



Martial Arts Interventions for Inclusion and Wellness: A Case of Children with Special Educational Needs and Disability (SEND)

Charles Spring¹ · Haywantee Ramkissoon^{2,3,4,5}

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Abstract

Martial arts are a Broad set of Activities that Offer the Opportunity to Engage in a Physical Activity that can Produce a Range of Benefits for Young People. The Broad Nature of Martial arts also Brings Merits to Children with Special Educational Needs and Disability (SEND) as they have an Opportunity to Engage Better in more Activities and are not Limited to just Traditional Physical Activity Offered in Their Educational Settings. This Paper Draws on the Literature to show how Martial arts is Linked to Leisure Research and how it also fits into the Realm of Wellness Benefits for Young Children on SEND. The Paper Highlights the Potential Benefits of Martial arts Interventions and Discusses its Usefulness in Promoting Inclusion. The Preliminary Findings from a Pilot Study Suggest that SEND Children do Indicate some Changes in Their Behaviours through the Martial arts Interventions. Reduced Scores were Observed in Areas around those that might Cause Anxiety, Anger and Frustration, whilst Excitement and Calmness was Improved. The Reactions of Carers and Teaching Assistants Displayed Improvements in Anxiety and Positive Behaviours.

Keywords Martial arts · Children · Inclusion · Wellness · Special educational needs and disability · Interventions

✉ Charles Spring
c.spring@derby.ac.uk

Haywantee Ramkissoon
Haywantee.Ramkissoon@unisa.edu.au; ramkissoonhaywantee@gmail.com

- ¹ University of Derby College of Business Law and Social Sciences, Derby, England
- ² Fellow of the Peer Review College, British Academy of Management, London, UK
- ³ UniSA Business, University of South Australia, Adelaide, Australia
- ⁴ School of Tourism and Hospitality, College of Business & Economics, University of Johannesburg, Johannesburg, South Africa
- ⁵ Centre for Innovation in Tourism, Taylor s University, Selangor, Malaysia

1 Introduction

A range of evidence on the effectiveness of martial arts in producing affective, cognitive and behavioural benefits exist in the literature. Increased self-esteem, a more positive response to physical challenges, increased autonomy, and assertiveness coupled with emotional stability (see Kostorz et al., 2017; Kostorz, & Sas-Nowosielski, 2021; Makarowski et al., 2021) are some of the positive behavioural changes noted through martial arts interventions. Several studies also point out the effectiveness of physical activity including traditional martial arts in reducing aggression, anxiety and depression (Cai, 2000; Kauffman et al., 2023; Ramkissoon, 2021a, 2021b; 2022a; Zarei & Ramkissoon, 2021). Other studies outline the benefits of sports such as martial arts (Heydari et al., 2021) in the strengthening of joints and reduction of the possibility of rheumatoid arthritis (Xu et al., 2004; Wang 2009).

Martial Arts interventions can assist to cultivate a healthier body and mind promoting quality-of-life (Ramkissoon, 2023a, b). Breaking Down Barriers to Martial Arts is an intervention that has been run by The Disability Martial Arts Association (DMAA) in the United Kingdom from 2007 to 2018 and since 2018 by Breaking Down Barriers to Martial Arts. It targets schools with higher than usual levels of disabled students from across the spectrum of disability, learning difficulties to wheelchair users, sight disabilities to those students who have behavioural problems. The idea is to be completely inclusive and look at what a person can do, not what they cannot do. It is also about introducing the children and young adults to the idea of what martial arts are, their diversity and the possibilities that they offer individuals with different abilities.

The research proposed and outlined in this study is targeted specifically at primary aged children on Special Educational Needs and Disability (SEND) support. These children engage in school activities although they do have some difficulties. Our study differs from previous studies that engaged teenagers or 11+ age range. There is a case for supporting the notion of physical activity for children on SEND through Government advice on the amount of physical activity for children with disabilities (Gov.co.uk, 2022). Research undertaken by Tarantino, Makopoulou and Neville (2022) also discuss educators' viewpoints on physical activity for children with (Special Educational Needs) SEN. Researchers also show that children on SEND or with SEN who often do not engage in traditional forms of physical activity have poor mental health correlations (Yang et al., 2021).

