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Exploring the Intersection Between Facial Movement, Physiology, and Emotional Regulation: Developing a Method for Children

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Abstract

For children in therapy, emotional regulation is frequently a focus of treatment. Identifying, understanding, and managing emotions are all key tasks in one's development. Developing these skills at a young age has proven to be beneficial for one's overall wellbeing. Approaching emotional regulation through a dance/movement therapy lens requires a focus on not only one's cognitive perception of emotion but one's physical sensation of emotion. Dr. Paul Ekman's Facial Action Coding System provides a means of systematically creating the sensation of emotion. An individual can experience a physiological response by creating universally identified facial expressions. This thesis introduces a method for children utilizing Dr. Paul Ekman's Facial Action Coding System to elicit emotion and explore how one experiences and understands their feelings. The intervention was tested in a session with a child in a mental health center. The case study demonstrates the therapeutic benefits of eliciting emotion and the strengths of approaching emotion from an embodied perspective.

Keywords: emotional regulation, children and adolescents, facial expressions, eliciting emotion, dance/movement therapy, emotions and physiology

Author Identity Statement: The author identifies as a white, cisgender woman residing in a rural area of New Hampshire.

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Introduction

"It is our responsibility to learn to become emotionally intelligent. These are skills, they're not easy, nature didn't give them to us - we have to learn them."

-Dr. Paul Ekman (Healy, 2018, p. 28)

Experiencing emotion is significant part of the human experience. It shapes how an individual sees the world and how they respond to it. As one progresses through their childhood, they are expected to develop skills necessary to manage these emotions. Without the development of these competencies, an individual is likely to act impulsively, counterproductively, and may struggle to navigate their interpersonal worlds. The more refined these abilities are and the more in tune one is with their emotions, the more fulfilling their life may be (Healy, 2018).

Early interventions aimed at building emotional regulation skills have been proven to be beneficial to a child's development (Alba et al., 2021; Indarwati et al., 2019). Providing opportunities for children to learn how to identify and manage emotions can help to advance one's social skills and functioning (Alba et al., 2021). It has also been found that a child's perception of their overall wellness is impacted by their ability to manage emotions. Indarwati et al. (2019) demonstrated that a child's ability to regulate emotions affects their perception of their well-being. The more skills and success participants had with modulating their emotions, the happier they perceived their lives to be. Children who reported fewer instances of emotional dysregulation had a better self-concept and perception of their environment.

Therapeutic work focused on emotions could additionally be beneficial in today's context considering the stress children and families are under due to the Coronavirus (COVID-19)

disease, which was declared as a pandemic in March 2020 (WHO, 2020). Abdulah et al. (2020) highlighted the psychological weight of the COVID-19 pandemic on children finding that depression, anxiety, insomnia, and loneliness were heightened during a period of quarantine. Behavioral changes and shifts in family dynamics were also noted. The pandemic has been an interruption in children's social and emotional development. This disruption has created and heightened mental health challenges including depression and anxiety.

A dance/movement therapy (DMT) approach to emotional regulation could also prove to be advantageous in adding a new dimension of understanding to emotional regulation skill-building (Acolin, 2016; Dyck et al., 2013). Dance/movement therapy has a prominent focus on the mind-body connection. Accessing, understanding, and addressing emotion on both a mental and physical level has proven beneficial in developing successful emotional regulation skills. Dance/movement therapy theory hypothesized that emotional functioning is supported by an individual's awareness of physical manifestations of emotion. Acolin (2016) supported the theory that an individual's personality, mental state, and attitude could be revealed through their movement qualities and postures. Studying movement qualities and physical sensations allowed for deeper exploration of one’s relation to their emotions (Acolin, 2016).

Ekman (2007) outlined a universal means of emotional communication and emotional experience. Ekman studied cross-culturally to determine if consistent facial expressions could be identified. Ekman developed a code for facial movements and the emotions they indicate known as the Facial Action Coding System. Seven universally expressed emotions were identified. These expressions included anger, sadness, disgust, fear, happiness, contempt, and surprise (Ekman, 2007). Ekman found that his coding system could be utilized to observe emotions externally and internally. He hypothesized that an individual could experience a physiological

reaction to each emotion when guided through facial movement prompts (Paul Ekman Group, LLC, 2007).

The thesis will present the development of a method utilizing facial movement to develop emotional regulation skills with children. Ekman (2007) demonstrated the physical responses from the Facial Action Coding System but not through a therapeutic lens. This physiological experience of the Facial Action Coding System could be a beneficial tool when approaching a body-based intervention focused on emotional regulation. I feel that using facial movement could allow for an embodied experience of emotion for a participant. In building awareness of physical sensation, a deeper mind-body connection could be fostered and in turn one's emotional regulation skills could improve. I have developed a method to be utilized at a community mental health internship placement for children and adolescents. Abama and Schrijver (2020) discussed the limited power children are given in society and the importance of centering children's voices. I have designed the experiential to center the participant's individual experience and foster discussion.

