approximately 60% in the first year after treatment, (Priddy et al., 2018, p.103), suggest the need for more effective treatment. A combination of trauma-informed practice and creative therapies in the treatment of substance use disorders show promising results. This literature review examines research about how trauma-informed creative therapies can facilitate healing on psychosocial, biological, and neurochemical levels. Above all else, addiction research points to the importance of repairing an individual's sense of dignity and enriching our surrounding cultures with health fostering practices. Efforts to raise awareness and eliminate stigma will brighten the future of addiction treatment and may help foster post-traumatic growth, making for remarkably resilient individuals and communities.

## Reparation of Dignity

### A Literature Review of Trauma-Informed Addiction Treatment with Expressive Arts Therapy

#### **Introduction**

Addiction is a widespread public health problem with far-reaching consequences. Substance Use Disorder (SUD) is the clinical diagnosis for individuals addicted to drugs or alcohol and is characterized by the repeated use of substances despite negative consequences such as health problems or an inability to meet obligations (Priddy et al., 2018). The National Institute of Mental Health estimates that 35% of adults are affected at some point in their life by SUD (National Institute of Mental Health, 2007) and “approximately 20.2 million people in the United States age eighteen or older reported an active SUD involving alcohol or drugs other than nicotine” (Suzuki & Kober, 2018, p. 483). The economic burden of “crime, loss of productivity and health care costs due to substance use is estimated at more than \$740 billion annually in the United States” (Priddy et al., 2018, p.103). High rates of relapse, estimated at 60% in the year following treatment (Priddy et al., 2018), suggest a need for more effective treatment.

Modern medicine has made incredible progress in the treatment of acute illness; however, a rise in chronic illness calls for a return to holism to address complex issues. Up to 75% of people diagnosed with SUD have comorbidities and complex trauma histories (Megranahan & Lynskey, 2017, p. 50). Chronic exposure to trauma results in Post-Traumatic Stress Disorder (PTSD) that shares similar psychosocial and neurochemical features as SUD. This co-occurrence poses unique challenges in treatment that require holistic and global solutions. Incorporating trauma-informed practice may improve treatment efficacy and reduce relapse rates. Trauma-informed Expressive Arts Therapy has the potential to address the global problem of SUD

through the reparation of an individual's sense of dignity and the enrichment of surrounding cultures with health fostering practices. This literature review presents research that supports the viability of trauma-informed creative therapies as a holistic form of addiction treatment with the potential to improve relapse rates and enrich the lives of those in recovery.

### **Literature Review**

The fifth edition of the Diagnostic and Statistical Manual (DSM-5) states that to be diagnosed with Substance Use Disorder (SUD) an individual must experience problematic drug use with significant impairment or distress, as well as two out of the eleven listed symptoms (American Psychological Association, 2013). Suzuki & Kober (2018) notes the criteria to include: "impaired control over drug use (1-4), risky use (5-6), social impairment (7-9), and physical dependence (10-11)" (p. 482).

The etymology of *addict* comes from the Latin word *addictus* or *addico*, which means to devote or surrender. How free are we to decide what or whom we are devoted to? There is no simple answer to this philosophical question, but it is an important question behind addiction research. Theories that postulate the origin of addiction range from neurological, biological, psychological, and contextual approaches. The moral model became widespread in the 19<sup>th</sup> century, viewing the alcoholic or addict as irresponsible, impulsive, and careless due to "moral or character defects" (Suzuki & Kober, 2018, p.487). Advocates of the moral model assume the addict has free will and chooses to partake in addictive behavior. Under this theory, treatment takes the form of punishment, which is still seen in the criminalization of drug use and abuse. This attitude presents significant barriers to treatment and has perpetuated a harmful stigma that continues to overtly and covertly influence treatment models and research priorities today.

The 12-Step theory evolved from Alcoholics Anonymous, a program founded by men experiencing alcoholism in the 1930s. AA's main text is called *The Big Book* and describes alcoholism and other forms of addiction as both a disease and a spiritual crisis. The 12-Step theory of AA requires complete abstinence, surrender to a higher power, commitment to group process and existential exploration. This theory has been widely adopted by treatment facilities to supplement other methods. In 1956, The American Medical Association declared addiction was a treatable disease that required compassionate care, giving birth to the disease theory of addiction.

The disease theory shifted the concept of addiction from moral judgment to SUD as a pathophysiological problem (Suzuki & Kober, 2018). The biopsychosocial model was first proposed by George Engel in 1977 who was a specialist in internal medicine with psychotherapeutic training. Engel believed addiction treatment should be informed by biological, psychological, and social factors (Skewes & Gonzalez, 2013).

More closely related to the disease model is the behavioral theory, which focuses on the reward circuitry of the brain. At first, drug use produces higher than usual dopamine levels, causing euphoria and positively reinforcing the behavior. Through Pavlovian conditioning, the euphoric experiences brought on by substance use become associated with environmental cues (Priddy et al., 2018). Once tolerance develops, the drug use is "negatively reinforced via alleviation of aversive withdrawal effects, which further contributes to the development and maintenance of SUDs" (Suzuki & Kober, 2018, p. 488). As dopamine release decreases in response to natural rewards, "drug cue-elicited dopamine levels" continue to rise, leading to "automaticity- the habitual use of substances triggered by substance cues" (Priddy et al., 2018, p.105).

