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Dance Movement Therapy Interventions to Build Coping Skills and Identity in Adolescent Patients Dealing with a Cancer Diagnosis: Development of a Method

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Abstract

Adolescents are a special category in pediatric oncology because of their unique physical and mental development. This patient population has needs specific to both their development and cancer diagnosis. Dance Movement Therapy (DMT) focuses on building awareness of inner sensations so that the patient can then connect those observations with felt emotions and thoughts. Connecting the physical experience with the emotional experience can provide helpful information for the patient as a tool for change. Building and strengthening relationships with family members also strengthens the critical support system for the patient. Dance Movement Therapy interventions may be effective in working with adolescent cancer patients, by exploring my created goals of building a connection to the body; creating rituals of expression for self, family, and community; and exploring shifting identity. This treatment method focused on adolescent patients, ages 12-18, with cancer diagnoses at a children's hospital. Three different DMT interventions were offered and implemented based on observed needs and patients' choice and control. Learnings emphasized that adolescent identity is connected to the body. These opportunities for art and movement were shown to be effective tools for expression and communication for patients and their families. These treatment methods and learnings can also be applied to other areas of mental health working with adolescents; from additional areas of medical trauma to other experiences that include trauma or life-changing events.

Keywords: dance movement therapy, adolescents, cancer, expressive therapies, interoception

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Introduction

Dance Movement Therapy (DMT) is a growing division of expressive therapies, with jobs available in a wide range of settings, including counseling centers, nursing homes, schools, treatment centers, and medical facilities (Hoyt, 2022). In her article *Children Are Born to Dance! Pediatric Medical Dance/Movement Therapy,* Suzi Tortora (2019) posed a central question about DMT in the medical setting:

> Can pediatric medical [Dance Movement Therapy (DMT)] support the patient to express feelings while in cancer treatment within the context of a psychotherapeutic milieu, enabling the patient to create an embodied coherent narrative that fosters expressivity and empowerment rather than internalized representations of trauma? (p. 23).

This thesis is a response to that poignant question. The population focus is adolescents in the medical setting dealing with a cancer diagnosis. Adolescents are a special category in pediatric oncology because of their unique physical and mental development (McNeely & Blanchard, 2011). This patient population has needs specific to both their development and cancer diagnosis (Brand et al., 2018). Dance Movement Therapy (DMT) interventions may be effective in targeting the unique areas of adolescent cancer patients (Totora, 2019), by exploring my created goals of building a connection to the body; creating rituals of expression for self, family, and community; and exploring shifting identity. More research is needed to understand the impact of DMT interventions on the specific needs of the adolescent oncology population.

This thesis aims to investigate the unique needs of the adolescent oncology population and how specifically selected DMT interventions address these needs. The DMT intervention

methods used are introduced and explained. This paper shares why those specific interventions were chosen and how they address the needs of adolescents and those dealing with a cancer diagnosis. This thesis also includes the outcomes of the implemented interventions and learnings experienced throughout the process.

Literature Review

There are many issues facing today's youth. Some of these include lack of social/community connection, less understanding of social cues, the need for acceptance from peers, being affected by politics and social justice issues, and stress and anxiety with growing pressures in school, family, and now online (Waddle, 2021). These social and political stressors do not include the dramatic physical and cognitive changes simultaneously occurring in their brains and bodies during this time of growth (Waddle, 2021). This section shares research on physical, cognitive, and psychological development during adolescence. It also explores the impact of cancer on adolescent development and how that may intensify or change the needs during that time. The importance of the DMT perspective in working with this population is shared as it relates to its ability to address my three created treatment goals incorporating a focus on multi-modal, family-centered, and trauma-informed work.

Adolescent Development

Adolescence is a time when physical changes are happening at a more constant and faster rate (Spano, 2004). Besides these physical changes, young people are also experiencing cognitive, social/emotional, and interpersonal changes as well that are influenced by outside factors, such as their environment, culture, religion, school, and the media (Spano, 2004). Areas of development to consider are physical, cognitive, emotional, social, and moral/value development. Development is a process and a continuum, and it looks different to each youth.

This information is to be used as a helpful tool and guidepost and not as a fixed rule (Gilmore & Meersand, 2014). It is important to take note of how each of these developmental areas is affected by cancer.

Physical

Physical changes during adolescence take place internally and externally (Gilmore & Meersand, 2014). Internal changes include hormones in the brain and the body and internal sex characteristics. External changes include changes in height, weight, fat distribution, musculature, odor, acne, hair growth, and outside sex characteristics (McNeely & Blanchard, 2011). Because many of the changes are visible to others, these physical changes often have social implications (Gilmore & Meersand, 2014). If physical changes do not line up with the cognitive and emotional changes, it may affect how the teenager treats or is treated by others. For example, females who develop physically earlier or males whose voices drop during middle school may be treated more like older teenagers by both their peers and adults, even if they do not have the cognitive or emotional maturity to match (OPA Office of Population Affairs, 2018). In contrast, teenagers who physically develop later than their peers may be treated like younger children, even if they are cognitively and emotionally more mature (OPA Office of Population Affairs, 2018). One description given about this time labels it as "that awkward period between sexual maturation and the attainment of adult roles and responsibilities" (Gilmore & Meersand, 2014, p. 205). Research shows that youth who experience faster physical development are more likely to engage in risk-taking behavior than their peers and teens who develop more slowly than their peers may be more likely to face bullying (Gilmore & Meersand, 2014).

Slowed growth and delayed development are common side effects of childhood cancer treatment. The American Cancer Society (2017) shared that chemotherapy can inhibit physical

growth. Radiation and surgery in the head and neck area can cause damage to the pituitary gland and endocrine system and, in turn, affect bone growth, height, and sexual development at puberty (American Cancer Society, 2017). The body is a pivotal part of the many changes happening during this period.

Cognitive

Cognitive development includes the changes in the brain that enables people to reason and learn (OPA Office of Population Affairs, 2018). During the adolescent years, brains go through dramatic growth, creating new brain cells, choosing which parts of the brain to develop, and strengthening the brain cell connections and pathways to help recall information and use it efficiently (McNeely & Blanchard, 2011). The part of the brain responsible for abstract thinking, planning, and decision making is the last to develop (Gilmore & Meersand, 2014). Youth expand their ability to think abstractly, become passionate about ideas such as love or fairness, and begin to develop advanced reasoning as they work to plan for what they want in their future (Gilmore & Meersand, 2014). Youth can absorb and learn new things and skills quickly and even begin to reflect and ponder on how they "think about thinking" (OPA Office of Population Affairs, 2018, p. 8). Teenagers are known for their risk-taking (Gilmore & Meersand, 2014). This can be perceived as a dangerous thing, but McNeely & Blanchard (2011) also shared that taking risks can be healthy and promote growth. Healthy risks can include trying new activities and experiencing new challenging classes. Discussing the importance and dangers of certain risks with teenagers provides them with the skills needed to assess and cope with risks which will set them up for success in staying safe while still taking chances (OPA Office of Population Affairs, 2018). Adolescents are often excited and willing to improve their abstract thinking skills, so asking exploratory questions and answering in an open way can exercise their

reasoning and abstract thinking skills (McNeely & Blanchard, 2011). McNeely and Blanchard (2011) go on to suggest that the more opportunities adolescents have to reason and learn, the more empowered they are as they problem-solve and plan for their future.

