

Exploring of Family Taekwondo and Attention Deficit Disorder

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Abstract

Purpose: This study explored the impact of family Taekwondo on the functioning of the family and child with Attention-deficit/hyperactivity disorder (ADHD), who were participating in Taekwondo. **Design:** A purposive sampling technique with snowballing was employed to help recruit the maximum number of participants from Taekwondo schools in southern Ontario. There was a collective case study design utilized. **Method:** This study employed semi-structured interviews with the child and parent who were participating in Taekwondo. **Results:** Data analysis revealed five distinct themes: improved school performance, strengthened family bonds, adoption of Taekwondo culture, perseverance despite challenges, and ADD/ADHD management skills. **Practice Implications:** The results of this study show that family Taekwondo can be a positive complementary therapy in addition to medical management with a psychiatrist or paediatrician. For nurses who work with families and children with ADHD, family Taekwondo may be a therapy that is considered to help support them. Strong parent-child relationships are paramount in outcomes for success in children with ADD/ADHD. For nurses and educators, a key message from this study is that it is not only the individual affected by ADD/ADHD but also the parents and siblings.

Keywords: children, families, qualitative, martial arts, family Taekwondo.

I. Introduction

Attention-deficit/hyperactivity disorder (ADHD) is the most common behavioural condition in children worldwide with an estimated prevalence of 5.3 % (Brault & Lacourse, [2012](#)).

Families with children diagnosed with ADHD have many challenges in treating the condition and managing the effects it has on the family unit. While some progress has been made in managing ADHD, a need for interventions exists to assist children with ADHD at school and in their own family environment to control unwanted symptoms. In this study, the impact of family Taekwondo on the functioning of the family and children with ADHD is explored. The structure of the family Taekwondo program, benefits, challenges, and implications on the family and the children with ADHD as an intervention are discussed.

II. Literature Review

The American Psychiatric Association outlines the criteria for the diagnosis of ADHD. . The etiology of ADHD is multifactorial (Thapar, Cooper, Eyre, & Langley, [2013](#)). Genetics, December birth, maternal smoking, substance abuse, stress in pregnancy, environmental toxins, and low birth weight are factors in developing ADHD (Morrow, Garland, Wright, Maclure, Taylor, & Dormuth, [2012](#)).

1. Families and ADHD

Common factors emerge in a review of the literature on families and children with ADHD .Johnson and Mash (2001) purport parent child interactions are more difficult in families with ADHD. Poor parental coping strategies and aggressive discipline have been observed in families with children whom have ADHD (Woodward, Taylor, & Dowdney, [1998](#)). There is a range of parent-child conflict in children with ADHD, but the highest rate of conflict being in children with ADHD and comorbid psychiatric conditions (Johnston & Mash, [2001](#)). The entire family is impacted with a child diagnosed with ADHD. Harpin ([2005](#)) found that ADHD not only affected the parents and their marriage but also relationships with siblings. Yet, families with higher socioeconomic status and children whom have the condition have been reported to have better outcomes than those of lower socioeconomic status (Molina, Hinshaw, Swanson, Arnold, Vitiello, Jensen, & Epstein, [2009](#)).

The impact of families on the development of ADHD continues to be under study. The incidence of ADHD is higher in families where the children are maltreated. Determining the direction of ADHD and family adversity is challenging (Johnston & Mash, [2001](#)). Evidence suggests that ADHD symptoms have an impact on family conflict (Foley, [2011](#)). Johnston and Mash ([2001](#)) report, “reasonable evidence that child with ADHD can influence parenting behaviour and adjustment, and vice versa that parenting behaviour can impact on the presentation, if not the development of both child conduct and ADHD symptoms” (p. 199). The interaction between parents and their children with ADHD are explained by developmental psychology frameworks.

2. Developmental psychology frameworks

Developmental psychopathology frameworks can be applied to many disorders to help understand the different processes at play in the development of a disorder. The most important benefit of a psychopathology framework is the potential to determine factors that can raise the risk of a particular disorder. This can lead to programs or treatments that could control, prevent, or potentially cure a particular disorder. Johnston and Mash (2001) created a developmental psychopathology framework for ADHD. They hypothesized the presence of a number of pathways that may contribute to the development or suppression of ADHD. Negative family dynamics can encourage development of the condition while a positive family environment can suppress it. In another scenario, a high-risk family environment can interact with genetics in someone low risk for the disorder to aggravate ADHD symptoms. This may explain why parent training has benefits on children with ADHD (Lee, Niew, Yang, Chen, & Lin, 2012). The wide spectrum of ADHD symptoms and level of severity make multiple pathways possible. This makes family treatment of ADHD important.

