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Humor and Dance Movement Therapy (DMT) with Adolescents Dealing with Depression and Anxiety: A Literature Review

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Abstract

Researchers have found that anxiety and depression are prevalent diagnoses within the adolescent population, due to increased stressors in several areas of their lives. Research also suggests that humor leads to increased social bonding, and that it can be a powerful tool for encouraging the expression of emotions. Finally, dance movement therapy (DMT) has been found to be a successful practice with adolescents, due to its non-verbal nature and relevance to body image. However, research regarding specific DMT interventions involving humor is lacking. This literature review examines the impact of humor on adolescents with depression and anxiety, and its possible intersections with dance movement therapy. The literature suggests that adolescents could benefit from DMT interventions potentially involving humor, such as mirroring, exaggeration, and working through metaphor. This literature review provides recommendations for interventions, as well as for further research on this topic.

Keywords: dance movement therapy, psychotherapy, depression, anxiety, humor, laughing, and adolescents.

Humor and Dance Movement Therapy (DMT) With Adolescents Dealing with Depression and Anxiety: A Literature Review

Introduction

Humor is an extremely complex, social and cultural phenomenon that has over a hundred different theories (Gibson & Tantam, 2017). There are many definitions of humor based on these various theories and lenses. One broader definition is that "humor is any sudden episode of joy or elation associated with a new discovery that is self-rated as funny" (Raskin & Ruch, 2008, p. 547). According to Sigmund Freud (1905/1960), "Humor is a means of obtaining pleasure in spite of the distressing affects that interfere with it; it acts as a substitute for the generation of these affects, it puts itself in their place" (p. 293). Freud's explanation for humor resonates with me because it explains my motivation to explore this topic. Humor contributes significantly to the way that I interact with others because it strengthens my relationships by creating light and happy moments. Similar to Freud's quotation, I believe that having the opportunity to laugh can distract people from "distressing events," which can then lead to healing. Furthermore, when one has been disturbed emotionally, they often forget what it is like to feel pleasure. Incorporating humor in interaction can reintegrate this component back into the life of someone who is hurting.

I have held several positions of mentorship with children and adolescents, and have developed a passion in working with these populations. I believe there is something special about helping youth who deviate from the typically functioning, find their strengths and potential. It is rewarding to give them the opportunity to be seen in a way that many people don't see them. Incorporating humor and playfulness gives them the chance to take part in a positive, judgment free relationship, as well as feel like their peers who have less adversities and mental health

problems. After all, laughter is a sign of health, uninhibited play, and lack of self-consciousness in a child (Wagoner & Lovisa, 1933). This research will be looking at the impact of humor on adolescents with depression and anxiety, and intersections with dance movement therapy (DMT). It is my hope that these findings point towards humor related interventions for this population in DMT.

To search for the literature, I used the Lesley University library page to find journal articles and e-books. I looked in the PsychINFO and Academic Search Premier databases. My search terms were "dance movement therapy" or "DMT," "therapy," "psychotherapy," "depression," "anxiety," "humor," "laughing," and "adolescents" or "teens." I kept track of the articles I found by downloading them to my computer and saving them to Mendeley, a reference managing software. I created a folder specifically for my Capstone Thesis paper and chose peer reviewed articles in professional journals, as well as published books. I researched until I had at least five sources for each of the following topics: humor, humor with depression and anxiety, humor with adolescents with depression and anxiety, intersections of humor with DMT, and humor and the brain. I kept track of my thoughts about the articles by highlighting key lines, and utilizing the note taking feature in Mendeley. To analyze my data, I looked for recurring themes throughout the research pertaining to humor and DMT.

From my research, I anticipated finding potential intersections between DMT and humor in the treatment of adolescents with depression and anxiety. I wanted my research to guide dance movement therapists in incorporating interventions that evoke joy and laughter in their adolescent clients.

Literature Review

Humor in Therapy

Humor is a quality that has been historically avoided in therapy (Gibson & Tantom, 2017). Psychotherapy was believed to be a serious practice, so professionals were skeptical about incorporating humor. However, Freud suggested that jokes are inherently social. He said that when one uses humor, their ego becomes invulnerable (Gibson & Tantom, 2017). In other words, they can experience an increase in self-esteem, and have an opportunity to feel good. Humor can also be a successful coping mechanism for stress. Laughter can release emotions, enhance memory, and increase optimism (Ede, 2005). Furthermore, humor is a concept found across all cultures, so it can be used in some way with any population (Chiang, et., al 2016).