The reward pathways of the brain become hijacked by the pursuit of the substance, also known as “hedonic dysregulation” (Priddy et al., 2018, p.105). Hedonic dysregulation reduces the capacity to feel pleasure and leaves little motivation to engage in healthy behaviors. The continued and chronic use of drugs exacerbates the problem causing further dysregulation in “neural circuits underlying executive functioning, such as the anterior cingulate cortex (ACC) and the dorsal and ventrolateral prefrontal cortex (PFC)” (Priddy et al., 2018, p. 105). Maladaptive neuroplasticity leaves the body vulnerable to increased reactivity to stress and negative emotions. Eventually, the addict becomes dependent on the substance to regulate the dysphoria and anxiety arising from increased stress reactivity, deepening the cycle of addiction (Priddy et al., 2018).

Rather than *preceding* dysregulation, SUD may arise as a maladapted attempt to self-regulate, also known as self-medication. In this model, individuals self-medicate with drugs that address an unmet need. For example, it is more likely for someone with chronic pain to become addicted to opiates than healthy pain-free individuals (Suzuki & Kober, 2018, p. 488). Through this lens the drug of choice can offer insight into what processes an individual is struggling to self-regulate. This theory can help illuminate the connection between trauma and addiction. Repeated traumatization inhibits the body’s self-regulatory mechanisms making it very challenging to achieve feelings of embodied safety. A trauma survivor may become hyper-aroused by a trigger or be stuck in a hypo aroused state to defend against overstimulation. In healthy individuals, coping mechanisms are implemented to balance the body. Unfortunately for those with SUD the coping mechanism is the drug of choice.

### **Trauma and Addiction**

Post-Traumatic Stress Disorder has a wide array of symptoms and complications including nightmares, tachycardia, flashbacks, dissociation, anxiety, severe depression, psychosis, arrested social and moral development and more (Hitchcock & Ross, 2006). Research shows that chronic traumatization leads to a state of dissociation which involves symptoms of depersonalization and derealization (Mergler et al., 2017). Goldstein et al. (2011) found that dissociation was a significant predictor of substance abuse in a child welfare population (Mergler et al., 2017). An accumulation of trauma occurs through active substance abuse, whether through exposure to abuse or defamation of character, creating a cycle of addiction and trauma. One begins to wonder which comes first and how can we disrupt this cycle.

Bessel Van der Kolk et al. (1995) used neuroimaging to investigate the neuroanatomical features of PTSD and how dissociation, regulation and somatization manifest for different individuals. Researchers compared 395 patients who sought treatment for trauma-related problems with 125 community members who had been exposed to significant stressors. Results suggest why verbalization and emotional insight are difficult to access for the traumatized brain. Positron emission tomography (PET) shows that both hemispheres of the brain are impacted by trauma. Trauma cues lead to a decrease of activity in Broca's area, which is responsible for producing words to attach to internal experience (Van der Kolk et al. 1995). PTSD disrupts the brain's "ability to put feelings into words, leaving emotion to be mutely expressed by dysfunction of the body" (Hitchcock & Ross, 2006, p. 208). Nonverbal processes involved in Expressive Art Therapy such as painting, collage, dance, and drumming have the ability to activate areas of the brain that are otherwise shut down. A priority in trauma-informed SUD treatment is to help individuals activate areas of the brain that enable self-representation and expression as well as repair of the nervous system.

## **Treatment**

Cognitive Behavioral Therapy (CBT) and Dialectical Behavioral Therapy (DBT) teach clients how to make space between action and thought and how to evaluate the validity of patterns in cognition and behavior. Many treatment centers use CBT, DBT and Applied Behavioral Analysis techniques, to try and reverse the learned behavior of addiction, retraining the brain to value natural rewards. It is important to implore these techniques diligently to avoid triggering trauma survivors.

Expressive Arts Therapy (EAT) is a multimodal approach to counseling that utilizes visual art, writing, music, dance/movement, and drama. EAT interventions can help process and integrate past experiences as well as build new coping skills. Rather than viewing creativity as a special ability or skill, modern creativity research explores creative expression “as a typical way of thinking embedded in cognitive processes such as sustained attention, working memory, planning and temporal ordering and decision making” (Hinz, 2009, p.169). The biological, psychological, and neurological benefits of creative expression are yet to be popularized in medical research but expressive therapy professionals are well aware of the powerful impact creative expressions has on healing. Trauma and addiction lead to a chronic narrowing of brain pathways as well as social connections; therefore, increasing neural plasticity and fluidity in social connections is an important goal for treatment. Expressive therapies support this effort on various levels.

Inserting the third element of art between the therapist and the client “offers the client an alternative way of communicating feelings that might be difficult to verbalize” (Megrnahan & Lynskey, 2017, p. 51). Based on developmental theory and the use of creative mediums, EAT provides a structured approach to treatment that involves kinesthetic, sensory, affective,

perceptual, cognitive, symbolic, and creative levels of processing. Through the use of artistic processes, individuals may encounter themselves and reach expanded states of consciousness without the use of drugs. Creative expression helps facilitate personal insight, craving reduction, and autobiographical integration (Megrnahan & Lynskey, 2017). The broader implications of EAT are how art relates to human health and wellness. The NHS and other institutions are “looking to embrace art as having a central role to play in the wellbeing and health of individuals” (Megrnahan & Lynskey, 2017, p. 51).

Attunement refers to the phenomenon of entrainment between nervous systems. Our capacity to attune to one another is a testament to how interconnected we are at biological levels. Trauma specialists are trained to maintain a state of limbic tranquility and use their nervous system feedback as leverage in therapy. Attunement and trauma education offer practices for how to access deeper realms of consciousness and what to do with the information that surfaces in the therapeutic process. Addiction treatment would benefit from more trauma-informed health care providers.