In designing and implementing this intervention, I hope to develop a strategy for exploring and identifying emotion in an embodied way. The intervention will act as a tool for exposure to emotional sensation, a method of exploring one's relationship to emotion, and a practical means of building emotional regulation skills. This method aims to act as a bridge between Ekman's (2007) Facial Action Coding System and DMT principles such as embodiment, authentic movement, mind-body connection, and self-expression. I explore facial movement exploration in this method to encourage embodiment of emotions in new ways for clients. I hope the mind-body connection will be furthered through this cognitive and somatic exploration.

The thesis will be comprised of a literature review, proposal of an intervention method, testing of the intervention, examination of results, and discussion of implications for future research. The literature review will explore topics including emotional regulation, Ekman's (2007) facial movement analysis, emotions and physiology, dance/movement therapy, and research considerations. The research methodologies will detail the creation of the intervention and how I went about implementing the design. Implementation of the method will be explored through a case study. I will share personal observations from a session with a client in which the outlined practice was utilized. I additionally share my embodied experience with the method and each emotion. The intervention aspired to combine DMT with Ekman's Facial Action Coding System (2007) in an effort to improve a client's emotional regulation skills.

Literature Review

Emotional Regulation

Alba et al. (2021) studied how early interventions focused on emotional and social regulation can help children manage behavioral difficulties in preschool programs. Data was gathered through the comparison of an experimental and control group. The experimental group was engaged in a program designed to build emotional regulation skills through practice of rule following, social skills, emotional identification, and problem solving. Alba et al. (2021) concluded that the implementation of the program helped the experimental group develop necessary skills for social functioning. Participants who took part in the program improved their emotional identification, emotional expression, and positive interpersonal behaviors.

Golombek et al. (2020) considered the role of emotional regulation in social anxiety amongst children and adolescents. Emotional regulation was defined as "a person's efforts to influence the quality, intensity, timing, expression, and dynamic features of their positive and

negative emotions" (p. 1480). Using the Process Model of Emotional Regulation developed by Gross (1998), Golombek et al. (2020) identified five approaches individuals take to regulate emotions including situation selection, situation modification, attentional deployment, cognitive change, and response modulation. Situation selection describes adjusting how often an individual experiences a person, place, or object to alter the individual's experience of certain emotions. Situation modification involves altering external factors to impact emotional experience. Attentional deployment is a redirection of attention to or away from elements of an experience. Cognitive change occurs when one modifies the way they think of and conceptualize a situation to change the emotion they connect to it. Response modulation refers to steps one takes in the moment to impact their emotional, physical, and behavioral responses.

Using the lens of the Process Model of Emotional Regulation (Gross, 1998), Golombek et al. (2020) hoped to better define maladaptive strategies that could be used by children and adolescents with social anxiety. In a comprehensive examination of literature, Golombek et al. (2020) found that each of the five domains of emotional regulation outlined by the Process Model of Emotional Regulation (Gross, 1998) were represented in the populations maladaptive coping strategies. Situation selection was noted in social avoidance and withdrawal. Situation modification was represented in safety behaviors. Attentional deployment was seen in avoidance and hypervigilance. Children and adolescents with social anxiety using cognitive change held interpretive biases that resulted in comprehending a situation as more threatening. Children and adolescents in the population displayed difficulty expressing positive or negative emotions verbally and through facial expression.

Indarwati et al. (2019) inquired into the connection between wellness and one's emotional regulation abilities. The correlation between happiness and managing emotions was

examined. The researchers used assessment tools to measure emotional regulation skills, frequency of emotional dysregulation, and subjective well-being. A correlation was identified between one's outlook and their abilities to manage emotions. Positive emotional regulation skills contributed to happier mood and a more optimistic perception of self and environment. Emotional dysregulation was associated with decreased mood and a negative perception of well-being. Early interventions aimed at building emotional regulation skills were found to play a significant role in creating a positive sense of self for children and a more positive perception of their environment.

Maibom (2019) evaluated the relationship between emotional regulation and empathy by focusing on the work of Eisenberg (2014, as cited in Maibom, 2019). Eisenberg hypothesized that emotional regulation determines if one responds to another person's emotional pain with sympathy or personal empathic distress. Maibom (2019) argued that empathy and empathic distress are not separate responses as both are required for a proper interpersonal response. Two primary forms of emotional regulation were identified: cognitive reappraisal and suppression of emotion. Cognitive reappraisal included conceptualizing and rethinking the situation one is in or the emotion they are experiencing. Suppression was defined as limiting one's feelings, expressions, and behaviors that result from emotions. Maibom (2019) postulated that emotional regulation without emotional distress can be counterproductive in experiencing empathy. Emotional regulation techniques such as distraction and reappraisal often focus on managing the emotion and situation. When emotional exploration is limited, one cannot fully understand what another is experiencing. A lack of emotional understanding could contribute to "dehumanizing" and "minimizing" someone else's problems (Maibom, 2019, p. 149). Techniques geared toward

building sympathy rather than reducing personal distress were deemed more successful interpersonally.

Dr. Paul Ekman's Facial Movement Analysis

Dr. Paul Ekman (2007) examined the universality of facial expressions. Ekman (2007) studied several cultures and peoples, including populations that tended to be isolated from greater society and had no media access. Little difference in interpretation of emotions was found cross-culturally and seven similarly represented emotions were identified. These emotions included anger, sadness, happiness, disgust, fear, contempt, and surprise. The Facial Action Coding System developed by Ekman (2007) identified the facial muscle movements that are required for the expression of each emotion. Prompts known as facial action tasks are provided by the Facial Action Coding System to help individuals activate muscles necessary for each emotion. Ekman (2007) acknowledged limitations of his work. Some emotions, such as shame, are not clearly identifiable through facial movements. The challenge of language barriers was identified as a limitation. Languages can have their own terms to describe culture-specific emotions which cannot translate verbally.