In the pediatric hospital setting, one of the DMT/patient session goals is to provide opportunities for choice and control. This is important in a hospital, where patients have lost control over their schedule and even control over the use of their bodies. This loss of control is especially acute in adolescent patients, who seek to be a part of the process and decision-making (Brand et al., 2018). Studies working with adolescent cancer patients show "that teens feel a greater sense of efficacy, resilience, and comfort in the treatment of their cancer when included in decision-making and information-receiving as well as are more adherent to their treatment regimens" (Brand et al., 2018, p. 7). This teaches that incorporating the teenager into the medical process empowers them in their own experience.

Emotional

Emotional development is the growing ability to "perceive, assess, and manage emotions" (OPA Office of Population Affairs, 2018, p. 14). This process is affected by the physical and cognitive changes mentioned previously as well as affected by the adolescents' environment. This process can be a long one and may not even fully occur until adulthood (McNeely & Blanchard, 2011). Stress is a common part of many environments that adolescents live in and learning to emotionally cope with is a normal part of development (OPA Office of Population Affairs, 2018). Stress involves reactions throughout the body which influence how people feel and behave (American Psychological Association, 2022). Stress can have many reactions throughout the brain and body; these reactions include a weakened immune system, chronic health problems, depression, anxiety, and other mental health disorders (OPA Office of

Population Affairs, 2018). Toxic stress also can lead to stress-related diseases and cognitive impairment in adulthood" (OPA Office of Population Affairs, 2018, p. 16). Some of the physical signs of stress are manifested in the body as heart palpitations, sweating, dry mouth, shortness of breath, body fidgeting, faster speech, and tiredness (American Psychological Association, 2022).

This stress can be amplified with a cancer diagnosis and prolonged in a hospital environment. In a study of stress management in women with breast cancer, researchers learned that not only did stress inhibit the immune system in fighting cancer, but it also affected the patients' long-term health and chances for relapse due to stress affecting the patients' ability to follow up with necessary future medical care (Antoni, 2003). Antoni (2003) shared the effect of stress on cancer patients:

> Psychological stressors and stress responses are associated with changes in hypothalamic-pituitary-adreno-cortical hormones, such as cortisol and sympathetic nervous system hormones such as epinephrine (adrenaline) and norepinephrine (noradrenaline), which are in turn associated with decrements in immune system functioning (p. 4).

Awareness, self-regulation, and expressive coping skills are vital for adolescents facing all the physical and emotional changes that come with a cancer diagnosis.

Social

Social development involves the moving and expansion of adolescents in larger social circles and social roles. These social circles are no longer just family and school, but now often include sports teams, school organizations, employment, and other social activities (Gilmore & Meersand, 2014). "As their social circles expand, adolescents spend less time with their families and may focus more on their peers. Young people also develop a greater capacity to form stronger relationships with adults outside of their families who may function as mentors" (OPA

Office of Population Affairs, 2018, p. 19). Because of physical and cognitive development, adolescents are given more responsibility in jobs, leadership positions, or find greater depths in relationships such as with a friend or romantic partner (McNeely & Blanchard, 2011). This social shift from friends and family may mean that the relationships with hospital staff and support during cancer treatment look different than with other age groups. As youth are actively learning and growing in these new roles and experiences, they will need support with modeling and practicing cooperation, communication, problem-solving, and decision-making skills (OPA Office of Population Affairs, 2018).

The involvement and influence of peer groups can also affect social development. Because adolescents depend on friend relationships for ideas and validation, their impact has a greater weight (Gilmore & Meersand, 2014). This peer pressure is known for pushing risky behaviors, but it can also be supportive and empowering. Peer groups can practice positive behaviors such as cooperating, sharing, resolving conflicts, and supporting each other (McNeely & Blanchard, 2011). The created standards in positive peer groups can help adolescents build relationship skills and build self-esteem and confidence in taking positive risks (McNeely & Blanchard, 2011).

It is important to take factors into consideration that can affect adolescent social development in the hospital setting. Learning about the patient's peer groups and their current influence is important in understanding their current values and motivations (Brand et al., 2018). Physical development, as previously discussed, can affect social relationships and changes. The teenager's physical development, which is shown to be affected by cancer and chemotherapy, may reflect the age and maturity of their social circle and the types of relationships they are building (OPA Office of Population Affairs, 2018). Acceptance and belonging in a peer group is

also a factor that affects social development. Finding peer groups can be especially difficult when cancer is added to the mix, and it changes the regular social activities and routines. While this time frame should be an increasing period of independence for teens, this is contrasted with adolescent cancer patients dealing with further reliance on medical visits and treatment (Brand et al., 2018). Inability to develop intimate peer relationships and explore different roles can lead to frustration, loneliness, and confusion (Brand et al., 2018).

Morals and Values

Due to changes in the brain and cognitive development, adolescents begin to think deeply and more abstractly (Gilmore & Meersand, 2014). This is the time when adolescents decide what their morals and values are and how those beliefs affect their choices and ambitions (Gilmore & Meersand, 2014). Some of these shifts in thinking include moving away from seeing the world in black and white, understanding the reason behind rules, forming their moral code, and becoming aware of a bigger perspective on spirituality and philosophy (McNeely & Blanchard, 2011).

This bigger perspective may feel more relevant when facing a cancer diagnosis and experiencing traumatic events may form their view of the world (Brand et al., 2018). Research shows that in supplement to tools like therapy and trauma-informed care, religion and spirituality can help a person cope with trauma (OPA Office of Population Affairs, 2018).

Impact of Cancer on Adolescence

Each patient has a story to tell about when they received their diagnosis. Unfortunately, this diagnosis moment is not just a singular event, but a continuing stream of information and changing circumstances (National Cancer Institute, 2019). “Cancer fractures our sense of selfhood as its rogue cells invade the borders of our bodies and our minds. The ‘new normal’ of cancer is anything but normal” (Miller, 2014, p. 210). Miller (2014) went on to share that a

cancer diagnosis does not just affect the abilities of the physical body, but patients must learn to cope with emotional losses of choice and control over their future and everyday lives. This is especially difficult for adolescent patients because their developing identity is currently being built on a perception of their bodies and taking more control of their choices (OPA Office of Population Affairs, 2018).