While a diverse range of physical activities may help, a thorough understanding of more variations of physical activity would provide more evidence. Martial arts fits into that descriptor as it encompasses a range of different and differing activities which are expanded upon in the definitions below.

2 Defining Martial Arts

It is worth defining what is indicated by the term 'martial arts' and why it can be a leisure-based activity. Martial arts also indicate the range of activities that can fall into the collected term of martial arts which will expand knowledge in a broader area

of activity as encouraged by scholars in the field (e.g., Yang et al., 2021). The term ‘martial arts’ can be a contestable terminology. In the present study, martial arts are defined as

“The martial arts are about skills that are developed for fighting, that include the recognised oriental and western hand-to-hand styles but also encompass weapons systems from around the world. These are not necessarily military-based arts and include ‘hard’ and ‘soft’ styles”.

(Spring 2005: 2)

How this definition was resolved is outlined to allow readers to have a better understanding of the martial arts. The research was conducted using focus groups of martial arts students from a degree programme in martial arts and evolving from a common usage of the term ‘martial arts’ from undergraduate students in 2005 (Spring 2005). The students that made up the focus groups came from a variety of different martial arts, with ten different styles represented and with some engaged in more than one of the styles. The focus groups consisted of male and female martial artists with the age range - eighteen to fifty.

Best (2014) discusses in detail the prospect of reclaiming the term martial arts to include all aspects that came about in this 2005 definition, as many traditional terms for martial arts limit the scope of what can be included.

‘Martial arts’ as used in the definition above, is mostly within the western parts of the world, for the collective ways of fighting, competing and challenging the individual that can be construed as aggressive and with the intent to defeat someone using the hands, feet and various weapons. It is practiced as such in disciplines such as karate, judo, kendo, kung fu, escrima (stick fighting), Iaido (sword drawing and cutting) and taekwondo (Best, 2014) though this list is not exhaustive. It causes disagreement with people practicing and writing within the martial arts themselves (Best, 2014; Buckler, 2016; Harrison, 2015). Which term is correct is often dependent on the way that these disciplines or styles are being assessed.

Another consideration as Best (2014) indicates, is that it could be dependent on one’s cultural background and heritage. Western societies understand martial arts as being associated with self-defense, either the military or civilian, and being about skills and practice such as in a work of art. Bringing the two together indicates understanding more than just something associated with fighting (Best, 2014; Buckler, 2016). Similarly, if one uses the terms Wu Shu; a collective term for Chinese martial arts, or Budo; Japanese for martial way, Chinese and Japanese respectively they do have within their respective cultures the sporting and traditional aspects of their styles.

Modernisation, ensured the refocus of Bujutsu giving the old martial science or craft, as the term indicates a more educational focus. Budo, as a term was used from the mid-to-late 1800s, and replaced the Jutsu term. This refocusing ensured the survival of the traditional Japanese Martial Arts (Alexander 2014; Donohue, 1994; Hoare 2009). Through the drawing together of Wushu and Budo the wider definition of martial arts as applied above aligns some forty different martial arts activities to that definition. Alternatively, though Harrison (2015) would argue that different ped-

agogical approaches are required to inculcate knowledge in the different disciplines and that lumping them together is somewhat narrow-minded. He argued martial arts can be categorised into three groups: martial education, combat for killing and combat sport. Cynarski and Lee-Barron (2014) agreed with this distinction but felt it was still about martial arts as a whole adopting pedagogical approaches but yet did not shed much light about what the teaching of what martial arts should comprise of. Overall, the Spring's (2005) definition was the one adopted, to use the term 'martial arts' within the study in the manner defined.

3 Martial Arts, Leisure and Wellness

How martial arts fit into the areas of leisure and wellness are discussed in this section. One of the points that evolves from this discussion on definition is the modernisation focus both in Japan and China was the rationalising of Martial Arts for the modern era as it fits well with Weber (2009) focus on standardisation of activities (Roberts 2016). The development of Thai Boxing into a sport in the ring and with a tight set of rules also fits into this discussion as do fencing and boxing as mentioned earlier. How and why rationalisation occurs, and has evolved, is important for us to understand as it can make it an acceptable way of developing children's wellness in an educational setting.