The Facial Action Coding System is demonstrated in a case study provided by Paul Ekman Group, LLC (2007). Ekman led a participant through the facial action tasks to demonstrate expressions of each emotion. The identified muscle movements were hypothesized by Ekman to elicit a physiological response throughout the body. A prompt was shared by Ekman for the participant to follow and the participant was required to hold the expression for 10 seconds. When the participant released the expression, Ekman and the participant discussed the participant's physical and emotional responses to the facial movement. The participant identified physical responses such as tightness, heaviness, temperature changes, and discomfort.

Connections were made by the participant to previous memories and experiences with the emotions.

Shea (2014) critiqued Ekman's (1969) external identification methods developed to detect lying and deception. Ekman (1969) hypothesized that humans always show in one way or another that they are not telling the truth. While Ekman's (2007) Facial Action Coding System could be applied for this purpose, Ekman (1969) found that looking at the full body positively impacted the accuracy of recognition. Ekman (1969) illustrated the identification of lying through a case study in which the deceptions of female patients in a psychiatric hospitalization program were analyzed by two groups. Footage was captured of patients not telling the truth during interviews. The interviews were reviewed by one group focusing on facial movements and another focusing on movements from the neck down. The results indicated a significant difference in emotional portrayal between the face and the rest of the body. Ekman (1969) hypothesized that this incongruence indicated inauthenticity.

Ekman founded programs such as the Screening of Passengers by Observation Techniques (SPOT), a screening process used in American airports to identify individuals that could pose a threat to travelers' safety (Shea, 2014). Shea (2014) highlighted the lack of consistency in research findings on lie detection. Hartwig and Bond (2014) and DePaulo and Bond (2012) found that accuracy of human lie detection was far lower than Ekman (1969) suggests. Humans were found to detect lies with only 54% accuracy (Hartwig & Bond, 2014) While Ekman (1969) produced case studies that demonstrated his techniques, generalization to such extents as seen within the SPOT program has been controversial. Ekman (2007) acknowledged the lack of universality in gesture and body language. Overgeneralizing Ekman's (1969; 2007) theory of external identification on an interpersonal level could create difficulty in

a therapeutic relationship. Using Ekman's methods, one's emotions and sincerity are determined by their outward appearance. This approach could lead to a sort of hierarchy in which the interpreter is deemed as the expert of what the witnessed individual is experiencing.

Dance/Movement Therapy (DMT)

A thorough literature review by Acolin (2016) indicated that one's perspective, mental state, and personality features could be illustrated through their movement and postures. Existing DMT research was analyzed to determine core beliefs and the research behind them. Several themes outlined highlight the information that can be gathered by one's movement. Movement qualities can indicate one's internal condition or experience. The need for more research was highlighted regarding the impact of body awareness on one's overall health and cognitive functioning. Acolin (2016) hypothesized that noticing emotion in the body brings the emotion into consciousness, allowing an individual to better control and manage the sensation. Additional research on the correlation between physical awareness and emotional regulation would be beneficial in determining the impact of the mind-body connection on emotional functioning.

Dyck et al. (2013) explored through a DMT lens how movement qualities differ when experiencing different emotions. They conducted a study in which 32 participants were exposed to different emotions and were given space to explore free movement that reflected their emotional state. Emotions chosen for this study were happiness and sadness. To foster feelings in the participants, guided imagery and music was utilized that reflected one of their selected emotions. Participants were then instructed to freely move to provided music. The music was designed for the study with the goal of being emotionally neutral and allowing for intuitive Movement efforts and qualities were found to be impacted by the emotional states the participants were in.

Dyck et al. (2013) identified four categories of variation in participants' movements including impulsiveness, velocity, acceleration, and expansion. Participants experiencing happiness tended to be more impulsive with their upper body movements, quicker with their scapula-arm movements, more accelerated from their heads to their feet, and more expansive through their hand movement. Movements expressing sadness were more contracted, had less overall motion and speed, and demonstrated few changes in tempo. Dyck et al. (2013) demonstrated that emotions can be induced through multimodal means and can be reflected through variation in movement. A universal experience of emotion was not addressed as the participants were from a western culture and were exposed to western music.

Garcia-Diaz (2018) stressed the importance of embodiment and the mind-body connection. Garcia-Diaz (2018) wrote, "According to the theory of embodiment, perceiving, recognizing and interpreting an emotion in ourselves or in others requires information from bodily systems" (p. 17). Authentic movement, a process in which an individual moves with their bodily impulses, was proposed as a means of achieving this embodiment. Emotional qualities were studied in 57 participants' authentic movement experience. There was a noted shift in participants' emotional qualities from anxiousness and joy to anger and sorrow. Garcia-Diaz (2018) stipulated that the shift in emotion could be explained by the unearthing of hidden emotions. Engaging in authentic movement practices proved to be a means of exploring and releasing one's suppressed feelings.