Researchers have also found that humor leads to increased social bonding (Gibson & Tantom, 2017). One of the most crucial aspects of therapy is achieving an alliance, or bond, between client and clinician. This alliance must include trust, empathy and respect, which can be obtained through genuineness (Fox, 2016). Being genuine and authentic creates a more human and personal therapeutic relationship. Furthermore, it allows the client to feel more comfortable and understood (Ede, 2005).

A study was conducted that examined the influence of the therapeutic alliance on symptom change in 164 adults with mental health problems. Using the Working Alliance Inventory-12, and he Brief Symptom Inventory, researchers found that the strength of the therapeutic alliance had a significant effect on reductions of symptoms of depression and anxiety (Heynen et al., 2017). Furthermore, Reandeau and Wampold (1991) investigated whether clients' involvement in therapy is greater when they have a strong therapeutic alliance, versus a weaker one with their therapist. They found that high alliances were associated with higher involvement, which has been found to lead to a greater outcome in therapy (Luborsky, 1982). This research indicates the impact of the therapeutic alliance on emotional healing.

Humor can be helpful in building this relationship because it is a natural expression of emotion. Laughter is directly related to level of enjoyment, and draws individuals closer together. Lastly, it contributes to a light-hearted atmosphere, encouraging people to feel happy (Ede, 2005). Therefore, if humor is present in a therapist's personality, it would most likely be beneficial for it to come forth in their practice (Fox, 2016). The research and historical background of humor as an innate quality indicate its usefulness within the therapeutic relationship.

The Association for Applied and Therapeutic Humor (1990) 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. This intervention may enhance health or be used as a complementary treatment of illness to facilitate healing or coping, whether physical, emotional, cognitive, social or spiritual (The Association for Applied Therapeutic Humor, 1990, p. 1)

This definition implies the potential success of using humor when dealing with mental health. The playful nature of humor can be seen as contradicting conventional ways of addressing one's problems. As a result, the client can practice flexibility, which leads to healing. Therefore, therapeutic humor can be a powerful tool for encouraging the expression of emotions (Gibson & Tantom, 2017).

One reason that therapeutic humor tends to lead to healing is because of the concept of shared laughter. This is the idea that laughter is a social phenomenon, where one person's laugh causes laughter in someone who witnesses it (Kurtz & Algoe, 2015). According to Kurtz and Algoe (2015), shared laughter between people can be associated with a greater sense of safety, a

crucial component of the therapeutic relationship. These researchers conducted a study where they explored the connection between relationship well-being, and shared laughter. Seventy-seven romantic couples completed relationship well-being questionnaires, and participated in a series of video-recorded interactions. They were each asked to talk about how they met, and their shared laughter was recorded using an objective coding scheme. The results suggested that shared laughter predicted closeness and social support. Furthermore, participants with higher shared laughter reported a closer and more supportive relationship with their partners (Kurtz & Algoe, 2015).

The research conducted by Kurtz and Algoe (2015) has major implications for therapy. Although the therapist-client relationship is not of a romantic nature, it is still heavily based on acceptance, listening, and authenticity, just as one would see in a successful couple (Corey, 2009). Therefore, laughing within a client-therapist session could potentially have positive benefits. It is likely to increase the bond, and therefore the therapeutic value.

Humor with Depression and Anxiety

Depression is a mental illness linked with the symptoms of sadness, fatigue, self-deprecating thoughts, lack of motivation and guilt. It can be triggered by traumatizing or stressful life events such as neglect and loss, or any major life changes. It can also be caused by genetic susceptibility (Singh, 2015). Research suggests that one in eight individuals may require treatment for depression during his or her lifetime (Keen, 2002). Hartmann (2013) defines anxiety as, “heightened fear or tension that causes psychological and physical distress” (p. 1). When anxiety is felt without apparent provocation, and occurs excessively, it is considered pathological. Examples of anxiety disorders are separation anxiety, generalized anxiety disorder, specific phobias, and social anxiety disorders Studies indicate that anxiety disorders are the most

common class of mental illness. More than a quarter of the population have experienced an anxiety disorder at some point in their lives (Hartmann, 2013).