The idea of rationalisation is one that German sociologist Max Weber (1864–1920) sets out in several essays suggesting that modernisation and industrialisation would create great bureaucracies. These bureaucracies would be systematic and create a result of selecting the best means of completing tasks. Part of this would include commercial opportunities being standardised and providing goods and services in the most efficient manner possible (Roberts, 2016). This principle is followed by Ritzers (2007) work on McDonaldisation, which does contend that the Weberian idea of huge bureaucracies is negated in the McDonald's model, observing flatter structures of control (Ritzer, 2007). This could be thought to be over simplistic though as the term rationalise, rationalistic and rationalism can have several different uses. If used in a metaphysical sense, it would have no use here as it often relates to Kant and metaphysics; if used in a sociologist sense it may as it is used from a sense of beings behaving in a rational manner. It may be assumed from what other researchers have found that the majority will behave and do what is in the best interest of the greater good, and this may be to behave in the most professional way (Scruton, 1982).

From a martial arts perspective it is observable that a significant number of the differing arts do undertake this rationalism approach. Martial arts have survived by having standard patterns of action to be taught, methods for dealing with physical confrontations, and adopted ways of mass teaching. Gichen Funakoshi formalised the approach to karate for the Japanese (Nagamine, 1976), whilst the same can be said of the old Jujitsu systems by Jigarano Kano for the creation of Judo (Hoare, 2009). In China, it could be contended that Wu Shu was developed to stop the pretensions and elitist notion of different styles of Kung Fu by the Maoist government, and to create a martial art that could be practiced by all (Zhouxiang, 2011). Rationalisation, within martial arts, is probably best exemplified through the development of governing bod-

ies and the idea of having licenses for instructors and the whole notion of grading systems. It can however be contested that it is impossible to rationalise completely the activity of sport (Roberts 2016).

As individuals and groups can always operate outside of any kind of controls put in place, the process of running and organising the various disciplines can be tedious. So, this is what is being used as the notion of rationalisation for this study, the creation of organisations that would oversee and exert some controls on the different martial arts disciplines, this then makes it more directly linked to an acceptable leisure time activity, as identified by Roberts (2016). Through involvement with Sport England Safeguarding in Martial Arts, the host organization for the study Ronin Budo exemplifies the rationalisation approach taken by clubs to be acceptable in this context.

3.1 Wellness: A Multi-Dimensional Construct

What is meant by the term wellness and an understanding of why it is associated with martial arts is important. The term ‘wellness’ has varying definitions, including the various contexts in which the word is used (Agyekum & Newbold, 2016; Cohen et al., 2017; Kelly, 2010; McLeod & Wright, 2016; National Wellness Institute, 2017; Smith & Kelly, 2006; Stewart-Brown, 2015).

Alternatively, and as martial arts does cross the boundaries of spirituality, the definition of wellness from a religious point of view indicates that belief may achieve wellness and adhering to the principles of God or a set of beliefs as being essential to wellness (Modise & Johannes, 2016; Ramkissoon, 2021a, b). Other contexts that have definitions of wellness can be observed in a study observing refugees focused on wellness as a sense of community (Agyekum & Newbold, 2016; Ramkissoon, 2023a, b). Morrow and Mayall (2009) followed by Dodge et al. (2012), examined the varying definitions as posing a challenge for researchers to define and measure alongside one specific idea or context.

Nevertheless, several generic definitions of wellness do exist such as Erfurt-Cooper and Cooper (2009) for whom the term wellness is around achieving a balance of mental as well as physical health through the active promotion of a healthy lifestyle. Due to the significance of wellness over the last decade, the relevance of this definition which was produced several years ago may be argued. However, more detailed assessments of the term have since been established (Agyekum & Newbold, 2016; Cohen et al., 2017; Hardie, 2015; Kemppainen & Koskinen et al., 2021; Global Wellness Institute, 2016; Ramkissoon, 2021a; Stanciulescu et al., 2015).

