

The Mind-Body Connection: Its Impacts on Obesity

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Abstract

This workshop is a hands-on, interactive experience supporting the research of Malkina-Pykh IG and the works of authors Kelly Michael, McCarthy Patrick and Milne Hugh. Their works cover associations between the mind-body connection and the importance of integrating a holistic approach to reach optimal levels of fitness, thereby, impacting levels of obesity in individuals. Focus is placed on a health based movement practice within the scope of the client’s abilities. The workshop will cover breathing techniques, beginning and simple movement, and the promotion of a positive and nonjudgmental support system. The methods will be taken from personal experience of teaching movement based practices since 2004 successfully with elementary to college aged students. The combination of the three allows for awareness of the human body and how truly interconnected it is. When we as people eat, we put food into the human body. When we breathe and move, we train the human body. When we connect with other like-minded people, we are connecting to other human bodies™. Through this awareness, practice and connection students can start to have a sense of belonging and thereby impacting levels of obesity.

What is The Mind-Body Connection?

The concept of “The Mind-Body Connection,” can be broken into three components. The first component would be the mind. When stating the mind, it is meant by the self-talk that occurs within an individual. This could involve old messages a person has received in his or her lifetime. These messages might be positive, negative or a combination of both. Sometimes the messages may have been very confusing. As an adult, the self-talk could have been influenced by earlier messages by parents or adult figures in childhood years [1]. So, to recap, when stating the term, “mind” in the mind-body connection, it is referring to messages or self-talk that is occurring. For example, on the way to a conference that is out of state, an attendee would be taking an airplane. Typically, gluten free, organic options are limited in airport restaurants. As such, the individual brought her own food to the airport. While at the airport, the individual is watching her peers at the gate eating bagels, croissant sandwiches, and bags of chips. She on the other hand, has a plastic container full of sautéed broccoli and eggs. As she opens the container, she notices the person to the left and right both start to stare at her. The message she tells herself could sound like this, “Am I the weirdo for bringing food to the airport and not eating at the restaurants here? Or am I making the right choices because my body needs and craves nutrition from eggs and broccoli?” So, the self-talk would refer to the mind.

The, ‘body,’ component of the term, ‘Mind-Body Connection,’ is referring to the person’s physical body (i.e.: arms, legs, torso, hips, etc.). It is pretty simple and straight forward.

When stating the term, “Connection,” it is referring to how an individual is in tune with both the mind and the body. There are times where life can become so hectic, that an individual can lose touch with the self-talk. For example, let’s take the individual at the airport that brought her own food and ate it at the gate prior to boarding the plane. For argument sake, let’s say she was in such a rush to get to the gate and to eat, that she did not take time to notice that no one else at the gate brought their own food. But, by the time she boards the plane, she has become agitated. She sits down and is unable to figure out why. Her experience with security was uneventful, she ate healthy food, and the flight was on time. She boarded smoothly. What is the agitation about? As the flight continues, she realizes her head is throbbing and her wrists hurt. She is unable to figure out why? The skies are clear and there is no turbulence. In fact, she has connected with the person sitting to the left of her and is having a rather enjoyable conversation. In this example, this individual clearly does not have a connection to her self-talk or her body. She can neither figure out why she is mentally agitated and physically in pain (head and hands).

This is where the component, ‘connection,’ comes into play in regards to the term, ‘Mind-Body Connection.’ In this case, it is specifically referring to the relationship with the outside world or third party stressors. See, even though our presenter had no hiccups in her entire morning, she cannot figure out the possibility of seeing everyone else in the airport making different food choices than her own (possibly out of convenience) affected her. She could not realize what self-talk was happening in her mind