Impact of Cancer on Mental Health

The experience of receiving a cancer diagnosis can be described as a traumatic event (National Cancer Institute, 2019). "Trauma itself is defined as a direct reaction to a stressor that exceeds an individual's capacity to cope or, in other words, as the vital experience of a discrepancy between threatening situation factors and individual coping mechanisms" (Gieseler et al., 2018, p. 752). Gieseler et al. (2018) shared that a traumatic stressor leads to trauma, which may then result in PTSD, acute stress disorder, anxiety, or depression, and that these resulting psychological disorders are common comorbidities in patients dealing with cancer. Studies comparing cancer patients to the general population show that individuals diagnosed with cancer are more likely to experience psychological distress or suffer common mental disorders such as depression, anxiety, adjustment, or post-traumatic stress disorder (Petrova et al., 2020). "Depressive spectrum disorders are among the most common, with an estimated prevalence of around 16% across oncological, hematological, and palliative settings" (Petrova et al., 2020, p. 2). Gieseler et al. (2018) explained that, according to the DSM-V definition, a new diagnosis of cancer meets the criteria of a traumatic stressor event, "as long as it poses a threat to the patient's life," which, due to the high probability that cancer finally kills the patient, it is highly likely that getting a diagnosis of cancer qualifies as a traumatic stressor (p. 752). Research has recognized that the probability of patients developing a mental illness after cancer onset increases in direct

correlation with the patients' level of disability, how advanced the illness is, and the level of pain (Nakash et al., 2014). The timing of mental disorder onset in these cancer patients suggests that these mental illnesses developed after the cancer diagnosis was given and that they are most prevalent during the cancer treatment journey. This is important because it suggests that these comorbid mental disorders among cancer patients indicate that they are more of an adjustment issue to the new serious illness and that they are less etiologically based (Nakash et al., 2014).

Using Expressive Arts with Adolescents with Cancer

Research shows that integrating a multi-modal expressive arts approach to treatment provides many benefits for this population (Carr et al., 2021). Participating in the arts creates a flow state that is productive for expression (Haring et al., 2020). Haring et al. (2020) shared research about the benefits of the arts with children entering phases of liminality like the time around a cancer diagnosis and duration of treatment, sharing that in this liminal state:

> Emotions and states such as despair, depression, and fear, accompanied by intuitive knowledge, memory, resilience, and wellness might be experienced. This leads to an integrative process: while children are drawing, they are completely engaged in a non-verbal activity that needs their total involvement, concentration, imagination, and creativity (p. 17).

This teaches that the process of creating art regulates the body as well as provides a vessel of expression for those thoughts and feelings. Expressive arts therapist, Cathy Malchiodi (2012) shared the effectiveness of employing drawing and moving the body in therapeutic interventions, suggesting using the hands repetitively or rhythmically has a soothing effect on the emotions. The body can express thoughts and emotions before words can explain them (Malchiodi, 2012). Carl Jung stated, "Often the hands will solve a mystery that the intellect has struggled with in

vain" (Jung et al., 2016, p. 180). Studies show that participating in creative activities, decelerates the heartbeat, lowers blood pressure, changes breathing and brainwave patterns to a slower rhythm, and the body releases endorphins which calms the autonomic nervous system (Rockwood Lane, 2005). Arts research demonstrates these types of interventions to have transformative effects in soothing childhood trauma (Haring et al., 2020).

Carr et.al. (2021) shared learnings from their multi-modal work with the arts in psychotherapy, teaching that:

> Each arts modality has specific multi-sensory and aesthetic properties which can provide unique opportunities within a group context. Whilst in simple terms a single sensory modality is implied (art, the eye; music, the ear; dance movement, the body), a range of senses are activated, offering many different sensory and embodied modes of expression and experience (p. 6).

The authors went on to share the continued benefits of multi-sensory features in art-based work, which include enabling attunement and regulation, providing the opportunity for relaxation, self-soothing, and building healthy connections (Carr et al., 2021).

Other areas of art, music, writing, and more, all contribute to supporting the goals of expression. Studies have shown that if something is written down by hand, that process provides more complex sensory information to the brain, which helps you encode that information into your long-term memory and increases the ability to remember (Borreli, 2014). Writing down stories enables patients to make sense of what is happening in their lives, allowing them to step back and reflect, and has been shown to even help moderate psychological trauma and improve mood (Relojo-Howell, 2019).

DMT

Dance Movement Therapy is an arts strategy that is effective in addressing the needs of adolescent cancer patients (Tortora, 2019), specifically through my created intervention treatment goals of building a connection to the body; creating rituals of expression for self, family, and community; and exploring shifting identity. This section shares how DMT work is effective in using these treatment intervention goals to meet the needs of the adolescent cancer patient population.

DMT and Physical Development: Building a connection to the body

DMT facilitates body awareness, increases mobility and flexibility, expands range of motion, and builds skills in all areas of development (Tortora, 2019). This body-awareness focus supports all stages of the cancer experience from treatment to palliative and end-of-life care (Tortora, 2019). Mara Rivera stated that "through reclaiming our connection with our self and bodies through these areas, we are better equipped to cope with and build physical, emotional, cognitive, and spiritual health" (Hoyt, 2020, p. 1). Body awareness has been a key element of DMT theory and practice. Mary Whitehouse coined the term *kinesthetic awareness* and focused on ways to create a subjective connection to the body (Dieterich-Hartwell, 2017). Research shows that this mind-body connection and awareness can facilitate the relationship between self and others and is essential in forming healing pathways for those with PTSD (Dieterich-Hartwell, 2017).

Another tool for connecting to the inner experience is interoception. Interoception is the brain's understanding of sensations in the body (Armstrong, 2019). The Association for Psychological Science president Lisa Feldman Barrett said that interoception "is central to everything from thought, to emotion, to decision making, and our sense of self" (as cited in

Armstrong, 2019, p. 1). Interoception is especially important for adolescents because the first step in emotional development is emotional awareness (Cherry, 2020). Emotion is a combination of consciousness, physical sensation, and behavioral experiences that echo the personal significance of that thing or event (Solomon, 2022). Understanding emotions comes from an awareness of bodily states and reactions and labeling them with meaning. Studies show that when adolescents can identify how they feel, they can better choose how they will react to a situation (OPA Office of Population Affairs, 2018). DMT focuses on building awareness of inner sensations so the patient can then connect those observations with felt emotions and thoughts.