Since 1982, there has been increasing cases of comorbidity between anxiety and depression. One explanation is that the same genes and personality factors are associated with both depression and anxiety disorders. Furthermore, anxiety diagnoses often shift to depressive diagnoses over time (Horwitz, 2013). Due to their comorbidity, it can be inferred that the same interventions could be helpful for both depression and anxiety. For example, interventions in cognitive behavioral therapy (CBT) have been found to be effective for both depression and anxiety. Specifically, these interventions involve positive imagery, self-talk, thought stopping and thought acceptance (Sburlati et al., 2014).

Research suggests that the use of humor in therapy may decrease symptoms of depression and anxiety (Tucker, Judah & O'keefe, 2013). Freud (1960) believed humor to be a positive defense mechanism, and beneficial in redirecting negative energies. In fact, a lack of humor in youth has been found to indicate high anxiety, low self-esteem, and depressive symptoms (Fox, 2016).

Crawford and Caltabiano (2011) examined the effects of a humor skills program on levels of positive affect, optimism, self-efficacy and perceptions of control as well as levels of perceived stress, depression, negative affects, stress and anxiety. They used an adapted version of McGhee's (1999) Humor Skills Manual, which included an eight-week humor skills program. 55 volunteers were randomly assigned to either a humor skills group, a social group, or a control group. In comparing the humor skills group to the other two, they found that it showed significant increases in emotional well-being and decreases in negative symptoms (Crawford & Caltabiano, 2011).

A study was conducted that assessed participants on four different types of humor, as well as their level of depression and social anxiety. The types of humor included were affiliative, self-enhancing, self-defeating and aggressive. Affiliative humor is used to strengthen social relationships, while self-enhancing humor is maintaining a humorous outlook on negative life events. Self-defeating humor is criticizing oneself to amuse others, and aggressive humor is disparaging others to boost self-esteem (Tucker, Judah, & O'keefe, 2013). The two positive humor styles, affiliative and self-enhancing, were negatively correlated to symptoms of social anxiety and depression. In other words, participants who used these types of humor generally felt less anxious and depressed. Affiliative humor is used to strengthen social bonds and ease tensions in relationships, and self-enhancing humor is a comic view of one's life despite adversity (Tucker, Judah & O'keefe, 2013). These findings suggest that using specific types of humor within the therapeutic relationship and interventions will help the client feel more positively within their healing process.

Another study investigated the role of humor and laughter in daily life among widows who are grieving. Two hundred ninety-two participants with an average age of 70 were assessed on their experience of humor, laughter and happiness within the past week. Questions included "I have enjoyed the humor of others," and "I had a good laugh" (Lund et. al., 2009, p. 92). The participants were also assessed on how much they valued positive emotions in their daily lives. They rated their level of agreement for the statements, "Having humor in my daily life is important to me" and "feeling happy during my daily life is important to me" (Lund et. al., 2009 p. 92). Most participants rated humor and happiness as being very important to them. The Texas Revised Inventory of Grief was administered to measure grief, and the Geriatric Depression Scale was used to measure depression. The results of the study suggested that the experience of

humor, laughter, and happiness was negatively correlated with grief and depression (Lund et. al., 2009). These findings are significant because grief has been found to be a cause of depression in many individuals (Nappa et al., 2016). They are indicative of the impact of humor on depressed clients after a saddening event.

Physiological Effects of Humor

Research also presents the physiological effects of humor on individuals with depression and anxiety, as well as behavioral and emotional. Serotonin is a neurotransmitter found in several regions of the central nervous system. High levels cause a sensation of pleasure, while low levels are associated with depression (Singh, 2015). Similarly, dopamine plays a crucial role in mood regulation and is associated with reward and motivation (Camardese, et al., 2014). The use of brain imaging techniques has implied that people who have depression most often have a deficiency in these neurotransmitters (Wang et al., 2016).

According to Ede (2005), laughter releases dopamine and serotonin, as well as endorphins. It also improves immune, cardiovascular and respiratory systems (Ede, 2005). Laughter can also lower cortisol levels, while increasing T-cells, and therefore reduce stress levels. Furthermore, the act of laughing can relax muscles, increase blood supply to organs such as the liver, kidneys and spleen (Old, 2012). Clearly humor and laughter have several benefits to physical health, which is inextricably linked to mental health.

