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A Laughing Matter: Transforming Trauma Through Therapeutic Humor and Expressive Arts Therapy

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A Laughing Matter:
Transforming Trauma through Therapeutic Humor and Expressive Arts Therapy
Capstone Thesis
Lesley University

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Abstract

Humor and trauma share two characteristics: they are both perspectival in nature and hold incongruity at their core, however, their impacts are profoundly different for the perceiver. As humor and laughter open one's psyche and invite positive social exchanges, trauma produces more dissociative, dysregulated and dysfunctional interactions. While fundamental to interpersonal experiences, there has been limited research about the use of humor and laughter as essential tools within the mental health therapeutic alliance. Neurological research and case studies have shown that humor and laughter can have hormonal, physiological and psychological benefits. Due to the perspectival nature of humor and trauma, attunement within the therapeutic relationship is vital for personal transformation. Here, the opportunity is offered to synthesize verbal and non-verbal expression through decentering and play methods that incite humor and laughter and aid the transformation of debilitating associations with past traumatic experiences into perspectives of self-awareness, self-empowerment and an acknowledgment of resilience. The trauma-informed treatments, like the ARC Framework, provide a safe and solid foundation where expressive arts therapy and therapeutic humor can be utilized. Thus, the findings of this capstone thesis recommend further investigation into the intentional implementation of therapeutic humor within the expressive arts therapy approach especially when working with adult survivors of developmental trauma, to cultivate attunement between the therapist and client.

Keywords: humor, laughter, developmental trauma, expressive arts therapy, attunement, ARC Framework

A Laughing Matter:

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Capstone Thesis

“Laughter and tears are both responses to frustration and exhaustion.

I myself prefer to laugh, since there is less cleaning up to do afterward.”

- Kurt Vonnegut

Introduction

At first glance, it may seem that the topics of humor, trauma and expressive arts therapy exist as separate worlds, but with closer investigation, a logical connection may emerge. Humor and trauma are both generally considered perspectival (Blaustein & Kinnibergh, 2019; Larkin-Galiñanes, 2017; Morreall, 2016) meaning they are both dependent upon a situation, and a perceiver of that situation. Humor or trauma, comedy or tragedy, are various characteristics of the perceived situation. Although there are variations within the characteristics of humor (Larkin-Galiñanes, 2017) and trauma (Scott, 2007; Spermon, Darlington, Gigney, 2010), they share the quality of incongruity and relation to an internal logic. One’s internal logic is jolted when reacting to both comedy and trauma. “Being taken by surprise means there has been a violation of our expectations” (Fosha, 2006, p. 570). It is the reaction based on where the person is developmentally, emotionally, and experientially that makes all the difference.

Among its many theories, humor harbors what is known as the incongruity theory that is defined as “something that violates our mental patterns and expectations” (Morreall, 2016), when what is expected is not what is delivered, thus “our own disappointed expectation makes us laugh” (Morreall, 2016). Through jokes and funny situations, a shift in perception takes place,

resulting in a recognition of the humor through laughter or a groan (Morreall, 2016; Roeckelein, 2006). Tierno (2012) states that the goal of comedy is to make an audience “laugh and understand truth [and] if done correctly, this can be deeper and more powerful than any dramatic story” (p. 162).

For centuries, comedians have used humor to press through troubling times. This can be seen with current late-night TV hosts like Steven Colbert, as their humor helps their audiences navigate through curious political times (such as the potentially re-triggering moments of the #metoo movement) (Borchard, 2018). A rather effective field reporting tactic of how humor and laughter act as therapeutic survival skills regarding civil and race wars, is deftly articulated through the four-episode series *Larry Charles’ Dangerous World of Comedy* (Charles, 2019). These individuals have harnessed the power of humor to shift the mood of whole societies from horrified to hopeful.

Humor and trauma can cause a sudden shift within the perceiver. While humor creates expansion, openness, creativity and social connections (Buxman, 1991; Gelkopf et al., 2006; Trungpa, 2008; Ziv, 2010), trauma creates rigidity (Levine, 2015), anxiety, isolation, and affect and cognitive dysregulation (Dye, 2018) and in some cases creates “hypervigilance and dysregulation which look[s] like ADHD” (Walters, 2017, p. 54).

There have been several studies conducted in relation to humor, psychology and sociology (Bonaiuto, 2006; Ziv, 2010), the neurobiological effects of humor in the reward centers, (Mobbs, Greicius, Abdel-Azim, Menon & Reiss, 2003), humor comprehension and neurology (Campbell, Wallace, Modirrousta, Polimeni, Mckeen, & Reiss, 2015), humor studies with individuals and groups with mental illness (Buxman, 1991; Gelkopf, Gonen, Kurs, Melamed, & Bleich, 2006; Taber, Redden, & Hurley, 2007), humor and creativity (Ma, 2014;

Ziv, 2010), and many more. Various approaches to humor have been successfully used within the clinical therapeutic relationships with individuals, families, couples and multicultural populations. (Goldin & Bordan, 1999).

Trauma-informed research also has yielded many studies regarding complex trauma (Hodgdon, Kinninburg, Gabowitz, Blaustein & Spinazzola, 2013; Spermon, Darlington & Gibney, 2010) and its neurological impacts over time (Bremner, 2003; Finn, Waren, Price & Sinazzola, 2017). There has also been some interesting research conducted regarding trauma, neuroscience and art therapy (Buk, 2009; Hass-Cohen, 2016; Hass-Cohen, Findlay, Carr & Vanderlan, 2014; Spring, 2004). However, little research has been published regarding the use of humor specifically within trauma-informed treatments, humor with the expressive art therapies, or humor, trauma, and the expressive art therapies combined.

Within the past few decades, an increasing amount of research has been conducted regarding the benefits of using the specific modalities of expressive therapies in trauma-informed treatment including music (Cohen, 2017; Oldenfield & Franke, 2005), art (Carey, 2006; Hass-Cohen 2016; Linder, 2015), psychodrama (Walters, 2017), and dance/movement (Halprin, 2002; Levine & Land, 2016). The intermodal approach of expressive arts therapies can draw from this rich research and has been increasingly gathering more data in relation to its benefits in treating trauma (Buk, 2009; Estrella, 2005; Hass-Cohen et al., 2014; Hinz, 2009; Kelly, 1998; Kossak, 2009; Malchiodi, 2004; Richardson, 2015; Spring, 2004).

What this author has noticed is little mention of humor within expressive arts therapy research or within its key components such as *decentering*, *play*, *attunement* and *crystallization*. Expressive arts therapy pioneer, Paulo Knill (2005) introduced his concept of *decentering* as a way to “move from the narrow logic of thinking and acting that marks the helplessness around

the ‘dead end’ situation in question” (Knill, 2005, p. 83). Mitchell Kossak's (2009) attention on *attunement* highlights the importance of the therapist/client interpersonal relationship and cites developmental terms such as “attuning dialog” and “attuned interaction” (Kohut, 1971; Kossak, 2009). Thus, attunement must be engaged to use humor wisely within the therapeutic alliance.

Personal insight and self-discovery have been generated through various somatic and visual therapies (Fosha, 2006; Kossak, 2009). Attunement allows for play, a natural harbinger of mirth, humor and laughter. Knill (2010) uses the term *crystallization* to describe the therapeutic phenomenon that “builds on the distinctions posed by the modalities of imagination” (p. 123).

Humor relies upon the interdependent nature of relationships, the *attuning dialog*, which in turn correlates to "getting" a joke, for “humour comprehension requires the recognition of intended playfulness -- a form of affective processing” (Campbell et al., 2015).

When functioning interdependently, humor, the arts, and the therapeutic process lends itself to the significance of a witness (Hervey, 2012; Rogers, 1993). Richardson (2015) speaks to the act of therapeutic witnessing with traumatized children stating “together we are witness to something new, freshly unfolding before us. We are in that moment being changed. We can offer something new to this unfolding experience between client, art, and therapist” (p. 53). The process of "being seen and being heard” (p.23) in the therapist/client relationship is essential, much like the comedian/audience relationship and also the observer-dependent nature of mirroring (Fosha, 2006), the firing of mirror neurons (Kossak 2009) as well as relativity theories that create quantum shifts in cellular structure (Fosha, 2006).

The position of this paper is to show that humor can be a useful, and at times, an organic, component within the intermodal expressive art therapy approach, especially when working with adult survivors of developmental trauma, to cultivate attunement between the therapist and

client. Once in attunement, one is emotionally available to decenter and a shift in perspective can occur. When perspectives shift, one is open to action: laughter, creation, and contemplation.

When action begins, one is open to intentional change and to healing.

At times, humor is not the most appropriate tool to use with a client. There may be some clients where humor is never going to be useful. Humor should not be used to trivialize one's trauma nor as tool for further avoidance, but rather seen as a naturally occurring phenomenon that relieves stress and helps to gain perspective for those who are able to use it.

This paper will discuss both historical and current findings of humor, laughter, developmental trauma, and expressive arts therapy within the neurological, endocrinological, and social perspectives. Next, the need for further examination of how these three topics may function interdependently and could potentially be combined within existing treatment methods or contribute to the development of future methods will be addressed.

Literature Review

"In short, [laughter] helps make it possible for good things to happen."

