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Setting the stage for self-attunement: Drama therapy as a guide for neural integration in the treatment of eating disorders

ABSTRACT

This article explores the potential of drama therapy, with its ability to engage cognitive and affective systems through embodiment, to promote neural integration with adults with eating disorders. Case material is presented along with a discussion of how role-based techniques in drama therapy might facilitate greater flexibility, responsiveness and emotional regulation. This study adds to a growing literature on the relationship between embodied therapeutic techniques and optimal neural integration.

KEYWORDS

drama therapy
neural integration
self-attunement
eating disorders

INTRODUCTION

This article explores the use of drama therapy as a potential means of promoting neural integration in adults with eating disorders (EDs). Neural integration involves the coordination of multiple areas of the brain in attuning to thoughts, feelings and sensations in a flexible way that allows for modulated behavioural responses (Siegel 2010a and Van der Kolk 2006). Amongst adults with eating disorders, a lack of neural integration is often marked by the presence of rigidity in the form of an over-reliance on cognitive rules and rituals (typical of an Anorexia Nervosa [AN] diagnoses) and chaos such as impulsive behaviours and experiencing emotions as overwhelming (typical of Bulimia Nervosa [BN] and Binge Eating Disorder [BED] diagnoses) (Connan et al. 2003; Siegel 2012). Drama therapy, with its emphasis on the embodiment of emotions, memories and experiences, may increase a client's ability to attune to and tolerate intense emotions and sensations while engaging the multiple areas of the brain necessary to elicit modulated and rational responses (Van der Kolk 2006). This article will provide a brief review of the literature pertaining to eating disorders, neural integration and current approaches to treatment including drama therapy. Through the presentation and discussion of case material this article will demonstrate how drama therapy techniques might promote various types of neural integration.

LITERATURE REVIEW

Eating disorders

As stated by the *Diagnostic and Statistical Manual of Mental Disorders (DSM-5)* there are three classifications of eating disorders: Anorexia Nervosa (AN), Bulimia Nervosa (BN), and the newly added, Binge Eating Disorder (BED). AN is characterized by distorted body image, self-induced starvation and excessive weight loss. BN is characterized by frequent binge eating episodes followed by purging. BED is 'defined as recurring episodes of eating significantly more food in a short period of time than most people would eat under similar circumstances, with episodes marked by feelings of lack of control' (APA, 2013: 351). Often clients move between different types of eating disorder behaviours but will be given a primary diagnosis of AN, BN or BED.

What is consistent amongst individuals with ED is that they suffer from extremes of rigidity and chaos (Cassin and Von Ranson 2005). Rigidity occurs when certainty and repetition of thoughts, emotions and behaviours causes a loss of spontaneity and identity (Siegel 2010b). Extreme chaos is thought to be the result of an intrusion of overwhelming and unpredictable thoughts, emotions and behaviours (Siegel 2010b). AN consistently presents with rigid traits of perfectionism, disconnection and obsessive behaviours (Hillsdale et al. 2002; Tyrka et al. 2002), while BN has been found to include more chaotic behaviours such as poor emotional regulation and behaviour control, and impulsivity (Claes, Vandereycken and Vertommen 2002).

Causes of eating disorders

Research into the pathogenesis of the ED overall has concentrated on AN and BN. It is generally accepted that there is a genetic predisposition and spectrum of environmental risk factors, but 'virtually nothing is known about the individual causal processes involved, or about how they interact and vary across

the development and maintenance of the disorders' (Fairburn and Harrison 2003: 409), thus complicating treatment strategies. As Polivy and Herman (2002) argue, a biopsychosocial model which takes into account cultural, biological, familial, social, cognitive, learning and personality factors may best capture what causes ED.

Recent studies suggest that rigidity and chaos in ED populations may be linked to issues of attachment. A meta-analysis completed by Ward, Ramsay and Treasure (2000) found that insecure attachment styles are common amongst people who suffer with ED. Insecure attachment styles are thought to develop due to the inability of a child, with the help of the parent, to learn to self-soothe and correctly modulate responses to the environment (Schore 1994; Siegel 2009b). A decreased ability to regulate emotions paradoxically increases attachment needs while instilling a compulsive need for self-reliance that perhaps contributes to an over-reliance on cognitive rules to manage stressful events and interpersonal demands (Connan et al. 2003; Crittenden 1995). Furthermore, traumatic events can precipitate an insecure attachment style; however, insecure attachment can also hinder an individual's ability to resolve traumatic events, perhaps explaining the high prevalence of unresolved trauma amongst those who suffer from eating disorders (Ward, Ramsay and Treasure 2000).