Humor and Adolescents Struggling with Depression and Anxiety

Humor is especially important for adolescents because they have a lot to cope with, regardless if they have depression or anxiety. Adolescents are constantly adjusting to new biological and social changes (Erikson & Felstein, 2007). They face increasing pressure from family members, school, peers, and romantic relationships (Chiang et. al., 2016). They are also

faced with decisions to engage in risky and rebellious behaviors such as underage drinking. Adolescence is when youth begins to find their own identity (Mehak & Rupan, 2017). These aspects of adolescence are likely to cause stress, and therefore limit opportunities of genuine enjoyment. Since humor is likely to evoke laughter and positive emotions, it is likely to be helpful to adolescents during this developmental period (Lund et. al., 2009 p. 92).

Many studies have found that depression has increased significantly during adolescence over the past 20 years (Walsh, 2009). Research suggests that 6% of adolescents suffer from depression, and 50-75% of adolescents with prepubescent major depressive disorder spend 30% of their youth depressed (Kennard et al., 2016). Anxiety disorders are the most prevalent disorders of youth (Lebowitz, 2013). Researchers have found that the prevalence of anxiety disorders increased with age, with the greatest increases occurring between age 12 and 13, and between 14 and 15. Furthermore, the lifetime prevalence of any anxiety disorders in adolescents range from 15 to 31% (Essau & Ollendick, 2013). Being in a depressed or anxious state is likely to interfere with an adolescent's developmental growth, school performance and relationships (Zhang, et al., 2015). They need coping skills to be able to manage their instability.

Research suggests that humor is a developmentally and psychologically appropriate coping skill for daily stressors (Erikson & Feldstein, 2007). Like Tucker, Judah, O'keefe (2013) another study yielded that affiliative and self-enhancing humor are negatively correlated with depressive symptoms, but specifically for adolescents. Furthermore, the researchers of this study found that those humor styles are positively associated with personal adjustment (Eriskon & Feldstein, 2007).

In addition to being an effective coping skill, humor is applicable to adolescents because they are particularly impressionable. Adolescents are prone to influences from family, the media

and peers. According to Bandura's (1978) social cognitive theory, humans have an exceptional ability to learn through observation. Family is the earliest social contact for the child, so they carry their memories of past family interactions. If adolescents have observed a specific type of humor within their family, they are likely to imitate it (Chiang et al., 2016). Next, teenagers spend larger periods of time looking at media than any other recreational activity (Chiang et al., 2016). Therefore, they are more susceptible to influences in fashion, body image, and language than adults. Considering their potential to be impacted, they might also express their sense of humor in a similar way to what they observe in popular culture. Therefore, using humor in therapy that adolescents are familiar with, is likely to be relatable and impactful for them.

In adolescence, peers serve as a major influence. Adolescents have a greater number of acquaintances than children do, so naturally they are exposed to more social pressures. Many of them feel a strong need to feel accepted by their friends and to their ideal peer groups. This acceptance increases global self-esteem, school involvement and achievement (Chiang et al., 2016). Adolescents are easily impacted by humor because of its tendency to increase social bonding with peers, and therefore, increase self-esteem (Gibson & Tantom, 2017). Social bonding prevents individuals from being vulnerable to negative environmental influences. Therefore, social support is a crucial protective factor for an individual's wellbeing (Droogenbroeck et al., 2018). Because humor is likely to lead to social bonding, it is likely to serve as a valuable tactic in therapeutic interventions with this population (Gibson & Tantom, 2017).

Dance Movement Therapy with Adolescents

Like humor, dance movement therapy (DMT) is a tool that has wide potential to be beneficial for the adolescent population. DMT is a form of expressive therapy that emphasizes

the mind-body experience to explore emotions and stimulate creativity. It provides an outlet for people to express their feelings in ways that words could not. DMT allows individuals to connect and more quickly access their emotions due to the use of body felt experiences (Shuman et al., 2016).

As explained in the previous section, adolescence can be difficult due to the biological and psychological transitions that take place. Adolescents experience changes in their body size, structure, and muscle strength, and most have to cope with the appearance of secondary sexual characteristics such as body hair. These changes are out of their control, and the timing is unpredictable. These uncertainties suddenly make the body feel unfamiliar, and causes mixed feelings including confusion, fear, guilt, shame, enjoyment and pleasure (Engelhard, 2014). DMT can be particularly effective for this population because it emphasizes the connection between the mind and the body. Since adolescents are so focused on their bodies, it is advantageous to incorporate this aspect into their therapeutic treatment. Through DMT, they can address and express emotions related to their changing bodies (Engelhard, 2014).

