

5-2018

Dancing, Mindfulness, and Our Emotions: Embracing the Mind, Body, and Sole

Alisha M. Collins

The Graduate Center, City University of New York

How does access to this work benefit you? Let us know!

Follow this and additional works at: https://academicworks.cuny.edu/gc_etds

 Part of the [Alternative and Complementary Medicine Commons](#), [Applied Behavior Analysis Commons](#), [Art Education Commons](#), [Art Practice Commons](#), [Art Therapy Commons](#), [Behavioral Disciplines and Activities Commons](#), [Cognition and Perception Commons](#), [Cognitive Behavioral Therapy Commons](#), [Communication Commons](#), [Community Psychology Commons](#), [Dance Movement Therapy Commons](#), [Developmental Psychology Commons](#), [Early Childhood Education Commons](#), [Experimental Analysis of Behavior Commons](#), [Growth and Development Commons](#), [Health and Physical Education Commons](#), [Mental Disorders Commons](#), [Movement and Mind-Body Therapies Commons](#), [Music Performance Commons](#), [Music Therapy Commons](#), [Other Medicine and Health Sciences Commons](#), [Other Mental and Social Health Commons](#), [Other Music Commons](#), [Other Psychiatry and Psychology Commons](#), [Pain Management Commons](#), [Personality and Social Contexts Commons](#), [Psychiatric and Mental Health Commons](#), [Psychoanalysis and Psychotherapy Commons](#), [Recreational Therapy Commons](#), and the [Social Psychology Commons](#)

Recommended Citation

Collins, Alisha M., "Dancing, Mindfulness, and Our Emotions: Embracing the Mind, Body, and Sole" (2018). *CUNY Academic Works*.
https://academicworks.cuny.edu/gc_etds/2670

This Capstone Project is brought to you by CUNY Academic Works. It has been accepted for inclusion in All Dissertations, Theses, and Capstone Projects by an authorized administrator of CUNY Academic Works. For more information, please contact deposit@gc.cuny.edu.

DANCING, MINDFULNESS, AND OUR EMOTIONS: EMBRACING THE MIND, BODY,
AND SOLE.

By

Alisha M. Collins

A master's capstone project submitted to the Graduate Faculty in Liberal Studies in partial fulfillment of the requirements for the degree of Masters of Arts, The City University of New York

2018

© 2018
Alisha M. Collins
All Rights Reserved

Dancing, Mindfulness, and Our Emotions: Embracing the Mind, Body, and Sole.

by

Alisha M. Collins

This manuscript has been read and accepted for the Graduate Faculty in Liberal Studies in satisfaction of the capstone requirement for the degree of Master of Arts.

Date

Konstantinos Alexakos

Thesis Advisor

Date

Elizabeth Macaulay-Lewis

Executive Officer

THE CITY UNIVERSITY OF NEW YORK

ABSTRACT

Dancing, Mindfulness, and Our Emotions: Embracing the Mind, Body, and Sole.

By

Alisha M. Collins

Advisor: Konstantinos Alexakos

This capstone project examines dance, as an intervention and mindfulness practice that assists with managing our emotions. There is a need for dance therapy in social institutions such as, healthcare facilities, schools, and community centers. Dance therapy has the potential to reduce negative emotions, create mindfulness, improve self-expression, and promote a healthy well-being. I am proposing that dance therapy is applied as a regular practice in social institutions to develop mindfulness and promote emotional stability.

In this study, I argue that dance therapy can contribute to our well-being long term. In addition to this written thesis, a visual component of this capstone is included on the archive website.

ACKNOWLEDGEMENTS

This work would not have been possible without the help of Konstantinos Alexakos my advisor, who has been supportive and worked actively to provide me with professional guidance. I am grateful that I had the pleasure to work with Konstantinos, who assisted me with choosing a topic that I feel wholehearted about.

TABLE OF CONTENTS

ABSTRACT	iv
ACKNOWLEDGEMENTS	v
TABLE OF CONTENTS.....	vi
LIST OF TABLES	vii
INTRODUCTION	1
ART THERAPY AND WELLNESS.....	5
MINDFULNESS	7
A BRIEF HISTORY OF DANCE	10
I. Dance as a Ritual	10
II. Dance as a Psychotherapy.....	12
EMOTIONS AND WELLNESS	13
III. Facial Expression	15
IV. Posture.....	16
V. Gesture	17
VI. Displaying Emotions through Movement.....	18
DANCE THERAPY AND WELLNESS.....	19
VII. Physical/Physiological	20
VIII. Psychological/Mental.....	23
MIND, BODY, AND SOLE: A PERSONAL VISUAL	24
CONCLUSION.....	25
REFERENCES	27

LIST OF TABLES

Table 1 Dance Therapy Utilization in Patients with Psychological & Physiological Issues.....	6
Table 2 Ritualistic Uses of Dance in Arabia	12
Table 3 General Responses to Paired Emotions	14
Table 4 Expressive Elements of Posture	17
Table 5 Expressive Features of Arm Movement	18
Table 6 Expressive Adaptors Involved in Specific Emotional States	19
Table 7 Bodily Systems and Beneficial Functions	21

Introduction

The truest expression of people is in its dance & in its music. Bodies never lie.

-Agnes De Mille (De Mille, 1983)

In late August of 1999, I found myself, at ten years old, alone, and struggling with my grandmother's death. Aside from my cousin, my grandmother was the closest relative to me before she passed away. After her passing, I spent most of my downtime listening to late 80's to early 90's R&B music. Growing up in a strict yet unsupportive Caribbean family dynamic, I faced many challenges. These challenges included the inability to show or express my emotions, being constantly judged and not having anyone to reflect my feelings off. As a result, I became more introverted and my lack of trust in people had heightened. By the age of fourteen, anger management was non-existent, and I had issues with controlling my temper. I found myself getting angrier as the days progressed but were oblivious as to why I'd become so angry. I had difficulties with honing in on what triggered my anger or outbursts.

Being the youngest female sibling in a Caribbean household, I was expected to go to school, do my chores, and remain celibate. Unfortunately, due to a lack of familial support, I repressed a lot of emotions that were developed throughout time. The suggestion of "therapy" or "counseling" was frowned upon in my family, and if it were to be mentioned then you were labeled "sick." No one knew about the emotional instability I suffered for most of my childhood and adolescence. For some time, I'd researched ways to deal with my anger, stress, and mild depressive actions but came up with nothing. Fearing judgement, I didn't ask anyone for help, so I used to dance as an alternative. Throughout early development, I enjoyed listening and dancing to many genres of music. On school nights, I would turn the channel to the BET network and watch

the music video countdowns. I would often replicate the dance moves I saw dancers/artists executing. At that time, dancing and listening to music became my escape from reality. I lived vicariously through music and would express myself by dancing.