Recent studies have also focused on potential neurobiological underpinnings of eating disorders (Tchanturia et al. 2012). Eating disorder behaviours may be used to regulate emotions (related to trauma or otherwise) by disconnecting from memories, relationships or bodily sensations that are experienced as overwhelming or dangerous (Crittenden 1995; Park, Dunn and Barnard 2011; Siegel 2012). As the process of disconnection is repeated, it causes changes in the neural wirings of the brain that can trigger repeated patterns of behaviours with little insight into their meaning (Van der Kolk 2006). These rigid, repetitive processes disrupt the ability of the brain to process information and flexibly respond (Siegel 2010a). Tchanturia et al. (2012) argue that a person with ED not only presents with inflexible eating related behaviours and other repetitive rituals (e.g. scheduling, cleaning), but also has difficulties with cognitive flexibility skills, suggesting the latter may be an important risk and maintenance factor of EDs.

Neural integration

The field of 'interpersonal neurobiology' focuses on the ability of the brain to 're-wire itself' based on internal and interpersonal attunement (Siegel 2012). Proponents of this field assert that various parts of the brain serve specialized functions; therefore, extremes of rigidity or chaos are caused by regions of the brain being 'clinically dissociated' from one another, preventing the individual from developing a coherent sense of self (Siegel 2013: 7). They propose that neural integration may allow for a more 'flexible, adaptive and coherent flow of energy' (Siegel 2009: 137). Flexibility, then, is dependent on the neocortex to integrate information from various parts of the brain while achieving regulation of thoughts, emotions and behaviours (Siegel 2010a; Van der Kolk 2006).

The goal of neural integration is to increase the client's 'window of tolerance' to modulate his/her internal emotional experience without the extremes of chaos or rigidity. This may allow for increased flexibility in the client to remain simultaneously attuned to self and others (Siegel 2013). Attuned

awareness allows the brain to re-wire itself in a way that increases the plane of possibility of flexible responses, thereby decreasing the client's need for responding with either rigid or chaotic coping strategies (Siegel 2013).

Techniques that encourage integration allow dissociated experiences to be integrated through intrapersonal and interpersonal attunement in eight domains: consciousness, horizontal, vertical, memory, narrative, state, interpersonal and temporal (Siegel 2013; 2010a). Integration of these domains is thought to create new neural pathways that facilitate more informed and modulated responses and allow for an experience of self in relationship to oneself and others (Siegel 2010a). Siegel (2010a) describes each of the domains of integration:

- Integration of consciousness: increases the ability to maintain attention and awareness to acknowledge the world as it is without being overwhelmed by strong emotional states.
- Horizontal integration: allows for a coherent sense of previous events by integrating right brain processes (e.g. imagery, nonverbal communication, autobiographical memory) and the left-brain processes (logic, spoken and written language, linear thinking).
- Vertical integration: increases cohesiveness between the systems of the brainstem, limbic system and neocortex.
- Integration of memory: increases ability to live in the present moment without intrusion of past emotional and body reactions, particularly when traumas or neglect have previously remained in implicit memory without being tied to the events.
- Narrative integration: works on integrating past memories without constriction or denial of events in order to avoid repeating cross-generational patterns that limit one's flexibility in making life choices.
- State integration: increases the awareness of fundamental needs such as autonomy vs dependence and closeness vs separateness, particularly when the person has had maladaptive responses to situations where their needs were not met or punished, creating inflexibility or shame.
- Interpersonal integration: allows one to remain attuned to self while remaining connected to others, while increasing awareness of the impact of previous interpersonal injuries on the ability to do this.
- Temporal integration: increases one's ability to tolerate fear, uncertainty and the fear of death, without becoming paralysed or desperately needing to control it.

Approaches to treatment for ED

In Wilson, Grilo and Vitousek's (2007) comprehensive review regarding treatment approaches for eating disorders, they note the lack of research about AN in particular. Studies involving cognitive behaviour therapy (CBT) have proven discouraging due to the minimal number of studies and difficulties in interpreting data. Despite this, CBT provides significantly better outcomes with clients with BN versus AN, and treatment that involves interpersonal psychotherapy in combination with CBT has been documented to be superior to CBT on its own (Wilson, Grilo and Vitousek 2007). This is consistent with findings that suggest that interpersonal psychotherapy in combination with CBT is more effective with BED than a behavioural weight loss programme alone (Wilson et al. 2010).