3. Treatments for ADHD

There is a plethora of literature on treatments for ADHD. Pharmacological therapies are considered the first line treatment for ADHD for school age children and adults with ADHD. Medication, exercise, parent training, and classroom modification strategies are all interventions recommended to help improve outcomes for individuals with ADHD (CADDRA, 2016). Multimodal treatments or multiple treatments simultaneously have been recommended by consensus as the best treatments for success (Molina et al., 2009). A systematic review by Sarris, Kean, Schweitzer, and Lake, (2011) was not able to find any support for complementary therapies with the exception of mixed results for omega-3 and L-acetyl carnitine in the treatment of ADHD. Although participation in martial arts has the potential to be a complementary ADHD therapy, using Martial Arts as approach to ADHD has not been fully explored in the literature (Alesi, Bianco, Padulo, Vella, Petrucci, Paoli, & Pepi, 2014; Lakes, Bryars, Sirisinahal, Salim, Arastoo, Emmerson, & Kang, 2013; Lantz, 2002)

4. Martial arts: Taekwondo and ADHD

Practiced for thousands of years; martial arts originated in India and China around 600 B.C. (Hill, 2008). The most common traditional martial arts today are Aikido, Judo, Karate, Kung Fu, and Taekwondo. Traditional martial arts, including Taekwondo follow the principles of self-control, respect for self and others, and other philosophical approaches (Woodward, 2009). These philosophies are popular with parents desiring better treatments to assist their children to improve their functioning at home and at school.

Martial arts training have been reported to benefit people with and without mental illness. Lantz (2002) conducted a qualitative study of families and couples without ADHD and reported, “martial arts study facilitates marital and family development” (p. 579). Themes that emerged

from the parents were an appreciation for the philosophy of respect and improved academic achievement. A study by Lakes et al., (2013) purported that school based Taekwondo compared to regular physical education demonstrated superior benefits in cognitive functioning. Alesi et al. (2014) research demonstrated higher cognitive functioning in children participating in Karate compared to those who were sedentary.

Psychotherapeutic benefits of martial arts have been found for those participating. A review by Weiser, Kutz, Jacobson, and Weiser (1995) discussed how engaging in martial arts has similarities with therapy. An explanation for the benefits of martial arts is the combination of group and physical learning experiences (Weiser et al., 1995). Mental health benefits are fostered through “recognition of the integration of mind and body” (Weiser et al., 1995, p. 123).

5. ADHD and martial arts

Few studies have been published on ADHD and martial arts. Leggett and Hotham (2011) interviewed families about their treatment experiences and reported that some used martial arts for their children. The purpose of this study was to begin to close the gap in the literature on ADHD and martial arts by exploring the perceived impact of family Taekwondo on the functioning of the family and children with ADHD. Parents and their children diagnosed with ADHD, who were participating in Taekwondo at martial arts schools in Ontario shared their experience and perceived implications.

III. Method

The study followed a qualitative research design. A purposive sampling technique with snowballing was employed to help recruit the maximum number of participants from Taekwondo schools in southern Ontario. The participants of interest were children diagnosed with ADHD or ADD and their parent or parents who were participating with them in Taekwondo. This information about the children’s diagnosis was determined based on parent report in the demographic questionnaire. Children with comorbid psychiatric disorders were allowed to participate in the study, as it was not uncommon for children to have more than one disorder in addition to ADHD. Family Taekwondo could occur at any Dojang or place where individuals train in Ontario. Students had to participate in Taekwondo for at least 12 weeks with their parent to be eligible to participate. One or both parents were eligible to participate as long as they were all participating with family Taekwondo. The following strategies were used to recruit participants; (a) distribution of the invitation to participate materials by the Taekwondo Masters in schools, (b) a snowballing technique where participants who enrol in the study could recruit other families by providing recruitment materials (Creswell, 2012; Denscombe, 1997), and (c) distribution of materials at Taekwondo tournaments in Ontario.