Furthermore, many adolescents have difficulty with verbal processing of emotional content. They may struggle to communicate in a productive way due to their anger and confusion. Movement allows them to be seen, and express in an active, behavioral form, which allows them to communicate more easily and safely (Engelhard, 2014). In one study, the researcher investigated the impact of exploring movement patterns of the fictional character, Elsa, from Disney's *Frozen*. The client was a 14-year-old female who has low self-esteem and struggled to make social connections. According to the researcher, "playing someone who managed to accept her 'abnormal' part and to create a new self from a 'malfunctioning' one might not yet have brought her to a new definition of herself but no doubt allowed for a change

of feeling about herself" (Selissky, 2017, p. 207). Through movement, the client was able to express her feeling of isolation, and also discover a new confidence (Selissky, 2017).

Humor and Dance Movement Therapy

Many researchers suggest that using humor is a creative process. It requires the person to hold two incompatible concepts at once in an original way, eliciting surprise (Raphaela & Benedek, 2017). According to Clabby (1980), humorous people "are creative in that they condense seemingly unrelated thoughts in odd ways to fulfill the useful purpose of entertainment" (p. 309). This contradiction opposes the idea of the "truth," and the seriousness associated (Gibson & Tantom, 2017). Because humor involves creativity, it is most likely beneficial if the therapist is somewhat creative. Dance movement therapists allow a creative alternative for clients to express. It is therapeutically beneficial for clients to create external representations of internal processes, because it leads to empowerment (Shuman et. al., 2016). Therefore, humor is likely to be a compatible tool with DMT.

One DMT pioneer who valued humor was Trudi Schoop. Born in Switzerland, she was a trained mime and emphasized the use of characters and exaggeration in her work (Levy, 2005). Schoop believed that for her clients to gain physical control over their emotions, they first needed to acknowledge their conflicts and express them. One method that Schoop used to accomplish this was the exploration of posture. According to Tortora (2006), posture is directly related to stress. Physical stress reactions in the body can weaken the conditions necessary for emotional growth (Tortora, 2006). Schoop would humorously imitate postures that she saw in her patients, and have them also exaggerate these positions with her. She would then embody opposing postures to help patients acknowledge the differences (Levy, 2005).

> We do the worst walks we can think of; we use every kind of ridiculous, overdone posture and gait, parading across the room pigeon-toed, splay-footed, knock kneed, bow-legged. We waddle, clomp and mince. We enthusiastically make different parts of our anatomies stick out, sag or flap. (Schoop & Mitchell, 1974, p. 86)

Schoop helped her clients laugh at themselves, which led to self-acceptance. While using humor as a tool for healing, clients could better accept their conflicting emotions (Levy, 2005). Tortora's research as well as Schoop's style imply the positive impact of humor on stress and anxiety.

Fran Levy (1995), a board-certified dance movement therapist (BC-DMT) wrote a book called *Dance and other Expressive Art Therapies*. She had a client named Rachel who suffered physical and verbal abuse from her mother, and felt like she could never win her approval. According to the DSM 5, Rachel demonstrated several symptoms of anxiety and depression (American Psychological Association, 2013). Rachel's depressive symptoms included insomnia, low self-esteem, and suicidal thoughts. Rachel's symptoms of anxiety included poor interpersonal relationships, persistent anxiety, and psychosomatic symptoms such as nausea and vomiting (American Psychological Association, 2013). In her initial movement session with Levy, she exhibited nervous pacing, a lot of bodily tension, and a disconnection from her body (Levy, 1995).

Rachel was seemingly not ready to engage in movement, but she started to build their relationship by playfully throwing crayons at her. Levy threw them back, and found that this humorous interaction released Rachel's tension and allowed her to gain trust. Playfulness and humor were needed for Rachel to relax and become open to therapy. For her, humor was a safe release of aggression without fear of punishment, and a richer mind body connection (Levy,

1995).