Recent studies have also suggested increased mindfulness, compassionate awareness, intersubjective mindfulness, exposure therapies (such as Eye Movement Desensitization and Reprocessing) and couples therapy may increase integration in the brain itself (Siegel 2012). However, Siegel asserts that insight and awareness are not typically sufficient to allow the increase of integration in cases of extreme rigidity and chaos, and argues the need for therapeutic techniques that are both 'embodied and relational' (2012: 10). Techniques such as mindfulness, yoga and somatic experiencing have all been utilized for increasing the 'window of tolerance' (Van der Kolk 2006). However, these embodied techniques tend to be disconnected from cognitive processing or interpersonal techniques. Drama therapy with its ability to offer 'the capacity to engage components of our cognition in association with others, fostering a sense of personal order and ultimate purpose in relationships with other' (Frydman and McLellan 2014: 161), may make it uniquely suited to the kind of neural integration technique for which Siegel (2012) advocates.

DRAMA THERAPY AND PSYCHODRAMA IN THE TREATMENT OF EATING DISORDERS

A number of excellent articles and book chapters have been written on the intersection of drama therapy and eating disorders (Fereydoonzad 2009, Jacobse 1994; Jennings, 1994; Pellicciari et al. 2013; Rothman-Sickler 1999; Rubin 2008; Young 1994). While each presents a unique perspective on the use of drama therapy for the treatment of EDs, these writings share several common themes. First, drama therapy addresses the very thing that the client's eating disorder keeps them from: the body. This is perhaps best summarized by Jacobse who states:

In anorexia nervosa and bulimia nervosa, patients tend to divide their body from their head: in other words, they do not consider themselves as a whole [...] dramatherapy does not support this division between head and body but concentrates on the patient as a whole.

(1994: 126)

Second, most of these studies suggest that treatment for clients with eating disorders includes facilitating an intervention for the client to understand, claim and integrate their internal and external worlds. As Pellicciari et al. write,

Theater can play a specific and important function during the multi-disciplinary assessment of eating disorders. The drama workshop can assume the function as a frame for actions, emotions, and relationships, becoming a transitional area in which feelings may be understood and patterns of thought can be assimilated.

(2013: 608)

Finally, the use of role in the conceptualization of an eating disorder is quite helpful. Framing role as a personality concept, Landy (2009) writes, 'Human experience, according to role theory, can be conceptualized in terms of discrete patterns of behavior that suggest a particular way of thinking, feeling or acting. Role is the name for these patterns' (67). The drama therapist understands that a client with an eating disorder is essentially role

locked (Landy 2008) and often experiences themselves *as* their eating disorder while, paradoxically, not wanting to be only seen as their eating disorder. This perspective allows the drama therapist to facilitate a process of helping their client(s) explore how the role of the eating disorder came into being while assisting them in expanding their role repertoire by diving into an exploration 'of both individual and social roles, body and self image' (Young 1994: 20). This is consistent with Landy's view of the goal of drama therapy which is to 're-create [one's] image so that it can be reviewed, recognized and integrated, allowing a more functional identity to emerge' (1994: 48).

Psychodramatists have advanced the use of role and role reversal in treatment and have documented successful treatment outcomes for this population when psychodrama is used alone or in conjunction with other therapies (Godart, et al. 2004; Lzydorczyk, 2011). For example, Levens (1994) characterizes this population's 'abandonment of thinking and reliance on concrete expression of their distress which progressively leads them to further disintegration' and proposes that through psychodrama, 'they have a unique opportunity to build a relationship with themselves and experience themselves as inhabiting their own bodies' (174).

Furthermore, there are a number of drama therapists who are exploring drama therapy and neurobiology in relationship to the treatment of trauma, which is relevant in the treatment of ED (Chasen 2011; Frydman and McLellan 2014; McKenna and Haste 1999). For example, Rubin (2008) proposes that 'it is necessary first to access the non-verbal right hemisphere (through images, sounds, movements) and then to enable it to communicate with the left in order to gain cognitive and affective mastery' (12). While he has not focused explicitly on neurobiology or ED, Johnson has also called for further studies into how drama therapy complements CBT (the most commonly used treatment with ED), in order to advance the ways in which drama therapy facilitates differentiation between past traumatic experience and present circumstance and promotes spontaneity and flexibility in relationships (2009).