### **Media and Substance Use**

It is worthwhile to examine some of the social forces influencing individual consumption behavior. “Awareness of alcohol advertisements and perceived influence on alcohol consumption: a qualitative study of Nigerian university students,” authored by Emeka W. Dumbili and Clare Williams, asks participants about how they think marketing influences their consumption of alcohol. This article connects previous research regarding the influences of gender, marketing, and media on student alcohol consumption (Dumbili & Williams, 2017). Thirty-one interviews lasting between 33-90 minutes were conducted with twenty-two male and

nine female undergraduate students, aged 19-23 years at a university in Anambra State, in south-eastern Nigeria (Dumbili & Williams, 2017, p. 76). Interviews were recorded, transcribed, and put under thematic analysis. Broad themes and subthemes were identified and refined, leaving parent nodes and child nodes that were then imported into NVivo 10 (Dumbili & Williams, 2017, p. 76). Linguistic analysis was used to condense information to run through matrix coding queries.

Intentions and subliminal messages of brands were critiqued, for example, messages like “how drinking is associated with success, and how some brands enhance sexual virility and strength” (Dumbili & Williams, 2017, p. 76). Specific brands of beer reflect bonding and friendship amongst peer groups and sports teams. Heineken beer was associated with a higher economic status because it is imported and expensive (Dumbili & Williams, 2017, p. 77). Male participants reported connections between football and alcohol, for example, “people drink to celebrate victories, to cope when their teams lose and to display their economic capital” (Dumbili & Williams, 2017, p. 77). Advertisements reinforce this behavior through what media scholars call a ‘double-dose’ or ‘resonance effect’ (Dumbili & Williams, 2017, p. 78). This misalignment between corporate agendas and public health initiatives wastes money and perpetuates illness.

A study conducted by Atkinson, Ross-Houle, Begley, and Sumnall (2016), is a systematic analysis of social networking sites (SNS), alcohol brand advertising and young people’s perspectives regarding alcohol marketing on SNS. The first stage of research was a content analysis of SNS alcohol marketing and user interactions with popular alcohol brands. The second stage used semi-structured interviews of peer groups, ages 16-21 years, to “explore drinking practices and the role of alcohol industry generated content in their drinking cultures” (Atkinson,

Ross-Houle, Begley & Sumnall, 2016, p. 93). How concepts of maturity relate to young people's perceptions and decision making about alcohol brands could offer valuable insight into early abuse behavior. Participants reported how certain alcohol brands reflected differing levels of maturity. This points toward the cultural role of alcohol use "as a marker of impending adulthood" and how maturity is related to young people's evolving drinking styles (Atkinson et al., 2016, p. 99). Substance use and abuse may be taking the place of rich and healthy previously utilized cultural activities (ceremony/ritual). This research supports the need to critically evaluate how marketing functions in the evolution of our global culture, particularly within the sectors of public health and mental health.

Noting the importance of social capital, Jennifer Cole (2011) explored the role of social exclusion, self-regulation, perceived stress, and personal-control in substance abuse treatment clients. Participants (n=787) entered treatment for SUD between 2006 and 2007 and completed a 12-month follow-up telephone survey. The researchers describe how socioeconomic status relates to these variables as well as how the AA/NA model impact concepts of self-control and powerlessness. Regression analysis of data showed that those with lower perceived control of one's life and lower self-regulation with greater social exclusion factors, which included "greater economic hardship, lower subjective social standing, greater perceived discrimination", had higher perceived stress. The higher the perceived stress of the participant, the higher the likelihood of relapse became. A sense of helplessness is also a factor contributing to the development of PTSD.

### **Recovery and Body-Based Practices**

Harris et al. (2009) compared nonreligious states of mind directly to religious belief to explore differences in brain functions. Researchers used functional magnetic resonance imaging

(fMRI) to measure signal changes in the brains of thirty participants as they evaluated the truth and falsity of religious and nonreligious statements. Fifteen participants identified as Christians and fifteen identified as atheists. Results from both groups reveal that belief (judgment of truth) “was associated with greater signal in the ventromedial prefrontal cortex, an area important for self-representation, emotional associations, reward, and goal-driven behavior” (Harris et al., 2009, p. 2). This greater signal was content *independent* meaning it occurred whether subjects “believed statements about God, the Virgin Birth, or statements about ordinary facts” (Harris et al., 2009, p. 2).

In this study, believing something to be true is what enabled the activation of neural pathways. To believe a better life is possible it is important to have embodied experiences. If someone in recovery does not hold a statement to be true, parts of their brain may not be activated enough to cultivate self-representation, emotional associations, reward and goal-oriented behavior. How do we assist those in recovery in achieving neurological states that increase these functions and align with healthy behavior? This research may further “our understanding of how the brain accepts statements of all kinds to be valid descriptions of the world” (Harris et al., 2009, p. 2). Interventions that enable someone in recovery to imagine a new way of life could lead to the manifestation of new behaviors and beliefs.

Embodiment is a body-centered intelligence that provides information about one’s experience and, in relationship, can provide information about the other. Somatic Psychology uses the term ‘embodied cognition’ to discuss body-based therapies. It is very difficult to imagine safety if you have never truly felt safe. The neural pathways of embodied safety need to be plowed. Without enough safety, the lessons we learn remain theoretical. There is a need for body-based practices that prioritize invoking embodied feelings of safety to progress in recovery.