Most nights, I'd sneak into my brother's room to take his Walkman, with his favorite DJ Clue mixtape in it. Thereafter, I would run back to my room, with the door closed in tight and just dance. This routine continued throughout my junior year of high school. By this time, I was already an intermediary dancer, who had taught herself how to move and dance. By senior year of high school, I joined the dance team and flourished from there. I would often get praised by the staff and students on how well I danced. When questioned about being taught how to dance, I'd reply "myself." Nearly everyone responded with astonishment or thought I was lying. Once I reached adulthood, I realized how much I loved to dance. I also enjoyed the idea of people watching me, as I amusingly danced. Well along on, I realized that I wanted to incorporate dance somewhere in my career.

As I had expected, I received some backlash about my decision to open a dance studio. My parents didn't understand why this was so important to me. They thought that I was on the right track with finishing college and landing a reputable job but didn't see the necessity in a dance studio. I grew overwhelmed with the questions "why?" "For what?" and "what's the point?" Nothing comes remotely close to the most difficult questions of them all, "when did you start dancing? And why?" At first, I'd freeze and struggled to answer these questions. My dramatic pauses were a result of me realizing that I used to dance to cope with my emotional instability.

Presently, I work as a case manager at a hospital for children with medical and developmental issues. As a case manager, I have various roles, but my main responsibility

is to advocate for children that are unable to do for themselves. Most of the children on my caseload are non-verbal and non-ambulatory, which causes a major stress to the child and their families. At work, I am always exploring other ways to put a smile on a child's face. When I interact with the children, I would often engage them with small talk or make beatbox sounds with my mouth as I move their hands' side to side. To let me know they were amused, the children would smirk or grunt as a response.

After six months, I came up with the idea to pitch dance therapy as an additional service to children with special needs. Working with these children showed me that they too enjoy listening and dancing to music but are unable to due to the restrictions they may have. I think that dance therapy would be a great supplement to keep the children in this population more energetic, develop a healthier emotional support system, and to reduce some of their movement limitations. According to the American Journal of Dance Therapy (AJDT), children with health care needs are encouraged to participate in dance/movement therapy, following any lengthy hospitalizations (AJDT, 1999). As a form of treatment, dance can be a creative and effective way to prevent frequent hospitalizations, foster self-awareness, and alleviation.

In 2017, The American Journal of Dance Therapy (AJDT), reported the most recent findings on dance therapy utilization at healthcare facilities such as mental health, rehabilitation, medical, educational, forensic, nursing homes, daycare centers, disease prevention, health promotion, and private practice (AJDT, 1999). As years have passed, dance has been implemented into different practices and cultures. A person can adapt creative ways of expressing themselves, whether it is through art, music, or dance. Occasionally, I would teach beginner hip hop classes to release weekly stress for myself and other adults. Ideally, I yearn to run my dance therapy program. This dance intervention will be a “safe space” for adults and

children to become mindful of their bodies and emotions. Studies have shown the effectiveness of dance therapy on adults and children, by deeming it to have the most significant effects on their emotions and responses (Rebollo, 2004).

Attempting to define "dance" can be a polysemous task. Some people consider dance to be "a repetitious sequence" (Chavoshi, 2016, pg. 2) of steps that one follows to coincide with a rhythm or beat. Others consider it to be a form of exercise, as it consists of aerobic and anaerobic movements. Dancing allows us to use our bodies as an instrument to cultivate self-expression and emotional fulfillment (Catalano, 2016). Some people use dance to tell a story and others do it to express how they are feeling. Depending on the day, I often use dance to do both. Dance has been considered another way of approaching mindfulness, as it allows us to observe our emotions and thoughts nonjudgmentally (Van Dyck et al., 2014). When asked to define dance, I refer to it as "a meditation on the move." Like meditation, dancing can attain tranquility and self-attentiveness. Meditation can consist of patterned intervals that may include, deep breathing, and concentration on the "self", a thought or an object. Breathing plays a pivotal role in both meditation and dancing because they are seemingly related to our emotional expressions (Tobin & Powietrzynska, 2017).

In this capstone project, I examine dance as an intervention that accesses mindfulness and normalizes our emotions. By showing the connectivity between the two, I've provided evidence showing the benefits this provides to our well-being. Dancing mindfulness should be provided regularly to adults and children for emotional stability.

Art Therapy and Wellness

Creative art therapies such as art, music, and dance have been accepted approaches in treatment for individuals with mental health conditions (Lehofer & Stuppach, 2005). Including these therapies in healthcare practices, can add an uplifting and artistic mood in the facilities.

Numerous researchers have examined the effectiveness of dance therapy on emotions, by showing that it reduced negative feelings of anger, frustration, depression, fear, stress, and anxiety (Rebollo, 2004).

Institutions have used dance therapy to show the positive effects it had on self-efficacy, vitality, moods, and enhanced coping skills (Bradt, Goodill, & Dileo, 2011). Correctional institutions have used creative art therapies to promote higher levels of self-awareness and emotional development, which led to successful behavioral changes in inmates (Gussak & Ploumis-Devick, 2004). As a result, some of the inmates reported having positive moods and better-coping skills.

Stuckey & Noble cite prior literature reviews on the outcomes from dance therapy utilization. Ranging from demographics, patients with histories of psychological and physiological issues participated in the study. I created table 1 to illustrate some of the outcomes that were researched.

Table 1

Dance Therapy Utilization in Patients with Psychological & Physiological Issues

Emotional & Mental Issues	Treatment Outcomes (Dance Therapy)
Schizophrenia	<ul style="list-style-type: none"> • Allowed patients to express their feelings and concentrate more on their feelings rather than the symptoms.
Mind psyche	<ul style="list-style-type: none"> • Allowed patients to reach a level of arousal that produced a momentary integration of feelings, thoughts, and behaviors.
Deficits of self	<ul style="list-style-type: none"> • Helped patients organize or synthesize affective issues that included: abandonment, rage, sexual trauma, loss, grief, and pain.
Depression	<ul style="list-style-type: none"> • Patient symptoms have decreased, and their work productivity increased.
Anxiety	<ul style="list-style-type: none"> • Adults and adolescents benefitted more from dance/movement therapy than children did.
Motor development in children	<ul style="list-style-type: none"> • Helped children develop creative self-expression and positive body image. • It is most useful when verbal communication is blocked, it can channel tension toward bodily integration, insight into behavior, improved social interactions, and create appropriate effect.
Range of Motion	<ul style="list-style-type: none"> • Used to increase the range of motion in elderly persons. • Useful in improving cognitive functioning of older adults who have sustained neuro-traumatic injuries.
Sexual Abuse	<ul style="list-style-type: none"> • Helped patients cope with self-concept and symptoms of shame. • Helped adolescent girls cope with trauma from sexual abuse. • Addressed issues of distorted body image, dissociative disorders, low self-esteem, behavioral problems, eating disorders, and self-mutilation.