Berrol (2006) highlighted the connection Ekman's (2007) Facial Action Coding System and dance/movement therapy practices. The neuroscience involved in dance/movement therapy processes was discussed. The human brain contains cells known as mirror neurons. When an individual is recognized by others and cognitively comprehends the experience, mirror neurons

are triggered. The cells are primarily activated through relationship with another person. Mirror neurons have proven to play a role in empathy.

Wicker et al. (2003) studied an individual's brain functioning in response to another person. The individual witnessed by the participant was exposed to a series of neutral, positive, and negative scents. Wicker et al. (2003) found that the participant's brain showed more activity when the individual was exposed to a positive or negative scent. Berrol (2006) affirmed the neurobiological implications of empathy. The human brain achieves a level of activation when witnessing others. Berrol (2006) linked Ekman's (2007) Facial Action Coding System with the development of mirror neurons. Mirror neurons have been proven to activate in response to another's physical movements as well as their emotions. Ekman's (2007) hypothesis of universality was related to the ability of dance/movement therapists to connect with the emotional qualities of others cross-culturally.

Emotions and Physiology

Min et al. (2005) examined the phenomenon of emotional shifts triggering physiological responses. Responses to systematically induced emotions were examined in participants. Previously developed means of inducing emotion were explored. The International Affective Picture System (Bradley et al., 2001) is a method in which participants are shown images designed to bring out a particular emotion. Bradley et al. (2001) found higher arousal in participants exposed to positive or negative images compared to neutral images. Negative pictures were proven to create the highest levels of arousal. Min et al. (2005) noted that emotional induction can also be achieved using other senses such as touch, smell, and hearing. Heart rate variability was named as a possible physiological response to emotion. When faced

with threat or feelings of anger, one's heart rate tends to increase. The importance of individual experience in one's relationship to emotion was emphasized. Min et al. (2005) wrote,

> ... objective and generalized evaluation for emotion is difficult to make because there may be differences in terms of the required amount of assigned simulations needed to induce certain intended emotion among individuals and, thus, it is possible that those assigned simulations stimulate other emotions for some participants, not the emotion originally intended for them. (p. 139)

External means of inducing emotion are subject to variability based on the experiences of each individual. Emotion in images or sounds could elicit subjective responses. The methods utilized by Min et al. (2005) elicited response in participants, though did not create a universalized experience.

Levenson (1992) addressed physical differences in the experience of emotions. The autonomic nervous system's response to six primary emotions was investigated. These emotions included anger, disgust, happiness, fear, surprise, and sadness. To gain access to these emotions in the participants, Levenson (1992) utilized two methods of emotional elicitation. Relived emotions tasks, in which participants are asked to remember and re-experience emotional moments from their past, were employed. Levenson (1992) also utilized facial action tasks as outlined by Ekman's (2007) Facial Action Coding System. When utilizing facial movement tasks, participants' heart rates increased at a higher rate of acceleration when experiencing anger, fear, and sadness. Anger elicited a greater temperature increase in participants fingers than fear. Positive and negative emotions had different physiological implications. Heart rate increase was greater with fear and anger than happiness. Skin conductance was also higher with fear and disgust compared to happiness. Levenson (1992) noted that the participants' facial engagement

was crucial in the experience. The closer participants were to the universally identified expressions and muscle movements, the stronger their reported emotional and physiological experiences were. The bodily responses measured demonstrated that facial manipulation can be a successful tool in achieving a physiological emotional experience.

Considerations for Method Development

Abdulah et al. (2020) examined the impact of the COVID-19 pandemic on children in Kurdistan through the lens of psychological stress and wellbeing. Artistic modalities were found to enhance children's communication. Participants were ages 6 to 13. The research was completed during a quarantine period in which participants were unable to leave their homes for at least one month. Participants were prompted to create an artistic representation of their responses to the pandemic. Prompts included considerations regarding depression, anxiety, insomnia, loneliness, behavioral changes, and changes with family relationships. Abdulah et al. (2020) found that most children feared infection with the virus and leaving the home. This was depicted in many participants' images as the virus waiting outside of their house. Participants reported feeling lonely and depressed during the quarantine. Abdulah et al. (2020) concluded that mental health workers should be aware of the pandemic's impact on children's mental health.

Abama and Schrijver (2020) provided a commentary on the power dynamics between children and adults. Several narratives of participatory research with children were compiled. Children's role and power in society was examined. Children are expected to learn what adults tell them to, do what adults tell them to, and behave how adults tell them to. The main method children utilize to exert power is to act out, "hinder," or "sabotage" (Abama & Schrijver, 2020, p. 67). Abama and Schrijver (2020) aimed to provide power and voice to the study subjects. Participants provided new insight and challenged practices, resulting in adaptation to the

methods. Several benefits from this style of researching were noted including deepened connection, an emphasis on social justice, and increased expression on behalf of all participants.