In summary, Siegel's (2009) interest in the importance of attachment work, including collaborative communication, reflective dialogue, interactive repair, coherent narratization and emotional communication, suggest a space for drama therapy techniques that often target these relational components. Indeed, an embodied and relational drama therapy treatment may possibly *guide* a client toward a more flexible way of responding to both self and others without resorting to the rigidity and/or chaos that is characteristic of ED. By creating a safe-enough stage with drama therapy techniques such as sculpting, role-taking, aesthetic distance, role reversal, metaphor, ritual and improvisation, people who suffer from ED may be afforded the opportunity to actively explore their experiences. With the therapist actively modulating points of activation and tolerance, it may be possible to decrease the need for either chaotic or rigid behaviours to emotionally regulate. This targeted method using drama therapy may help those with ED move toward a more empowered, integrated meaning of life events and behaviours.

CASE EXAMPLE

The following case study illustrates the potential for drama therapy to contribute to each of the domains of neural integration. The various types of integration being attended to by each part of the therapeutic process are indicated in brackets.

Personal history

Cassandra is a 19-year-old female living at home with a diagnosis of Bulimia Nervosa, Binge Type with periods of restriction, who was referred to residential treatment due to instability in her behaviour and affect. She displayed episodes of emotional dysregulation and uncontrollable bursts of blind rage directed towards her mother, in her educational environment and, subsequently, towards peers and staff in treatment. She had recently graduated from high school with honours but could not start college due to mood instability and her fear of failure. At the age of 5, Cassandra witnessed severe domestic violence that included seeing her mother and father being physically abusive toward each other with weapons. Cassandra's father was in prison for charges related to the domestic abuse. Cassandra reported that she did not experience direct physical abuse, but received consistent verbal threats and had a persistent fear of physical abuse (which mom later corroborated in family sessions). Cassandra was unclear about the role that her bingeing and purging behaviours played in her life. However, she reported her fear that, without the eating disorder, her aggressive behaviours would increase. She shared that she often experienced feelings of remorse and shame around the angry outbursts but felt helpless to contain the behaviours. She stated, 'I never used to be angry,' and insisted, 'I'm not an angry person,' communicating hatred for that part of herself. Despite her individual therapist's provision of psychoeducation regarding Cassandra's internalization of anger, she reported not feeling connected to this cognitive work which had not produced change. Instead, she remained in a chaotic, helpless state wherein she was acting impulsively and continued to see herself as 'the bad one', using shame and derogatory language towards herself. Furthermore, she was struggling in her community as she continued to rupture relationships through her outbursts of anger. Finally, Cassandra had been unsuccessful in previous family sessions with her mother because she would become so rageful that she could not tolerate being in the room. She would immediately binge and purge post sessions with her mom. Additionally, despite being on bathroom monitoring and post-meal observations, Cassandra continued to find ways of purging in secret while in treatment. The treatment team asked that she continue treatment in a drama therapy group to help her build internal attunement with her rage, anger and sadness.

GROUP DRAMA THERAPY SESSION: WEEK FOUR

Every drama therapy group at this specific eating disorder facility begins with the ritual of the drama therapist describing the work and asking members if they are willing to participate as witnesses to the process of the individual's work.

Therapist: This is drama therapy group, and I always like to give an introduction before we begin, so each of you has an idea of what we are working towards accomplishing. In drama therapy group, we take an issue that someone is working on in therapy and find a way of representing it in the space. Sometimes this can be more literal and sometimes more metaphorical, depending on what the person is working on. For example, we might represent the different ways someone feels when they are sitting at the table looking at a plate of food. Or we might be sculpting someone's family dynamics, rules or beliefs. We don't really know how it will unfold, and that is part of what is so important about

the process. To be successful, I ask that each person agree to take on the role of being a witness to the work. A witness is different than an audience member. An audience member suggests a level of passivity, someone can choose to check his/her phone, talk during the performance, or have silent judgment. A witness is an active and engaged participant who actively listens, plays roles when called upon, notices their own feelings and emotions, and shares this with the group. This is important because it allows one person's work to be the group's work. Is everyone on board to help Cassandra with her work today?