Note. Adapted from “Art, dance, and music therapy,” by (Rebollo, 2004, pp.832-834).

Rebollo suggested that creative art therapies are an essential part of modern health, and should be used in “clinical applications in hospitals, institutions, and private practice,” (Rebollo, 2004, pg.838). By promoting personal creativeness, dance therapy has been shown to have a substantial influence on supporting individuals to “accept and go” of emotions, restore their bodies, and create mindfulness as mentioned in figure 1.

Mindfulness

When a person is mindful, they are being nonjudgmental and attentive to their self and what's happening around them. Developing mindfulness can promote a healthy state of well-being, sustain growth and reconnects a person's mind, body, and soul. It allows us to identify and accept our thoughts and emotions for what they are without further proof or explanations.

Understanding that thoughts and emotions just are, we can alter the relationships we have with them, by not chasing after them, taking a step back, and relaxing "in a space of awareness" (Powietrzynska, 2014, pg.98). Some of our thoughts and emotions come from previously lived experiences, which have exasperated or soothed our emotional reactions to different situations. Being mindful can impact the way a person labels his or her emotions, experiences of emotions, level of positive and negative emotions experienced (Heppner, Spears, Vidrine, &Wetter, 2015). The connection between emotions and conduct makes up a big part of mindfulness, as it can support a person with recognizing emotions as they are, naming them, and letting them go (Powietrzynska, 2014). Since emotions are changeable, it is important that we identify, accept and separate them from the body. Mindfulness can improve the way we manage, discouraging affective states and improves “the way we respond (emotionally) to external stimuli” (Heppner, Spears, Vidrine, & Wetter, 2015, pg.109).

Dance is considered a mindful practice, which has the potential to offer affect regulation (Tobin, 2015), by increasing positive emotions and improving the way we control the negative ones. As a dancer, I've become aware of my body and the moves that I make with it. Before dancing, I normally chose the songs at random. I started using this method to break myself out of a bad habit that I once had. If I was in a bad mood, going through a breakup or frustrated with my work day, I would choose songs that related to those topics. Eventually, I realized that it wasn't helping me, in fact, it exacerbated the situation. I was unconsciously increasing my negative emotional reactions by listening to music that brought me back to those painful times, rather than letting them go. From there are on, I choose the songs randomly, to dance and express myself naturally.

Ordinarily, I don't think about the moves I make as I dance unless I am creating a routine for class. Instead, I move instantaneously as it reflects the way my body is feeling at that moment. When I am in a negative or stressful emotional state, my dance moves are tight, dark, and closer to the floor. By focusing on the floor or objects that are stationed on a lower level, I can hide my emotions and avoid social engagement. Tutting would be the only time I look up or make upper body movements. After dancing and releasing all the tension, my body is left refreshed and ready to dance to another song. Following that, I would choose songs that are upbeat and has more cheerful lyrics. In turn, I would dance freely, bigger, and involve more upper body movements.

By participating in dance therapy, I have become more mindful and in tune with my body. Previously, I described how dance has helped me cope with emotional instability, and to develop mindfulness. Using dance to heal myself, I was able to reconnect with my body and express myself more successfully.

Whenever I dance mindfully, the only thing that has my undivided attention is myself, I pay more attention to my body, my emotions, and the music being played. Any frustrations that a typical day would allow, disappears, leaving me with a sense of relief.

Dancing mindfully has allowed me to examine my body more constructively. I've seen noticeable changes in my body after I dance, such as my neck and back being less tense, my shoulders would drop, back would be straight, and my body would feel feathery. It has always left me energetic and longing for more. According to Heppner, being mindful of "the body" can influence positive behavioral changes and enhance emotion regulation, by "building greater tolerance of emotional states, less avoidance of emotions, emotion differentiation, and less reactivity to emotions" (Heppner, Spears, Vidrine, & Wetter, 2015, pg.108). Quintessentially, dancing improves my emotional state of mind by keeping my focus, active, and aware.

Before teaching a class, I would play soft and steady beat music to set the tone and enforce periods of deep breathing. As a group, we face the mirror, and take deep breaths in, holding them for five seconds before exhaling them. Being attentive to breathing patterns and physiological variables that include, "heart rate and blood oxygenation levels" can aid us to monitor our bodies, as teaching and learning take place (Tobin et al., 2016, pg.690). Breathing before the activity controls the high levels of stress and anxiety that may be present before teaching (Tobin et al., 2016). If I arrived at class with a negative emotional state, my students won't learn the routine as quickly as I estimate that they should. With a negative emotional state, my enthusiasm level is low, which reduces my engagement with the class.

Breathing can be an effective way of maintaining our well- being (Tobin, Powietrzynska, & Alexakos, 2015), and reducing negative emotions meditatively. Tobin pointed out the associations breathing patterns have with certain emotions, based on the works of Philippot,

Chapelle, & Blairy (2002). These relationships included, “happiness/joy (produced by participants who used slow, deep regular breathing through the nose), anger (produced by participants who used fast, deep irregular nasal breathing), and sadness (occurred when participants used nasal breathing with average amplitude and frequency)” (Tobin et al., 2016, pg.671).

In regards to breathing meditations and mindfulness, Tobin cited Burmeister & Monte’s (1997, pg.20) quote, "With every exhalation, we release piled up stresses, physical tension, and fear," (Tobin, Powietrzynska, & Alexakos, 2015, pg.67), as a way of cleaning the mind and maintaining focus. In addition, mindfulness represents a combination of old reflective Eastern traditions, which are memorable to the practices of Buddhism (Tobin, Powietrzynska, & Alexakos, 2015). “Mindfulness,” is the English translated word for Buddhist term, *Sati* (Lomas, 2016). In Buddhist medicine, “the ego” or “self,” suggests that “the mind is casual of all suffering including ill health” (Tobin, Powietrzynska, & Alexakos, 2015, pg.64).