when someone commented in the security line, “you are so skinny, do you eat?” She also was not in touch with the fact that having the person on the left and the person on the right gawk at her food while eating it at the gate affected her as well. It could have raised her blood pressure causing her head to hurt. It could have made her rush to open and close her purse and place her luggage in an overhead bin so now her hands hurt. So the term connection is essentially referring to the amount of attunement an individual has within the mind, the physical body, and the relationship with the stressors occurring in the outside world. In short, the connection can be summed up in 1 word: spirit. As in, how a person’s attitudes to outside stressors, or the level of connectivity a person has to mind and body. In this current example, the individual started with bright spirits at the beginning of the day, looking forward to reaching her destination. However, the individual has boarded the plane and is emotionally agitated and physically in pain. Her spirit has weakened. As this is an academic paper, we will utilize spirit interchangeably with attitude. In karate, this term is referred to as, ‘kime [2]’. This concept plays a vital role in self-awareness. With little self-awareness in regards to being agitated and in physical pain coupled with a weakened spirit, our individual in the example proceeds to eat two packages of sugar-laden, processed ingredient-filled crackers on the plane. She justifies eating this by the following self-talk, “Well, it’s what’s available on the plane, and what’s being offered as a snack by the airline.” The individual continues to experience a disconnect. Milne describes the interconnectivity of the body and a creation of intention essential in the healing of a person [3]. Although the example presented in this paper thus far is a rather neutral, one-time example consider the implications of what would happen if the individual continues to be disconnected from mind and body. The next time the flight attendant comes by with a snack, she could use the same justification and overeat. Consider what would happen to the presenter if she has a lifetime of this with very different stressors such as unsupportive coworkers and supervisors, a car accident, a move, a death in the family. The list could go on ad infinitum. Fortunately, there are Mind-Body Connection Techniques that can be used to help break this pattern.

How to Start Connecting Using Mind-Body Techniques

The mind-body techniques discussed in this paper come from a combination of martial arts and karate practices, scholarly and significant research conducted by professionals and a personal case study from this author’s personal experience of nearly 12 years of instructing martial arts to elementary school and college-aged students. Without belaboring terminology and history of martial arts, for the purpose of this paper, the author will introduce and define only pertinent terms to, ‘The Mind-Body Connection,’ and utilize the terms martial arts and karate interchangeably.

A key mind-body technique presented in this paper is the practice of a kata titled, “Sanchin.” Martial Arts were originally created for self-defense [4]. They were created with the intention to, “enable one to survive a fight to the death.” However, as time passed, this need drastically diminished unless or a person’s lifestyle creates it such as in the case of a front line service man or woman in the armed forces. Today, thousands of people around the world enjoy

martial arts for physical fitness or reduction of stress. Some even go so far as learning it for development of their character, self-discipline, and/or confidence. There is tremendous benefit in this. Kata is a form or set of martial arts techniques that are put together in a series or sequence. Again, this is a simplified operational definition for the purpose of this paper. For deeper definitions the reader may see the works cited [4]. Martial arts are made up of movements that are not done in day to day life anymore. So, in order to study proper posture, use of poses, breathing methods and to develop a body suitable for martial arts training, a karate-ka (one who practices karate) practices kata or a form [5].

There is a style of karate called Goju Ryu. That I (the author), hold a dan (black belt) rank in. The literal translation of, ‘Go,’ means hard. ‘Ju’ means soft. ‘Ryu’ means the way. The entire term put together means ‘The way of hard-soft.’ A cornerstone kata of Goju Ryu system is kata Sanchin. Wilder points out a key statement in the martial arts community that, “karate starts with kata Sanchin and ends with kata Sanchin”. This kata is viewed so important in karate, it is recommended that all fighters practice it at least three times daily and is not exclusive to the Goju Ryu karate system.

Why? Kata Sanchin means Three Battles: that of the Mind, the Body, and Spirit. It is the quintessential analogy or pairing with the definition this author provided of, “The Mind-Body Connection” (Table 1). As defined in the previous section, the ‘Mind’ would be the self-talk that occurs. The term, ‘Body’ would refer to the physical body. The ‘Connection’ would be an individual’s personal relationship with his or her own mind, physical body, and outside stressors/third parties.

In the same way, practicing kata Sanchin and interpreting it as such will allow an individual to start sharpening the mind, creating a stronger physique, and getting in tune with outside stressors and starting to create a relationship with one’s self-talk and physical presence [5].