– Norman Cousins

Humor is a basic element of interpersonal communication; however, it is often not mentioned as a specific component of the therapeutic process (Dziegielewski et al., 2004; Penson et al., 2005). It has been known to "help maintain psychological well-being by supporting more positive appraisal of stressful events" (Perchtold et al., 2019), and it is viewed as both a vehicle to communicate deeply rooted thoughts, and as a mechanism to help individuals "survive emotional and physical suffering, imprisonment, illness, and loss" (Dziegielewski et al., 2004).

This literature review will explore the relationship found between humor, laughter, trauma, and the expressive arts therapies. The historical and current research provides a foundation to explore contemporary theories and frameworks such as Attachment, self-Regulation and Competency Framework (ARC) (Blaustein & Kinnibergh, 2019). Although this is a literature review, this author posits that humor and laughter can be implemented into a trauma-informed expressive arts therapy approach to allow for lasting transformative experiences. Figure 1 illustrates how these three approaches overlap; ARC provides a therapeutic framework in which the expressive arts therapies and therapeutic humor can be integrated.

Historical Perspectives

Historical perspective of humor.

I'm not alright, I'm half left!

– Jim Brown, Medic, Institutionalized WWII Veteran

British neuroscientist Sophia Scott (2014) posits that humor and laughter do not attract significant attention because psychology has historically put most of the focus on understanding maladaptive behaviors and assisting clinicians in diagnosis, while overlooking positive behaviors. However, there has been growing research regarding how the brain processes humor and laughter; perhaps leading to new ways of using them to treat trauma and enriching the therapeutic process.

Laughter has been acknowledged as a universal expression (Bryant & Aktipis, 2014; Lavan et al., 2017; Provine, 2000; Scott, 2014) and an effective communication tool used not only in humans, but in all mammals. On the primal level, behaviorists have found that laughter is a "fundamental communicative signal in humans" developed during infancy (Bryant & Aktipis, 2014, p. 327). Laughter is a non-verbal method of expressing emotions (Scott, 2014) and

communicates non-verbal social signals to another person to indicate that no harm is meant (Bryant & Akitpis, 2014; Scott, 2014). "A better understanding of laughter might provide important insights into the nature of human sociality and provide an invaluable piece in the puzzle of cooperative behavior" (Bryant & Aktipis, 2014 p.336).

Although laughter is associated with positive emotions, it has been mostly overlooked as a tool in psychotherapy. Provine (2000) stated that not only did many psychotherapists believe the use of humor or laughter in treatment was ineffective or dangerous, but also that the logistics of collecting data on laughter and humor was awkward and cumbersome; more attention was given to the written surveys rather than the production or qualities of laughter.

Alan Fridlund was quoted as saying, "The only thing certain in the emotion field is that no one agrees on how to define emotion" (Beck, 2015). Earlier research of human emotions, which relied on photographs, demonstrated a lack of reliability as individuals were asked to base their perception of an emotion on the limited information that a photo provides. For example, a photo of the scrunched-up face of someone laughing, may very well be misconstrued as expressing pain (Scott, 2014). Advances in technology have expanded research options to include video, which incorporates sound and adds "a temporal dimension" to help differentiate emotions. Scott also noted that the use of improved brain scanning technology such as PET and fMRI have also been valuable contributions to research.

Norman Cousins (1976), a journalist and world peace activist, healed himself of several painful and debilitating diagnosis including ankylosing spondylitis by unorthodox means. After conducting his own research, he discharged himself from the hospital, booked a hotel room, and methodically treated himself with daily doses of vitamin C and laughter by watching comedy shows and films. He left the hotel pain free. (Cousins, 1976; Provine, 2000).

Historical views of childhood trauma and developmental trauma.

Although trauma itself has been in existence since life began, there was little consideration for the concept of trauma as a psychological condition until World War I. Veterans returned home exhibiting significant psychological changes that were too concentrated and disturbing to ignore. For treatment and pension purposes, soldiers were given a diagnosis of “shell shock” and later Not Yet Diagnosed, Nervous (NYDN) (van der Kolk, 2014). Over time, understandings of the various types of trauma expanded beyond veterans to explore negative experiences such as verbal, physical, and sexual abuse of both adults and children, natural disasters, neglect, and bereavement.

Despite the amount of empirical research, the mental health community has been divided regarding the impacts of childhood trauma on adults. As recently as 2011, the APA rejected a submission to include Developmental Trauma Disorder, citing it as “more clinically institutional than a research-based fact” (van der Kolk, 2014, p. 148). A study with Adverse Childhood Events (ACE) showed that of those who have suffered from ACE, there is a 40% likelihood that they will receive mental health treatment as adults (Messina & Grella, 2006).

Common terms for developmental childhood trauma include pervasive trauma, complex trauma, cumulative trauma and complex post-traumatic stress disorder (PTSD). “Developmental trauma refers to a type of stressful event that occurs repeatedly and cumulatively, usually over a period of time, and within specific relationships and contexts” (Sar, 2011, para. 3; see also Curtis, 2008). Similarly, Spermon, Dorlington & Gibney (2010) have defined complex trauma as “severe chronic interpersonal trauma usually originating in the formative years of a child” (p. 119) and state that throughout the individual's life, this can result in “global dissociative difficulties across areas of cognitive, affective, somatic and behavioral functions” (p. 119).

Maladaptive behaviors associated with complex PTSD include “alterations in the regulation of affective impulses, attention and consciousness, self-perception, perception of the perpetrator, systems of meaning, and somatization and/or medical problems” (Sar, 2011, para. 6; see also Herman, 1992). For the purposes of simplicity, these similar definitions will be referred to as *developmental trauma*.

Spring (2004) stressed that with adults, it is important to seriously consider the impact of childhood trauma when addressing a present incident: "Without identification of prior trauma it may erroneously be assumed that the development of PTSD is linked to a current event rather than already being in existence" (p. 207) and can create disconnections within treatment. Cumulative and pervasive childhood trauma “predicts increasing symptom complexity in adults” (Sar, 2011) and may be misdiagnosed (Griffin, 2019; Walters, 2017). Adults who experienced cumulative sexual abuse as children have grown up to exhibit layers of mental health ailments, thus intensifying the severity of symptoms over time (Steine et al., 2017). Adult survivors of developmental trauma are continuously learning new responses to new activating circumstances, however old behaviors are difficult to remedy and they may lack insight into their fears (Kreidler & Kurzawa, 2009). Activating situations may cause individuals with a traumatic pasts to perceive “a lack of power or control, unexpected change, moments of transition, feeling threatened or attacked, feeling vulnerable or frightened, feeling shame, feelings of deprivation or need, intimacy and positive attention” (Blaustein & Kinnibergh, 2019, p. 25). Trauma survivors are often diagnosed with anxiety, depression, personality disorders (Herman, 1992), and ADHD (Griffin, 2019; Walters, 2017). If untreated, these symptoms interfere with individual’s quality of life, negatively affect relationships, and impact one's professional and financial status. Herman (1992) pointed out that “survivor's symptoms and behavior may appear quite baffling, not only to

lay people but also to mental health professionals” (p. 388). Because traumatic experiences cannot always be shared verbally (Herman, 1992), approaches for accessing non-verbal expression soon developed through approaches like expressive arts therapy and therapeutic humor.

Brief historical overview of expressive arts therapy.

Beginning in the 1970s, an interdisciplinary approach to art therapy was evolving. This was founded upon several theories including Knill’s Intermodal Theory, McNiff’s theory of Art as Medicine, Rogers’ Creative Connection, and Lusebrink’s Expressive Therapy Continuum. Although these theories promote differing perspectives, they all share common denominators such as sensory-based exploration, aesthetics and creativity (Estrella, 2005). These common elements allow for corrective experiences and trauma processing and “may be helpful in repairing and reshaping attachment through experiential and sensory means and may tap early relational states before words are dominant, possibly allowing the brain to establish new, more productive patterns” (Malchiodi, 2009, p. 12). The therapeutic collaborative process of working in various expressive mediums, either simultaneously or linearly, promotes critical thinking, affect regulation, and personal transformation.

Current Theoretical Orientations

A wonderful thing about true laughter is that

it just destroys any kind of system of dividing people. – John Cleese

Current understandings of complex trauma.

As stated previously, the impacts of trauma, especially during an individual's early developmental years, can have life-long repercussions (Blaustein & Kinniburgh, 2019; Bremner,

2003; Hass-Cohen, 2016; Sperman, Darlington & Gibney, 2010). Children are impacted by trauma even if they were too young to remember it; research has shown that the brain need only perceive danger to increase arousal in the limbic system and decrease the functioning of the prefrontal cortex, for the body will react "regardless of objective reality" (Blaustein & Kinnibergh, 2019, p. 27). If the caregiver does not make attempts to console the child, the child's ability to form healthy attachments is jeopardized, as self-soothing mechanisms are underdeveloped (Blaustein & Kinnibergh, 2019). As Finn et al. (2017) explain: "The biological and neurological impairments associated with trauma vary depending on the developmental stage of the victim, type of traumatic exposures, and the sensitive periods of particular brain structures" (p. 3). When the perception of trauma cannot be verbally expressed, the child cannot self soothe, regulate his/her fear and the perception of the trauma is stored within the psyche (Quagelli & Salvono, 2017).