A brief history of dance

Aktas & Ogce quoted the meaning of dance as being, “the most fundamental human behaviour and art forms, involving direct expression through the body” (Chrisman, 2001, pg.1), that exchanges visual communication (Aktas & Ogce, 2005) with others. Some people struggle with verbally expressing themselves, allowing them to use dance as a non-verbal approach to enhance their self-expression For centuries, dance has been considered an effective tool that holds “aesthetic and symbolic values” (Dance Facts & History, 2018, pg.1).

I. Dance as a Ritual

Ritualistic dances were used “to accomplish a special wish or to strive to bring to man a vital necessity,” which included: food, energy, water, shelter, air, safety, and preventing adversities

Without an indicated criterion, ritual dance “has always been part of man's way of expressing his religious beliefs, his desires or wants-as well, of course, as his gratitude, satisfaction, and ensure fertility” (Armstrong, 2018, pg. 314). Further, ritual dances were considered a symbol of unity and social membership that allowed individuals to exchange shared values and beliefs.

Relatively, rituals were used to create the symbol(s) of group membership by establishing a connection between interaction and construction, which included bodily rhythms, emotions, and intellectual creativity (Collins, 2004). By establishing communication, rituals allowed people too consciously "express their internal states with others" (Collins, 2004, pg. 35), by creating "unity, bonds and moral obligation" (Collins, 2004, pg.12). By establishing a sense of belongingness and membership, dance was performed at ritualistic celebrations that included, weddings, gift-exchanging (Collins, 2004), childbirths, ancient and ancestral gatherings (Payne, 2006). Like dance, rituals were the process of human bodies being "together in the same place, there is a physical attunement: currents of feelings, sense of wariness or interest, a palpable change in atmosphere, and bodies pay attention to each other" (Collins, 2004, pg.34). According to sociological research, being a part of a ritual merits moral acts emphasizes the value of family rather than individuals (Payne 2006), and stresses the "value of tight-knit" (Collins, 2004, pg.49). In some countries, dance included distinctive body movements that identified the culture that it emerged from. Cultures generated unique dance forms “with ethnicities worldwide emerging dance forms, and even creating new ones, and transforming the very idea of dance” (Putnam, 2018, pg.1). As time went by, dance forms were restructured and circulated countries such as Africa, Asia, the Middle East, Europe and North America (2005), as illustrated in table 2 below.

Table 2

Ritualistic Uses of Dance in Arabia

Ceremony	Purpose
Weddings	Belly Dance was practiced at every wedding. Belly dancing wasn't just for entertainment, but it brought men and women of two families together as well.
Childbirths	It was used as a tool in aiding natural childbirth – in the Bedouins (nomads of the desert) the mother-to-be is surrounded by the women of the tribe all standing in a circle around her, with two women standing by her side holding her up and helping her. All the women would chant and sing, and undulate and use gentle circular movements to encourage the birthing mother to do the same. These movements help ease the pain and go naturally with the movement of the child down and out into the world. For more information on how to use Belly Dance in natural birth read Belly Dance for Birth by Maha Al-Musa.
Trance & Spirituality	The Trance Dance (The Zaar), used to connect with the Devine or heal a person on a spiritual or psychological level.
Rite of Passage	Traditional families celebrated the flow of blood of a newly menstruating young woman and would have her dance her first dance as a woman. This happens in the gatherings of the women of the tribe only; the men do not belong in such celebrations.

Note. Adapted from “Traditions & Ritualistic Uses of Belly Dance - Shemiran Ibrahim Belly Dance Teacher Trainer,” (Ibrahim, 2013, pg.1).

II. Dance as a Psychotherapy

As early as the 16th century, English scholar, Robert Burton suggested that people with melancholic depression should undergo dance therapy as a part of their treatment (Aktas & Ogce, 2005). In the early 1900’s, historians believed that dance was a necessity in treatment for individuals with mental, physical, and spiritual health deficiencies (Aktas & Ogce, 2005). It

wasn't until the 1930's that professionals adapted it in therapeutic practices, by labeling it a "healing tool" in psychotherapy (Levy, 2005, pg. 2).

Dancing was used to treat: Parkinson's disease, anxiety, eating, and multiple personality disorders (Levy, 2005). Burton proposed that dance therapy could develop spirituality and physicality (Burton, 1925). In comparison, the mind, body, and soul ideology, highlights that all three are seemingly connected. Unlike the soul, the mind and the body cannot be separated because they work together as one. Emotions, memories, sensations, desires, etc. come from the mind but are often experienced throughout out the body (McGonigal, 2012).

Emotions and Wellness

Emotions are shown through countless physical behaviors, which are fundamental in our social interactions, social outcomes, and how we tell others how we are feeling (Calvo et al., 2015). Since emotions are the psycho-physiological ways in which we react to an action, our impulses can tell us what is happening as a way resolving the situation by involving mental activity (Van Dyck et al., 2014). This can aid us in adjusting to future environs we may enter. Emotions have been defined as mental feelings that tend to influence the mind, which functions as a signal in a given situation (Devon, 2016). Serving as indicators, emotions can convey information about "the friendliness or dangerousness" of our environment (Van Dyck et al., 2014, pg.1).

Positive energies can restore reactions to other situations, "because individuals bodily resonate with emotions" (Collins, 2004, pg.6), by echoing our self-consciousness (D'Ascenzo, 2009). The ability to recognize and communicate emotions is considered "crucial to our survival," (Van Dyck et al., 2014, pg.1) because this promotes social relationships, cognitive functioning,

moral sensitivity, and psychological well-being (Van Dyck et al., 2014).

In 1980, a well-known psychologist, Robert Pluchik created the Wheel of Emotions as a way of demonstrating how emotions were related to each other. As a part of social interaction, emotions and their physical expressions tend to affect some of our social outcomes. In table 3, I created a reflection of Pluchik’s theory, which includes paired basic primary emotions.

Table 3

General Responses to Paired Emotions

Emotion	Response
Fear	The feeling of being afraid
Anger	The feeling of being angry
Sadness	The feeling of being sad
Joy	The feeling of being happy
Disgust	Feeling something is wrong or nasty
Surprise	Feeling unprepared for something

Note. Adapted from “Pluchik’s Wheel of Emotions,” (Donaldson, 2017, pg.1).