Terms	As defined by this manuscript	As defined by kata Sanchin
Mind	Self-Talk (positive or negative)	Self-talk, confidence Mental stability
Body	Physical Body (i.e.: arms, legs, torso)	Posture positions, physique
Connection (Spirit) (Kime) (Attitude)	Relationship with outside stressors/3 rd parties	Aligning/Synching of both the mind and body allowing for optimal attitude when facing adversity-Uses the breath and primal movements

Table 1: Key Components of the term, “Mind-Body Connection.”

Yet another text explaining the history of Karate titled, “The Bible of Karate: Bubishi,” translated with commentary by Patrick McCarthy explains that karate could be used for health, specifically kata [6]. In Patrick McCarthy’s translation of the Bubishi, he discusses the term Bubishi. ‘Bu’ means military and ‘shi’ means record. Together they mean, ‘A manual of military preparation.’

Even though the texts cited here describe very destructive manual methodologies, they spend ample time in describing the health benefits. On page 41, McCarthy describes kata (in Chinese it is called quan and these two words shall be used interchangeably) can be used to cultivate brave spirit [6]. On page 151, he continues his discussion on quanfa (aka kata) is, “ritualized method through which the secrets of self-defense have been customarily transmitted for generations.” So he refers to quan (kata) as a series and a method to preserve martial knowledge. Hence utilizing the mind and keeping it sharp. He expresses the applications of these forms or quan’s original intention was for being utilized in “life-and-death self-defense situations” so that restraining, hurting, maiming, and even killing an opponent as needed.

More importantly for the sake of this paper is his translation statement that a secondary purpose and “equally important” of the quan is its ‘therapeutic’ use. The various primal animal-imitating paradigms and breathing patters were added to improve blood circulation and respiratory efficiency, stimulate qi energy; stretch muscles while strengthening them, strengthen bones and tendons, and massage the internal organs. Performing the quan also develops coordination as one vibrates, utilizes torque, and rotates the hips. This in turn will improve one’s own biomechanics and allow one to have optimum performance while utilizing limited energy.

He further discusses the impairing effects on the human body due to poor diet, among other detrimental human habits that people pick up in their life journeys. He states restoring balance of the body through kata (quan) allows for oxygen circulation, balancing production of hormones, and regulating the neural system [6].

Terms	
Mind	Promotes emotional stability: The mind should be in a stable normal state, and actions should always be taken in a stable mental state. It is not possible for a peak performance if the mind is unstable when preparing for a fight. The respiratory technique of Sanchin is how one learns to stay stable. Regulates the neural system.
Body	Improved blood circulation and respiratory efficiency. Stimulate qi energy. Stretch muscles while strengthening them. Strengthen bones and tendons, and massage the internal organs. Protect and create proper posture. Builds musculature and physique. Allows for optimum performance with limited energy. Balancing production of hormones.
Connection (Spirit) (Kime) (Attitude)	Synchronizes mind and body through breath. Allows practitioners to gain awareness of the mind and the body The awareness grows to making healthier, stable choices in an individual’s life including but not limited to healthier eating habits and self-care.

Table 2: Therapeutic Benefits of Sanchin Kata.

There is a third book the author is presenting in this manuscript, written by a Doctor of Osteopathic Medicine, Michael Kelly in 2001 titled, “Death Touch: The Science Behind the Legend of Dim-Mak.” Even in a book explaining the deadliest of techniques

of martial arts/karate, Dr. Kelly spends time from pages 157-162 discussing in depth healing techniques. He starts the chapter with these poignant statements: “Healing has always been a part of the martial arts.”