Repercussions of trauma "[leave] one to rely on alternative adaptations to cope with internal and external experiences" (Blaustein & Kinnibergh, 2019, p. 31) including, but not limited to experiencing emotional numbing, withdrawal from others, avoidance of conflict, indiscriminate attachments, a need to control, a sense of rigidity, refraining, avoiding or overindulging in sexual behaviors, inflicting self-injury, substance and/or food misuse, and engaging in sensation seeking, aggressive or externalizing behaviors.

Trauma and the brain.

Research within the past few decades has provided case studies and neurological findings which help inform affective trauma-focused treatments. Several parts of the brain are interdependently and negatively impacted when trauma is perceived during a child's development (Blaustein & Kinnibergh, 2019; Bremner, 2003; Hass-Cohen et al., 2014; Finn,

2017; Nikulina & Widom, 2013; Quagelli & Solano, 2018; Spermon, Darlington & Gibney, 2010; Spring; 2004). The structures of the brain that are affected during trauma include: (a) the amygdala, experiences explicit memory, and is responsible for generating emotion (including fear), but not processing the cognition of the emotions; (b) the basal ganglia which provides emotion-motor interference; (c) the hippocampus which controls spatial navigation, learning, and short- and long-term conscious memory; (d) the hypothalamus which bridges the nervous system and endocrine functioning; (e) the thalamus which conducts sensory relay between body/brainstem and cortical/subcortical area; and (f) the nucleus accumbens which is part of limbic system and the reward pleasure system (Hass-Cohen, 2016).

Bremner (2003) elaborates upon the intervening stress response's long-term neurological impacts. These include the hypothalamic-pituitary-adrenal (HPA) axis and the norepinephrine systems [which include] the hippocampus, amygdala and prefrontal cortex" (271). Hass-Cohen et al. (2014) add that the deregulation of the HPA leads to "social avoidance and defeated behaviors."

Overseeing the brain's learning and memory functions, the hippocampus, despite having an incredible capacity for "neuroplasticity and regeneration", is greatly affected by stress (Bremner, 2003, p. 272; Costandi, 2016; Seigel, 2010). Bremner's research has shown that adults who suffered from developmental trauma have neurological patterns that are consistent with the long-term changes in HPA axis, hippocampal morphology, and hippocampal-based memory function" (Bremner, 2003, p. 277).

When one is threatened the flight, fight or freeze, and social engagement responses are activated, and stress hormones like adrenaline and cortisol regulate the body for danger and disconnect areas non-essential to survival, such as the prefrontal cortex. When pervasive

stressors are present, the prefrontal cortex, which oversees working memory and other executive functions is compromised (Bremner, 2003; Hass-Cohen, 2016).

Serotonin supports one's feeling of well-being. When under "inescapable stress" (Bremner, 2003, p. 275), serotonin metabolism decreases which often contributes to learned helplessness. Thus, if the HPA and midbrain are not communicating properly with the prefrontal cortex, responsible for executive functions such as cognitive meaning making and problem solving, problems can ensue. In adolescents, traumatic stress can impede the prefrontal cortex and have an effect on one's "engagement with others, self-awareness, understanding of complex emotions and social and behavioral learning abilities" (Finn et al., 2017, pp. 2-3).

Research has found that throughout evolution, a sense of self-preservation and survival, "the brain is drawn to bad news" (Hanson & Mendius, 2009, p. 41). The hippocampus makes note of the negative event and files it away for comparison to future situations. "Upsetting events from the past play again and again, which unfortunately strengthens the neural associations between an event and its painful feelings" (p. 45). This can make treatment difficult. When imbalanced, the brain will continuously send messages of impending threats and perpetuate the cycle of hormonal imbalance.

Hormones produced by stress are adrenaline, cortisol, and norepinephrine (Kreidler & Kurzama, 2009). Adrenaline and norepinephrine quickly stimulate the body into action, while cortisol regulates less immediately life-threatening systems such as blood pressure, reproduction, the immune system, growth and digestion (Hass-Cohen, 2016). Since cortisol's function is to help us cope with stress, sustained high levels can lead to depression, cognitive problems and can tax the above-mentioned systems (Hass-Cohen, 2016). Fortunately, the brain is plastic and change is possible (Seigel, 2010).

Humor and the brain.

Humor has been empirically proven to be a moderator of stress (Lefcourt & Thomas, 1998). Neurological studies demonstrate the endocrinological and neurological benefits of humor and laughter and how they can reduce the physical and mental effects of stress. One study out of Stanford using fMRI brain scans showed that humor activates the sub-cortical regions thus engaging “key components of the mesolimbic dopaminergic reward system” (Mobbs, Griecius, Abel-Azim, Menon & Reiss, 2003). The authors found that while the amygdala is often associated with creating negative affects, it also contributes to hedonistic pleasures such as “laughter and processing positive emotions” (p. 1045), thus suggesting that having a sense of humor can be beneficial psychologically and physiologically (Cousins, 1979).

Brownell and Gardener (1983) looked at individuals with brain lesions secondary to stroke in either brain hemisphere. Researchers asked participants to rate cartoons with and without captions. Those with damage on the right side either laughed indiscriminately or did not laugh at all. Another study by Brownell and Gardner (1983) used written punchline-driven multiple-choice surveys. This study was able to point out the difference between humor comprehension and humor appreciation and showed that although the participant could appreciate the surprise factor of the joke, laughter was not always present. Another study by Shammi and Stuss (1999) examined the right frontal lobe as the center for “getting” a joke. They found several neurological functions for appreciating humor are required, such as understanding verbal abstraction, mental shifting, working memory and incongruity resolution (Shammi & Stuss, 1999). Most importantly, “humor provides a nontraditional but useful measure of social and cognitive competence” (as cited by Provine, 2000, p. 182).

A more recent study conducted by a group of researchers located in Canada used more advanced brain scan technology to determine whether the *comprehension* of humor is neurologically linked to the *appreciation* of humor. (Campbell et al., 2015). They found that while "humor comprehension can be differentiated from humor appreciation... humor comprehension is a necessary condition for humor appreciation" (p. 18). The researchers also found convincing evidence that the amygdala contributes to the subjective ability to perceive something as funny and produce positive emotional results. They were also able to show that the function of the superior frontal gyrus located within the frontal lobe, "likely plays a crucial role in the development of an integrated and cohesive evaluation of humorous experience" (p. 19). Considering the complexity of interdependent brain functions required for perceiving and appreciating humor, this author posits that the act of interpersonal appreciation when conveying humor must be considered.

The appreciation of positive emotional experiences found in humor, when laughing with another individual, presumes social implications. A neurological study conducted by Scott and her associates (Lavan et al., 2017; Scott, 2014) showed that when presented with audio recordings of spontaneous (real) and volitional (posed) laughter during PET scans, different parts of the brain were activated. When participants listened to posed volitional laughter, a relational comparison was made between arousal, valence (perceived affect) and authenticity. They found that: (a) as we get older we are able to better detect when laughter is posed or spontaneous; (b) spontaneous laughter, common among close relationships, solidifies our feeling of belonging; (c) when volitional laughter was recognized, the anterior medial prefrontal cortex, located in the frontal lobe, which controls mimicry behavior, was activated. This causes one to wonder why

that particular laugh was produced by that person, and what it means in relation to ourselves and our social context (Lavan et al., 2017; Scott, 2014).

Understanding social context is necessary when considering using therapeutic humor within trauma-informed therapeutic alliance. Trust and rapport must be present so that the potentially stressful process of addressing past trauma can be conducted. Relationship research with couples has shown that implementing laughter and humor directly after experiencing a stressful situation produces a “significant drop” in stress hormones and create lasting, positive feelings (Whelan, 2010). Physiological arousal and positive emotions were concurrent "suggesting that the two phenomena might be related" (p. 31), and they are.

A recent study out of Finland confirmed that when people engaged in social laughing for 30 minutes, the health benefits are both physical and mental (Manninen et al., 2017). PET scans revealed that their endogenous opioid release increased, releasing immuno-enhancers which combat stress hormones such as cortisol. "The present data shows that laughter may not only be an important mechanism for maintaining social relationships, but also an effective behavioral coping mechanism against stressful situations" (p. 6129).

Treatments

Trauma-informed treatment.

There are several trauma-informed treatments being used today. The ARC Framework (see figure 1) provides a helpful model for navigating a trauma-informed therapeutic approach and is based upon three phases (Blaustein & Kinnibergh, 2019). *Attachment* allows for the interpersonal relationship to develop between therapist and client, while *self-Regulation* assists with identifying emotions and arousal states and learning how to modulate one’s tolerance levels.

Finally, *Competency* allows for a transformative state where one can build healthy interpersonal connections with others, navigate choices, and gain a broader perspective of one's concept of self. The ARC Framework has been successfully used with the expressive arts therapy approach (Crampton & Meyer, 2018).

Expressive arts therapy as treatment.