The literature reviewed on emotional regulation highlighted the importance of developing regulatory skills and supported a body-based intervention style. Emotional education programs have been shown to positively impact one's self image and abilities to function individually and interpersonally (Alba et al., 2021; Indarwati et al., 2019; Maibom, 2019). Golombek et al. (2020) outlined maladaptive strategies that could be utilized by children if one is unable to regulate emotions in a productive manner. The increased risk of mental health challenges for kids and the importance of therapeutic intervention was highlighted (Abdulah et al., 2020). The relationship between emotion and the body was explored and the benefits of exploring one's emotions through a body-based lens was emphasized (Acolin, 2016; Dyck et al., 2013). Utilizing an embodied method and exploring personal movement felt appropriate given the depth of emotional exploration that authentic movement provided (Garcia-Diaz, 2018). Berrol (2006) highlighted the neurobiological benefit of mirroring movement and emotion back to an individual. Physiological reactions were identified in response to emotional elicitation (Levenson, 1992; Min et al., 2005; Paul Ekman Group, 2007). Ekman's (2007) Facial Action Coding System could provide a more objective means of fostering emotion as it has had similar results cross-culturally.

Shea (2014) and Abama and Schrijver (2020) provided key considerations for my research. Shea (2014) explored the limits of Ekman's (1969; 2007) theory and the power differential that can arise from the observer and observed relationship. I feel it is important to center the participant in the experiential to prevent this dynamic from occurring. Emotions have a different impact on every individual and need to be recognized as such in a therapeutic setting.

Abama and Schrijver (2020) spoke to the inherent power dynamic between age groups and illustrated that centering a child's voice and experience can lead to depth of relationship and individual expression. To center the client's voice and experience, I developed a method to give the client an opportunity to explore their experience through reflection.

Methods

I structured my research as a qualitative study. I developed a method and implemented the experiential at my internship site. The intervention took place at a community mental health center in central New Hampshire. The site serves individuals of all ages and diagnoses. The facility's child and family program serves individuals ages 3 to 21 and their families. The organization provides services such as individual therapy, family therapy, parenting sessions, group therapy, case management, functional support, and psychiatric evaluation. The participant I engaged in this intervention is a client I have seen for several months whom I will refer to as Client A. Client A is an 8-year-old male with diagnoses of ADHD, autism spectrum disorder, and anxiety. I see the client primarily for individual sessions. The intervention took place during a single session to provide a brief exploration of the client's emotions.

The intervention began with a brief overview of what the experiential entailed. The participant learned that there are specific faces that represent different emotions. The participant was invited to participate in a game in which they followed prompts to create a facial expression and guess which emotion they are portraying. Emotions were presented in the following order: anger, sadness, and happiness. I created the following facial expression prompts (see Figure 1) based on Ekman's (2007) facial action tasks. The prompts were altered to be more accessible for children. Descriptive terms and expressions were rewritten to better align with a younger child's vocabulary. The length of the prompts was adjusted to simplify the process and prevent

confusion. The instructions also followed a consistent pattern of working from the bottom of the face up for clarity.

Figure 1

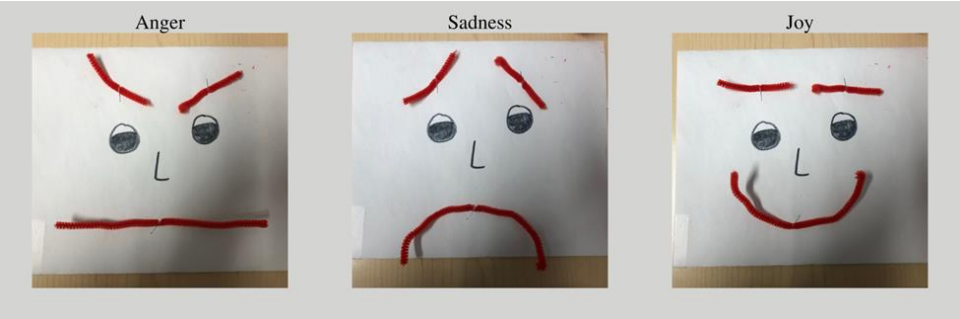
Expression Prompts

Emotion	*Facial Feature*	*Movement Instruction*
Anger	*Mouth*	Push your lips together, your top lip will press down while your bottom lip presses up.
	Eyes	Lift your eyelids as high as they'll go, then bring your eyebrows down to meet them. Also try to make your eyebrows touch together.
Sadness	*Mouth*	Bring the corners of your mouth down as if they're trying to touch your chin, your mouth can be open.
	Eyes	Look down and let your eyelids be heavy. Try to make a triangle with your eyebrows, lifting them high were they meet and bringing the edges.
Happiness	*Mouth*	Lift up the corners of your mouth, like they're trying to touch your cheeks.
	Cheeks	Bring your cheeks high, as if they're reaching up to your eyes.
	Eyes	Use the muscles around your eyes to help your cheeks lift higher.

Emotion prompts were supported through visuals of each expression. As the facilitator I followed along with the prompts to mirror the expression the client was exploring and to help the client activate mirror neurons (Berrol, 2006). Due to the COVID-19 pandemic, all individuals in the mental health center are required to be masked, making the mouth impossible to see. I utilized a visual aid, pictured in Figure 2, to help bridge this gap and to provide a complete visual for participants. The aid was created using pipe cleaners and staples to allow for the expressions to be changed with the same picture. Figure 2 shows how each prompt can be demonstrated by the visual aid.