According to Payne (1992), Monika Steiner is a dance movement therapist who created a DMT group in a psychiatric hostel. This was a therapeutic community with a large group of people who had a history of mental illnesses including severe anxiety. These patients were often expected to learn responsibilities of typically functioning people, and how to be integrated into society. The group met twice weekly for one-and-a-half hour sessions, over a period of ten months. Information from the clients were obtained through Steiner's direct contact with them in sessions (Payne, 1992).

The movement range of the patients was very limited, and simple tasks such as lifting their arms proved to be difficult. However, the DMT group created a space to honor their natural, and oftentimes regressed movements, and to explore variations. The group incorporated the use of fantasy and imagination to guide them in play. They were also given the freedom to choose movements for themselves to promote risk taking and independence. This type of individualized environment helped the group members feel accepted and supported regardless of their mental health status (Payne, 1992).

In the beginning of her DMT group sessions, Steiner had a difficult time creating a trusting atmosphere. The patients remained anxious about the group, similar to how they presented when staff left the hostel or took vacations. This atmosphere prevented them from developing group cohesiveness. However, throughout the development of the group, Steiner began to incorporate humor within her movement directives. For example, when expressing anger, patients played a game where they accidently bumped into each other. In another instance, the patients began to giggle during a relaxation exercise. Steiner allowed for this laughing spell to run its course because it enhanced the client-therapist relationship by easing their fear of

authority. Lastly, Steiner encouraged the patients to experiment with movements on the floor. They pretended they were cats and dogs, crawling on the floor on all fours. “The humour and hilarious laughter of the other participants worked like a saving grace and gave more human proportions to this ‘very serious matter’” (Payne, 1992, p. 159).

As shown through the work of Trudi Schoop, Fran Levy, and Monika Steiner, there are various ways that humor can enhance a DMT session. It can help client laugh at their misfortune, strengthen the therapeutic relationship and lighten the group mood.

Metaphor in Dance Movement Therapy

Many dance movement therapists use interventions like Steiner’s animal activity because they involve the use of metaphor. Metaphor is an essential tool in the DMT creative process. It is a form of symbolism that can hold many layers of meaning and can provide insight into patterns of behavior. It allows serious and uncomfortable subjects to be explored, oftentimes with humor (Meekums, 2002). Meekums (2002) defines metaphor as “the application of name or descriptive term to an object to which it is not literally applicable” (p. 27). This definition is very similar to the description of humor provided by Raphaela & Benedek (2017): holding two incompatible concepts at once. This connection suggests that humor and metaphor are likely to be compatible characteristics of interventions within DMT.

The ability to think abstractly and use metaphor is a major developmental aspect of young adolescence. Therefore, using metaphor in therapy with an adolescent would allow the therapist to meet the client at their cognitive level. One advantage of using metaphor is that it avoids forcing the conflict immediately into direct consciousness. Adolescent stressors are already overwhelming, and their egos are fragile. Through metaphor, adolescents can first communicate their problems indirectly without having to confront weakness. Once they can

tolerate this level of confrontation, they can then gradually face their problems directly (Saari, 1986). Considering the research, adolescents are likely to respond well to metaphor in DMT.

Physiological Effects of Humor in Dance Movement Therapy

There is research that suggests the physiological effects of humor in DMT, as well as therapeutic benefits. A study in Korea explored the impact of DMT on the neurohormones of adolescent females. Forty middle school girls in Korea with mild depression were randomly assigned to a DMT group or a control group. Their plasma serotonin and dopamine concentrations were measured using liquid chromatography. The treatment group participated in a 45-minute DMT session 3 times a week for 12 weeks. These sessions were based on several themes, including body language, play, quality of movement and outward expression. The researchers found that Plasma serotonin concentration increased after 12 weeks in the DMT group, but decreased in the control group. Furthermore, they found an impact on dopamine concentration. This study implies that DMT stabilizes the sympathetic nervous system, improving the symptoms of depression (Jeong et al., 2005).

DMT can also produce neuronal changes in a client's brain. In the early 1990's mirror neurons were first discovered from experimental studies with monkeys. Researchers found that these neurons fired when a monkey made a particular movement, as well as when it observed that same movement in another monkey (Joyce, 2015). The mirror neuron system (MNS) is activated during any type of interactive play. Mirror neurons fire when one person is simply watching or listening to another, allowing for a sympathetic reaction. They allow us to understand what another person is feeling as well as what they do (Kossak, 2015). According to Kurtz and Algoe (2015), the mirror neurons are adjacent to motor neurons. This placement helps to explain their relationship to DMT.