The expressive arts therapies, art, music, drama, dance, poetry, and play therapy, are amongst the nonverbal and somatic trauma-focused approaches to treatment (Estrella, 2005; Hass-Cohen et al., 2014; Richardson, 2016). Collectively, the practice of using an intermodal approach, in which multiple art forms are used, is expressive arts therapy (Estrella, 2005). Rogers (1993) states that through using several expressive modalities, we are “lead...into the unconscious...[which] allows us to express previously unknown facets of ourselves, thus bringing to light new information and awareness” (p. 8).

Expressive arts therapies, attunement and mirror neurons

McNiff (2004) stated that “there is healing in the realization that we are not alone and that our tensions are part of world experience” (p. 222). The connection between attunement and mirror neurons within the therapeutic relationship has been explored (Buk, 2009; Seigel, 2010). One hypothesis by Marco Iacoboni “suggests that beyond imitating behaviors, we use these cortical mirror neurons to detect and then simulate the internal state of another person” (as cited in Seigel, 2010, p. 37).

As trauma impairs verbal declarative memory, somatic-based treatments have been found effective (Bremner, 2003). Italian psychodramatists, Quagelli and Salvono (2017) state that the individual's ability to "survive psychically [is] relegated to bodily states and actions that retain their communicative potential, though in non-verbal modes" (p. 890). Within the therapeutic

process, transference "supports and activates the nameless dread and threats of the original encounter with the object" (p. 891). The relationship between the therapist and client must be strong to endure "the raging rivers of emotions in a place where both catastrophic change and catastrophe itself can take place" (p. 891).

Allowing a safe space where one can sit with catastrophic memories of trauma is monumental for successful treatment. Buk (2009) presented a case study where she explored dissociative symptoms produced from trauma and how art therapy creates a safe space where the client and therapist can explore the traumatic experience together and produce marked neurological shifts. Buk explains that the mirror-neuron system (MNS) is activated through observation of activities and "provide[s] an inner imitation or simulation...[and]...send[s] signals through the insula to the limbic system, which provides that feeling of the observed emotion" (p. 64). This is known as *embodied simulation* where the "mirror neuron system and embodied simulation are activated in the brain of an observer viewing a work of art" (p. 64). Buk exemplified this *embodied simulation* by drawing disturbing images and writing captions that illustrated the trauma narrative for the client who was too afraid to acknowledge her own "frightening feelings." The client's witnessing of Buk's drawing suggests that cortical changes were occurring because empathetic responses to works of art [that] are "not purely introspective, intuitive, or metaphysical, but [have] a precise and definable basis in the brain" (pp. 64-65). Survivors asked to resurrect their traumatic experiences while "simultaneously trying to forget" (p. 73), use the creation of artwork to externalize their memories. This gives the client a sense of control while collaborative participation improves proactivity. This approach illustrates how embodied simulation as creative attunement is a necessary element of the client/therapist relationship.

Theories of mirror neurons and attunement in expressive arts therapies were also shared by Kossak (2009). He pointed to findings that the MNS is activated "when any kind of interactive play is engaged" (p. 16) whether it be musicians in a band or actors on a stage. The relationship between therapist and client also produces this level of attunement when the "sympathetic response is activated" (p. 16). Kossak states that "in this therapeutic context paying attention to embodied awareness and playing improvisationally with sound, space, and rhythmic energies can allow client and therapist to enter into synchronistic flow, a mutual resonant field or therapeutic attunement" (p. 17).

Expressive Arts Therapy, decentering and range of play.

Foundational theories within expressive art therapy include the concepts of *decentering* and *range of play* (Knill, 2005). *Decentering* within the therapeutic session is used to take the focus off a troubling stagnant topic and thus allow for more expansive thinking and creative problem solving. "This is a move into the opening of surprising unpredictable unexpectedness, the experience within the logic of imagination" (p. 83). Play also relies on activating one's imagination which "is based upon an unpredictable flow of ideas and the creation of new relationships" (McNiff, 2004, p. 228). Thus, the *range of play* permits the client to explore possibilities through play in the here and now.

Decentering offers distance from the imposed "narrow personal and situational restrictions [and] allows distance from personal fate" (Knill, 2005, p. 84). Humor can be a valuable vehicle for decentering.:

[I]ndividuals with a strong sense of humor have the ability to rapidly shift their frame of reference or perspective on a situation [which] allows one to distance one's self from the

immediate threat of a stressful situation and therefore reduces the often paralyzing feelings of anxiety and helplessness. (Martin, 1998, p. 42)

The intermodal expressive arts therapy approach lends itself well to using humor and laughter as a decentering tool to cultivate joy, offering several opportunities for the therapist and client, to engage, explore and co-create personalized effective treatment.

Treatments using laughter and humor.

The Association of Applied Therapeutic Humor, comprised of medical and mental health professionals, defines *therapeutic humor* as “any intervention that promotes health and wellness by stimulating a playful discovery, expression or appreciation of the absurdity or incongruity of life's situations” (AATH). This definition compliments the expressive arts therapy approach, which can incorporate several humor and laughter-based methods.

The L.A.U.G.H. method (Klein, 2010), a collection of scaffolded activities, helps clients navigate the many symptoms associated with traumatic experiences. This method offers therapists a guide to using humor and laughter within individual or group sessions and can be modified and or added to the inter-modal approach of expressive arts therapy. This perspective-building model provides activities that help cultivate coping skills for stress, anger and frustration. While research has not been found regarding this specific method, it provides many elements that are within the above-mentioned approaches, including embodied play, rhythm and artistic expression.

Nasr (2013) published a report stating several advantages of using laughter in one's mental health practice. Nasr cites various neuroanatomical and physiological findings. Clinical studies and assessments have shown that laughter was helpful in improving cardiac health, in pain management, and in the treatment of depression and other mood disorders. Within the

article, Nasr credits laughing yoga as a viable vehicle for treatment and highlights key points to help one understand how and when laughter can be used safely and appropriately. “Laughter has social and physiologic benefits that can be used in the context of a therapeutic relationship” (Nasr, 2013, p. 24).

Several studies around the world have also shown that inducing laughter, through methods such as laughter yoga, is extremely beneficial in lowering stress hormones, and improving one’s emotional and physiological well-being (Bressington et al., 2019; Bryant & Aktipis, 2014; Kataria, 2018; Lefcourt & Thomas, 1998; Manninen et al, 2014; Miles, Tait, Schure & Hollis, 2016; Provine, 2000; Scott, 2014; Weinberg, Hammond, & Cummins, 2014).

The social, nonverbal and playful components of approaches like laughter yoga compliment the expressive arts therapy approach. The stress reducing qualities of laughter yoga help to promote joy and social bonding through positive hormone production. Its social component lends itself to *witnessing* and *active listening* which are crucial in the treatment of trauma (Levine, 2004).

Using Therapeutic Humor in Expressive Arts Therapy for Personal Transformation

*There is a thin line that separates laughter and pain,
comedy and tragedy, humor and hurt. - Erma Bombeck*

Humor can be used as a communication tool within the therapeutic process. “[H]umor, creativity, emotion and mental health are all linked as part of living a full and productive life... can allow the therapist to draw attention to behaviors while affirming the essential worth of the client” (Dziegielewski et al., 2003, p. 78). Using humor therapeutically, clients can create helpful coping mechanisms to offset life’s many stressors which can help them “see the value of self-efficacy and self-control” (p. 80). Perceiving one’s own self-control empowers the client

and contributes to their “emotional well-being, better methods of coping with stress, better health and physiological outcomes, and improved performance” (p. 80).

Goldin and Bordan (1999) cited several successful clinical tactics for using humor to strengthen the therapeutic alliance, reduce stress, provide comfort, fight depression, conduct assessments, reverse negative thinking, and challenge unproductive preconceived ideas. They reported that the clinician must be mindful of appropriateness and timing for the benefits to become manifest.

This self-awareness relates to the competencies developed within treatments such as the aforementioned ARC Framework. Play, silliness, humor, and comedy all require a modicum of self-control. Individuals may display uncontrolled silliness when dysregulated after discussing a traumatic experience. Strategically using humor to help clients regulate affect can be accomplished with understanding comedic timing and contemplating another’s reaction. These skills can help strengthen executive functioning, decrease impulsivity, and address other ADHD-like symptoms.

Using humor and laughter within the expressive arts therapy approach also lends itself to the *crystallization theory* (Knill, 2005):

“Crystallization theory is built primarily upon the phenomenological premise that help is generated exclusively from the material that comes forth between change agent and client as they work to relate to one another” (Knill, 2005, p. 123).

One could review one’s own experience and recall a moment when one felt the answer “click” after a series of trials and experimentation. For some individuals, this may have induced laughter at their own realization, their own sense of possibilities, and their own shift in perception. By using the intermodal approach of the expressive arts therapies along with

methods for cultivating laughter and humor, a therapist could genuinely claim the title of *change-agent* as they bear witness to their client's transformation.

It is here that the theory of incongruity which calls for recognizing the unexpected, and relying on resolution, comes full circle (Uekermann, Daum, & Channon, 2007). Resolution is dependent upon the internal or socially relevant logic, understood by both parties, that has been cultivated through the therapeutic relationship's attunement process. Here, one may be able to shift their perspective and find humor surrounding an otherwise humorless situation and move closer towards emotional healing.