Figure 2

Experiential Visual Aid



Upon reading each prompt, the participant was asked to hold the expression for 10 seconds. The participant was given the opportunity to guess which emotion the created face expresses. I then asked the participant what informed their guess and what sensations were noticed in their body. After identifying the emotion and exploring physical sensations, the participant was asked to expand their expression of the emotion to their whole body. I invited the participant to take on a pose, posture, or movement that best expressed their emotional experience. I felt a brief body-focused exploration could help the participant notice their bodily impulses and explore a physical expression of emotion. The participant was then asked to identify a coping skill that could be used to address this emotion. The participant was invited to shake the emotion out of their body to release any residual feeling or sensation before beginning the next emotion prompt. When all emotions were explored, I engaged the participant in dialogue regarding their experience with the process.

I developed this intervention to connect Ekman's (2007) Facial Action Coding and accompanying physiological response to the dance/movement therapy concept of embodiment (Garcia-Diaz, 2018). I felt that combining these tools could allow each theoretical perspective to access a new depth. Ekman’s (2007) Facial Action Coding can be explored in an individualized

way in which one can become more aware of their bodies and utilize movement as an outlet of expression. Embodiment and authentic movement can be paired with a deeper physiological sensing of emotion, eliciting a specific body of movement as indicated by Dyck et al. (2013). I felt this intervention would be appropriate for children given the emotional stress they've lived under throughout the COVID-19 pandemic (Abdulah et al., 2020). An embodied understanding of emotion could prove to be beneficial in the development of emotional regulation skills, especially when coping skills are introduced. Early intervention was stressed for the building of emotional regulation skills which emphasized the importance of this activity with a young population (Alba et al., 2021; Indarwati et al., 2019).

Results

The experiential took place in my office at the community mental health center. In the session I interacted with and observed my 8-year-old client, Client A. Throughout our work, I have come to recognize Client A as friendly, knowledgeable, and self-aware. I felt Client A would be an appropriate choice due to the engagement I have witnessed from him in previous sessions. I have worked with Client A to build further understanding of emotions in others and ourselves. When introducing the idea of this intervention to Client A, I observed expressions of curiosity, excitement, and enthusiasm.

I felt energy and excitement from the client as the session began. I shared our first prompt while Client A and I took on an angry facial expression. I noticed that Client A had some difficulty in holding the expression for the full 10 seconds. The overdramatized expressions can feel silly, and feelings of discomfort can be increased with someone witnessing. I named this discomfort with the client and normalized the giggles that followed the expression. I suggested that moving forward I would look in a different direction to ease the awkwardness that

accompanied the expression. Client A and I then discussed the client's guesses for what emotion the expression matched. I noticed the client drawing connections between different emotions and his experiences with them. I praised the client for his insightful noticing of his body and the changes he noticed after engaging with the emotion. I witnessed the client exploring the release of the emotion through a series of yoga poses that the client enjoys. Expansion stood out as a theme of managing and releasing anger as I watched Client A utilize stretches to release tension from his body.

Client A and I repeated the process in an exploration of sadness. I noticed the client struggling with the prompt describing the positioning of the eyebrows. I validated this difficulty for the client. I was struck by the evidence gathered by Client A when considering which expression the prompt illustrated. I listened to Client A consider personal experiences as well as witnessing of others to inform his decision-making process. I noticed a caving in within the client's posture when expanding the expression. I perceived the client closing off and turning inward. I recognized a confidence in Client A when exploring strategies to manage sadness and conviction in the client's answers. The concept of holding space felt present for me as Client A and I spoke about the importance of crying and feeling sadness in order to let these emotions move through us. I have found in my own body and experience that taking time to feel emotions is necessary in moving through them and letting go of them. When working with clients and witnessing their emotions, I hold space by reflecting and validating the client's experience. I give the client time to feel their emotion without trying to change it or release it.

Happiness was the next and final emotion to be explored. I noticed more ease for the client to hold this expression than with the expressions previously explored. I wondered if this ease was a result of the positivity that stems from this expression. I noticed this expression felt

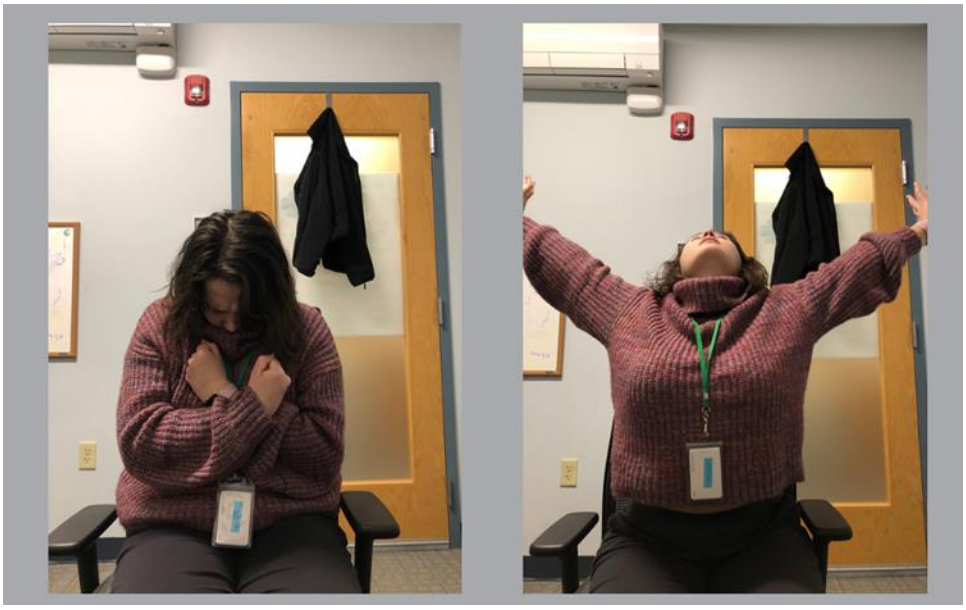
best within my body as it is an expression that I correlate with feeling good. I dislike experiencing anger and sadness which make those expressions more difficult to sit with for the 10 second hold. I noticed increased energy in the client following the making of the expression. Client A and I further explored expressions the client had witnessed in others. I found that through dialogue the client was able to gain a deeper understanding of the individuality of emotions and emotional expression. I observed Client A's movements increase in speed and use of space. Client A and I discussed the joy and satisfaction this emotion brings us and decided that we would choose to hold on to our happiness.