DMT and Social Development: Creating rituals of expression for self, family, and community

To create rituals of expression for self and family, and community, it is important to help the patient understand what is important to them in their connections and relationships (López-Zerón & Blow, 2015). Knowing how the patient is connected to their family and community and what they value within these spaces will help direct therapeutic work (López-Zerón & Blow, 2015). Adolescents also seek collective power, and this power may come from belonging and acceptance in family, sports teams, school clubs, or close friend groups (Ebony, 2019). Ebony Nichols (2019) shared that "This power is about the development of a collective voice, a sense of belonging, and ownership. Using its rhythm, music, song, and dance can help clients in groups to intentionally engage in meaningful relationships (p. 53). This collective power has always been important and communicated through movement. Historically, movement has been used as a way for people to connect and a tool for expression all over the world, and dance traditions are still used as a collective strategy for claiming power and social resistance. (Rivera, 2018). Mara Rivera asked therapists to be "ready to incorporate their stories of oppression into our treatment approaches. By committing ourselves to understand how social and political systems affect a

client's life, then we will be ready to advocate for a culture of inclusion and equality" (Rivera, 2018, 7:00). Due to moral development in adolescents, inclusion and equity are values they are sensitive to and fighting for in their personal and social lives (Gilmore & Meersand, 2014). These movement activities empower adolescents in communicating their rights and needs (Rivera, 2018). Helping youth connect with their cultural music, song, and dance can strengthen their access to their spiritual power, providing them with resilience and coping skills needed in their cancer treatment and the rest of their lives (Rivera, 2018).

DMT and Cognitive Development: Exploring shifting identity

Adolescents' self-concepts and self-evaluations provide the basis for the identity formation process (OPA Office of Population Affairs, 2018). Identity has been conceptualized as a sense of who one is, based on who one has been and whom one can realistically imagine oneself to be in the future (Underwood & Rosen, 2013). Encouraging exploration of the clients' own cultural and natural movement identity is a great opportunity to find meaningful symbolic imagery that is client-specific. Ebony Nichols (2019) wrote about Mara Rivera's work with Afro Caribbean dance and building identity, saying: that the symbolic meaning within a client's work has the potential to "help the self/body deconstruct the imposed narrative and reconstruct a restorative and more accurate one; a narrative which reflects positive self- knowledge based on racial/ethnic pride, beauty, resilience, and power" (p. 52). The process of discovering and defining movement is powerful in exploring the shifting identity during this cancer treatment as well as the drive for identity and liberation of adolescence.

DMT and Family Therapy

One focus of the DMT treatment method proposed in this paper is building connections and rituals of expression between the patient and their family and support system. Relationships

with parents and peers can affect the extent to which adolescents explore and make identity decisions (Underwood & Rosen, 2013). Research shows that it is important to incorporate family members into the intervention session (López-Zerón & Blow, 2015). Authors López-Zerón and Blow (2015) showed three important learnings in their work; that trauma should be treated as an event that affects everyone, close relationships can also be a powerful source of healing, and relationships are critical for healing in the aftermath of trauma. Adolescent cancer patients, as well as their family members, are impacted by this diagnosis, and each of them feels the impact throughout the journey. The National Cancer Institute shared that patients' dealing with cancer may have symptoms of post-traumatic stress at any point from diagnosis through after treatment. They pointed out that parents of childhood cancer survivors may also have post-traumatic stress (National Cancer Institute, 2019).

Family inclusive sessions not only provide the family members with the support they need but also improve the family members' ability to support the patient. Positive family support is often essential to the patient's healing environment (López-Zerón & Blow, 2015). Research shows that close relationships and connections may provide important support that can allow traumatized individuals to reconnect with themselves and others in the healing process (Figley & Figley, 2009). The kind of relationship and attachment that a teenager has with their parents or caregivers correlates with how they cope with difficulty and see their own identity (Underwood & Rosen, 2013).

Bracken et al. (1995) encouraged clinicians to contextualize survivors' experiences and consider the importance of the reconstruction of social, economic, and cultural networks to facilitate healing and recovery (p. 581). Family Systems Therapy (FSS) is a form of psychotherapy that focuses on the family as a whole unit (Cherry, 2022). To fully understand the

patient and provide well-rounded treatment for patients, it is important to understand them in the context of their family unit. FSS research shows that supporting their family systems also supports the patient (Cherry, 2022).

During later adolescence, teenagers are developing their understanding of others' experiences and the ability to empathize (McNeely & Blanchard, 2011). They can start to see that another person in the room is having a parallel experience to their own and that they may be having a difficult time as well. "Secondary trauma, also called compassion fatigue, is defined as indirect exposure to trauma through a firsthand account or narrative of a traumatic event" (Gieseler et al., 2018, p. 752). Many family members experience this secondary trauma when they are the ones receiving and passing along the cancer diagnosis or when they are holding the patient in their arms during a painful procedure. Gieseler et al. (2018) shared more about what this may look like:

> Two theoretical constructs of secondary traumatization have been proposed: "compassion fatigue" and "vicarious traumatization". The fundamental feature of compassion fatigue is the development of trauma symptoms parallel to PTSD, such as intrusion, avoidance, and arousal, whereas vicarious traumatization involves disrupted beliefs in relation to the self, others, and the world from cumulative exposure to client trauma narratives, in addition to trauma symptoms (p. 753).

While receiving a cancer diagnosis may be traumatic and instigate struggles with mental illness, this does not mean all will experience it in this way (Dieterich-Hartwell, 2017). Best practices would indicate that creating treatment plans for the adolescent cancer patient population with a trauma-aware lens would be the most appropriate and effective treatment approach. The Substance Abuse and Mental Health Services Administration (SAMHSA) created six principles

that guide a trauma-informed approach. These principles are safety, trustworthiness & transparency, peer support, collaboration & mutuality, empowerment & choice, and cultural, historical & gender issues (CDC, 2020).

These trauma-informed principles are guiding principles within DMT work, with interventions that are patient-directed and authentic to their body needs and experiences (Leighton, 2018). Sherrell Leighton (2018) shares how DMT strategies are specifically promising for working with trauma. Dance Movement Therapy establishes safety and trust in the therapeutic relationship using movement reflection and kinesthetic empathy. It works with symbolism, metaphor, and imagery, and uses improvisation, play, and creativity to explore embodiment (Leighton, 2018).

Family members also experience burn-out from the needs and responsibility of caring for their child during cancer treatment in and out of the hospital. Suzi Tortora (2019) shared that pediatric medical DMT is a psychotherapeutic approach that focuses on both the mind and body and supports the patient and their whole family in expressing their feelings about their medical journey using movement and play. “Through this method patients can explore all their emotions along the spectrum from joyful to fearful and rage, creating a sense of empowerment, while attuning to their bodies” (Tortora, 2019, p. 23). Building and strengthening family members and their relationships is also building and strengthening the critical support system for the patient. DMT can be used for individuals as well as family groups (Leighton, 2018). Movement provides opportunities for emotional expression and communication for patients and family members.

Method

Adolescents are a special category in pediatric oncology because of their unique physical and mental development (McNeely & Blanchard, 2011). This patient population has needs specific to both their development and cancer diagnosis (Brand et al., 2018). Dance Movement Therapy (DMT) interventions may be effective in targeting the unique areas of adolescent cancer patients (Totora, 2019), by exploring my created goals of building a connection to the body; creating rituals of expression for self, family, and community; and exploring shifting identity. The following treatment method is comprised of three DMT interventions that were created and implemented with this research in mind for this unique population.