Kell Julliard, an expressive therapist for the Family Care Center in Louisville, Kentucky, explored how belief in step one of the 12-step Alcoholics Anonymous program impacts recovery from SUD. Step one, "We admitted we were powerless over alcohol, that our lives had become unmanageable"(AA), psychologically relates to breaking through the defense mechanism of denial. Kell hypothesized that expressive therapy and role-playing would help increase belief in the first step among chemically dependent people admitted to intensive outpatient group therapy. Kell worked with six participants in recovery from SUD attending outpatient treatment for four hours a day, five days a week for up to five weeks. An AB study design measured belief in step one, level of denial, and the appeal of using both before, during, and after interventions. Participants wrote about their powerlessness and inability to manage their addictions to explore belief in step one. The B phase of the study design involved art therapy and role-playing. The Steps Questionnaire, which consists of 46 questions answered on a six point scale ranging from strongly disagree to strongly agree, was used to measure participants belief in step one as well as steps two and three. Kell developed a direct measure, The Daily Check-in, where participants estimated how much time was spent thinking about their drug of choice and how appealing the idea of using was (Kell, 1995).

Multimedia collages were used as the art therapy intervention; one represented life in active addiction and the other represented life in active recovery. The role-playing intervention used psychodrama techniques in which participants acted out family members, friends, or each other's addictions. Kell administered a post-treatment interview using a Likert-type scale to assess participant's level of denial before and after interventions as well as their belief in step one. Factor analytics and Rasch methods were used to score the Steps Questionnaire. Results showed a net increase in belief in the first three steps, while only the increase in the Higher

Power factor and Rasch Step Two scores were statistically significant. There was a statistically significant decrease in self-reported denial from participants “( $p = .06$ ,  $F = 4.6$ , ANOVA)” (Kell, 1995). The most noteworthy results observed by Kell involved an increase in belief in step two, "Came to believe that a Power greater than ourselves could restore us to sanity" (AA). All 6 participants reported feeling extremely socially isolated and disconnected from a positive higher power. Each participant felt hopeless and held little belief that their lives could change for the better. Through the group art-making process, difficult emotions were expressed without criticism amongst the group and all experienced a feeling of safety. This experience of being held in a group was powerful enough to increase participants' belief that change and healing are possible. A group as something that is greater than one individual's willpower can replace the concept of God for many nonreligious people in recovery. Therefore, safe group inclusion and bonding were seen as playing a central role in recovery from SUD.

The Fallen Angels Dance Theatre (FADT) located in Liverpool, UK supports those in recovery from addiction through dance, performance, and creativity. Researchers Alastair Roy and Julian Manley (2017) investigated movement and allegory in collaboration with FADT. The term 'journey' is often used as a metaphor for recovery; however, Roy and Manley were concerned that journey was too linear a term. They suggested 'allegory' as an alternative term that insinuates the depth and multidimensionality of recovery.

Two sessions were conducted with the researchers and one FADT facilitator. There were twelve participants of mixed gender, ages 20-50 years. Participants sat on random cushions throughout a studio space, limiting eye contact, and creating an open space as a reservoir for input (Roy & Manley, 2017). The authors used the method of a visual matrix, "likely to open up spaces for reflection, affect and hypothesis" (Roy & Manley, 2017, p.196). In a visual matrix,

participants express spontaneous images and feelings without interpreting or entering into a cognitive discussion. The visual matrix collects a “collage of affect-laden mental images” (Roy & Manley, 2017, p.196) instead of a linear dissection of information.

After the first visual matrix, participants created a movement related to the themes of the matrix. After the second matrix, researchers facilitated a collective improvisation in which the whole group moved in response to the matrix as well as to each other. The visual matrixes were audio-recorded and transcribed, and the movement responses were videotaped. Researchers worked in a series of panels to analyze the transcripts and compare them to the video movement. Through the analysis, core themes were identified and explored within the context of recovery from SUD. The researchers suggested that recovery relies on “companionship, relationship, bonding, creating safe spaces and spirituality rather than dogged pursuits of quantifiable targets and goals” (Roy & Manley, 2017, p.202).

Themes such as intuition and joy are not as highly valued in treatment programs as quantifiable and objective measures, in large part due to advocating for funds. Much attention and energy are placed on the problem instead of focusing on real solutions, the parts of life that need to be fostered after years of addiction. Participants felt connected to a sense of spirituality, intuition and creativity (Roy & Manley, 2017, p. 202). The authors honor the complexities of the recovery experience and caution against overuse of Cartesian reason and logic because it tends to reduce and simplify emotional material. Interventions and methods that are process-oriented are important for SUD research as the problem itself is so rooted in product fixation.

Jeff Gordon, Yoram Shenar and Susana Pendzik (2017) have been applying a drama therapy technique known as Clown therapy for over ten years in day-treatment rehabilitation centers with positive results and recognition from the Ministry of Social Welfare in Israel. Clown

therapy is rooted in the notion of dramatic reality and role theory. Cheryl Carp coined the term in 1998 and stated that helping a client find their inner clown may have therapeutic benefits in and of itself. Clown therapy theory relates to Jung's transcendent function, defined as "the mediatory space where opposites are suspended or united, where conscious and unconscious contents converge" (Gordon, Shenar & Pendzik, 2017, p.89). It is also related to Winnicott's transitional phenomenon, which has to do with the bridge between inner and outer reality (Gordon, Shenar & Pendzik, 2017). Authors present several case studies as well as data gathered from a report surveying 70 clients from nine treatment centers.

Treatment groups generally consisted of 8-12 participants, comprised of mixed and single gender groupings. The age range was between 20 and 50 years old with varying cultures including "Israeli-born Jews, immigrant Jews, Muslim and Christian Arabs, Druze and Bedouins" (Gordon, Shenar & Pendzik, 2017, p.89). Most participants had comorbid personality disorders and criminal histories. Some were voluntary, and others were court-ordered to be in treatment. Researchers observed resistance to therapy was ultimately inconsequential as clown therapy progressed.