DMT emphasizes mirroring as a therapeutic technique. Marian Chace, a DMT pioneer, would reflect in her own muscular activity what she saw in the body of the patient (Levy, 2005). When mirroring in a group participants experience a shared affect state through embodying individuals' emotions and experiences kinesthetically. Mirroring can be executed through physical movement, vocalizations, as well as facial expressions (Berrol, 2006). An example of this shared empathic state was heard in an interview with renowned choreographer Paul Taylor. He said, "I can feel steps that someone else is doing in my own body" (Berrol, 2006, p. 309).

The contagiousness of laughter is also based on the MNS (Kurtz & Algoe, 2015). Laughter co-occurs with positive affect, which then elicits positive affect in receivers due to mirror neurons. Laughter is "prone to be immediately reproduced by others because its perception directly activates neurons that generate motor movements identical to those perceived" (Gervais & Wilson, 2005, p. 405). This effect is beneficial to all individuals involved because it allows for playfulness and joy to emerge in relationship. These qualities elicit positive emotions, which then promotes resilience when faced with stress (Gervais & Wilson, 2005). Because DMT and laughter are both widely influenced by mirror neurons, it can be inferred that humor could be beneficial in DMT.

Discussion

This review of literature and research examines the impact of humor and laughter within the therapeutic environment, specifically in DMT with adolescents. According to research, humor is beneficial for mental health. It can be used as a coping skill by redirecting negative energies, and therefore decreasing symptoms of depression and anxiety (Old, 2012). Furthermore, laughter releases dopamine, serotonin and endorphins, chemicals that lead to increased positive mood (Ede, 2005).

The research has provided many examples of ways in which DMT and humor intersect. They are both creative processes that can help people make meaningful connections, and have positive impacts on the brain (Clabby, 1980; Ede, 2005; Gibson & Tantom, 2017; Jeong et al., 2005; Shuman et al., 2016). Furthermore, the research indicates that adolescents specifically can benefit from both DMT and humor in therapy. Humor and laughter are particularly important for adolescents because of their high stress, and high risk for depression and anxiety (Erikson & Felstein, 2007). According to Shuman et al., (2016), "A non-verbal means of communicating is often the first step in helping depressed, anxious, angry, or highly controlled youth to identify internal states and express these states in a beneficial manner" (p. 260). Not only is DMT non-verbal, but it emphasizes bodily experiences. This emphasis is pertinent to adolescents, because many of them have concerns about their appearance and body image (Engelhard, 2014).

The integration of research indicates that there are certain DMT techniques that would be successful for adolescents with depression and anxiety. Because adolescents are often not comfortable with their bodies, it is likely that they will be resistant to DMT at first (Engelhard, 2014). They might become anxious when they experience certain bodily sensations and emotions. As a result, they may become withdrawn, reduce their range of movement, and avoid the experience of moving all together (Engelhard, 2014). Therefore, it is crucial that the therapist builds an alliance with the client to develop trust (Fox 2016). The research obtained from Heynen et al., (2017) suggested that the strength of the therapeutic alliance improves symptoms of depression and anxiety. Perhaps building rapport in a humorous way, as Levy (1995) did with her client Rachel, could help an adolescent feel less anxious in a DMT session. When Rachel engaged in throwing crayons with Levy, she could release bodily tension, which is something resistant adolescents could benefit from. It may not always be safe or appropriate for adolescents

to throw objects in the room, but perhaps a different action that does not delve right into deep emotions would strengthen rapport.

The interaction between Levy and Rachel has implications for easing adolescents into a session. Warm-ups that incorporate humor might involve very little movement so that the clients do not feel pressured to connect with their whole body at the beginning. Perhaps the clients tell the clinician or group how they are feeling that day with just a facial expression, or a silly voice, allowing the atmosphere in the room to be more lighthearted. The therapist might then respond with a facial expression or try to replicate the silly voice to create a humorous interaction, while taking care to avoid mockery. This would allow clients to build rapport and also release tension associated with negative feelings and preconceptions they may have had about the session.