This treatment method was focused on adolescent patients ages 12-18 with cancer diagnoses at a children's hospital. I worked with 27 different patients within this age group who came in and out of the hospital for treatment and procedures. Of this group, 12 identified as female and 15 as male. I tried to meet with each patient weekly while they were in the hospital for treatment, but the number and length of each hospitalization varied with each client based on the type of cancer, needed procedures, and how their body recovered. This changed the amount of time we had to work together. Each session was generally 30-60 minutes and was held bedside in their hospital rooms.

Qualitative information was gathered in a journal after each session, including what I had observed in the session as well as what was shared by the patient and family during processing. I also recorded what led me to implement the specific intervention in that session and the factors that affected the implementation. The final observational journal consisted of 32 pages and contained artistic reflections or movement reflections based on what I learned about and from my patients, some of which are included in the appendix (See Appendix B-C).

In each session, I aimed to implement specific Dance Movement Therapy treatment interventions based on my three main created goals: build a connection to the body; create rituals of expression for self, family, and community; and explore shifting identity. I created these goals based on adolescents' needs in understanding their identity and building connections to what is important to them. These dance movement therapy interventions facilitated awareness and understanding of what was being felt and then used the body as a tool to express those perceived emotions. Each intervention was designed to be a stand-alone treatment and did not need to be in a certain order. Even though each intervention has a clear intention and activity, each session was led based on the patients' needs and current state. Each activity was designed to be done in one sitting and contains a stand-alone learned skill, objective, and closure. Because each of these activities also includes a multi-modal art or writing activity, needed supplies include paper and writing and drawing materials. The following are the DMT interventions used and how they were implemented; the Body Interoception Assessment, Family Storytelling, and "I Am" Movement Poetry.

Body Interoception Assessment

The body interoception assessment was implemented with 21 of the 27 patients. With four of the patients, the assessment was done multiple times over the course of treatment and compared; three of them completed it two times, and one patient completed it three times. Comparisons of the assessments were recorded in the observations journal. Some patients chose not to participate in this activity or declined services altogether. Of the 21 initial assessments, only three were given in the very first session. The other 18 were given mostly in the second session, with a few outliers in the 4th session and on. With these later assessment initiations, notes indicated that this was because of procedure timing and how the patient was feeling at that

time. Those that received multiple assessments were because of a significant change in affect or situation; some of these reasons included a major change in eating habits at the hospital, current amputation of a leg, the family had moved out of their home during a hospital stay, and loss of hair.

This activity is an interoception awareness activity, used as a pre and post-assessment for how a patient is feeling in their body. I began by facilitating a body scan or a moment of mindfulness with the patient, having them focus on what it feels like to be inside their body at that moment. I made sure to point out that this is an ever-changing feeling, and what it felt like at that exact moment may be different tomorrow or even in five minutes. After this mindfulness activity, the patient received a paper and had the chance to draw what they felt in each part of the body. I often provided a paper with a simple body outline for patients to use to simplify the process. As they colored their paper, they were also asked to make a key in the corner, labeling each color or texture they used with what it meant to them. This drawing activity was produced and distributed with creative therapy materials by Therapist Aid (Therapist Aid, 2012) (See Appendix A). Although I used their activity idea, I did modify it in several ways for this adolescent cancer population. In my work, I allowed patients the opportunity to create different shape options to represent their bodies. The addition of the key was also an adaptation. I did this to encourage patients that there are no right or wrong answers or ways to express what each part of the body may feel like. I invited patients to explore creative options as they described their sensations/feelings in their bodies. For example, using images, colors, shapes, metaphors, weather, or foods (See Appendix B.) After patients could identify sensations present in their body, they then were able to connect what that looked and felt like in their body to emotion or thought. This activity is deeply tied to understanding and connecting with the body but has no

movement component. Because of this, it is flexible with all hospital energy levels and movement capabilities. It is an easy beginning activity to introduce patients to expressing themselves through the arts.

After drawing, the patient was invited to share how they colored their paper, and what they learned from how they created the key. Sometimes the sessions would end here with this step, and sometimes this sharing moment would open an understanding of where the work could go forward in the future. This finished art was able to be compared from session to session, with the discussion focused on how the expressed emotion through the art had changed over time.

Family Storytelling

Of the 27 adolescent patients that I worked with, I had the opportunity to use the Family Storytelling intervention with five of them. All the patients had family members staying with them in the hospital, some sleeping overnight and some traveling home at night or on weekends. Most of the family members staying at the hospital were parents, but the main caretakers also included one uncle, one stepfather, one sister, and two grandmothers. Four of the five family sessions were completed during the first or second chemo treatment stays. This activity was usually brought in during these early stages to help facilitate communication with the adjustments of living together in the hospital. The fifth had their family session in their final treatment stay. This was done because it took that amount of time to build the trust between me and the participating family members. The other patients that did not have the opportunity for this intervention chose not to participate, or it was not right during our short time together.

In this activity, patients and family members were each asked to make the story of their diagnosis and hospital journey into a simple children's storybook. This story was to be specifically written from their individual perspective. To keep size and quality simple and

standard, I gave each person just two pieces of paper and folded them in half together. This way there were limited pages, and the story needed to be summarized in that space. I also encouraged them to add illustrations or images to the pages. I reminded them that there were no artistic or grammatical expectations or requirements for this activity.

The patient and family were then invited to share their story with each other. After reading their stories out loud, each participant was asked to create and share their story in movement. To do this, they created one movement or gesture for each page of the story. The movement shared what was felt at that point of the story or symbolized a word that stood out to them on that page. Each person then had the opportunity to be a sharer and also witness the others' movement in a mirroring activity. Mirroring involves imitating the emotion or intentions in another's movements and is considered by practitioners to improve emotional understanding and empathy for others (McGarry & Russo, 2011). Taking turns, each person shared their movements. After each movement, the witness would repeat the movement back. If the sharer did not feel the witness had repeated the movement as they had intended it, they could repeat the movement to emphasize its correct energy or movement details. The witness then tried again. Once the sharer was satisfied with the witnesses' reflection, they both took a breath together and moved to the next movement. This sharing and witnessing activity must be done completely without words. The sharer could not tell the witness how to change the movement to reflect it more accurately, they could only show. This allowed the sharer to reflect more deeply on how their movement was perceived, and how they might need to change it to emphasize the intended purpose and emotion tied to it. This nonverbal communication also encouraged the witness to attune to the body language and details of their partner. The breath together in between each set

of movements provided a way to reset and regulate together. The activity was ended with an extra breath led by the timing of both participants together.

The movement portion of the activity is important because it allows each member to not only hear each other's story but then to feel it for a moment as well. Participating in this movement conversation builds understanding of the others' unique personal experiences. This activity practices observing and interpreting developmental skills, building empathy, and enriching communication between the patient and their family and support system.