In the day treatment program, animal therapy and other creative therapies were integrated into treatment along with cognitive-behavioral approaches. Groups met once a week for 14-16 sessions of three hours each. A social worker took notes throughout the process. The treatment was divided into three stages: "1- Setting the process in motion; 2- Giving birth to the clown; and 3- Integrating the clown's role in everyday life" (Gordon, Shenar & Pendzik, 2017, p.90). The first stage takes place over eight sessions and involves cultivating group trust, being playful, and introducing the concept of the clown. The second stage helped participants develop their version of the clown archetype, personalizing the character. The third stage was a process of integrating

this new character into the participant's everyday life and learning how to use this as a coping strategy.

The process facilitated new patterns of communication to develop between group members and helps break down rigid power dynamics leading to a more compassionate, loving and accepting approach both to self and other (Gordon, Shenar & Pendzik, 2017). Several case studies were highlighted in the paper. One case involved a 50-year-old man who immigrated to Israel from Eastern Europe at age 11, referred to as Moshe in this study. His mother committed suicide and his father returned to their home country, leaving Moshe to be raised by an aunt diagnosed with Bipolar disorder. He began doing drugs in his adolescents and developed a heroin addiction in his 20's. After spending three years in jail due to a conviction of theft and drug abuse, Moshe voluntarily entered treatment.

At first, clown therapy was difficult for him, but towards the end of the process, he felt it was the most powerful therapy he had ever experienced. Moshe stated that embodying the clown role allowed him to balance two aspects of his personality "without feeling one side was threatening to sabotage him" (Gordon, Shenar & Pendzik, 2017, p.92). Performing for children with special needs helped him transform the damaged self-image he had of himself.

Another case study involved an Israeli Jew of Yemenite ascent in her late thirties, Dafna, who was a survivor of sexual abuse. Dafna engaged in sex work to pay for her drug addiction. The roles that emerged for her during clown therapy were an "outwardly powerful, proud and self-confident individual, opposite to an inwardly vulnerable, exposed and emotionally stunted one" (Gordon, Shenar & Pendzik, 2017, p.93). She described herself as a "bird who wants to fly, but her wings are of iron and lead" (Gordon, Shenar & Pendzik, 2017, p.93). She explored the possibility of living free from exploitation. Her body reflected the movement of a marionette

puppet on strings, showing both restricted movement and free flow. Dafna related her experience of clown therapy to the character of Pinocchio and saw the process as a personal rebirth during which she learned how to cope with her newly found freedom.

Clown therapy showed the following positive results: improved familial relations, a better sense of balance in life, more emotional flexibility and adaptability, an increased level of creativity and self-awareness, and improved self-esteem and openness to others (Gordon, Shenar & Pendzik, 2017). Through embodying a new character, participants created new coping skills and repaired sense of self.

Anna Correia and Sofia Barbosa (2018) published a study exploring the therapeutic effects of cinema in the treatment of SUD. Correia and Barbosa hypothesized that the narrative and aesthetic elements of cinema could facilitate the exploration of previous life experiences and provide a safe and creative space for change. Greek philosopher, Aristotle, stated that theatre has the “ability to purify the spirit and to help people deal with aspects of their lives with which rational reconciliation was not possible” (Correia & Barbosa, 2018, p. 68). ‘Cinema, Aesthetics and Narrative’ was performed in a therapeutic community located in Lisbon, Portugal, for patients with addictive disorders. The study began with seventeen participants in residential treatment for SUD, two of which dropped out. There were no exclusion criteria, and details regarding identities were not included. The movies viewed in the study were: *Garden State*, *Eternal Sunshine of the Spotless Mind*, *Gravity*, *Catch Me If You Can*, *The Thin Red Line* and *Amélie* (Correia & Barbosa, 2018, p. 65). Quantitative and qualitative analysis was used to record participants’ experiences and reflections on the intervention. Results reflected strong satisfaction of participants.

All patients enjoyed participating and believed this activity benefited their overall therapeutic process. Many reported an increase in feelings of wellbeing, and two-thirds of participants agreed that the characters' narrative helped them reflect on aspects of themselves and their feelings (Correia & Barbosa, 2018). A majority of participants felt viewing the movies helped them believe that life can be rewarding and that "the music, the image, the text and the narrative of the films allowed them to experience aesthetic pleasure" (Correia & Barbosa, 2018, p. 66). Narrative therapies help people visualize and actualize new stories for themselves. The use of artistic mediums in therapy helps individuals express themselves in non-verbal and creative ways. This study supports the use of established works of art in therapy as a way to contemplate and interpret inner experiences as they relate to others.

Michael Winkleman (2002) is a Public Health professional that performed qualitative research investigating the use of drumming as complementary treatment for SUD. In the article 'Drumming Out Drugs,' observational data collected in 2001 from various treatment programs in Pennsylvania, Virginia, Wisconsin, and Missouri were summarized. Winkleman interviewed several program directors and participants from rehabilitation programs that used drumming as an intervention. Ed Mikenas, a musician, counselor and Music Therapist writes programs that have been incorporated into colleges, after school programs and psychological conferences. Mikenas introduces clients to percussion instruments and teaches them rhythmic sounds and complex polyrhythmic dances. His work emphasizes the health benefits of altered states of consciousness invoked through rhythmic practices (Winkleman, 2002, p.649).