Erfurt-Cooper and Cooper (2009) concepts share a similarity to other definitions. Bezner (2015), Kirkland (2014) state that wellness correlates with an individual’s quality of life and is based upon a healthy lifestyle, and along with Stanciulescu et al. (2015) suggesting that although wellness has evolved within recent years that the concept of wellness has not changed significantly. Other authors agree on slightly different definitions and positions though; Kemppainen & Koskinen et al., 2021 and McLeod and Wright (2016) describe wellness as being composed from a range of positive attributes such as health, happiness and self-care. Other scholars (e.g., Karagoz & Ramkissoon, 2023; 2024; Ramkissoon, 2021b; Ramkissoon, 2013) further investigate wellness in a range of leisure settings.

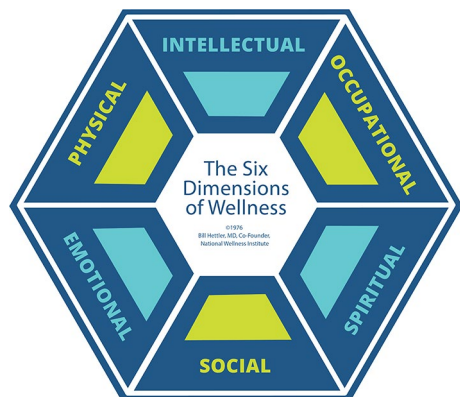
Wellness can be argued not to be unidimensional; instead several dimensions may make it up, also referred to as multidimensional (Abbott & Baun, 2015; Bezner, 2015; Cohen et al., 2017; Duff et al., 2016; The National Wellness Institute, 2017). The National Wellness Institute (2016) produced a six-dimension model which emphasises the different sections that they argue establish wellness. Encompassing all six dimensions of healthy living and wellbeing will create the optimum state of wellness research suggests.

Other studies (e.g., Bezner, 2015; King et al., 2015; Lawson & Meyers, 2011; Roscoe, 2009) suggest this is not the only model associated with a range of dimensions attributed to the ideal state of wellness. It is not the focus of this paper to debate about particular models of wellness, these arguments can be read through in works of some scholars (see Dodge et al., 2012; McLeod & Wright, 2016; Stewart-Brown, 2015; Morrow & Mayall, 2009). Modise and Johannes (2016) when referring to the ideal of the optimum state of mind argue that wellness will be dependent on the individual choices. Bezner (2015) indicates different perceptions as establishing the idea of subjective wellness through choices made.

It is also relevant to get the viewpoint of those around an individual, in the things they are engaged with, such as education. This idea of subjective wellness validates the numerous models of wellness each offering different, but similar dimensions; as they enable individuals and organisations to utilise the model which best reflects their perception of wellness, in the case here the use of The Six dimensions of Wellness from the National Wellness Institute in the United States of America (2017). McCabe (2017) and Stewart-Brown (2015) argue that self-improvement relies on there being objective domains that are important for the development of individuals. Nevertheless, Bezner (2015) states quite simply that achieving optimum wellbeing no matter what dimensions are involved and the acknowledgment of multiple dimensions is of higher importance than understanding which dimensions are involved.

When appraising the above model (Fig. 1), which is widely circulated around interested groups and well discussed in the literature around wellness, six segments impact on individuals' lives and if all are brought together these can help achieve optimum wellness. Emotional state, physical state and spiritual state are discussed frequently, and a general parlance is that of mind, body and spirit (Ramkissoon,

Fig. 1 The six dimensions of wellness (NWI, 2017)



2021a, b, 2022b). What many do not discuss so frequently are social and community (Ramkissoon, 2023a, b), intellectual and occupational. These tend to be missed out of many conversations around wellness as they are difficult topics or maybe people do not feel they have such implications for their state of wellness.

3.2 Martial Arts and Wellness

Martial arts, as evidenced by some of the successes that can be reported from breaking down barriers to martial arts events, impacts on all of the areas that are identified in the model (Fig. 1). Martial arts are based in many cultures, some that they are rooted in, and others as adopted practices and as such have varied spiritual influences upon them (Labbate, 2011; Lowry, 2006; Yang, 2011). Controversially, disciplines such as Karate, Taekwondo, Aikido, Jujitsu and Judo all are debated to have significant influences from Buddhism, Confucianism and Shintoism, much debated by academics and writers of martial arts. The idea of bowing into the Dojo or training hall is to show respect of acknowledge to the place of training. These all have influences from aspects of these spiritual areas. Studies show how traditional martial arts such as those mentioned above helps to calm down and assist those with anger management issues, ADHD and other psychological factors (e.g., Kaufmann, 2022; Lafuente et al., 2021).