According to Calvo’s reference to Gifford’s (1994) theory, emotions can be misinterpreted during a social interaction, causing a disconnection (Calvo et al., 2015). For example, a person that is not being mindful would decode the emotions of the sender differently from the intended, based on the decoder’s judgments from past experiences. Nevertheless, using this approach has suggested that emotional states can be inferred from the bodily expressions (Calvo et al., 2015).

Furthermore, emotions can be communicated through other techniques such as facial expressions, gestures, and postures. Based on Dittman's (1987) theory, postures and gestures may be caused by mental states that differ from the intended emotions, as cited (Calvo et al., 2015).

III. Facial Expression

According to Gelder, 95% of collected works that examined emotions, used facial expressions as stimuli for emotional responses, as cited (Calvo et al., 2015). As a result, professionals suggest that facial expressions are signals that have been processed without our awareness. As an ostensible gesture, a facial expression can indicate a person's intention to communicate and plays a major part in social interactions (Calvo et al., 2015).

As a dance instructor, it is crucial to be mindful of any non-verbal behaviors that I display during a class session. Remaining aware of my body language and facial expressions, as it can be misinterpreted by the students, which can later cause higher levels of anxiety. Nearly all of the students that attend my dance class are of diverse backgrounds and dance histories. This creates a less intimidating atmosphere for the students because it allows them to embrace and share their unique abilities with others in a shared space. This "safe space" forms unity and respect within the environment. At times, I would enter a class with higher levels of anxiety and fear, due to overthinking the routine and its steps. I have a habit of questioning the difficulty level of some routines, leaving me to wonder if the routine is too simple or too challenging to learn. This can become nerve wrecking if there is a time limit in place (one hour), which includes breathing meditations, stretches, and teach routine that is a minute long. Entering a space that has new faces can be fearful, but having an instructor who appears apprehensive, can cause discomfort in the atmosphere. I've taught myself how myself how to leave negative emotions at

the door, before entering the class. This is one of the reasons, I have incorporated breathing meditation at the beginning of each class.

If there are misguiding non-verbal expressions being felt in the room, students may experience higher levels of anxiety, causing them to question themselves but others in the room. According to Collins' theory, shared moods can synchronize actions being done during co-participant activities, as mentioned in Tobin's study (Tobin et al., 2016). Moreover, teachers can enhance their awareness by being mindful of their breathing patterns, heart rate, and body while they teach (Tobin et al., 2016). In similarity, some of the students that participated in the Brooklyn College study, expressed that engaging in breathing meditations before class was helpful, and increased their awareness to emotions (Tobin, Powietrzynska, Alexakos, 2015).

IV. Posture

Body posture refers to the way we orientate our body parts and is an essential part of dancing because it promotes mindfulness. Posture is "the quasi-static configuration of the whole body" (Calvo et al., 2015, pg.3), that sends out signals. These signals can have affect-related meanings as it refers to the body's position and orientation (Calvo et al., 2015). While discussing the body's positioning and orientation, Aronoff, Woike, and Lymon's (1992) stated that "ballet dancers have been shown to use an angular posture to suggest an intimidating character and around posture to represent a warm character" referenced by (Calvo et al., 2015, pg.4). Table 4 displays, Atkinson (2004) and Wallbott (1998)'s chart representing how basic emotions can trigger expressive features of posture.

Table 4

Expressive Elements of Posture

Emotion	Frequent posture features
Anger	Head backward, no chest backward, no abdominal twist, arms raised forwards and upwards, shoulders lifted.
Joy	Head backward, no chest forward, arms raised above the shoulder and straight at the elbow, shoulders lifted.
Sadness	Head forward, chest forward, no abdominal twist, arms at the side of the trunk, collapsed posture.
Surprise	Head backward, chest backward, abdominal twist, arms raised with straight forearms.
Pride	Head backward or lightly tilt, expanded posture, hands on the hips or raised above the head.
Fear	Head backward, no abdominal twist, arms are raised forwards, should forwards.
Disgust	Shoulders forwards, head downwards.
Boredom	Collapsed posture, head backward not facing the interlocutor.

Note. Adapted from “American Journal of Dance Therapy,” (Calvo et al., 2015, pp. 9-10).

V. Gesture

A gesture is another form of communication, in which information is transferred, but not always with the intended meaning. McNeil stated that "All gestures are movements, but not all movement is gestures," because of some movements transfer information with intended and unintended values (McNeil, 2008, pg.1). McNeil gives an example of gestures being misinterpreted for an emotion that has various meanings, such as yawning. As yawning can be associated with tiredness, some people would think that a person is sleepy. Agreeing with McNeil, people yawn for other reasons which include, boredom, hunger, or contagious yawning (McNeil, 2008). Table 5 displays, Atkinson (2004) and Wallbott (1998)’s chart representing how basic emotions can trigger expressive arm movements.

Table 5

Expressive features of arm movement

Emotion	Frequent features of arm movement
Anger	Lateralized hand/arm movement, arms stretched out to the front, largest amplitude of elbow motion, largest elbow extensor velocity, highest rising arm.
Joy	High peak flexor and extensor elbow velocities, arms stretched out to the front.
Sadness	Longest movement time, the smallest amplitude of elbow motion, least elbow extensor velocity.
Anxiety	Short movement times, constrained torso range of motion.
Interest	Lateralized hand/arm movement, arms stretched out to the front.
Fear	Arms stretched sideways.

Note. Adapted from “American Journal of Dance Therapy,” (Calvo et al., 2015, pp. 10-11).

VI. Displaying Emotions through Movement

Some people use synchronous gestures, with their hands and body to express their emotions (Tobin & Llana, 2014). Although body movements can be used to understand a basic emotional state, it is likely to present regularity in its emotional lucidity (Calvo et al., 2015). In Table 6, Atkinson (2004) and Wallbott (1998)’s chart explains the multimodal combinations that are expressed through different emotional states.

Table 6

Frequent adaptors involved in specific emotional states

Emotion	Frequent adaptors
Anxiety	Touching or pulling the hair, wriggling or interlocking the hands, opening and closing the fist, aimless fidgeting, hiding the face.
Inhibition	Touching or pulling the hair, stereotyped and unnecessary movements, withdrawal movements, general motor unrest.
Depression	Hiding and withdrawal gestures.
Pride	Arms crossed in front of the chest.
Shame	Touching or pulling the hair, wriggling or interlocking the hands.

Note. Adapted from “American Journal of Dance Therapy,” (Calvo et al., 2015, pp. 11-12).