Also interviewed by Winkleman was Daniel Smith, former director of the Center for Addictive Behaviors and the Herman Area District Hospital Alcohol and Drug Unit in St. Louis, Mo. Smith incorporates drumming into his clinical social work, focusing on how music, dance

and movement can bridge the gap between mental and physical health (Winkleman, 2002, p.650). Drumming has the ability to induce calm and “an enhanced awareness of preconscious dynamics, a release of emotional trauma, and reintegration of self” (Winkleman, 2002, p. 650). Group drumming also bridges feelings of isolation and provides a secular approach to the concept of a higher power and spirituality (Winkleman, 2002). Altered states of consciousness are being studied for their potential therapeutic effects and involve “synchronized brain-wave patterns in the theta and alpha ranges” (Winkleman, 2002, p. 651). Coherent brain-wave patterns help to integrate “nonverbal information from lower brain structures into the frontal cortex and produce insight” (Winkleman, 2002, p. 651). Synchronizing brain waves can reduce anxiety, facilitate self-regulation, help access the subconscious, initiate connection and coordination between hemispheres and help to integrate cognitive-emotional processes (Winkleman, 2002). Regulating brain activity in this way could address the neurological dysfunction seen in both PTSD and SUD. One survey respondent shared, “I have found that music, especially drumming, creates that same kind of bonding and interdependent unity without putting chemicals and smoke in my body” (Winkleman, 2002, p. 650). This contributes to a collection of evidence that points to importance of group bonding and a sense of connection and belonging.

Music therapy has the most research so far out of the expressive therapies. One method within music therapy practice is lyric analysis, used to dive into emotional processes. Michael Silverman (2011) wrote “Effects of music therapy on change readiness and craving in patients on a detoxification unit” discussing the results of a study that used psychometric instruments in a randomized three-group design. The three groups consisted of rockumentary music therapy, verbal therapy, and recreational music therapy. Interventions were scripted and manualized in a posttest only design (Silverman, 2011, p. 510). The 141 participants were patients in a detox unit.

To measure participants readiness to change, a fifteen-item questionnaire, Readiness to Change Questionnaire (RTCQ-TV), was provided based on Prochaska and DiClemente's stages of change model (1986) (Silverman, 2011). To measure the severity of cravings, researchers used a sixteen-item scale that measured the duration, frequency, and intensity of craving.

Participants were allowed to attend multiple sessions, but only data collected after completion of the first session was used. Condition A, the Rockumentary music therapy group, was facilitated by a research therapist and a board-certified music therapist. Participants stated their name and how they were currently feeling within a 12 bar-blues riff on the guitar. The music therapist provided lyrics to songs related to substance abuse and asked participants to sing or read along. Songs facilitated discussions about artists who had struggled with substance abuse, some who had died and others who have recovered. Condition B, the active control group, was a talk therapy group, and Condition C was a recreational music therapy group that used a rock and roll bingo game (Silverman, 2011).

Results showed a significant difference in contemplation levels and readiness to change between the music therapy groups and the talk therapy group, with higher levels in the music therapy groups (Silverman, 2011). The lowest mean craving scores were in the music therapy groups, which is significant because cravings are one of the main causes of relapse. Silverman highlighted the importance of changing the perception of cravings for clients and using healthy coping skills to work through them (Silverman, 2011). Participants reported high rates of helpfulness, enjoyment, and motivation in the music therapy groups with no statistically significant difference between the two music therapy groups.

In a similar study, Silverman collaborated with researchers Baker and MacDonald (2016) to explore how flow and meaningfulness of songwriting influenced readiness to change in an

inpatient detoxification unit. There were 170 participants, 60 female and 110 male. The mean length of time spent in the detox unit was 4.10 days. Each participant had been admitted to SUD treatment a mean of 5.36 times and was on average 38.37 years old (Silverman, Baker & MacDonald, 2016). One hundred thirty-six participants identified as Caucasian, fourteen participants identified as African American, eight participants identified as Native American, eight participants identified as Hispanic, three participants indicated other, and one participant did not respond. There were approximately seven participants in each songwriting intervention group. All sessions were 45 minutes in length. Sessions began with participants discussing motivators for recovery and sobriety. The music therapist facilitated the creation of a first verse using the themes brought by the group. The second verse was created based on modes of recovery, such as therapy, medication, or positive attitudes. Once lyrics were written on a whiteboard the therapist played the 12-bar blues on the guitar and sang the lyrics, inviting group members to sing along (Silverman, Baker & MacDonald, 2016).

The goal of this research was to assess if a sense of flow and meaningfulness within the songwriting process and product “correlated with therapeutic outcomes and functioned as a predictor of therapeutic outcome” in patients in a detoxification unit (Silverman, Baker & MacDonald, 2016, p.1340). Participants were provided with posttest questionnaires measuring readiness to change, experience of flow, and assessment of meaningfulness. This study used the same Readiness to Change Questionnaire (RTCQ-TV) as Silverman’s previous research.

To measure flow, researchers used a 9-item self-report assessment called the Short State Flow Scale (SSF-S, Martin & Jackson, 2008). Each item relates to one of nine flow factors: “challenge-skill balance, action-awareness merging, clear goals, unambiguous feedback, concentration, sense of control, loss of self-consciousness, transformation of time, and autotelic

experience” (Silverman, Baker & MacDonald, 2016, p.1335). These were rated on a 5-point Likert-type scale; the higher the score the more flow was experienced. Regarding meaningfulness of songwriting, 11 domains of meaningfulness were identified: “enjoyment, discovery/self-reflection, arousal of emotions, creativity, engagement, challenge, understanding context, associations, achievement, personal value, and identity (Silverman, Baker & MacDonald, 2016, p.1335)”. A 5-point Likert scale was used to measure participants’ experience of these domains.