With regards to those with learning difficulties or younger people with classroom behavioural issues, Breaking Down Barriers introduces them to the idea of structure, there are examples of children who have sought out classes after one of the Breaking Down Barriers interventions, they joined a club and had further success from their involvement in martial arts. The rigorous adherence to formality in the Dojo transposes into the classroom. Perseverance with the spiritual side also helps those with other mental difficulties. At the beginning and end of many Japanese martial arts classes is Mokuso a meditation that is undertaken before a class to set the scene and after the class, before the final bow out, to relax the students and calm them down; it also allows for contemplation of the class. Mokuso means silent/still and thoughts/thinking it is about being very quiet and contemplating the class to come and that has just occurred. It is a stress buster as it makes one turn one's focus to the activity that is to come and wipe away activities of the day so far. For the next period of time, it is about concentrating on the activity at hand. Then after the class time for some contemplation on whether one had understood all that had just happened and, finally relaxing after a tough work out. It may be argued that all these facets of Mokuso are beneficial for students with a range of SEND support factors (Labbate, 2011; Yang, 2011).

Physically martial arts are activities that do engage all aspects of physicality, these being strength, flexibility, stamina and speed; in some definitions of martial arts the physical aspect is a critical part of the definition (Cynarski, 2008). For young people with disabilities of different types engaging in physical activity is something that is often challenging and difficult to encourage with four out of five not engaging in regular activity (English Federation of Disability Sport, 2014). The idea of Breaking Down Barriers to Martial Arts was to offer an alternative to many other sports and something that can be a very individual activity. Martial arts also do offer a wide

range of activities that can be challenging in many different ways from Karate in different format sports to traditional, Tai Chi, Judo and Kendo; all would have different physical challenges to those with different abilities.

Emotional wellness is difficult to measure from students attending the events and is going to be the focus of this study particularly. We focus on why the MOOD questionnaire is the main source of data gathering. There have been reports that mental health issues are increasing (Ramkissoon, 2020) in the school environment and that facility needs to be offered that can help improve outcomes (Ellins, 2023; Gomez, 2022). What has been possible is to gain feedback that indicated that the events helped in some way in this dimension. For example, one student who had never been seen to talk to any males in the school she attended did so for the first time at a Breaking Down Barriers Event (BDBE) and not just a couple of words, a whole conversation. This was then reflected at the school where she did start to relate far better to males. Several very disruptive students who had outbursts of emotion frequently in school, who found it hard to engage with others, were able through attendance at three events over a period of two years moderate their behaviour. This impact was due to their keen interest in martial arts which got them to do more physical activity generally. This was translated in their behaviour in school which was also improved, especially for one who started martial arts and attended a karate class regularly.

From the perspective of children and young adults this feedback is also something that links to occupational wellbeing as in many cases school is the day-to-day job. However, it can be noted that at least one individual has now become a junior martial arts coach through engagement with the BDBE and the then DMAA events. This individual experiences high levels of anxiety and really did not engage well at school. Through the martial arts they have found their niche and become intent on eventually running their own school. Even though at times their anxiety levels can still be debilitating they are able to use their martial arts discipline to enable them to overcome this more than previously. This approach may support the findings of Ellins (2023) in that not all students benefit from the current approaches and maybe something that supports those activities in other ways could help.

Socially, martial arts encourage interaction with others and potentially have a very wide community that individuals can engage in, especially through the advent of social media. For those challenged with or by social interactions however martial arts do offer the opportunity to engage in physical activity with low numbers even just one-on-one types of activity. It is possible through social media to join groups of interested others who take part in the same martial arts as yourself as well as engage in forums and many other activities. Through joining a club, socially excluded individuals often discover they are part of a new 'family', there are examples where this has had significant impact on people, by engaging in martial arts through a karate club one individual who attended through participation at a BDBE indicated they finally had people they could relate to, often the only other people they met outside of family and school. There is also the option that when involved in martial arts students often engage in martial arts tourism, being involved in a particular activity such as Judo, Taekwondo, Escrima or Thai Boxing will often lead to an affiliation for the country of origin. Also, through their engagement the opportunity comes to attend

seminars, competitions or conferences all associated with martial arts and this widens an individual's horizons (Seiber et al., 2015).