"I AM" Movement Poetry:

Eight out of the 27 adolescent patients chose to participate in the "I Am" Movement Poetry intervention. Four of those eight patients chose to perform in the end for another person/family member in addition to me. The reasons for not performing included being shy and having a lack of energy by the end of the session. Two of them created a poem and not further movement. In these cases, this modification was just based on the time restraints of the session.

For this intervention, the patient was led through a focused writing activity. The patient was invited to free-write about four different prompts: a significant person in their life, a significant place in their life, a significant object, and a significant memory that stood out to them. I used "significant" or "important" as labels to describe these things, to remind them that these things did not need to be specifically good or bad to them, just things that stood out to them at that moment or were pivotal to their life. Because of the time restraints of this activity, it was important to tell the patients that the things they chose to write about did not have to be the most significant things to them. Whatever came to their minds at the moment was meaningful too. This activity could look different with the same patient depending on time, place, emotional

state, and who and what they chose to write about. The patient was given just two or three minutes to write about the prompt and was encouraged to continue writing the whole time.

After the writing, I had the patient choose one word that stood out to them from each of the four sections. The patient then listed the words together in a poem, each word after the words "I am." Here is a mock example of what these poems may look like:

I am hard work

I am funny

I am fear

I am faithful

The patient was offered the opportunity to share their poem and then invited to take time to create a movement for each word. I assisted the patient in connecting each of their movements to create a larger movement piece. Depending on the session, the patient put these movements to music, or the session focused time on repeating the connected movements to help the body remember. The session ended with sharing the movement poem with me, a family member, or even hospital staff. This movement sharing can be an important moment in expression if they choose to perform it for another person or group. This is an opportunity to experience the study of their interior world and then express it outward for others to see.

Results

I worked with patients in all different stages of their chemotherapy treatment plans and was able to see them a different number of times. Some patients were involved in just one of the interventions and others were available and clinically appropriate for all three. Availability for sessions together was dependent on the health of the patient during and after chemotherapy treatment. It was also based on the choice and control of the patient; I made sure the patient

knew that if they were not up to participating in DMT services, then that is something we were glad to honor. Appropriateness of these session interventions was also gauged in the room with the patient based on their physical and emotional needs. There were times when the sessions needed to take a different direction, and the needs of the patient were always most important. Including writing or drawing elements in each activity was an effective bridge from stillness to movement, or used as a calming transition activity from moving to the processing at the end.

Due to confidentiality, I cannot share the patients' pictures, poems, or movements. As a part of my journaling process, I felt moved to create in the same way that I had asked the patients. I created art and movement to process some of the ideas and feeling that they had shared with me as part of these DMT interventions. Here are some of the things that I learned from each of the shared interventions:

Observations and Shared Learning From the Interoception Assessment Intervention

I found it helpful to provide the option of a blank paper for them to create a shape that symbolizes the body differently. I found that this was important in cases where patients were dealing with bigger body changes, where they no longer recognized the provided shape to fit their own. One example of an alternate shape used was the shape of a house. One patient described their body as feeling like they were living in a new house with which they weren't familiar or comfortable (See Appendix B). Providing an alternate shape for bodies could also be important for those dealing with body dysmorphia or other traumatic body issues. Through this activity, I learned about each patient by what they included or did not include in their body drawings. For example, one patient shared a drawing with her muscles colored and labeled as feeling weak. She explained that this cancer journey was difficult because she was an athlete and much of their identity was normally wrapped up in exercising and performing physically. She

later was able to process that this weakness was not only feeling grief physically because of the medical treatments but also grief because of losing a key part of her identity in her community of school and friends. There was a patient that colored in every part of the body but left the torso blank. The patient was able to describe in detail what sensations were occurring in all other parts of her body but showed anxiety and resistance when asked about this area. In future sessions, she expressed that her identity was tied to fashion and her body image. She was frustrated with how her body had changed with cancer and chemotherapy treatment and specifically the weight she had gained in the process. She shared having fears about not being able to control the state of her body, including the food she was eating and her inability to be active.

In observing those that had multiple assessments, major differences were seen in each drawing. One patient had originally used words like 'pain,' but also 'hope' and 'gratitude.' A few chemo treatments later, the words that covered the image of her body were 'alone' and 'trapped.' Each assessment was very individually tied to that patient and their current experience. While some areas were no longer feeling the pain that the patient had originally shared, they had new emotions with which they were dealing. Even though this does not often show a linear progression, it does provide perspective to the patient. One patient shared that it is good to know that some struggles come and go and change over time. Knowing that they would not always feel this way was comforting.

Observations and Shared Learning From the Family Storytelling Intervention

A common theme I found among patients was their want and need to share their story, specifically the story of how they found out they had cancer and arrived at the hospital for treatment. Every story was unique and dramatic in its way; however, each patient expressed the shock of the change in their life and the continuous reality of loss in their new normal. Because

this was common with each patient, I was able to do this storytelling activity solely with these stories as the content. Each patient had their own story, and their participating family members also had their perspectives on each of the events that occurred.

In the implementation of the activity, I learned that the patients needed more time than planned to create their storybooks, but also that this focused creative time put them in a reflective emotional space that was great for the sharing and witnessing portion. I found that the witnessing and sharing section could be difficult because it depended on the attunement and willingness of the family members. I noticed that it took several sets of breaths together before they found a flow and regulation with each other. It often began with grunts of frustration and giggles mixed in until they found that flow together. Then the focus could be seen in their eyes and attentive bodies. One patient shared that it was nice to know the story from their mother's point of view and understand that she was going through something hard as well. She learned that although her mother's story was different from hers, it was still difficult. The patient shared that since doing this activity, she stopped making her mother do so much for her around the hospital room. She also made sure that her mother could tell her how she was feeling too.

Adding the stress of a cancer diagnosis to a patient's family dynamics, as well as living in a small hospital room together for weeks at a time, can strengthen or strain relationships. One of my hospital patients shared that although they were glad to have their mom with them, they had begun to get on each other's nerves. With this specific patient, the goal of creating rituals of expression between her and her family was helpful for their relationship. They recognized that giving each other space for quiet and independence was necessary and healing. Whereas quality time together might have been more appropriate for another age group, quality time apart was

key for this adolescent and adult pair. In a way, they were “learning a mature interpersonal balance of intimacy and autonomy” (Spano, 2004, p. 2).

One patient shared her frustrations of not feeling seen or validated by the doctors and nursing staff. She expressed feeling like she was nothing because she had tried to say what her body was feeling, and it was like they didn’t believe her. This made her doubt her feelings and distrust her awareness. This activity was a powerful opportunity for patients to have the space to say what they were feeling, and empowered parents to share the story from their perspective and not just the perspective of their child. After one parent was able to share her frustrations with having to deal with so many doctors without family support and then dealing with the burden of work from the couch of a hospital room, she shared that she was able to see the value in seeing a counselor as well to get the emotional support she needed.