Dance Therapy and Wellness

By dancing, we can increase positive effects to our physical and mental health, which can promote a healthier state of well-being. Aktos and Ogce coined dance as "the most fundamental human behavior and art forms, involving direct expression through the body" (2005, pg.408) because it enhances self-expressiveness. Some therapists believed that emotional and mental problems are often held in our bodies, as forms of muscle tension and self-conscious movements (Aktos & Ogce, 2005). As a way of testing this, some therapists incorporated dance therapy in their stress management practices. They noticed significant outcomes such as stress management, a reduction in stress levels, and a better quality of life (QOL), deeming dance, a treatment modality (Brauninger, 2014). Dancing was considered a useful way to get in touch with the "conscious and unconscious components of their psyche by using movement" (Aktos & Ogce, 2005, pg. 409). A person can't develop self-awareness without first, being

mindful. Jon Kabat-Zinn stated that “Mindfulness is the key to self-awareness,” in his mission statement, during the launch of his Mindfulness-Based Stress Reduction (MBSR) program (Kabat-Zinn, 2017, pg.1).

VII. Physical/Physiological

Dance movement is often praised for the benefits that it provides through body conditioning. Many people use dance to increase their flexibility, muscle strength, balance, and coordination, and stabilize their breathing. The physical movements that are used during a dance routine can often enhance the functioning of bodily systems, which generate a healthier circulation for the body. Considering dance as an exercise, individuals develop a positive body image, self-esteem, reduces chronic pain, stress, body tension, and depression (Aktos & Ogce, 2005).

Burton (1925) proposed that dance therapy can develop spirituality and physicality. This correlates to the mind, body, and soul ideology; where all three are seemingly connected. Unlike the soul, the mind and the body cannot be separated because they work together as one. Many emotions, memories, sensations, desires, etc. come from the mind but are often experienced throughout out the body (McGonigal, 2012). Scholars believed that dance emerged after the European Renaissance, which created a variety of dance within time (Payne, 2006). On the grounds of a society that is always developing, dance has and will continue to change with time.

Researchers have shown how emotion regulation occurs through movements, as it reflects, neurons activation during motor observation. Different types of motor behavior modifications contribute to emotion regulation based on changes in motor behavior changes in autonomic nervous system activation and in metabolic processes that generate elevated moods, reduce stress-anxiety, depression. (Calvo et al., 2015).

Dancing can improve the brain functioning of individual's that suffer from dizziness and memory loss, by guiding the brain to prevent these issues from surfacing. When the brain is healthy functioning, the following occurs, positive behavioral changes, steady breathing, and proper circulations in blood vessels and veins (Philadelphia Integrated Medicine, 2018). To establish balance and coordination during a dance routine, Dart-Harris (2015) provides the beneficial functions of the mentioned bodily systems: which I recorded in the table below:

Table 7

Bodily systems and beneficial functions

Bodily systems	Beneficial functions
Vestibular System	<ul style="list-style-type: none"> • Helps the body with maintaining balance through the anatomy of the inner ear. • Gives the brain information about the body's position during each movement.
Visual System	<ul style="list-style-type: none"> • Determines where the body is in space and serves as the body's optical righting reflex. • Helps ensure that the body remains upright by working to keep both eyes on the horizontal plane.
Proprioceptive System	<ul style="list-style-type: none"> • Is responsible for the body's awareness of its position and movement in space. • The sensory receptors located in the body's muscles, tendons and joints that respond to changes in pressure. • Messages are sent to the brain to let it know where the different parts of the body are and how they move in relation to other bodies.
Cardiovascular or Circulatory System	<ul style="list-style-type: none"> • Is necessary because it brings oxygen to the rest of the body. • It assists with stable breathing, which enables a person to remain relaxed and calm. • The heart, lungs, and diaphragm work together to left air upward and outward to let air in, then relaxing to force the air out.
Nervous System	<ul style="list-style-type: none"> • The neurons in the nervous system help with movement and memory.

Note. Adapted from “The Healthy Dancer. Spotting & Why It Works,” (Dart-Harris, 2015, pp.1-2).

According to Dart-Harris, the body functions well when the bodily functions provide equilibrium, safety, and overall good health (Dart-Harris, 2015). In terms of emotional stability and mindfulness, the body requires a healthy circulatory and nervous system to provide steady meditative breathing, relaxation, and calmness (Pittman, 2011), regulated by the vagus nerve. The vagus nerve plays a crucial role in extending cranial nerves from the brainstem to the abdomen by way of multiple organs including the heart, esophagus, and lungs (Philadelphia Integrated Medicine, 2018). Previously, we examine the role that breathing meditations play before activities such as dancing and developing mindfulness. As a part of the involuntary nervous system, the vagus directs unconscious bodily actions, which includes heart rate stability (Philadelphia Integrated Medicine, 2018).

The Movement and Mindful program used Yoga as a form of treatment in a therapy clinic. The purpose of this was to get patients to use their body through the movement of yoga to heal the mind. The goals of the program were to increase skills of stress management, coping, relaxation, and communication. As a result, participants relational behaviors improved, displayed enhanced stress management and copy skills (Barton, 2011).

The brain activation patterns represent unconscious emotions and correlate with conscious feelings by controlling motor behaviors and its consequent proprioception and interoception one could regulate emotions and affect feelings. Emotions are important to our social relationships, cognitive functioning, moral sensitivity, and psychological well-being (Van Dyck et al., 2014). Being able to communicate and recognize emotions has been "crucial to our survival" (2014, pg.1). Some clinicians have identified that brain functionality can regulate our emotions, moods, and cognitive understanding of the body (Meekums, Karkou, & Nelson, 2015).

VIII. Psychological/Mental

Davidson and Begley (2012) consider human emotions to have the most powerful influence on physical health, emotional, social, and cognitive integration (Koch, Kunz, Lyka, & Cruz, 2013). Koch stated that dance therapy is "increasingly used to treat a variety of behavioral, psychological, and medical conditions" (2013, pg.46). Some Buddhist treatments deemed the mind as the reason people suffer from ill health (Tobin, 2015). Dance has been used help cancer patients recover by improving their quality of life (QOL) (Bradt, Goodill, & Dileo, 2011). The purpose of using dance therapy on cancer patients was to support them in developing self-definition and emotional growth (Bradt, Goodill, & Dileo, 2011).

Dance has been used on children with aggressive behaviors, to focus on problem-solving experiences, socialization, and develop pro-social behaviors (AJDT, 2004). A study examined the effects of a dance therapy program used at a middle school to manage the aggressive behaviors of students. The teachers reported that dance therapy decreased aggressive behaviors, such as fighting, instigating fights, throwing books on the floors, and acts of frustration by developing self-control (AJDT, 2004).