Intellectually martial arts as indicated fall into the area of mind, body and spirit and how there are impacts on all three areas for those involved. Studies (e.g., Spring, 2014, Lee-Baron, 2012; Vertonghen & Theeboom, 2010) argue martial arts intellectual benefits in differing ways. There is an impact on educational attitude and attainment according to Vertonghen and Theeboom (2010) they reviewed an array of texts that had been written in different countries all making claims around the impact on children's education martial arts could have, citing a number of cases where martial arts have assisted in educational changes for the better. Cynarski (2008) indicated how the linkage of psycho and physical gave the martial arts something that had increased value to those who practiced; they the linkage between these two areas is difficult to describe and separate when discussing the martial arts. Spring (2014) and Lee-Baron (2012) both identified the considerable advantage that martial arts may give students who engage in further and higher education if they also practice the martial arts, but also equally why martial artists should engage in such education for their own development.

As has been noted changes in attitude to education have been noted as success from the BDBE and that others have taken up careers in martial arts indicated other success from an intellectual dimension. Previously Spring (2015) has noted the life-long learning aspect of martial arts, how someone can start at age 6 and continue in martial arts until they are 96. It is a long period of study that never ceases. For people with different abilities, who maybe feel like outsiders from mainstream society, beginning in martial arts could have significant lifelong benefits. This was primarily what the DMAA and BDBE was about trying to inculcate.

3.3 Martial Arts and Inclusion: Children with SEND or SEN

One of the quandaries in using children in research is the issue around their epistemological understanding of the world and ontologically their standing in the world. These are challenging areas to grapple with and determine for a study such as the present one as whether the children are reliable sources of information and understanding of themselves is vital to the reliability of the study.

There are different views on the development of epistemological thoughts and subjectivity as argued by Burr and Hoffer (2002). The latter posit that the development of epistemological thought was bound to the Theory of mind. Leslie (2001) in Astington and Dack (2020) argued that theory of mind indicated that children with learning impairments are likely to view their world with tension around objective and subjective constructs.

Theory of mind has been studied since its inception in the 1970s by Premack and has since attracted a lot of research interest in the subject disciplines of education, social and developmental psychology, social neuroscience, speech among others. For individuals with an under-developed theory of mind, they are likely to be challenged in strategic social decisions (Beaudoin et al., 2020).

The Children and Families (CFA) Act 2014 is a significant piece of legislation governing the support of children with special educational needs and disabilities.

Byrne and Ashworth, (2023), identify that it indicates what constitutes a child having Special Educational Needs (SEN). According to Sect. 20 of the act, a child has SEN if he or she ‘has a learning difficulty or disability which calls for special education provision to be made for him or her’. This should be read in conjunction with the Equality Act, 2010 which indicates that a person has a disability if they cannot carry out the normal activities for day-to-day living (Equality Act Part 6 88 on Legislation. Gov.uk). The range of identified disabilities linked with SEN include emotional and behavioural difficulties, autism, attention deficit disorder, dyslexia, communication requirements for the child’s education, mobility and wider day-to-day needs. These can lead to assistance being required for reading, writing and other communication education, sensory and physical needs, general behaviour (Special Educational Needs, 2024).

Tarantino et al. (2022) undertook a systematic review and meta-analysis of teachers’ attitudes towards physical activity for children with special educational needs. Their findings show that teachers had a favourable attitude towards the children being included in physical activity, with the exception of children with severe disability or behavioural problems. They also felt they needed more and better training to help facilitate that (Tarantino et al., 2022). Vickerman (2012) highlighted the lack of opportunity in accessing physical activity, often faced by children with SEN echoing the previous meta-analysis undertaken by Shields and Barr (2011) which highlighted many perceived barriers to participation. These research highlights some of the reasoning behind approaching schools with the offer of opportunities to engage children with SEND in martial arts and a physical activity opportunity. This supports the Government’s first ever published guidelines for physical activity for young people with disabilities in 2022 (Department of Health and Social Care, 2022).