[This framing may promote interpersonal integration in that the client is asking to stay attuned to their process while in the presence and attunement of others as witnesses.]

Group: Yes

[Note: This is the first time Cassandra will be the focus of 'individual drama therapy group', however she has been a witness for four weeks previously to others' work in 'individual drama therapy group', has done work in 'group dynamic drama therapy group' as well as participated in 'weekly drama therapy improvisation group'.]

Therapist: Cassandra, what would you like to work on today?

Cassandra: I'm supposed to learn something about my anger and why I have it and what it has to do with my eating disorder. But I don't really get it. I never used to be an angry person, and when I get angry now, it doesn't feel like me. I hate that angry person.

Therapist: Ok, well let's start by looking at how you experienced anger in the house growing up. We are not going to re-create a specific scene, because I know you shared with me that would be too frightening. So, let's use sculpting to represent an overall concept of what it looked like or felt like back then. This means you can shape each person's body as it literally was or you can shape their body metaphorically to represent how it felt.

[Through aesthetic distancing (Landy 1994) the therapist is modulating the 'window of activation' in a way that may promote the client's capacities to be emotionally connected without feeling overwhelmed and losing flexibility.]

Cassandra chooses to sculpt how it often felt in her family, creating both a literal and representational look into her experience. This aesthetic distance allows for her to feel connected without being overwhelmed. We enroll someone as her mother, father and her at the age of 5. She positions her father hunched over in a chair, remarking that her father never stood up to her raging mother. She sculpts her mother towering over the father holding a tissue box, which represents all of the objects that were constantly being thrown, including weapons. She sculpts herself at age 5 sitting outside of the doorway, curled into a ball. [This allows for integration of memory by asking Cassandra to re-enact a previous trauma while engaging the implicit memory of her emotional/body memories.] Once we sculpt the scene, Cassandra is offered the opportunity to play any of the roles and speak either lines that she remembered being said or lines that capture the essence of the energy of that family member. Cassandra states that she wants to give each person a line, but does not want to step into the roles, as it feels too frightening. Cassandra

has the mother say, 'You are worthless! You can't do anything right! You are a waste of space and time. How stupid can you be!' She has the father stay silent. She then looks to herself as a child and becomes tearful. She asks to play the role herself at age 5. [This may promote narrative integration in that Cassandra is allowed to explore through role play the traumatic events without constriction or denial and while creating a clear meaning around the event.]

Cassandra: I'm scared. I'm afraid I will be hurt. Why is this happening?

Cassandra steps out of the scene and we, as a group, watch it together. I then ask the group to break down what we are seeing both objectively and subjectively. [The therapist is promoting vertical integration by having Cassandra explore the body sensations and emotions of the event, thus potentially engaging her neocortex, brain stem and limbic system simultaneously. This may also promote horizontal integration by allowing her to use language and linear thinking to explain the imagery and memories of the event.] Objectively, the group notes that mom is the highest up, that dad and Cassandra are in similar body positions, and that Cassandra's body is turned away from the action. Subjectively, clients share how frightening it must have been to witness this. By playing her younger self, Cassandra has a moment of recognition that she as a little girl was truly afraid she could be hurt next. [This may promote temporal integration in that it separates for Cassandra the fear of uncertainty and danger in the moment from her current state.]

Now that we have set the stage to look at a scene of how Cassandra experienced violence in the home, we ask her about how it plays out in her present-day life. [Again, this may promote temporal and state integration by allowing Cassandra to separate her uncertainty, fear and need for control in the past from her current state.] She shares an example of a recent incident in school during which her rage and anger was triggered.

Cassandra enrolls her fellow group members as classmates and the teacher. We ask the client who played her at age 5 to play her now at age 19. She gives the example of when the teacher asks a question and another student gets the answer wrong and shares with us all the rage and anger she feels towards that classmate. She reports the rage sometimes results in her storming out of the room or trying to pick a fight with the student later in the day. She shares that sometimes she says these things overtly and sometimes she stays in her head thinking 'terrible things' about the other person. She describes to the group how bad this makes her feel and that this is how she knows she, at her core, is truly a 'bitch'. [This may promote state integration by encouraging Cassandra to differentiate between past situations where she needed to defend herself and now being able to establish appropriate boundaries.]

Cassandra helps set up the classroom scene, with peers playing other classmates and the teacher.