While many of these storytelling sessions were done with the patient and their parents, this can be done with any family member or caretaker. I had the opportunity to do it with an uncle, stepfather, and a sibling as well. This created many different dynamics with which to work. Scheduling time with family in the room was sometimes difficult to set. Each provided a unique experience and specific understanding of that relationship. It is also important to note that including family in therapeutic sessions may not always be appropriate. Suzi Totora (2022) shared that the effectiveness of family involvement might depend on the dynamics within the family and cultural protocols (S. Totora, personal communication, April 13, 2022). The culture of the family is a product of many things, including ethnicity and religious beliefs, and practices (S. Totora, personal communication, April 13, 2022). Before implementing this family intervention, best practices would indicate understanding these dynamics and family culture.

Observations and Shared Learning From "I Am" Movement Poetry Intervention:

I saw the widest variety of movement outcomes in the "I am" Movement Poetry intervention. From patients stuck in their bed doing gestures with just one side of their able body, to patients that got out of bed and created a dance for themselves fully disconnected from sensors and chords; the outcome for this activity looked different every time. It was satisfying to see a patient complete a movement piece for themselves, but even simpler movement in a more private session did not make it any less effective in meaning-making. The real depth of understanding occurred in the collection of words and applying them as a label to self, and then identifying with those words through movement. One patient explained that he never thought of some of these words as things that would describe him, but that now he could see that they are a part of him and he liked that.

The performance aspect was not required, but I learned that it was a cathartic moment for the patient. Choosing to perform this movement was a way for the patients to show others an important part of themselves. The patients who were able to share these vulnerabilities and then receive praise from family and others, shared feeling validated and encouraged. These performances allowed the opportunity to validate patients personally and build self-esteem at a deep level.

I had an experience with one patient that wrote a story about a family member. They chose a word from that story and then were upset when it became a part of their 'I Am' poems/movement. After seeing his discomfort with this movement, we discussed this feeling and emphasized that he had the choice of whether to include or exclude any of these words as part of the movement he created. He chose not to include that word or movement in his final creation. He later shared that every time he did or thought about that movement, he thought of that

excluded word and his choice not to include it. He expressed that it was a good reminder of that person, that they will always be a part of his life, but that who he is will always be his choice.

Overall, I found it most important to maintain attunement and flexibility in my work with each patient. Attunement is experienced as being in the present moment, focused on the current emotions and needs of the patient (Jerak et al., 2018). Suzi Totora shared the importance of a client-centered practice, saying "The client has to come first!" (S. Totora, personal communication, April 13, 2022). Instead of making any of these sessions a mandatory step in each patient's treatment, I kept them ready as an easy and effective tool in my toolbox. Because they were readily available and applicable to many needs in this adolescent cancer patient population, I had numerous opportunities to use and learn from these intervention methods.

Discussion

Through research on adolescent development, I learned that each area of development is connected to the body; Each of the developing areas is facilitated by the changes in and through the body, and then later expressed by the body. Where and how the body grows and the hormones that are released, connect to how the teenager fits into their social world and how they communicate their beliefs and identity within their community (McNeely & Blanchard, 2011). The body is their vessel of experiences, their tool for learning, and their expression of identity. Their body holds their power. Their body holds their independence. Their body holds their acceptance and belonging. When the body is threatened by cancer, the whole adolescent is threatened (Brand et al., 2018).

In getting to know one patient, they struggled to share their hobbies and interests, expressing that they used to have hobbies. The things that they loved to do or things that they were good at, they did not have anymore because of cancer. That patient compared their identity

to a puzzle, a picture made up of many pieces from different parts of their life. These pieces included everything from what food they liked, what hobbies they enjoyed, and what they looked like, to what key relationship roles they played in their life. In adolescence, all of these small pieces contribute to how they see their identity (Underwood & Rosen, 2013). When cancer came along for this patient, their identity puzzle was ripped apart. They no longer had all the pieces of their puzzle, and because of that, they could not grasp who they were anymore. I explored this shared expression of the effect of cancer on her identity in my method process journal (See Appendix C). I created this art to reflect on the learning and frustrations shared by each of my adolescent cancer patients. These drawings explore the ideas of what makes someone who they are and how and where those things are stored in their bodies. "A cancer diagnosis challenges the sense we have of our place in the world" (Miller, 2014, p.207). This art also reflects the idea of how trauma affects the body and what that, in turn, does to identity.

Using multiple modalities was helpful throughout each of these DMT interventions. These opportunities to write or draw provided something concrete to work with and remember during and after our session. Studies showed that if something is written down by hand, it helps you encode that information into your long-term memory and increases the ability to remember (Borreli, 2014). While the movement we created was deeply important, it was also ephemeral and cannot be saved or recreated exactly. Those papers became a token that patients were able to hang up or keep with them.

This work shows the effectiveness of body-based treatment interventions in adolescents dealing with a cancer diagnosis; however, this treatment method study is small in numbers and limited in scope. More research can be done on the effects of trauma on the body and identity, and how this is especially critical in adolescent patients with cancer. Initially, I was concerned

about the low numbers of patients whom I was able to use some of these interventions with, and how the movement was not always accessible or accepted. Suzi Totora shared her own experience in working in the pediatric oncology setting, stating that "if it comes from a DMT lens, we are doing dance movement therapy, no matter what it looks like" (S. Totora, personal communication, April 13, 2022). She went on to explain that movement is a spectrum and part of doing DMT work includes even just noticing non-verbal expressions and helping the patient find an image of their body they can accept (S. Totora, personal communication, April 13, 2022). Sessions in the pediatric medical setting may not always look like dance or movement, but it is an important part of the work.

These treatment methods and learnings can also be applied to other areas of mental health working with adolescents; from additional areas of medical trauma to other experiences that include trauma or life-changing events. More work can be done with adolescents in all settings in facilitating re-creating their identity puzzles using these DMT treatment method goals of building a connection to the body; creating rituals of expression for self, family, and community; and exploring their shifting identities.

Conclusion

Adolescents are a unique population because of their intense physical, cognitive, social, and emotional developmental growth. Adding a cancer diagnosis to this period causes physical difficulties as well as pressure on the patient's mental health (National Cancer Institute, 2019). Therefore, there is a critical need for focus and understanding in working with this specific population. This work answers Suzi Totora's original question and call for work, by modeling that pediatric medical [DMT] can support the patient in expressing feelings while in cancer treatment within the context of a psychotherapeutic milieu and enable the patient to create an

embodied coherent narrative that fosters expressivity and empowerment rather than internalized representations of trauma (Tortora, 2019). DMT interventions support and meet my goals created for this population by building connections to the body, creating rituals of expression for self, family, and community, and exploring shifting identity.