Conclusion

Research has shown us the negative psychological and neurological effects of complex trauma. The perpetual stress of trauma diminishes one's limbic and endocrine systems resulting in PTSD symptoms. These include anxiety, depression, struggles with executive functioning, dissociation, avoidance and social strains. These physiological, social and emotional deficits impede one's ability to create social bonds, to develop careers, and to attain a general sense of well-being, which causes one's perspective of the world to become quite bleak. Fortunately, approaches such as expressive arts therapy and therapeutic humor can produce a sense of mirth and joy, and build social bonds through mirroring, witnessing, decentering, and childlike play. As "humor can soften the isolation experienced by both patients and staff" (Penson et al., 2005) stress hormones may be reduced and over time interrupt the regular patterns created by past traumas producing a shift in perspective and personal transformation for the client.

Discussion

"Learn how to laugh at the bullshit in your life,

because when you can laugh at the bullshit in your life, you've got control of it."

–Patricia Williams, Comedian and trauma survivor.

Throughout this thesis, the objective has been to show that humor and laughter are integral components of the therapeutic relationship. Specifically, humor and laughter both complement the expressive arts therapy approach and can be effective within trauma-informed treatments. The ARC Framework can provide structure to support the compatible approaches of expressive arts therapy and therapeutic humor.

Research has shown that developmental trauma can have lasting effects into adulthood. Because developmental trauma research is relatively new, there is an abundance of research for treating children and adolescents, but not for adults with developmental trauma. The fundamental structure of trauma-informed treatment used with children and caregivers can be employed in the therapeutic relationship and the client's relationships within their social circles.

Expressive arts therapy approaches have been successful for treating survivors of trauma due to their implementation of verbal, non-verbal, and somatic methods. Theories of expressive arts therapy embrace concepts of attunement, decentering, play, imagination and crystallization, that are shared by various therapeutic humor approaches. Both expressive arts therapy and therapeutic humor create space between the client and the problem, cultivate shifts in perspective, and allow for personal transformation. These have been shown to have positive psychological, neurological and social results, and if used within trauma-informed treatments like the ARC Framework, the shared neurological systems, therapeutic tools, characteristics, and benefits are revealed (see figure 2).

It is not the intention of this writer to prove that humor and laughter are mandatory tactics to be used within every therapeutic relationship. The paucity of literature regarding their use

within the expressive arts therapy approach, however, remains a puzzling question. While the expressive arts therapy theories openly invite play and social connection, the specific mention of humor and laughter is still infrequent. Given that humor and laughter may naturally arise from play and affect regulation, this lack of acknowledgment leaves a gap in the therapeutic toolbox and leave the therapist unprepared when humor and laughter spontaneously and naturally occur.

The playful and imaginative aspects of expressive arts therapy provide a natural vessel to cultivate laughter and humor as they lend themselves to the act of decentering and enrich the range of play. Shifting from one modality to another allows for shifts in perception of the same situation. Perceiving the incongruity of a traumatic event can facilitate resilience, promote healing, and in some instances, even the ability to find humor around one's own personal experience. The qualities of such an environment allow perspectives to shift, for ideas to crystalize, and over time, personal transformation to manifest.

Laughter and humor have been proven to cultivate growth within interpersonal connections through their opening and relaxing qualities that can combat stress. This can be useful not only within the therapeutic relationship, but in everyday life. Humor and laughter can be skillfully integrated into treatment approaches, used to disarm mental blocks and ease tension, and avoid going too deep before a client is ready. The development of therapists' clinical skills should include an understanding of if, how, when, and why to use humor and laughter in a session. Misplaced humor and laughter may be detrimental to the therapeutic process. Knowing when to use humor and laughter, which types are beneficial and which are counterproductive, may not be obvious to all clinicians and clients, thus some training in therapeutic humor is necessary. With good clinical judgment, ruptures in the therapeutic alliance, or *misattunement* (Kossak, 2009) due to a perception of a lack of empathy or trivialization of the client's trauma,

can bring clarity, strengthen the therapeutic relationship, and provide clues for the transformative process to begin.

For instance, well-meaning clinicians and laughter yoga instructors must be careful when using laughter yoga in working with trauma-based populations. The perception of posed laughter may be unsettling, and the treatment could backfire. Thus, using gradual exposure tactics over many sessions found in the *in vivo exposure* therapeutic approach (CTAMD, 2017) may aid clinicians and laughter yoga facilitators beneficially applying this method.

There is a need for more research regarding the use of humor within both the expressive arts therapy approach and trauma-informed treatments. While data on applied therapeutic humor and laughter exists in the medical literature, further psychological-based empirical studies need to be published so that additional mental health methodology can be developed responsibly and accepted as treatment, especially as it impacts expressive arts therapy. For example, studies would be interesting that conscientiously use humor and laughter with Knill's *decentering, range of play* and *crystallization* theory, and frameworks such as Lusibrink's Expressive Therapy Continuum (Hinz, 2009) and Hass-Cohen's "The Check" (2014).

Suggestions for how the expressive arts therapy and therapeutic humor models can be used in conjunction with the trauma-informed Attachment, self-Regulation and Competency (ARC) Framework (Blaustein & Kinnibergh, 2019) can be seen in figures 1 & 2.

Conclusion

While there are increasing amounts of research being conducted around developmental trauma, expressive arts therapy, and humor and laughter, there is still little overlap between the topics. Although the investigation of the combined fields of trauma and expressive arts therapy has increased over the past 20 years, there remains an exploratory deficit in studies of humor and

laughter in relation to these fields. Due to the rich parallels between therapeutic humor and expressive arts therapy, it is recommended that these two subjects be simultaneously evaluated. Humor and trauma are both perspectival in nature and acknowledge incongruity at their center. These subjects could benefit from more qualitative and phenomenological research including non-traditional or arts-based methods such as self-reports in documentaries and ratings for late night television programs. The ability to relate to the internal logic of our client's inner and outer worlds is the key to using therapeutic humor within treatment. When clients gain a solid understanding that their perspective matters, they may begin to transform their world into a laughing matter.

References

- Aristotle's theory of humor. (2006). In J. E. Roedelein (Ed.), *Elsevier's dictionary of psychological theories*. Oxford, UK: Elsevier Science & Technology. Retrieved from http://ezproxy.flo.org/login?url=https://search.credoreference.com/content/entry/estpsyctheory/aristotle_s_theory_of_humor/0?institutionId=1429
- Beck, J. (2015, February 24). What Are Emotions, Even? [Online article] Retrieved from <https://www.theatlantic.com/health/archive/2015/02/hard-feelings-sciences-struggle-to-define-emotions/385711/>
- Berger, A. A. (2013). Why we laugh and what makes us laugh: The enigma of humor. *Europe's Journal of Psychology*, 9(2). doi:10.5964/ejop.v9i2.599
- Blaustein, M., & Kinniburgh, K. M. (2019). *Treating traumatic stress in children and adolescents: How to foster resilience through attachment, self-regulation, and competency*. New York, NY: The Guilford Press.
- Borchard, T. (2009). 9 Ways That Humor Heals. *Psych Central*. [Blog post]. Retrieved from: <https://psychcentral.com/blog/9-ways-that-humor-heals/>
- Borchard, T. J. (2018, July 08). Laugh When You're Afraid. *Psych Central*. [Blog post]. Retrieved from <https://psychcentral.com/blog/laugh-when-youre-afraid/?all=1>
- Bonaiuto, P. (2016). Art, science, and humor: The study of humorous experience at the intersection between psychology and the art world. *Empirical Studies of the Arts*, 24(1), 3-41.
- Bremner, J. (2003). Long-term effects of childhood abuse on brain and neurobiology. *Child and Adolescent Psychiatric Clinics of North America*, 12(2), 271-292. doi:10.1016/s1056-4993(02)00098-6

Bressington, D., Mui, J., Yu, C., Leung, S. F., Cheung, K., Wu, C. S. T., Bollard, M., Chien, W.

T. (2019). Feasibility of a group-based laughter yoga intervention as an adjunctive treatment for residual symptoms of depression, anxiety and stress in people with depression. *Journal of Affective Disorders*, 248, 42–51.

doi:org./10.1016/j.jad.2019.01.030

Brownell, H. H., Powelson, M. J. & Gardner, H. (1083). Surprise but not coherence: Sensitivity to verbal humor in right hemisphere patients. *Brain and Language*, 18, 17-34.

Bryant, G. A., & Aktipis, C. A. (2014). The animal nature of spontaneous human laughter. *Evolution and Human Behavior*, 35(4), 327-335.

doi:10.1016/j.evolhumbehav.2014.03.003

Buk, A. (2009). The mirror neuron system and embodied simulation: Clinical implications for art therapists working with trauma survivors. *The Arts in Psychotherapy*, 36, 61-74.

Buxman, K. (1991). Humor in therapy for the mentally ill. *Journal of Psychosocial Nursing and Mental Health Services*, 29(12), 15-18.

Campbell, D. W., Wallace, M. G., Modirrousta, M., Polimeni, J. O., Mckeen, N. A., & Reiss, J.