Levy (2005) suggests that Trudi Schoop's methods also have implications for interventions to be used with an adolescent population. She met her clients where they were by acknowledging their conflicts, and then used characters and exaggeration to incorporate humor (Levy, 2005). Her posture intervention would be beneficial for adolescents because of how much stress they undergo. She helped the clients notice how their postures had been affected by their stress, and then exaggerated them. She then had them mirror her movements, which created a humorous atmosphere (Levy, 2005).

Schoop's style of intervention could be helpful in addressing body image in adolescents as well as posture. Because this population can be so preoccupied with the body, it could be helpful to exaggerate movement to represent what they think they look like, or what they are self-conscious of (Engelhard, 2014). In a group setting, peers could mirror these movements, reinforcing the disproportionality and humor of them. This exaggeration could help the clients express their feelings about their bodies, while also reminding them many of their concerns

might be more psychological. Furthermore, learning that other peers have similar issue with their bodies might ease some of their worries.

The research on metaphor and adolescents also has implications for potentially helpful interventions (Saari, 1986). This developmental period consists of many difficult factors other than body image, including social pressure, self-acceptance, and overall identity formation (Erikson & Felstein). It is likely that these aspects of adolescent years are not easy to talk about. Working with metaphor avoids confronting the conflict immediately, and allows the client to do so gradually (Saari, 1986). Humorous interventions involving metaphor could provide a more comfortable outlet for adolescents to process their complex processes of identity formation. Like Steiner's cat and dog intervention, clients could embody an animal that metaphorically expresses their experience. They could then be guided in creating movement to tell their story through the lens of that animal (Payne, 1992). To incorporate humor, directives can be given such as adding vocalizations or having the clients interact as animals.

In considering the literature review, it is clear that adolescents need interventions that will allow them to feel comfortable in therapy. Youth with depression and anxiety can especially benefit from a humorous environment, because it will allow them to experience joy and laughter in a difficult time. Incorporating humor is likely to increase social bonds with the clinician and other group members, which will enhance their overall therapeutic experience (Ede, 2005).

Conclusion

Using these ideas, then, a DMT program with humor at its core, will provide adolescents with positive therapeutic interactions. The therapist in this program would need to be experienced in working with humor, and have an approachable and lighthearted personality. First, this program will allow client to build rapport more easily. Using simple games that engage

the body will be useful. For example, the clinician could begin the session with a game called "Hi." In this game, the clinician chooses a quality or situation to apply to their body language and voice, when everyone says "hi" at the same time. Each group member exerts similar dramatized energy simultaneously, and the therapist points out how each might have their own interpretation of the quality or situation. This game could get the clients laughing and feeling positive about the session right in the beginning. Then, the client could work towards exploring deeper emotions.

Using humor will also help adolescents feel more comfortable with their bodies through Schoop's methods of mirroring and exaggeration (Levy, 2005). Clients could be prompted to consider what they feel their physical flaws are, and exaggerate movement to represent it. This intervention might help peers connect, and find humor in their frustrations about their bodies. Lastly, through metaphor, adolescents can express emotional content more gradually and comfortably. The research suggests that embodying an item, creature, or character in a comical way could lead to more joy and ease within the therapeutic environment (Payne, 1992). One intervention might be prompting the clients to embody an alter ego. This character could be someone they turn into when they are struggling, or when they feel like their best selves.

Future research is needed to investigate the impact of specific DMT interventions involving humor, with adolescents. One recommendation would be to recruit adolescents with clinical depression or anxiety for a DMT group that meets once a week for a year. Each session would incorporate humor within the opening, development and closing of the session. There would also be a control group with the same population, but the dance movement therapist would not intentionally incorporate humor into the sessions. Research would be gathered through participants' self-report on symptoms as well as the group leaders' observations.

Another recommendation would be to conduct a study where an adolescent with depression or anxiety is observed over a period of 10 DMT sessions, which incorporate humor. Data collection would be based on observations through Laban's method of Body, Effort, Shape and Space (BESS). This method emphasizes the client's use of kinesphere, or space around the body, body language, including posture, tension, and quality of movement (Bartenieff, 2002). The observer will use a coding sheet, where they will assess the frequency of movements within the four categories of BESS. These observations would then provide implications for change in mood, comfortability and self-confidence. Hopefully, this research, along with the recommended future research, can eventually help depressed and anxious adolescents have a more enjoyable therapeutic experience and increase their overall quality of life.

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

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