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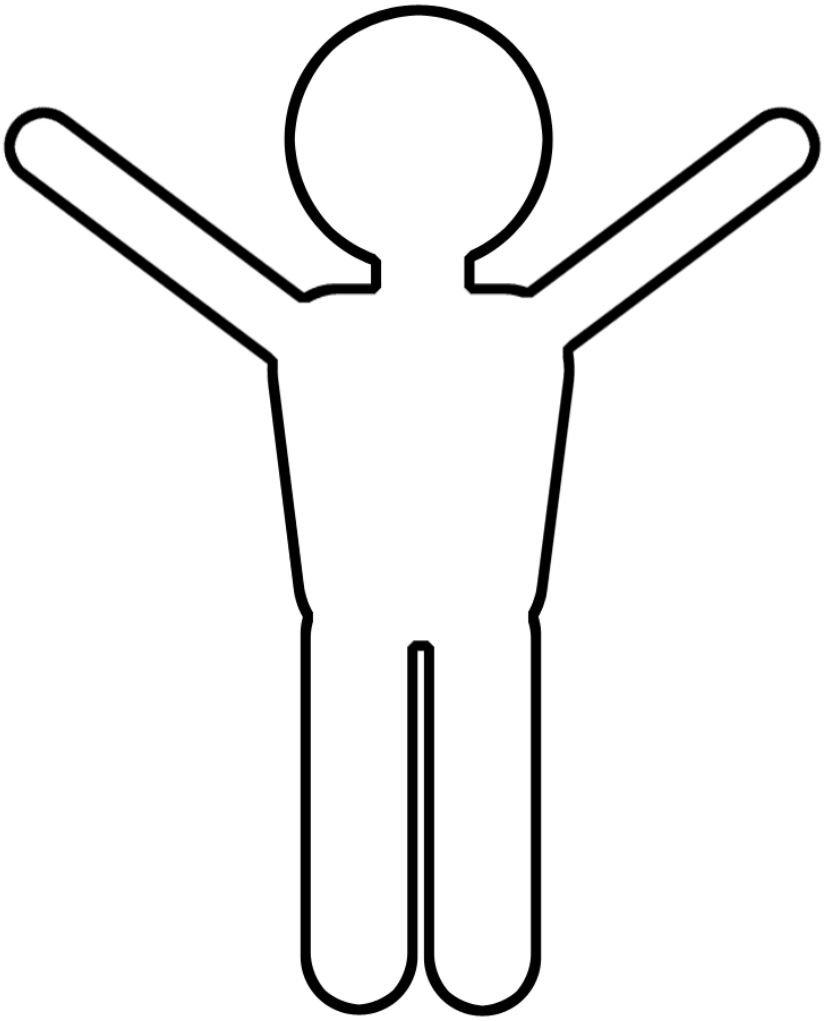
Appendix A

Therapist Aid original worksheet: (Therapist Aid, 2012).

Where Do I Feel?

We can recognize emotions by feeling them in our body. Color in where you feel each emotion.



	Sadness	Happiness	Fear	Anger	Love
Color:					

Appendix B

Alternate Interoception Worksheet Examples

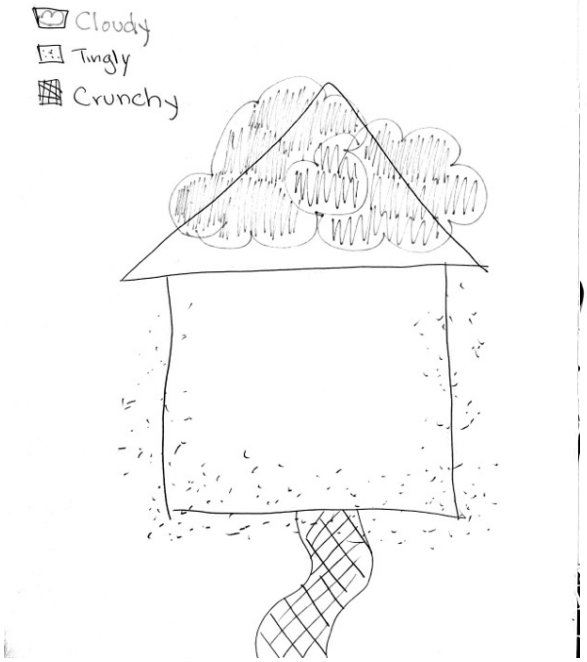


Figure B.1

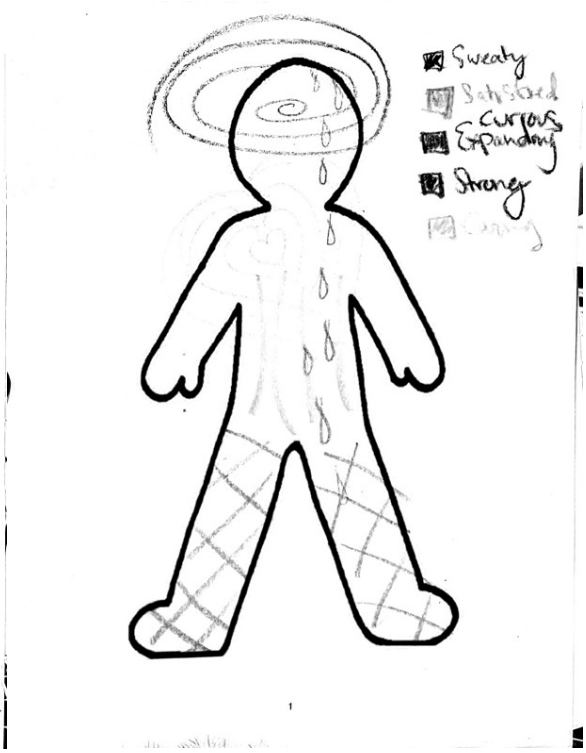


Figure B.2

Appendix B: These are mock interoception body assessment examples I made to illustrate the variety of outcomes with this assignment. Neither of these examples directly replicate or represent work done by patients.

Figure B.1 This is an example of an alternate shape used to represent self instead of the shape of a body. A house was a commonly used shape. This is also an example of non-emotion words being used to describe different parts of self in the created key.

Figure B.2 In this example, a simple body shape is used and 5 different emotions and feelings are shown. Not only are different colors being used, but also different shapes and textures are used to show those expressed feelings.

Appendix C

Artistic Response: Identity Before and After Cancer

Appendix C: This is an artistic response I created in the method process journal. It reflects the idea of how identity changes before and after cancer. It explores the following questions: What makes us who we are? How and where are those things stored in our bodies? How does trauma affect our bodies and what does it do to our identity?

THESIS APPROVAL FORM
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Master of Arts in Clinical Mental Health Counseling: Expressive Arts Therapy

Student's Name: Ariel Hortin

Type of Project: Thesis

Title: Dance Movement Therapy Interventions to Build Coping Skills and Identity in Adolescent Patients Dealing with a Cancer Diagnosis

Date of Graduation: May 21, 2022

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

Thesis Advisor: E Kellogg, PhD