Taking part in the events helps students gain some physical activity, they work on their mental wellness through challenging themselves in a new way and help develop new social skills through the medium of martial arts. The martial arts also help individuals build confidence in their own abilities which has many positive outcomes in the setting of an educational institution. Children on SEND support often require one, sometimes two or even all of these areas to be developed (Children on SEND, 2023).

4 Research Methodology

A qualitative methodology has been adopted for the study. A phenomenological approach is selected, this was a philosophy of Husserl (2012) developing an interpretation of the lived experiences of the individuals being researched. This theory is substantially based upon emotions, beliefs, feelings and the perception of the participant (Merleau-Ponty & Smith, 1996; Hatch, 2023). The philosophical underpinnings show that using this form of approach, provides the researcher with rich data exploring the individuals’ experience in great depth (Hatch, 2023).

Qualitative data was gathered by using the MOOD questionnaire, within the methodology because it is a great approach to collect informative, descriptive answers from the individuals (Cottrell, 2014). Researchers hence get an opportunity to get real lived experience responses which can be transcribed into the results section (Hatch,

2023). It further allows a better understanding on the valuable information that the participants choose to divulge and indicate their individual experiences in a safe environment with others, enabling more wide-ranging discussions to evolve (Hatch, 2023). While the present study is a pilot study, the researchers are progressing with their qualitative data collection to explore participants with positive experiences through the carers and teaching staff involved with the children for more conclusive findings.

In the pilot study a school was invited to engage their children in a 'Breaking Down Barriers to Martial Arts' programme. At Breaking Down Barriers there are a range of different martial arts on offer, in this particular study, it will be Karate, Kickboxing and Kobudo (weapons training). This was hosted in a local martial arts centre, Ronin Budo Martial Arts. The school is located in the same region as the centre. The school is a mixed community school comprising children aged 5–11 years, with around 100 pupils. 10% of the children are on SEND support. This invitation was focussed on Children with Send support at the schools that have higher than average numbers of these children as percentage population of their respective schools. Consent to engage in the programme was sought from parents through the school. Prior to the event, children were given questions about how they are feeling using the mood list (Górriz et al., 2013). After eight interventions the children were asked to fill in the questions again. All staff that engage with children have up-to-date current DBS (the legal requirement for working with children in the United Kingdom). Ethics procedures under the University of Derby research and ethics governance were sought and approved through the formal procedures (University of Derby, 2024).

4.1 Measurement Scale

The MOOD questionnaire being adopted for the research is one that assesses the feelings of the individual using twenty questions. These include the ratings being never, sometimes, often, all the time. The questions are around different emotions such as feeling scared, happy, furious, sad, excited, angry, unhappy, glad, cross, miserable, afraid, cheerful, calm, mad, pleased, down in the dumps, content, anxious, joyful and frightened. They are set as to 'I feel' and they are asked to reflect on whether they have felt that way in the last two weeks. MOOD and feelings questionnaires have been validated in several studies, by Gorriz et al. (2013). There are other similar questionnaires evidenced in papers such as the one applied in Thabrew et al. (2018) when using mood and feelings questionnaires in research with adolescents in New Zealand where they confirmed the reliability and validity and measure changes in mood and symptom change.

Kandola et al. (2020) used a Mood State Questionnaire in a longitudinal study on adolescents and the effects of physical activity on states of depression. The findings indicated strong evidence that suggests the usefulness of these types of questionnaire in supporting the findings around use of physical activity as an intervention. Gathering data in this way will enable the researchers to gather information to either support the intervention of breaking down barriers to martial arts events to the cohort identified or alternatively indicate findings that indicate their lack of usefulness.

5 Pilot Study

To test the MOOD questionnaire a pilot study was undertaken. The MOOD questionnaire had simple questions such as ‘How have you been feeling?’. It was designed not to be over-complicated and very subjective for the individual. Prompts are simple and measured for children to answer based on their view of the world.