Lastly, having presented the therapeutic benefits of the Mind-Body practices mentioned in this paper, let’s go back to the case of our presenter and how she was able to utilize Sanchin breathing to stop the pattern of eating the crackers and regained her connection towards her agitation, headache and hand pain. After the plane stabilized in the air from takeoff, the individual took several quiet moments to do some deep breathing she learned from kata Sanchin. This allowed her to connect with her mind and realize she had agitation that there were limited food options at the airport terminals and her feelings towards being called skinny. She was an athlete and lean, and her body composition numbers fell in ‘above average’ to ‘athletic’ categories. She kept doing deep abdominal breathing used in kata Sanchin to allow the feelings to pass. The extra oxygen and the expansion and contraction of the belly allowed for fresh oxygenated blood to circulate around her body, so the pain in her head and hands decreased as well. She also used positive self-talk around her choice to eat the crackers on the plane and it sounded like this, “it’s ok, and the options were limited and you had the broccoli and eggs earlier today. Good job on breakfast, not so good job on the snack. There is plenty of day left, and I can make better decisions for dinner when we land.”

This is a modern day example of how kata Sanchin can be used for a stressor. However, the martial arts have been documented in the Bubishi to have its roots as early as the 1300s and some healing practices dating to the BC era [6]. These very practices discussed in the Bubishi continue to be practiced today by karate-ka (karate practitioners) and now, are taking hold and being embraced by therapeutic professionals. Although the terminology differs, there is a modality called Rhythmic Movement Training which has been approved by the International Institute for Complementary Therapists as a form of working with behavioral imbalances [7]. RMT has been studied by Malkina-Pykh [8]. RMT utilizes primal body movements to treat various illnesses and further explained in the next section.

Contemporary Research

Rhythmic Movement Training: What is it?

“Rhythmic Movement Training is a movement based, primitive (infant or neo-natal) reflex integration program that uses developmental movements, gentle isometric pressure and self-awareness to rebuild the foundations necessary to help overcome learning, sensory, emotional and behavioral challenges for children and adults” [7].

RMTi (Rhythmic Movement Training International) was formed in 2010 based on the work of Kerstin Linde, a Swedish movement training specialist, who developed movements based on her observations of how infants are meant to move. The movements in RMTi are based on movement replication that infants would make naturally. The movements are used in session to, “integrate

the reflexes so that learning, communication, behavior, emotional and general well-being can be given the opportunity to be accessed and developed. RMTi can be used as a stand-alone treatment or can be utilized in an integrated manner with other techniques and modalities [7]. Malkina-Pykh studied RMT and published her work titled, "Effectiveness of Rhythmic Movement Therapy for Disordered Eating Behaviors and Obesity" [8]. The research goals of Malkina-Pykh were: a) to examine associations between pre-treatment BMI, body dissatisfaction, perfectionism, alexithymia, and restraint, emotional and external eating behavior in obese patients; b) to analyze the impact of the pre-treatment measures in psychological variables on the outcome of cognitive-behavioral therapy (CBT) program; c) to test the effectiveness of rhythmic movement therapy (RMT) in the treatment of disordered eating behaviors and obesity with the CBT non-responders.

Her method of study was to work in two stages. The first stage she worked with 104 patients (32 males and 72 females, mean age was 37.6 +/- 6.7 years). They were self-referred or referred by professionals to a CBT weight management program and were selected at random. At the second stage 58 obese CBT-non-responders were randomly divided among the continuing CBT individual treatment group and RMT group. There was a control group included [8].

The results of the study were: a) significant associations existed between pre-treatment BMI, external eating and two dimensions of perfectionism, as well as between emotional and external eating and all dimensions of perfectionism, alexithymia and body image dissatisfaction; b) pre-treatment means of psychological variables significantly impacted the CBT program outcome; c) the efficacy of RMT [8].

The main finding from the study pertaining to this paper is letter C. The research found RMT have efficacy for disordered eating behaviors and obesity. While RMT is not traditional martial arts, this paper has made a case that the movements and breathing of the two are similar in that they are primitive in nature, promote circulation and movement, with posture and proper form critical to success. In RMT, an assessment is typically made of the active reflexes followed by a series of activities with the client in order to help clients' systems' change from, 'stressed posture to a more natural way of moving.' As indicated in this paper in table 2, these are the very benefits listed to practicing kata Sanchin [8].