I decided to explore my own movement poses, postures, and facial expressions in response to what I observed in Client A. I explored and documented each emotion in my own body following the order of the intervention: anger, sadness, and joy. I then considered the ways in which I could respond to these emotions while taking note of the client's experiences. I developed a posture that demonstrated what I could do to process the emotion, considering the experiences of myself and my client. Each pose that I created was captured via photograph and can be seen in Figures 3-5.

When taking on a pose of anger I found myself tensing and bringing my body in close to my center. This closed off position allowed me to better hold the tension in my muscles. This embodied sensation connected to my personal experiences with anger. I struggle to express and release my anger. I hold these feelings in which allows them to build as the tension in my body did. When I took the opportunity to release and stretch my body out, I felt the tension dissipate. I noticed a similar experience in my own body to the experience of Client A taking on a yoga pose to release the emotion. I expanded my expression and found a sense of relaxation

Figure 3

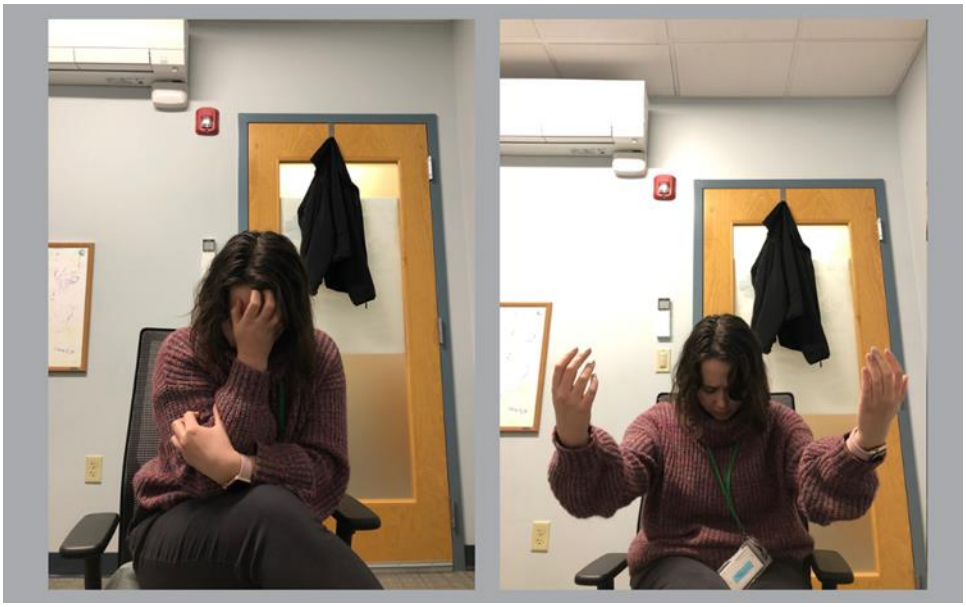
Exploration of Anger



In selecting a pose for sadness, I noticed similar spatial qualities. I once again brought my body inward. I noticed a difference in the tension of my muscles compared to the angry posture I explored. I felt a release in my body. I felt the sensation of the pose came primarily from the caving in my torso. This contraction held the physical feeling of the emotion. This caving of the torso was a quality I noticed in Client A's movement as well. When developing a pose to process the emotion, I found myself returning to my discussion with Client A about allowing the feeling to move through us. The emotion needs to be expressed before it can be released. I maintained the contracted position in my abdomen while extending my arms outward. This resonated with my previous experiences with sadness. I find a balance between holding and externalizing the feeling. I feel the emotion and then find a way to encapsulate it and release it from my mind and my body.