Researchers performed correlational analyses of pre-contemplation, contemplation, and action subscales of the readiness to change scale with the flow scales and the meaningfulness of the songwriting process and songwriting product scores (Silverman, Baker & MacDonald, 2016, p.1340). There was a significant relationship between each variable with the exception of pre-contemplation and contemplation and the meaningfulness of the song product and process. Multiple regression analysis showed that “flow was the only significant predictor of precontemplation, contemplation, and action indices” (Silverman, Baker & MacDonald, 2016, p.1340). Although research methods indicate associations between variables, they cannot be interpreted as cause and effect relationships, which is a limitation in this study. Researchers also note some confounding variables such as the experience of being supported and supporting others in the song-writing process, which fosters a sense of belonging and connection with others. This could have had an equal or more significant impact on the therapeutic outcome.

A quantitative music therapy study performed by Baker, Gleadhil, and Dingle, investigated the importance of clients with SUD exploring emotional regulation and experiential avoidance (Baker, Gleadhil, & Dingle, 2007). Researchers wanted to see if music therapy programs within a CBT framework facilitated the exploration and tolerance of emotions.

Researchers performed a 7-week trial, assessing the impact of a single music therapy session on participants' emotional experience using a self-report questionnaire (Baker, Gleadhil, & Dingle, 2007). There were twenty-four participants from a drug and alcohol rehabilitation unit in a private hospital in Brisbane, Australia. The mean age was 34.4 years with an age range of 17–52 years, eleven males and thirteen females all seeking treatment for misuse of alcohol (N= 13), cannabis (N= 3), or injecting/polydrug use (N= 7) ( Baker, Gleadhil, & Dingle, 2007, p. 327).

The music therapy sessions were conducted once a week as part of a 5-days-a-week treatment program. Group sessions included CBT, yoga, aikido, and music therapy. Results showed that music therapy sessions facilitated the experiencing of positive emotions to a moderate or high degree in 80% of participants (Baker, Gleadhil, & Dingle, 2007, p. 328). Music therapy helped allow participants to experience and tolerate emotions without the need for substances. It was suggested that these methods be used to explore negative emotions within a safe environment as well, helping those in recovery tolerate various arousal levels.

The cognitive-behavioral music therapy sessions focused on problem-solving, communication styles, planning, exploring emotions, anxiety, self-esteem, and self-identity. Interventions included lyric analysis, “songwriting/parody to songs chosen by the music therapist, improvisation, and song-singing/listening” (Baker, Gleadhil, & Dingle, 2007, p. 324). A post-session questionnaire, consisting of open-ended questions, yes/no and a Likert scale provided a combination of qualitative and quantitative data. Results showed that music and music therapy techniques within a Cognitive Behavioral framework can create a safe container to explore the full spectrum of emotional experience (Baker, Gleadhil, & Dingle, 2007). Emotional avoidance is a symptom of trauma and SUD making it a serious risk factor for relapse.

Expanding the capacity to tolerate positive and negative affects without using drugs is an important treatment goal.

A different approach to research in the field of EAT is art-based research. In this method, art was used as a primary way of exploring data. Diane Austin is a music therapist that explored the experiences of people suffering from addiction and participating in Alcoholics Anonymous. She began researching this topic in 1991 by observing an open AA meeting in New York City known as Grace Street. Austin took notes after each meeting, recording statements of group members verbatim. Austin wrote creatively after each session, exploring her feelings in response to the meetings and feelings shared by group members. She intended to show her affective engagement in relation to the data collecting process as well as to create a musical that presented her findings. She utilized metaphorical play, music, and poetry to develop her research question, "What keeps people coming back to A.A.?" (Austin, 2015).

Austin writes that she felt less alone by being in the company of people expressing their feelings and struggles, an observation that supports the importance of a sense of belonging in recovery. The meetings provided her with time and space to connect with her feelings. It was relieving to be in a space of honest sharing. Austin conducted one face to face interview, with permission to record and an agreement to preserve anonymity. The participant explained their understanding of God as a "gift of dignity" (Austin, 2015) and that AA has helped them repair their self-image and sense of identity. Stories of addiction infamously include the destruction of dignity and a plummeting into shame. The restoration of dignity and elimination of shame is an enormous predictor of success in recovery. Concepts of a higher power are a central piece of recovery, and the more ways this can be interpreted, the better because everyone relates to spirituality from a different perspective. Austin invites the reader to glean information from her

artistic reflections and explore how “knowledge is communicated in the arts and how the artifacts of research (documents, music, etc.) shape these ways of knowing” (Austin, 2015, p. 3). Similar to the visual matrix used with FADT, art-based research is a way of grasping conceptual themes that may enrich our understanding of such a complicated problem like addiction.

Another study examined the effectiveness of using EAT techniques with adolescents trying to quit smoking. CARE Singapore is an outsourced welfare organization that works with at-risk and delinquent adolescents who smoke cigarettes in Singapore. In a qualitative phenomenological study, researchers evaluated the ‘Quit Now!’ program, an 8-week psychoeducational evidence-based group intervention utilizing EAT to help adolescents quit smoking. The program was designed for 15-20 participants, aged 15-18 years, to meet weekly for 90-minute sessions for up to 10 weeks. Participants had experienced repeated failures in school and were involved in gangs or criminal activity. The two sample populations evaluated in this article consisted of 20 male high school students, ages 14 to 15 years and 18 females in a residential rehabilitation setting, ages 13 to 16 years. Both groups met once a week for eight weeks.