I, the author started training in martial arts in the early 1990s as a child. I took a break and restarted in 2001 in the karate style Goju Ryu when I was formally introduced to kata Sanchin. By 2004, I had earned a rank high enough to where I was allowed to co-facilitate a karate class on my college campus. I also studied and traveled abroad during this time frame on a program called Semester at Sea (SAS) and taught karate on board the ship to the student body. Once SAS finished, and I returned home, I also co-instructed at a local community center to elementary school children. I have been teaching karate in one capacity or another since then, and in 2012 earned my black belt rank which allowed

me to become a head instructor and start a program of my own or teach in community centers and the school system as head instructor. Over the years, I have seen tremendous positive impacts in the lives of all karate-ka who took to class with serious zest or, 'kime.' For the purpose of this paper, I have gleaned one case study example and it is presented next:

Case Study

This is the case of AH who was a 9-year-old Caucasian Male and trained the martial arts under my instruction. When he first started his body composition fit into the obese category, he had poor coordination, low self-esteem.

Here is what his 'Mind' self-talk sounded like, "I am fat." "I am lazy." "I am worthless." "I will NEVER reach my goals. This led to feelings of being mad, sad, guilty, afraid and ashamed. Here is what his relationship with his 'Body' was like: Restriction of calories, alternating bingeing and purging, fad diets.

Here is what his 'Connection/Spirit/Attitude' towards his schoolmates, parents, providers and food was: "LEAVE ME ALONE, I WANT NOTHING TO DO WITH YOU."

He learned kata Sanchin, starting with the deep abdominal breathing appropriate for someone his age. The class/karate school allowed for a sense of inclusion and provided AH with a nonjudgmental environment thereby allowing him to feel a sense of purpose and belonging.

Within 2 years of training at the school, he progressed in the Goju Ryu curriculum and was able to do public presentations, lost weight and pant sizes, gained confidence, strength, flexibility, friends, increased ability to pay attention and sit still in class, and a stronger relationship with family. The following is a table outlining this (Table 3).

Terms	Before Sanchin	After Sanchin
Mind (Self-talk)	"I am fat." "I am lazy." "I am worthless." "I will NEVER reach my goals (This promoted feelings of being mad, sad, guilty, afraid and ashamed).	"I am worth it." "I can reach my goals." "I am an active karate-ka (practitioner)
Body	Obese	Not Obese
Connection (Spirit) (Kime) (Attitude)	"Leave me alone" "I want nothing to do with you (Providers, Schoolmates, Parents, and Food)	Increased self-awareness. Increased ability to speak publicly. Increased confidence. Increased strength. Increased flexibility. Increased number of friends (in the karate school). Increased ability to focus in class. Enhanced relationship with family members. Enhanced relationship with self.

Table 3: Case study of AH before and after learning kata Sanchin.

The following is an example of Sanchin Breathing and one stretching technique AH learned when he first starting practicing Goju Ryu:

Sanchin Breathing: Sit or Stand in a comfortable position, with your back straight and weight equally distributed onto both feet. Place one hand on tummy. One hand on chest. Feel which is rising more. If it is your chest, focus the breath to your belly until the belly rises more. Do this for several breaths until the belly rises more.

Sanchin Wrist Stretch: Sit or Stand in a comfortable position, with your back straight and weight equally distributed onto both feet. Extend arms out (away from your body, directly in front of your chest). Make sure shoulders are parallel to the floor and not strained. Place a slight bend in elbows and let the wrists hang loosely. Rotate palms in circular motion clockwise ten times and counterclockwise ten times.

Goju Ryu is a complete system with other kata and exercises, but as stated, kata Sanchin is a great starting point and cornerstone for beginning karate-ka and advanced karate-ka alike. For further diagrams or instructions, you may contact this author directly via the information provided in the footer or refer to Kris Wilder's Book, Sanchin kata, pages 147-149. While kata Sanchin has tremendous health benefits including this case study of a karate-ka who was able to work on his obesity through mind-body practice, there are still areas where more research and expansion can be done. They are as follows:

Areas of further study: The case study presented depicted a karate-ka student who was struggling with childhood obesity and how he was able to use the practices of kata Sanchin to assist. This author was unable to stay in touch with the student and feels a benefit to this field would be conducting a longitudinal case study and stay in touch with the children once they leave the school. This can be very difficult to track students as they grow older and move or graduate from grade school and move to high school. Also, there is stiff athletic competition and often times as children grow into middle school years, opt for team sports such as football in hopes of gaining scholarships to preparatory high schools and ultimately college.