Therapist: OK, so we have the scene set. Cassandra, I would like you to sculpt the voice and play that 'bitch' voice that you hear inside for us.

(Cassandra stands on a chair over a peer playing Cassandra in the classroom.)

Peer Playing Role of Teacher: OK, Sally, what element do we need to move so we can use the Law of Conservation Mass?

Peer Playing Role of Sally: Hydrogen?

Cassandra Playing Role of 'Bitch Voice': (pointing at Sally) No you idiot! Sally you are so stupid! You have to move the oxygen! Can't you get anything right?! (The 'bitch' voice then turns to Cassandra and says) How can you say something like that to Sally, she is your friend! You are an awful piece of shit. You are so worthless. See, I knew we were a horrible bitch.

We then have Cassandra choose someone to play the 'bitch' role and then Cassandra steps back to watch scenes one and two together. Cassandra becomes tearful. Again, I ask the group first to see what they notice objectively and then subjectively. [This may promote vertical/horizontal integration as described above.] The group notes that the mom and the 'bitch' voice have the same embodied position, and say many of the same lines. The group notes that the 'bitch' part not only is harsh on Sally, but also on Cassandra, the anger directed both externally and internally.

Cassandra: (Shakes her head) I'm acting just like my mother! Arghhh! This is the last thing I wanted is to act like her! (The therapist checks in with Cassandra about her ability to emotionally regulate without becoming overwhelmed and she is able to take some deep breaths to regulate emotions.)

Therapist: OK, so let's now have you play the 'bitch' role and I want you to do a monologue from that part. Group, after she does her monologue, anyone, from a place of curiosity or compassion, can ask her an open-ended question.

Cassandra: I'm the bitch part, and I guess I learned to say things that I saw my mom say to me or others. I hate my mom, I hate Sally and I hate Cassandra.

Peer: Why do you hate Sally?

Cassandra Playing Role of 'Bitch Voice': Well ... I guess I don't hate her ... I just hate that she is so stupid. She should have studied so she doesn't open herself up to getting the answer wrong and getting humiliated.

Peer: Why do you hate Cassandra?

Cassandra Playing Role of 'Bitch Voice': Well, I guess I hate that we act like this ... I hate that we act like mom!

Therapist: What are you afraid will happen if you don't act like mom?

Cassandra Playing Role of 'Bitch Voice': Then anyone could hurt us ... we will be pathetic like dad or Sally ... (Starts to cry.)

We have Cassandra step out of the role. [The ability to see this part played by a peer may promote state integration by increasing Cassandra's compassion for her needs that were not met and the complexity of the situation.] A peer who is playing the 'bitch part' mirrors back the new information as an improvisational monologue.

Therapist: Cassandra, how do you feel towards the bitch part?

Cassandra: I hate that it acts like my mom ... but ... also, I guess I, now that I think about it, the role kinda helps me. Like it made me work really hard so my mom could never criticize me like she did my dad. My mom has her Ph.D. and she always uses how smart she is to make my dad feel

like a piece of shit. And I guess when I see Sally, I just don't want to act like her cause she leaves herself open to be wrong ... or hurt ... except that doesn't make sense because no one is going to physically hurt her in the class ... but probably everyone is thinking about it? [This may evidence interpersonal integration in that Cassandra is able to attune to herself while remaining connected and empathetic to the position of others.]

Therapist: Let's just check that out with the group.

This opens up an opportunity for the group to look at how we often project onto others, the experience we are having internally [again, promoting interpersonal integration]. Other peers speak to their own 'bitch' part as well.

Therapist: So, finally, let's look at how your eating disorder plays into this. Cassandra, can you show us where your eating disorder is in relationship to these two sculptures and speak from it.

(Cassandra places the ED on a chair over her mother from the first sculpt.)

Cassandra: (yelling loudly) I'll binge and purge my brains out! Fuck you! Fuck you! Why can't you see what you are doing to her! (Points to little girl) and you are so pathetic dad! Get Up – do something, stop just sitting there and doing nothing – you are pathetic! And mom, what are you going to do now?! Nothing you can't do ANYTHING! Because I'm killing myself with my eating disorder and you can't do anything about it!!

(Cassandra looks at therapist with wide eyes. Therapist moves closer to her.)

Therapist: What is coming up for you after playing your eating disorder?