P. (2015). The neural basis of humour comprehension and humour appreciation: The roles of the temporoparietal junction and superior frontal gyrus. *Neuropsychologia*, 79,

10-20. doi:10.1016/j.neuropsychologia.2015.10.013

Carey, L. (2006). *Expressive and creative arts methods for trauma survivors*. London: Jessica

Kingsley Publishers. Retrieved from <https://ebookcentral-proquest-com.ezproxyles.flo.org>

- Center for Treatment for Anxiety Disorders. (2017). *In vivo exposure therapy for treatment of anxiety disorders*. Retrieved from <https://centerforanxietydisorders.com/treatment-programs/in-vivo-exposure-therapy/>
- Charles, L. (Director). (2019). In L. Charles, M. Larocca, A. Russo & J. Russo (Executive Producers), *Larry Charles' Dangerous World of Comedy*. [Television series]. Los Gatos, CA: Netflix.
- Christensen, A. P., Silvia, P. J., Nusbaum, E. C., & Beaty, R. E. (2018). Clever people: Intelligence and humor production ability. *Psychology of Aesthetics, Creativity, and the Arts*, 12(2), 136–143. <https://doi-org.ezproxyles.flo.org/10.1037/aca0000109>
- Cohen, N. S. (2017). *Advanced methods of music therapy practice: The Bonny method of guided imagery and music, Nordoff-Robbins music therapy, analytical music therapy, and vocal psychotherapy*. Retrieved from <https://ebookcentral-proquest-com.ezproxyles.flo.org>
- Costandi, M. (2016). *Neuroplasticity*. Cambridge, MA: The MIT Press.
- Courtois, C. A. (2008). Complex trauma, complex reactions: Assessment and treatment. *Psychological Trauma: Theory, Research, Practice, and Policy*, 5(1), 86–100. <https://doi-org.ezproxyles.flo.org/10.1037/1942-9681.S.1.86>
- Cousins, N. (1979). *Anatomy of an illness as perceived by the patient: Reflections on healing and regeneration*. New York: W.W. Norton.
- Crampton, H. & Meyer, S. (2018, October 19) *All you gotta keep is strong: Performance, community, music therapy and resiliency*. [PowerPoint presentation]. Lecture presented at Justice Resources Institute, in Needham, MA.

- Dye, H. (2018). The impact and long-term effects of childhood trauma. *Journal of Human Behavior in the Social Environment*, 28(3), 381-392.
doi:10.1080/10911359.2018.1435328
- Dziegielewski, S. F., Jacinto, G. A., Laudadio, A. & Legg-Rodriguez, L. (2004). Humor: An Essential Communication Tool in Therapy. *International Journal of Mental Health*, 32(3), 74-90. Retrieved from
<http://ezproxyles.flo.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edsjsr&AN=edsjsr.41345062&site=eds-live&scope=site>
- Encyclopedia of Humor Studies. (n.d.). Retrieved from
<http://sk.sagepub.com/reference/encyclopedia-of-humor-studies>
- Estrella, K. (2005). Expressive therapy: An integrated arts approach. In C. Malchiodi (Ed.), *Expressive Therapies* (pp. 183-209). New York: Guilford Publications.
- Finn, H., Warner, E., Price, M., Spinazzola, J. (2017) The boy who was hit in the face: Somatic regulation and processing of preverbal complex trauma. *Journal of Child & Adolescent Trauma*, 1(3), 277–288. doi:10.1007/s40653-017-0165-9
- Fosha, D. (2006). Quantum transformation in trauma and treatment: Traversing the crisis of healing change, *Journal of Clinical Psychology*, 62(5), 569-583. Retrieved from:
<https://doi.org/10.1002/jclp.20249>
- Fried, I., Wilson, C. L., MacDonald, K. A., & Behnke, E. J. (1998). Electric current stimulates laughter. *Nature*, 391(6668), 650.
- Gelkopf, M., Gonen, B., Kurs, R., Melamed, Y. (2006). The effect of humorous movies on inpatients with chronic schizophrenia. *The Journal of Nervous and Mental Disease*, 194(11), 880-883.

- Goldin, E., & Bordan, T. (1999). The Use of Humor in Counseling: The Laughing Cure. *Journal of Counseling & Development, 77*(4), 405–10.
- Griffin, J. L. (2019, March 14 & 15). *CTTC's Trauma-focused cognitive-behavioral therapy two day basic training*. Lecture presented at Justice Resources Institute, Needham.
- Hadley, S. (2013). Dominant narratives: Complicity and the need for vigilance in the creative arts therapies. *The Arts in Psychotherapy, 40*, 373–381.
<https://doi.org/10.1016/j.aip.2013.05.007>
- Halprin, D. (2002). *Expressive body in life, art and therapy: Working with movement, metaphor and meaning*. Retrieved from <https://ebookcentral-proquest-com.ezproxyles.flo.org>
- Hanson, R. & Mendius, R. (2009) *The practical neuroscience of Buddha's Brain: happiness, love and wisdom*. Oakland, CA: New Harbinger Publications.
- Hass-Cohen, H. (2016). Secure resiliency: Art therapy relational neuroscience trauma treatment principles and guidelines. In J. King (Ed) *Art therapy, trauma and neuroscience: Theoretical and practical perspectives*. New York: Routledge.
- Hass-Cohen, N., Findlay, J. C., Carr, R., Vanderlan, J. (2014). “Check, change what you need to change and/or keep what you want”: An art therapy neurobiological-based trauma protocol, *Art Therapy, 31*(2), 69-78. doi:10.1080/07421656.2014.903825
- Herman, J. L. (1992). Complex PTSD: A syndrome in survivors of prolonged and repeated trauma. *Journal of Traumatic Stress, 5*(3), 377-391. doi:10.1007/bf00977235
- Hervey, L. W. (2012). Embodied artistic inquiry. In R. Cruz & C. F. Berrol (Eds.), *Dance/movement therapists in action: a working guide to research options*. Retrieved from <https://ebookcentral-proquest-com.ezproxyles.flo.org>

- Hinz, L. (2009). *Expressive therapy continuum: A Framework for using art in therapy*. New York, NY: Routledge
- Hodgon, H. B., Kinniburgh, K., Gabowitz, D., Blaustein, M. E., Spinazzola, J. (2013). Development and implementation of trauma-informed programming in youth residential treatment centers using the ARC framework. *Journal of Family Violence* 28, 679-692.
- Hyers, C. (1989). Humor in Zen: Comic Midwifery. *Philosophy East and West*, 39(3), 267-277. doi:10.2307/1399448
- Kataria, M. (2018). *Laughter yoga: Daily laughing practices for health and happiness*. Haryana, India: Penguin Random House India.
- Kelly, C. R. (1998). Expressive therapy assessment. *The Arts in Psychotherapy*, 15, 63-70.
- Kinniburgh, K., Blaustein, M., Spinazzola J. & van der Kolk, B. (2005). Attachment, Self-Regulation & Competency. *Psychiatric Annals*, 35(5), 424-430.
- King, B. (2016). *The laughing cure: Emotional and physical healing--a comedian reveals why laughter really is the best medicine*. New York, NY: Skyhorse Publishing.
- Klein, A. (2010). *L.A.U.G.H: 60 therapeutic, perspective-building, life-changing activities*. Woodbury, NY: Wellness Reproductions.
- Knill, P. J. (2005). Foundations of a theory. In E. G. Levine & S. K. Levine (Eds.), *Principles and practices of expressive arts therapy* (pp. 75-169). Philadelphia, PA: Jessica Kingsley.
- Kossak, M. S. (2009). Therapeutic attunement: A transpersonal view of expressive arts therapy. *The Arts in Psychotherapy*. 36, 13-18.
- Kreidler, M., & Kurzawa, C. (2009). Trauma Spectrum Disorders. *Journal of Psychosocial Nursing and Mental Health Services*, 47(11), 26-33. doi:10.3928/02793695-20090930-02
- Kohut, H. (1971). *The analysis of the self*. New York: International Universities Press.

- Larkin-Galiñanes, C. (2017). An Overview of Humor Theory. In S. Attardo, (Ed.), *The routledge handbook of language and humor*, 4-16. doi:10.4324/9781315731162-2
- Lavan, N., Rankin, G., Lorking, N., Scott, S., & Mcgettigan, C. (2017). Neural correlates of the affective properties of spontaneous and volitional laughter types. *Neuropsychologia*, 95, 30-39. doi:10.1016/j.neuropsychologia.2016.12.012
- Lefcourt, H. M. & Thomas, S. (1998) Humor and stress revisited. In Ruch, W. (Ed.), *The sense of humor: Explorations of a personality characteristic*. Retrieved from <https://ebookcentral-proquest-com.ezproxyles.flo.org>
- Levine, B., & Land, H. M. (2016). A meta-synthesis of qualitative findings about dance/movement therapy for individuals with trauma. *Qualitative Health Research*, 26(3), 330-344. doi:10.1177/1049732315589920
- Levine, E. (1998). On the playground child psychotherapy and expressive arts therapy. In S. K. Levine & E. G. Levine (Eds.), *Foundations of expressive arts therapy: Theoretical and clinical perspectives*. London: Jessica Kingsley Publishers.
- Levine, S. K. (2004) The philosophy of expressive arts therapy: Poiesis as a response to the world. In P. J. Knill, E. G. Levine, & S. K. Levine (Eds.), *Principles and practice of expressive arts therapy: Toward a therapeutic aesthetics*. London: Jessica Kingsley Publishers.
- Linder, J. (2015). Exploring soul loss through arts-based research. *International Journal of Transpersonal Studies*, 34(1-2), 144-151.
- Ma, M. (2014, June 17). The power of humor in ideation and creativity. Retrieved from <https://www.psychologytoday.com/us/blog/the-tao-innovation/201406/the-power-humor-in-ideation-and-creativity>