Dance therapy movement is often used to reconnect and accept your body, by building self-confidence, self-expression, and promoting a healthier way of addressing feelings of depression, anger, fear, isolation (Bradt, Goodill, & Dileo, 2011). Dance therapy has been used on women who had past experiences of sexual abuse. As a result, the study showed that the participants were able to connect, accept and become physically aware of their bodies. One of the participants described her experience by stating that, "This was one of the first experiences of discovering how much was stored in my body. I discovered that there were whole aspects of my

body and my experiences that I hadn't gone into; it was a powerful way of getting connected to by myself" (Mills & Daniluk, 2002, pg.8).

Mind, Body, and Sole: A Personal Visual

In the visual portion of this capstone¹, I present a fairly simple routine I follow prior to teaching a beginner hip hop class. In the video, I started with three intervals of deep breathing by taking a deep inhale, holding it as I count to five, then deeply exhaling from my belly. After the breathing meditation, I started stretching and doing instant energetic movements, to wake my body up and have the blood flowing. As mentioned in the video clip, I chose to record myself dancing 9 PM in the evening after a long day of work, to illustrate the effect dance had on my body, before and after the session.

Another situation that occurred that evening, was my left rear tire catching a flat as I arrived at the studio, to film this portion. Not expecting my day to end with stagnation, I was going to cancel and walk back to my car to call for roadside assistance. Before leaving the studio, I realized that it would have been a great way to show the changes my body went through before and after a dance. Throughout the video, you will notice that as I spoke, my eyes were pacing and my voice had no enthusiasm in it. During this time, I was upset and worried about my car, later hoping the snow that had started didn't stick to the ground.

After an energetic warm-up and breathing meditations, my body released the tensions I had entering the studio, forgetting about the flat tire, and ready to dance. I started dancing impromptu to Mya's, "The Best of Me" part 2 feature with Jay-z (Mya, 2000). As a result, I felt rejuvenated and wanted to continue to dance. As stated in the video, dance projected several changes such as the tone of my voice, posture, shoulders, etc. After, I decided to continue

¹ https://archive.org/download/Video_20180405/Video.mp4

dancing mindfully, as I ended on a brief piece from the legendary, Michael Jackson's "Billie Jean" (Jackson, 1983).

Conclusion

Dancing mindfully can heal the mind, body, and soul back to its wellness. Dance therapy has been recommended by clinicians, professionals, and scholars, and applied to numerous institutions (Rebollo, 2014). My argument is that dance therapy should be incorporated into regular practice. While studies have shown significant effects from the utilization of dance therapy, it is seldom that I see it used or offered in facilities or intuitions today. From my own personal experience and as a result of this study discussed in this paper, I believe that dance therapy should be offered in schools as a physical education program choice.

Dance therapy services should be a requirement at healthcare facilities, group homes, foster care agencies, and other behavioral services. Dance has been used as a form of treatment as early as the 1900's, emerging as a communal practice in earlier civilizations, where it was ritualistic and was used to confirm unity of a culture. Dance is similar to a chameleon, it can change its appearance in response to environs. Dance is versatile and valued differently among different cultures. In this day and age, dance has become individualistic, simply because we live in a generation that enforces independence. As for myself, I dance both communally (parties, events, during a class) and individually (deal with stress, negative emotions, or to create a routine).

The purpose of this capstone was to examine dance as more than a memorization of sequential steps but to show how effective it can be to our well-being and emotions. Dancing can heal the mind, body, and soul, by promoting mindfulness and reducing negative emotions. Being a mindful dance and teacher, I am able to recognize other mindful dancers, and those who are

not. A person that is dancing mindfully is able to get through a dance selection successfully. This is a person that has tuned into their body and its surroundings (space, others, and music). A person who is not dancing mindfully is one who is focused on the environment and audience opposed to themselves.

In some cases, a person who is not dancing mindfully would overthink their moves or is behaving pretentious during the selection. As a result, this person is usually the one that is behind in steps or too far ahead of others. They are not in synch with their bodies or the space around them. In some cases, these individuals would include additional moves or forgetting moves. When we are dancing mindfully, you become aware of the body and your breathing. At the same time, it is important for a person to dance mindfully, otherwise, they may experience higher levels of anxiety as they dance. Dance has positive effects on the overall well-being and should be mandated. As a lifelong dream, I anticipate to launch my dance therapy program, Bot ~n~ Sole, in the spring of 2020. The name was created based on the true meaning of dancing. “Bot,” represents the bodily movements we make without thinking about it (similar to a robot). The “sole” represents our feet, which are essential for us to have in order to dance. Dancing encourages us to embrace the mind, body, and sole.



References

- Aktas, Gurbuz & Ogce, Filiz. (2005). Dance as a Therapy for Cancer Prevention. *Asian Pacific Journal of Cancer Prevention: APJCP*. 6. 408-11. (Cited literature from Chrisman, 2001, pg.1).
- Anonymous. (1999-2017). “American Journal of Dance Therapy. “American Journal of Dance Therapy – Springer. Retrieved on February 15, 2018, from [link.Spring.com/journal/10465](http://link.springer.com/journal/10465).
- Anonymous. (1999). “American Journal of Dance Therapy. “American Journal of Dance Therapy – (includes the work of Mendelsohn, Judith. (1999). Dance/movement therapy with hospitalized children. *American Journal of Dance Therapy*, 21, pp. 65-90).
- Anonymous. (2018). Dance History - Dance Origins. Retrieved February 17, 2018, from <http://www.dancefacts.net/dance-history/>.
- Barton, E. J. (2011). Movement and Mindfulness: A Formative Evaluation of a Dance/Movement and Yoga Therapy Program with Participants Experiencing Severe Mental Illness. *American Journal of Dance Therapy*, 33(2), pg.158.
doi:10.1007/s10465-011-9121-7.
- Bradt, J., Goodill, S. W., & Dileo, C. (2011). Dance/movement therapy for improving Psychological and physical outcomes in cancer patients. *Cochrane Database of Systematic Reviews*, pg.3. doi:10.1002/14651858.cd007103.pub2 (cited literature from Dibbel-Hope, 2000; Mannheim, 2006).
- Bräuninger, I. (2014). Specific dance movement therapy interventions—which are successful? An intervention and correlation study. *The Arts in Psychotherapy*, 41(5), 445-457.
doi:10.1016/j.aip.2014.08.002.