Figure 4

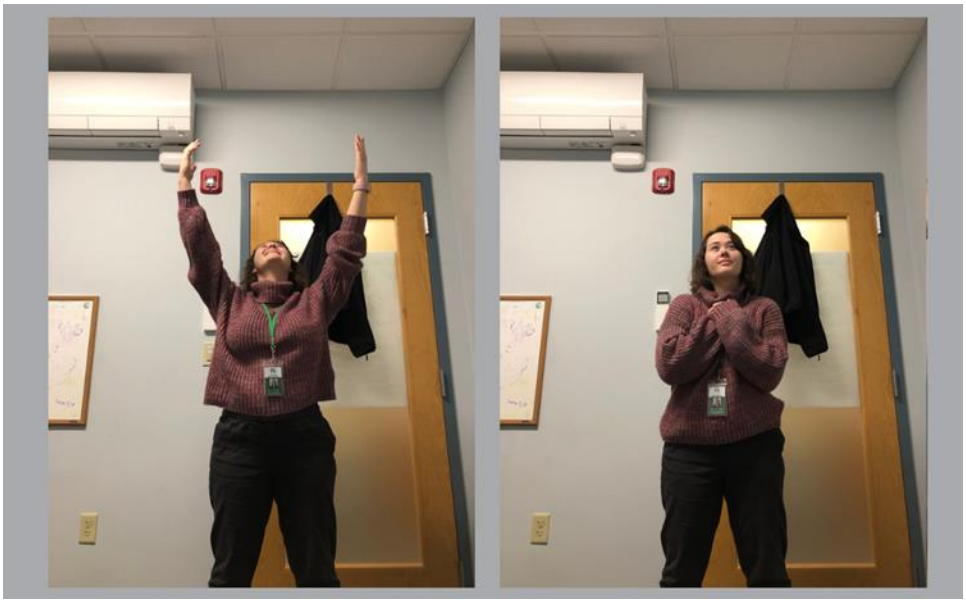
Exploration of Sadness



The energetic qualities of Client A's expression of anger stood out to me and were adapted into my own pose. I was struck by the idea of expansion. I allowed the energy in my body to flow freely and move out from my toes and fingertips. I noticed a lifting and expanding in my body. The openness of the pose connected to my personal experiences with sharing joy. I feel a desire to share my happiness with others when I experience it. Stretching out into space felt representative of such desires. Client A and I discussed happiness as a feeling that should be held onto and enjoyed. In my processing posture I brought my arms in close to my body. This energetic holding acted as a container to hold the emotion in. I felt a warming sensation in my chest and heart.

Figure 5

Exploration of Happiness



Discussion

The intervention provided a rich exploration of emotions. As hypothesized, the client was able to notice physiological responses after following the emotion prompts. Client A was able to identify and apply coping skills in response to each emotion and their physical sensation. Developing the correlation between the sensation and the coping skill could help the client to apply skills in the future. This practice may help client to identify and manage feelings before escalating to a state of dysregulation.

The method initiated a dialogue around the client's emotional expressions and lived experiences. Interpersonal and intrapersonal dimensions were examined. I witnessed Client A connect various emotions based on personal experience. Client A drew connections to interpersonal experiences such as witnessing facial expressions of friends and struggling to

understand the reactions of family members to emotions. In doing this we were able to discuss how everyone experiences emotions, though we may handle them differently. Expanding Client A's movements appeared to provide insight into the client's perception of emotion. The exploration didn't follow the structure of authentic movement (Garcia-Diaz, 2018) but still provided Client A an opportunity to allow the body to organically communicate in response to each emotion. Client A's response to sadness reflected experiences he had previously. The Client's joyful expanse of movement reflected the client's energy and eagerness to feel joy.

Utilizing Ekman's (2007) facial action tasks has proven in this example to be a beneficial tool. The facial action tasks (Ekman, 2007) can be applied with children and adults as seen in this method and Ekman's film (Paul Ekman Group, 2007). Facial action tasks can couple well with dance/movement therapy practices such as authentic movement, mirroring, and embodiment. There is plenty of room for expansion and adaptation of this method. Participants who are comfortable with authentic movement practices could explore further, dynamic movement. The experiential could be framed as an experiment for participants to test their coping skills. Participants could record sensations noticed before and after the practice of different coping skills, noting which skills work best for each emotion.

The thesis sought to develop a method in which DMT principles such as embodiment, authentic movement, mirroring, and the mind-body connection (Acolin, 2006; Berrol, 2006; Dyck et al., 2013; Garcia-Diaz, 2018) could expand and be expanded by Dr. Paul Ekman's (2007) Facial Action Coding System. In combining DMT and Ekman's tools, I hoped to form an activity for children that helped to building emotional regulation skills including emotional identification and management. Early development of emotional regulation skills was found to be beneficial for a child or adolescent's future functioning (Alba et al., 2021; Golombek et al.,

2020; Indarwati et al., 2019; Maibom, 2019). Utilizing the Facial Action Coding System (Ekman, 2007) elicited a physiological response (Levenson, 1992) to be explored through movement and discussion. Individual experience and knowledge were centered in this methodology. The lack of universal experience with emotion and importance of factors such as perception and culture was highlighted (Shea, 2014). The voice of younger research participants was centered in an effort to balance the power dynamics that often invalidate and ignore children (Abama & Schrijver, 2020). This intervention sought to center a client's narrative and experience, allowing the child to be the expert. The findings of the intervention echoed the research.

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Type of Project: Thesis

Title: Exploring the Intersection Between Facial Movement, Physiology, and Emotional Regulation: Developing a Method for Children

Date of Graduation: May 21st, 2022
In the judgment of the following signatory this thesis meets the academic standards that have been established for the above degree.

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