- Malchiodi, C. A. (2005) Expressive Therapies History, Theory, and Practice. In C. Malchiodi (Ed.), *Expressive therapies*. (pp. 1-15). New York: Guilford Publications.
- Manninen, S., Tuominen, L., Dunbar, R.I., Karjalainen, T., Hirvonen, J., Arponen, E., Hari, R., Ja"askela"inen, I.P., Sams, M., and Nummenmaa, X. (2017). Social Laughter Triggers Endogenous Opioid Release in Humans. *The Journal of Neuroscience*. 37(25), 6125-6131.
- Martin, R. A. (1998) Sense of humor and psychological health. In W. Ruch (Ed.), *The sense of humor: Explorations of a personality characteristic*. Retrieved from <https://ebookcentral-proquest-com.ezproxyles.flo.org>
- McNiff, S. (2004). *Art heals: How creativity cures the soul*. Boston: Shambhala, 2004.
- Messina, N., & Grella, C. (2006). Childhood trauma and women's health outcomes in a California prison population. *American Journal of Public Health*, 96(10), 1842-8.
- Miles, C., Tait, E., Schure, M. B., & Hollis, M. (2016). Effect of Laughter Yoga on Psychological Well-being and Physiological Measures. *Advances in Mind-Body Medicine*, 30(1), 12–20. Retrieved from <http://ezproxyles.flo.org/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=cmedm&AN=26878677&site=ehost-live&scope=site>
- Mobbs, D., Greocius, M. D., Abdel-Azim, E., Menon, V., Reiss, A.L., (2003) Humor modulates the mesolimbic reward center. *Neuron*, 40, 1041-1048.
- Morreall, J. (2016). Philosophy of Humor, *The Stanford Encyclopedia of Philosophy* (Winter 2016 Edition), E. N. Zalta (Ed.), Retrieved from: <https://plato.stanford.edu/archives/win2016/entries/humor/>

- Nasr, S. J. (2013). No laughing matter: Laughter is good psychiatric medicine. *Current Psychiatry*, 12(8), 20-25. Retrieved from: https://mdedge-files-live.s3.us-east-2.amazonaws.com/files/s3fs-public/Document/September-2017/020_0813CP_Nasr_FINAL.pdf
- Naste, T. M. (2018, November 29 & 30). *Treating complex childhood trauma: Targeting the building blocks of resilience*. [PowerPoint Presentation] Lecture presented at JRI CBS Basic 2-Day Training in Justice Resources Institute, Needham.
- Nikulina, V., & Widom, C. S. (2013). Child maltreatment and executive functioning in middle adulthood: A prospective examination. *Neuropsychology*, 27(4), 417-427.
doi:10.1037/a0032811
- Oldenfield, A. & Franke, C. (2005). Improvised songs and stories in music therapy diagnostic assessments at a unit for child and family psychiatry: A music therapist's and a Psychotherapist's Perspective. In F. Baker & T. Wigram (Eds.), *Songwriting: Methods, techniques and clinical applications for music therapy clinicians, educators and students*. Retrieved from <https://ebookcentral-proquest-com.ezproxyles.flo.org>
- Penson, R. T., Partridge, R. A., Rudd, P., Seiden, M. V., Nelson, J. E., Chabner, B. A., & Lynch, T. J., Jr. (2005). Laughter: the best medicine? *The Oncologist*, 10(8), 651–660. Retrieved from <https://search.ebscohost.com/login.aspx?direct=true&db=cmedm&AN=16177290&site=eds-live&scope=site>
- Perchtold, C. M., Weiss, E. M., Rominger, C., Feyaerts, K., Ruch, W., Fink, A., & Papousek, I. (2019). Humorous cognitive reappraisal: More benign humour and less “dark” humour is

- affiliated with more adaptive cognitive reappraisal strategies. *PLoS ONE*, *14*(1), 1–15.
<https://doi.org/10.1371/journal.pone.0211618>
- Provine, R. R. (2001). *Laughter: A scientific investigation*. New York, NY: Penguin Books.
- Quagelli, L. & Solano, P. (2018) On Becoming able to play: Individual child psychoanalytic psychodrama and the development of symbolization. *The Psychoanalytic Quarterly*, *86*(4), 889-918. doi:10.1002/psaq.12174
- Rasia-Filho, A. A., Londero, R. G., & Achaval, M. (2000). Functional activities of the amygdala: an overview. *Journal of Psychiatry & Neuroscience: JPN*, *25*(1), 14-23.
- Richardson, C. (2015). *Expressive arts therapy for traumatized children and adolescents: A four-phase model*. New York: Routledge.
- Rogers, N. (1993). *The creative connection: Expressive arts as healing*. Palo Alto, CA: Science and Behavior Books, Inc.
- Sar V. (2011). Developmental trauma, complex PTSD, and the current proposal of DSM-5. *European Journal of Psychotraumatology*, *2*(1), 5622. doi:10.3402/ejpt.v2i0.5622.
- Scott, S. (2014). *The science of laughter with Sophie Scott*. [Online video] Lecture presented at Friday Evening Discourses in The Royal Institution, London. Retrieved from <https://youtu.be/4BWRoHGiwrrw>
- Scott, S. T. (2007). Multiple Traumatic Experiences and the Development of Posttraumatic Stress Disorder. *Journal of Interpersonal Violence*, *22*(7), 932–938.
doi:10.1177/0886260507301226
- Seigel, D. J. (2010). *The mindful therapist: A clinician's guide to mindsight and neural integration*. New York: WW Norton & Company

- Shammi, P., & Stuss, D. T. (1999). Humour appreciation: A role of the right frontal lobe. *Brain*, *122*(4), 657-666. doi:10.1093/brain/122.4.657
- Spermon, D., Darlington, Y., & Gibney, P. (2010). Psychodynamic psychotherapy for complex trauma: targets, focus, applications, and outcomes. *Psychology research and behavior management*, *3*, 119-27.
- Spring, D. (2004). Thirty-year study links neuroscience, specific trauma, PTSD, image conversion, and language translation, *Art Therapy*, *21*(4), 200-209. doi: 10.1080/07421656.2004.10129690
- Steine, I. M., Winje, D., Krystal, J. H., Bjorvatn, B., Milde, A. M., Grønli, J., ... Pallesen, S. (2017). Full length article: Cumulative childhood maltreatment and its dose-response relation with adult symptomatology: Findings in a sample of adult survivors of sexual abuse. *Child Abuse & Neglect*, *65*, 99–111. <https://doi-org.ezproxyles.flo.org/10.1016/j.chiabu.2017.01.008>
- Taber, K. H., Redden, M. & Hurley, R. A. (2007). Functional anatomy of humor: Positive affect and chronic mental illness. *The Journal of Neuropsychiatry and Clinical Neurosciences*, *19*(4), 358-362.
- Tierno, M. (2012). *Aristotle's poetics for screenwriters: storytelling secrets from the greatest mind in western civilization*. New York: Hyperion.
- van der Kolk, B. A. (2014). *The body keeps the score: Brain, mind, and body in the healing of trauma*. New York: Viking.
- Uekermann, J., Daum, I., & Channon, S. (2007). Toward a Cognitive and Social Neuroscience of Humor Processing. *Social Cognition*, *25*(4), 553–572. <https://doi.org/10.1521/soco.2007.25.4.553>

Vonnegut, K. (1981). *Palm Sunday*. New York: Delacorte.

Vii. Functional theories of laughter and humor. (2002). In V. S. Ramachandran, *Encyclopedia of the human brain*. Oxford, UK: Elsevier Science & Technology. Retrieved from http://ezproxy.flo.org/login?url=https://search.credoreference.com/content/entry/esthumanbrain/vii_functional_theories_of_laughter_and_humor/0?institutionId=1429

Walters, R. Z. (2017) *Psychodrama Soziom*, 16, 53. doi:0.1007/s11620-017-0381-1

Weinberg, Hammond, & Cummins (2014). The impact of laughter yoga on subjective well-being: a pilot study. *European Journal of Humour Research*, 1(4). 25-34

Whalen, P. K. (2010). The emotional and physiological structure of laughter: A comparison of three kinds of laughs (Antiphonal, Duchenne, and Voiced) and individual differences in the use of laughter in middle-aged and older marriages. *UC Berkeley*. ProQuest ID: Whalen_berkeley_0028E_10301. Merritt ID: ark:/13030/m5kh0s7g. Retrieved from <https://escholarship.org/uc/item/4dv197h9>

Winnicott, D. W. (1971). *Playing and reality*. London: Tavistock.