- Calvo, R., Dmello, S., Gratch, J., Kappas, A., Lhommet, M., & Marsella, S. C. (2015). Expressing Emotion through Posture and Gesture. *The Oxford Handbook of Affective Computing*, pp.3-10. doi:10.1093/oxfordhb/9780199942237.013.039.
- Catalano, Theresa. (2016). Moving people and minds: Dance as a vehicle of democratic education.
- Chavoshi, Houssein S. (2016). Exploring Dance Movement Data Using Sequence Alignment Methods, pg.2.
- Collins, R. (2004). *Interaction Ritual Chains*. Princeton, NJ: Princeton University Press, pp. 6-50.
- Dart-Harris, Diana. (2015).The Healthy Dancer. Spotting & Why It Works, pp.1-2. Retrieved February 19, 2018, from <http://thehealthydancer.blogspot.com/2013/06/spotting-why-it-works.html>.
- De Mille, Agnes. (1983). Agnes de Mille Quotes. (n.d.). Retrieved February 17, 2018, from https://www.brainyquote.com/quotes/agnes_de_mille_131897.
- Donaldson, M. (2017, April 27). Plutchik's Wheel of Emotions - 2017 Update • Six Seconds. Retrieved April 05, 2018, from <http://www.6seconds.org/2017/04/27/plutchiks-model-of-emotions/>.
- Gussak, David & Ploumis-Devick, Evelyn. (2004). Creating Wellness in Correctional Populations through the Arts: An Interdisciplinary Model. *Visual arts research*, pp. 35-36.
- Heppner, W. L., Spears, C. A., Vidrine, J. I., & Wetter, D. W. (2015). Mindfulness and Emotion Regulation. *Handbook of Mindfulness and Self-Regulation*, 107-120. doi:10.1007/978-1-4939-2263-5_9.
- Ibrahim, S. (2013). Traditions & Ritualistic Uses of Belly Dance - Shemiran Ibrahim Belly Dance Teacher Trainer. Retrieved from <http://www.shemiranibrahim.com/tradition-ritual-belly-dance/>.

- Kabat-Zinn, J. (2017). Defining Mindfulness. Retrieved April 05, 2018, from <https://www.mindful.org/jon-kabat-zinn-defining-mindfulness/>.
- Karczewski, W., & Widdicombe, J. G. (1969). The role of the vagus nerves in the respiratory and circulatory reactions to anaphylaxis in rabbits. *The Journal of Physiology*, 201(2), 293-304. doi:10.1113/jphysiol.1969.sp008756.
- Koch, Sabine, Kunz, Teresa, Lyka, Sissy, Cruz, Robyn. (2013). Effects of Dance Movement Therapy and Dance on Health-Related Psychological Outcomes, pg.46.
- Koch, Sabine, Morlinghaus, Katharina, & Fuchs, Thomas. (2007). The joy dance Specific effects of a single dance intervention on psychiatric patients with depression, pg.1. doi:doi:10.1016/j.aip.2007.07.001.
- Lehofer, M., & Stuppäck, C. (2005). Depression [therapies for depression]. Stuttgart: pp. 90–107.
- Levy, Fran J. (2005). *Dance movement therapy: a healing art*. Reston, VA: National Dance Association an Association of the American Alliance for Health, Physical Education, Recreation, and Dance, pg.2.
- Mcgonigal, Kelly. (2012). Is Your Mind Separate from Your Body? Retrieved on February 3rd, 2018, from <https://www.psychologytoday.com/blog/the-science-willpower/201208/is-your-mind-separate-your-body>.
- Meekums, B., Karkou, V., & Nelson, E. A. (2015). Dance movement therapy for depression. *Cochrane Database of Systematic Reviews*. doi:10.1002/14651858.cd009895.
- Mills, L. J., & Daniluk, J. C. (2002). Her Body Speaks: The Experience of Dance Therapy for Women Survivors of Child Sexual Abuse. *Journal of Counseling & Development*, 80(1), Pg. 8. doi:10.1002/j.1556-6678.2002.tb00169.

- Payne, H. (2006). *Dance Movement Therapy: Theory, Research and Practice 2nd Edition*. Hoboken: Taylor and Francis.
- Rebollo-Pratt, Rosalie. (2004). Art, dance, and music therapy. 15(4), 827-841.
- Pittman Roland N. (2011). Regulation of Tissue Oxygenation. San Rafael (CA): Morgan & Claypool Life Sciences; 2011. Chapter 2, the Circulatory System and Oxygen Transport. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK54112/>, pg.1.
- Powietrzynska, M. (2014). Heuristics for Mindfulness in Education and Beyond. *Sociocultural Studies and Implications for Science Education Cultural Studies of Science Education*, 59-98. doi:10.1007/978-94-007-4240-6_3
- Powietrzynska, Malgorzata. (2014). "Promoting Wellness through Mindfulness-Based Activities" (2014). *CUNY Academic Works*. https://academicworks.cuny.edu/gc_etds/268
- Powietrzynska, M., Tobin, K. & Alexakos, K. (2015). Facing the grand challenges through heuristics and mindfulness. *Cultural Studies of Science Education*, 10(1), 65-81. doi:10.1007/s11422-014-9588-x (Cited literature from Burmeister & Monte's (1997, pg.20).
- The Gut-Brain Connection: Vagus Nerve. (2018, March 18). Retrieved March 25, 2018, from <https://philly-im.com/blog/2018/3/18/the-gut-brain-connection-vagus-nerve>.
- Tobin, K., King, D., Henderson, S., Bellocchi, A., & Ritchie, S. M. (2016). Expression of emotions and physiological changes during teaching. *Cultural Studies of Science Education*, 11(3), 669-692. doi:10.1007/s11422-016-9778-9

- Tobin, Kenneth, & Powietrzynska, Malgorzata. (2017). Researching Mindfulness and Wellness. *Weaving Complementary Knowledge Systems and Mindfulness to Educate a Literate Citizenry for Sustainable and Healthy Lives*, pp. 64-69.1-18. doi:10.1007/978-94-6351-182-7_1
- Tobin, K., & Llana, R. (2012). Colliding Identities, Emotional Roller Coasters, and Contradictions of Urban Science Education. *Identity Construction and Science Education Research*, 141-156. doi:10.1007/978-94-6209-043-9_10
- Van Dyck, Edith, Vansteenkiste, Pieter, Lenoir, Matthieu, Lesaffre, Micheline, & Leman, Marc. (2014). Recognizing Induced Emotions of Happiness and Sadness from Dance Movement. *PLoS ONE*, 9(2). doi:10.1371/journal.pone.0089773.