Cassandra: Even though I was just yelling I feel sad (becomes tearful). [Cassandra may be experiencing both vertical integration (connection to limbic system and neocortex) as well as horizontal integration (a more coherent sense of past events and the emotions around the event).]

Therapist: What about it makes you sad?

Cassandra: Because I can never say any of that. Ever.

Therapist: Right, and it seems like because you can't, your eating disorder does its best to try to communicate that?

Cassandra: Yah, right ... It's like my eating disorder tries to say what I can't, because it would be too risky to say all of that. [Cassandra's ability to better understand how her past adaptation of not being able to directly communicate her needs can be changed may indicate state integration.]

We replay the three different scenes back to her. Cassandra shares that she better understands now the idea that her fear of her own anger is connected to her wish to not be like her mother; and her belief that it is unsafe to express anger is connected to her fear that she might feel like the little girl in the hallway again. Cassandra is able to see that her fears promote eating disordered behaviours as a 'safe' way to express the anger. Further, Cassandra notices her ED is a way to punish her mother in the same way she felt punished. She is able to recognize that by staying stuck in this schema she may also behave passively like her father. The group ended with people sharing how they relate, allowing them to further practice the skills of attuning to their self and others. They then created a group assignment in which all group members wrote a monologue

from their own 'bitch' part, exploring the relationship to their ED. These were shared in the group dynamics drama therapy session three days later.

DISCUSSION

The impact of drama therapy techniques aimed at neural integration showed a possible increase in Cassandra's emotional window of tolerance as well as an increased ability to have modulated behavioural and emotional responses. It would seem, as explained in the case study, that specific psychodramatic and drama therapy techniques such as sculpting, aesthetic distance, role, improvisation, ritual and breaking sculpts down into objective and subjective interpretations may have helped to facilitate a number of the stages of neural integration. After her work in drama therapy, Cassandra reported having increased awareness and context for her emotional experience. She reported recognizing with new clarity the effects of previous events and relationships on her current environment and ways she re-enacted previous events out in the present day. She processed her increased ability to recall specific events from these past events with congruent emotional responses. She was able to journal and communicate to others the effects of this event on her sense of self and her relationship with her parents. Through an interpersonal neurobiology lens, in accessing each different area of her brain and nervous system, the flow of energy from each part of the brain may have formed a more integrated and flexible response to the event (Siegel 2010a; 2012) leading to a more integrated, cohesive understanding of the emotions, cognitions and adaptive strategies developed from this event.

Cassandra worked in the subsequent weeks to incorporate this insight into behavioural changes, utilizing anger management techniques, self-soothing, identifying when she was in a protective role (the bitch role) and trauma resolution. She was also able to create a relapse prevention plan that addressed her bingeing behaviours with a new amount of response flexibility in utilizing alternative coping strategies. One month later, Cassandra's mother came in for family work during family week at the treatment centre. In both family drama therapy group, (which includes all clients and families) and individual sessions, Cassandra successfully communicated to her mother her emotional and sensory experience of the domestic violence and voice for herself the anger and sadness that she had been trying to express through her ED. After Cassandra's mom witnessed her daughter's ability to process the emotions of previous events, she began to acknowledge the impact of those events on her own emotional regulation and sense of self and agreed to participate in both individual and family therapy.

CONCLUSION

By attending to the domains of neural integration, drama therapy appears to have facilitated Cassandra's integration of past traumatic events and helped her to process the emotions in an intrapersonal and interpersonal manner while encouraging her to remain attuned to emotions that she previously experienced as overwhelming. This allowed Cassandra to make a significant shift toward opening the channels of communication with her family around painful family dynamics rather than defaulting to her usual impulsive and chaotic responses. While this is a single case study, Cassandra's emotionally regulated and behaviourally modulated response in her own life and in her

relationship with her mother warrants further exploration into ways that the use of role-based techniques may facilitate the process of neural integration.

Further study in this area should focus on the relationship between drama therapy, trauma, CBT and neural integration. Qualitative accounts from the client's perspective combined with quantitative assessments of the impact of embodiment and role techniques within this population are necessary. Such studies would enable drama therapists to create a taxonomy of drama therapy concepts and techniques that could be used to increase neural integration in each of the eight domains. Given the possible causes of eating disorders and the limited number of studies pertaining to best practices of treatment, identifying alternative treatment methods that address and involve the body, such as drama therapy, will certainly be of benefit.

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