Themes from the groups focused on goals for the future, breaking free from addiction, staying free, and living a new life. An independent samples t test was performed to compare the receptivity to the program from each group based on the measures feelings, experiences and knowledge learned from the Quit Now! program (Kit & Lan, 2012). The researchers reflect on the developing brain, the probability of experimenting with substances for adolescents, and the use of the frontal cortex in decision making. Creative therapies can help bridge the gap between abstract and concrete, inner and outer worlds. Research shows that EAT techniques are “more effective than Cognitive Behavioral Therapy for addicted clients” (Kit & Lan, 2012, p. 5).

Results showed that both groups of students found the program enjoyable and useful. At the six-month follow up 25% of participants in the school setting had quit smoking, compared to 100% of participants from the rehabilitation setting, which had a smoke-free rule. 85% (n=417) of all participants in the high school setting had high nicotine dependence before the program (Kit & Lan, 2012, p. 20). Only 2 participants successfully quit smoking, and 11 reported limiting smoking to less than 5 cigarettes a week, 4 participants reported no change. All 3 participants who had low to moderate nicotine dependence before the Quit Now! program successfully quit smoking (Kit & Lan, 2012, p. 20).

The objectification of feelings facilitated by creative expression can provide reflective distance for adolescents to acknowledge and process painful emotions. The authors note expressive arts ability to enable people to share their life stories as well as give and receive feedback (Kit & Lan, 2012). Those suffering from SUD often have a low tolerance for honest feedback. Creative expression can catalyze self-love and forgiveness and help build self-esteem to gently begin engaging with the world again.

A study performed in 2007 by Sarah Meshberg-Cohen, Dace Svikis and Thomas McMahon explored the use of expressive writing as a therapeutic intervention for drug-dependent women. Authors intended to evaluate the potential benefits of using Pennebaker's expressive writing method with women receiving treatment for SUD. Expressive writing in which individuals disclose traumatic experiences has been shown to reduce depression, decrease doctor's visits, improve immune functioning, and decrease sympathetic nervous system activity (Meshberg-Cohen, Svikis & McMahon, 2014). Participants were eligible for this study if they were at least 18 years old, met diagnostic criteria for SUD in the DSM-4 and were approved for 60 days of residential treatment to ensure presence at the one month follow up. Women were

ineligible if they had an acute mental disorder (e.g. suicidality) or had literacy challenges that would prevent completion of assignments or assessments.

In a randomized clinical trial, researchers compared expressive writing with control writing and repeated-measures analysis of variance was used to document change in psychological and physical distress from baseline to two week and one month follow-ups. Researchers also analyzed immediate levels of negative affect following expressive writing. Scales used to measure data included Post Traumatic Stress Diagnostic Scale, Pennebaker Inventory of Limbic Languidness, Positive and Negative Affect Scale, Center for Epidemiological Studies Depression Scale and Structured Clinical Interview for DSM-IV (Meshberg-Cohen, Svikis & McMahon, 2014).

Utilizing Kolmogorov-Smirnov and Shapiro-Wilk statistics, researchers determined that primary and secondary outcomes were normally distributed. T- and chi-square tests examined whether significant baseline differences existed between conditions. A series of analyses of variance (ANOVA) was then used to test for between-group differences in two-week clinical outcomes and clinical outcomes at the end of the one-month follow-up. At the two week follow up, there was a greater reduction in post-traumatic severity, depression and anxiety scores compared to control writing participants. No significant difference was found at the one month follow up. By the last session, participants were able to write about traumatic and stressful events without experiencing a spike in negative affect. Results suggested that expressive writing may be a cost effective and quick way to address post traumatic distress in women abusing substances (Meshberg-Cohen, Svikis & McMahon, 2014).

## **Discussion**

Although the interventions and research methods used in these studies vary significantly, a clear pattern has appeared through my research. Both the dysfunction of addiction and the success of recovery are rooted in core concepts of the human condition including self (identity, regulation, worth, safety), other (relationship, community, support, connection, access to resources) and ontological phenomenon (meaning, purpose, creativity, paradox, and spirituality). It is no wonder why this topic is flooded with differing opinions and lacking a unifying theory. Two words stood out amongst the rest in a thematic analysis; culture and dignity. Culture is a system of beliefs, values, goals, and practices. Dignity is the right of every person to be valued and respected for their own sake and to be treated ethically. Successful recovery involves a transition, cultivation or reparation of culture and restoration of human dignity. We have much work to do globally to heal from our violent histories, make amends between cultures, and eliminate social stigmas. It appears from this review of literature that Substance Use Disorder may be the result of vapid or broken culture, marginalized and disempowered populations and the human body's biological tendency for forming habits.

Future research should explore social support, isolation, trauma and a lack of creative expression as factors in SUD. Neurological metrics that portray the importance of limbic harmony and tranquility as it relates to learning and making change will help solidify the importance of trauma-informed care. I suggest researching how transcendent experiences, such as altered states of consciousness and community engagement impact the body and reward pathways. Treatment models should adapt to different populations, celebrate pluralism, and incorporate eclectic creative modalities to process compounding emotions, and improve physical and spiritual wellbeing. Collaboration between professionals, local artists, organizations, and community members can help facilitate the global intervention necessary to impact the epidemic

of SUD. Expressive Arts Therapy can help connect individuals with a sense of self and a sense of community as well as build coping skills. Groups based in creative expression can be used as building blocks for community support and help foster a connection to and valuing of process rather than a fixation on product.

Pursuing a simple answer to this problem is parallel to the problem itself, easily getting lost in the details and losing sight of holism and interconnectivity. The best course of action is to explore the nature of each person's story. Through incorporating the theories stated above and exploring the individual's relationship to self and other, and using expressive therapies, we may form a holistic assessment and treatment model for SUD, one person at a time.

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