Also, the methodologies discussed in this paper are becoming a lost art as referred to by McCarthy in his translation of the Bubishi: For masters of this practice, the healing principles were, "an integral part of training." However, this part of training has been, "overshadowed in the modern era with its myriad of eclectic traditions, commercial exploitation, and competitive phenomenon" [6]. The healing modalities that McCarthy refers to in his translation of the Bubishi are medicinal herbs, acupuncture, massage, and other related forms of trauma management [6]. Kelly too, spends time discussing the need for karate-ka to know revival and healing techniques through acupuncture and massage which were traditionally taught to masters as training progressed [4]. While I as the author realize these modalities take years

and formal schooling along with proper Licensure to practice, it may be beneficial to study martial arts and kata Sanchin practice concurrent with proper massage and acupuncture and its effects on obesity.

According to the Bubishi, both a Martial Arts Master and Physician named Hua Tao used medicinal herbs to apply it to internal medicine and nutrition in 141-208 AD [6]. He concluded "balanced exercise and intelligent eating habits were instrumental in the cultivation of healthy life and developed therapeutic gongfu (karate) based upon the deer, tiger, monkey, crane, and bear. Through invigorating the vital organs, Hua's therapeutic practice improved one's circulation, respiration, digestion, and elimination. It also helped to improved physical strength while eliminating fatigue and depression. As such, the importance and relationship between physical exercise and herbal medicine was established over 1700 years ago!!" [6]. How these modalities of medicinal herbs in conjunction with practicing kata Sanchin and their efficacy is yet another area of study that may be beneficial in working with the obese client population.

Finally, there is one work and therapeutic modality titled Cranial Sacral Therapy as described by Hugh Milne in his work, *The Heart of Listening: A Visionary Approach to Craniosacral Work*. While this paper highlighted Rhythmic Movement Training as contemporary movement based treatment, there was also reference to Milne's work on the importance of honoring interconnectedness between various body parts to achieve optimal level of health through the modality of Cranial Sacral Therapy. I barely scratched the surface covering this treatment for the sake of length and brevity but this is yet another area where further research can be done: efficacy of CST on Obesity.

Despite the areas I am recommending for further research, this paper comprehensively covered several tenets of the Mind-Body Connection which are summarized as follows:

Conclusion

In summation, this author presented the term, "The Mind-Body Connection," in its entirety and divided the term into three components: Mind, Body and Connection. Each component was operationally defined along with the term in its entirety. Parallels were drawn between each component and the entire term to ancient martial arts practices and the therapeutic value of utilizing them in each area, covering the works of Kelly, McCarthy and Wilder [4-6]. It was followed up by presenting contemporary research done by Malkina-Pykh and Rhythmic Movement Training International which utilizes similar primal movements and tenets to kata Sanchin [8,9]. The contemporary research presented by Malkina-Pykh and the RMT indicates it is a useful methodology to impact obesity. The author then provided a case study garnered from over a decade of karate instruction to elementary school aged children and college students where the concepts of inclusion, non judgment, and instruction of mind-body martial arts techniques helped individuals to lose weight, gain self-confidence, improve coordination, and increase in focus, among other benefits. Lastly,

the author realizes there is room for further study to expound on this paper. It could be in the healing realms covered by the works of Kelly, McCarthy and Wilder in the healing practices of herbology, acupuncture, and massage or CST as covered by Milne [3-6]. Conducting this research would further solidify the concepts on the interconnectivity of the human body and the utilization of tapping this to facilitate healing. For when we as people eat, we put food into the human body. When we breathe and move, we train the human body. When we connect with other like-minded people, we are connecting to other human bodies™. Through this awareness, practice and connection students can start to have a sense of belonging and thereby impacting levels of obesity.

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