Children attended eight sessions of martial arts interventions following the rules and guidance above. Ten children attended the sessions which included introductions to four different martial arts, karate, kickboxing, Aikido and weapons (Kobudo). Aikido is gentler in terms of the introduction and softer in the sense of martial arts, karate being a harder more physical activity from a traditional sense. Kickboxing is more modern and less traditional, Kobudo being traditional but having the inclusion of an introduction to weapons. The weapons used were all safe and mostly rubberised versions of the originals with some swords used for demonstration purposes. All had been risk assessed as per the ethics approval. All the participants filled out a MOOD questionnaire overseen by their teachers under the instructions of the researcher prior to the start of the intervention and again after the eighth session. The questionnaires were coded numerically so that the participants had the same number each time in this way changes per participant could be noted without knowing the name or personal details. All the 10 recorded changes in several of the questions, there was no consistency of change that could be noted such as all of them indicating higher levels of excitement although some of the areas did show what could be considered marked improvement. Through the pilot study we have been able to observe if the children have been challenged by this approach; they engaged well with the questionnaire.

These initial findings do indicate some improvement in areas that could lead to anxiety, anger, down in the dumps, sad and frustration; this was recorded by 50% of the children, although two did indicate increases in them feeling this way. Excitement and calmness were improved recorded more scores in feelings as often and all the time by four of the children; the children that had recorded those factors positively either indicated their original scores again or increased scores. The reactions of carers and teaching assistants was positive too noting improvements in anxiety and positive behaviours whilst in the classroom environment. They also indicated that the children enjoyed the activity and they were excited to be taking part in it. These findings suggest that further interventions could indicate some changes in the MOOD of those taking part. It is proposed that we have another longitudinal study for more interventions over a longer period of time. This would give stronger indicators as to whether these changes can be aligned alongside the intervention. While eight sessions are sufficient for the pilot study, we will need more data for conclusive findings.

6 Conclusion

The pilot study reported in this study used a mood questionnaire (Gorritz Plumed et al., 2013), which was filled in by children aged 8–11 and informal interviews with teaching and support staff, to determine if engagement in a ‘breaking down barriers

to martial arts intervention' will develop similar behavioural changes to those noted in previous research or indeed if a wider range of impacts can be measured and noted.

In conclusion from our pilot study findings, we note that martial arts can aid participation from children that may not otherwise engage in physical activity. This is also evidenced through the literature and Breaking Down Barriers session data. Children that can have behavioural issues in school have benefitted from previous interventions (Artis et al., 2022; Marusak et al., 2020; Morand et al., 2004) and although there needs to be concrete evidence, the pilot study's findings in the present study align with the colloquial and gathered evidence from previous Breaking down Barrier events. Our findings suggesting that there are positive outcomes for children on SEND support through engagement with martial arts in an intervention setting also align with some studies in the literature (e.g., Li et al., 2022; Phung & Goldberg, 2021; Vlachos, 2015).

The hope is that the work proposed in this study will inform martial arts practitioners, coaches, schools and educationalists on the important benefits of access to martial arts. With rising concerns about children's mental health in the school system (Ellins, 2023; Gomez, 2022), this current study can be applied across different schools' settings; it has potential to shed further light on the numerous benefits of physical activity such as martial arts interventions on children's mental wellbeing (Milligan et al., 2019; Ramkissoon, 2022a).

Promoting wellness of children in different ways as per the NWI model will enable them to have an increased opportunity for better quality-of-life outcomes. Our findings also indicate that martial arts can have quality-of-life benefits for children with SEND or SEN suggesting the need for further research in the field. There is also great potential in further exploring Martial arts variations such as its hard physical styles and softer gentler activities, activities aimed at sports, at self-defense and the weapons-based systems as well. This variety is another benefit of this intervention. Furthering research on martial arts has potential for health and wellbeing benefits and wider societal impacts beyond academia aligning with the United Nations Sustainable Development Goals. Findings can inform other forums, such as martial arts groups and governing bodies, educational authorities and assist in social welfare policies regarding the potential benefits of such martial arts interventions.

Declarations

Conflicts of Interest The authors did not receive support from any organization for the submitted work. There are no conflicts of interest for any of the authors.

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