Yazdani, M., Esmaeilzadeh, M., Pahlavanzadeh, S., & Khaledi, F. (2014). The effect of laughter Yoga on general health among nursing students. *Iranian Journal of Nursing and Midwifery Research*, 19(1), 36–40. Retrieved from <http://ezproxy.flo.org/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=cmedm&AN=24554958&site=ehost-live&scope=site>

Ziv, A. (2010). The Social function of humor in interpersonal relationships. *Society*, 47(1), 11–18. <https://doi-org.ezproxy.flo.org/10.1007/s12115-009-9283-9>

Ziv, A. (1989) Chapter 4: Using humor to develop creative thinking. *Journal of Children in Contemporary Society*, 20, 1-2, 99-116. doi:10.1300/J274v20n01_07

Figure 1. Shared concepts of the ARC Framework, expressive arts therapy, and therapeutic humor and laughter within their phases.

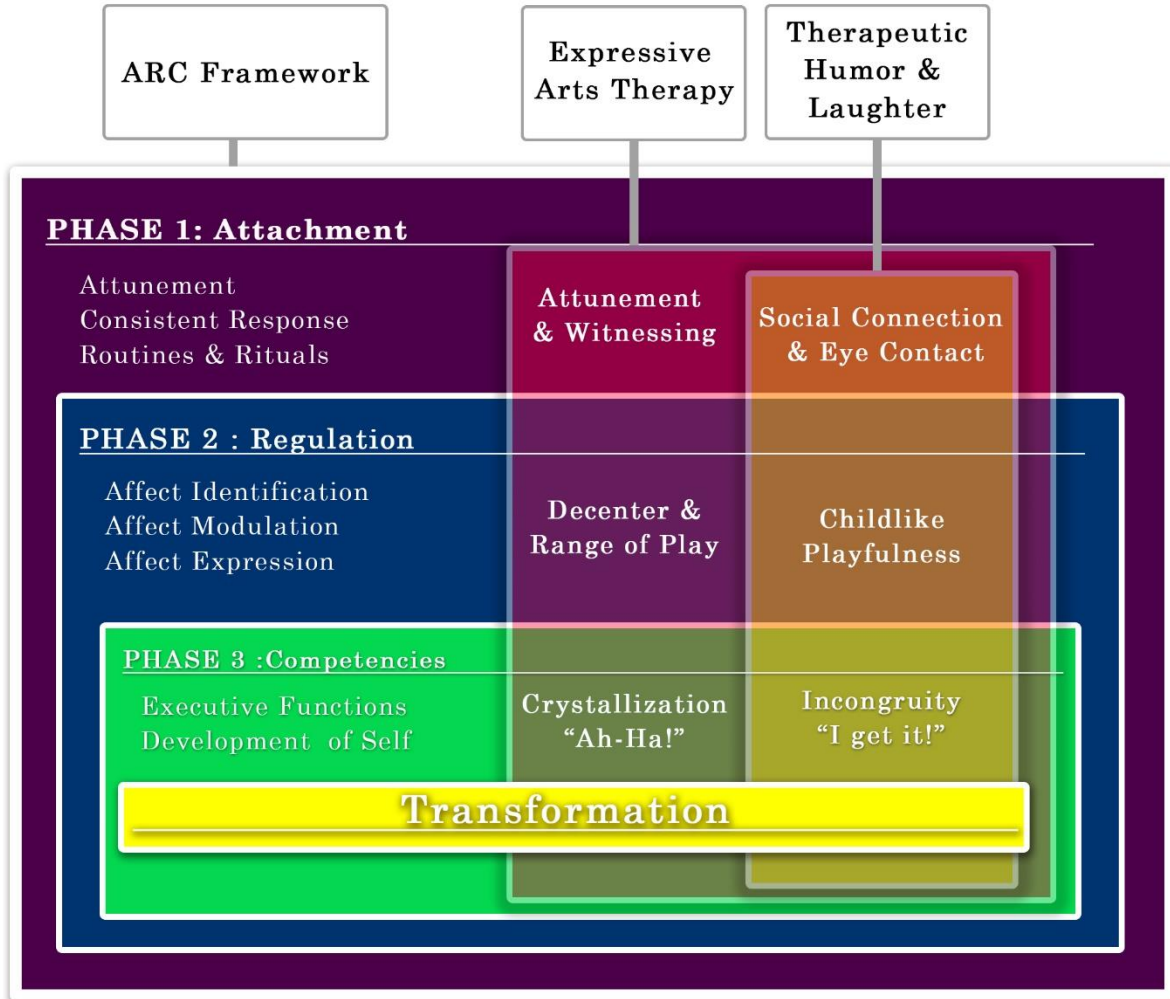


Figure 1. Backed by the scaffolded 3 Phases of the *ARC Framework*, this figure shows therapeutic elements shared by the approaches of *expressive arts therapy* and *therapeutic humor and laughter*; illustrating how they might work in concert due to overlapping qualities.

Figure 2. Shared Components

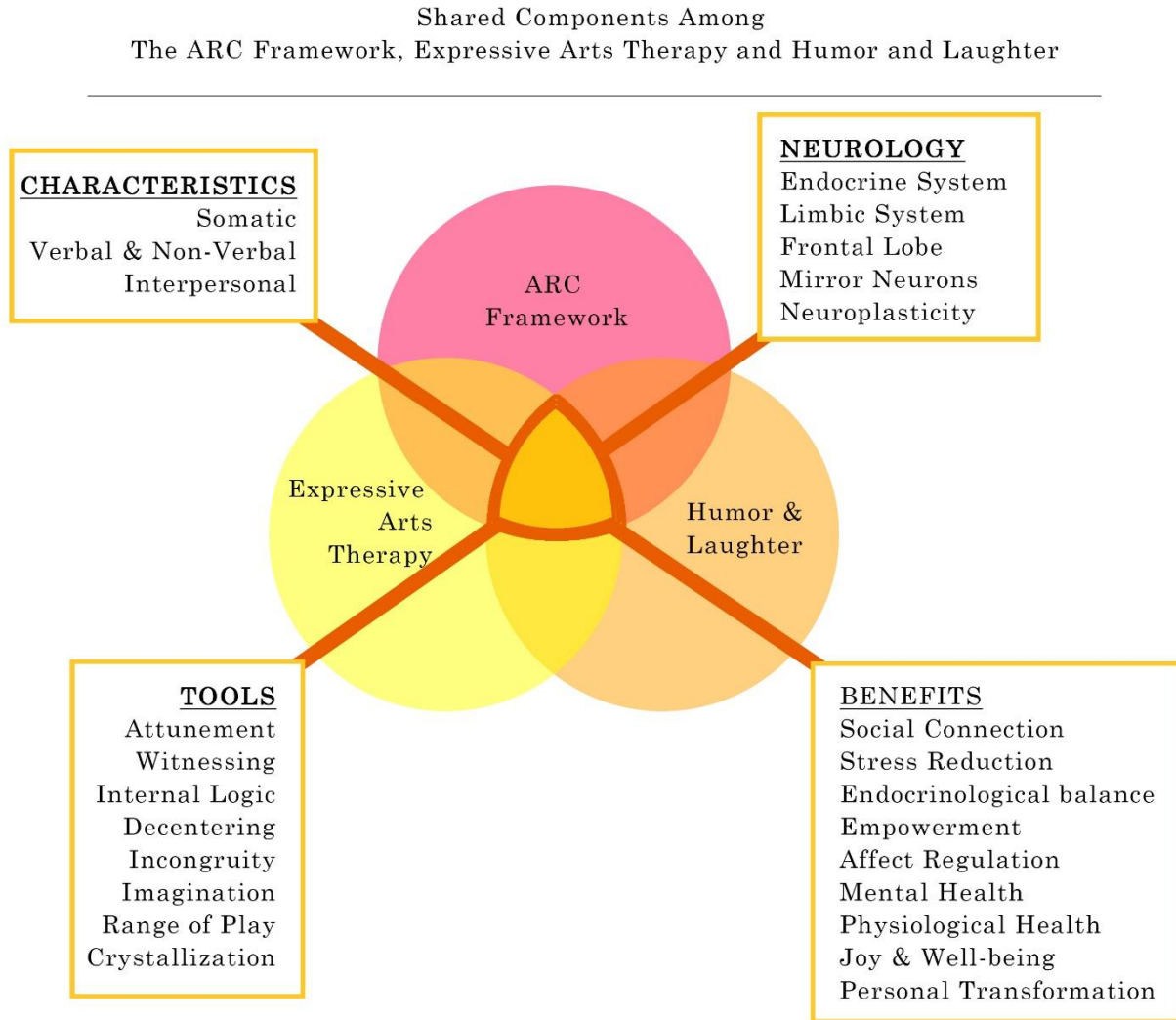


Figure 2. When overlapped, the three researched topics were found to share components listed here in four basic categories: Characteristics, Neurology, Tools and Benefits.

THESIS APPROVAL FORM

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Graduate School of Arts & Social Sciences
Expressive Therapies Division
Master of Arts in Clinical Mental Health Counseling: Expressive Arts Therapy, MA**

Student's Name: Alison M. Landoni

Type of Project: Thesis

Title: A laughing matter: Transforming trauma through therapeutic humor and expressive arts therapy

Date of Graduation: May 2019

In the judgment of the following signatory this thesis meets the academic standards that have been established for the above degree.

Thesis Advisor: Karen Estrella