The participating parents completed a demographic questionnaire. Individual semi-structured interviews were administered to three children with ADHD and their parents who

were participating in family Taekwondo. The perspectives from parents and their children participating in the study provided triangulation of the data from two sources. The demographic information sheets were summarized into a descriptive table. Data analysis was based on Miles and Huberman's (1994) model of qualitative data analysis: data reduction, data display, and conclusion drawing and verification. Specifically, methods of analysis of the interviews started with reading the transcribed text and documenting any impressions. The second step in the analysis was to organize the text by categories within the research question. For example, all responses for the 10 categories were put under the same heading and identified by their case number. The data was then entered into NVivo to look for themes or patterns. Once themes and patterns were identified, there was further interpretation of the themes identified. Verification of the data involved constant comparison to test the trustworthiness of the results.

IV. Results

The data provided insight into answering the research question: what are the experiences of parents and their children with ADHD who participate in family Taekwondo? The results are presented in relation to the benefits and limitations to their participation in family Taekwondo. Pseudonyms were used in place of all participants' names. A description of the demographic data begins this discussion of the results.

1. Demographic Data

Information about the family characteristics, the child's diagnosis, and ADHD treatment was obtained from the demographic data. Family characteristics of participants demonstrated some gender bias with parents and children. The majority of parent participants were female, having one male participant and two female parents. A male gender bias was observed with child participants, with two male children and one female. One of the families had both parents participate with their children and the other had only one parent participating. All parents were married or common-law in the study.

Table 1 provides an overview of the ADHD and child characteristics of the children who have a range of comorbid psychiatric disorders. Children were diagnosed between the ages of eight and twelve and all were diagnosed by specialty physicians.

All the children took herbal/nutritional supplements for their ADD/ADHD. Two of the three children were taking pharmaceutical medication in addition to the herbal/nutrition supplements for their ADD/ADHD. All of the parents had participated in family Taekwondo more than 13 weeks and one family had achieved high levels belts and trained for years. All families continued to train in family Taekwondo at the end of the study.

Table 1. *ADHD and Child Characteristics*

Child Case	Grade Level	Diagnoses	Age at Diagnosis	Diagnosed By
Joe	6	TS, OCD, GAD, ADHD	8	Psychiatrist and Neuropsychiatrist
Jesse	7	GAD, ADHD	10	Paediatrician
Jill	8	Depression, ADD, Migraines	12	Psychiatrist

Note. TS = Tourette's Syndrome, GAD = Generalized Anxiety Disorder, OCD = Obsessive Compulsive Disorder

2. Benefits to Participation in Family Taekwondo

Authentic accounts of families' perspectives of children with ADD/ADHD and their parents participating with them in Taekwondo provided insight into the benefits of their family Taekwondo experience.

3. Improved school performance

A theme that emerged from the data was that both parents and children in the study's sample reported that family Taekwondo improved the child's school performance. Parents and children perceived the theme of improved school performance differently. Children perceived school performance to be improved as a result of participating in family Taekwondo. Parents derived their assessments of school performance from teacher feedback. Parents perceived school performance as being improvements in academic achievement, resolution of developmental delays, and self-confidence at school for their children as a result of family Taekwondo. Children perceived that their academic achievement had improved as a result of participating in family Taekwondo. Joe reported he was performing better at school academically and had teacher feedback indicating improvement at school. Joe explained, "I have noticed that I am doing a lot better at school. My teachers tell me that I am doing really well." Jill stated she had improved academic achievement as a result of participating in family Taekwondo. Jill said, "I am definitely bringing my grades up now."

Parent participants reported improvements in academic achievement, resolution of developmental delays and increased self-confidence at school. Gina explained that Jill's academic achievement improved when "her grades went from a C to an A" as a result of her participating in family Taekwondo. Gina reported that Jesse's academic achievement improved when she discussed he was "much better in school" as a result of family Taekwondo. Gina noticed that prior to taking the program, Jesse had developmental delays in using his imagination at school. In family Taekwondo, children participate in imagination games like pretending to be different animals. As a result of this activity Gina explained, Jesse "had never shown any

imaginative play, and he started using his imagination.” Gina explained that the school was concerned about this developmental delay but was pleased that as a result of three years of family Taekwondo this delay gap resolved. Joanne described how her son Joe experienced challenges with socialization at home and school, “his social life is a bit more challenging than your average child.” Joanne reported Joseph had “increased self-confidence.” This self-confidence transferred into his school experience. Joanne stated, “when he won his first metal in a tournament he brought it to school. He had a great teacher that year who made a big deal about it who put it in the newsletter.”

4. Strengthened family bonds

The bond between family members is the glue that creates the structure upon which family is built. Kuendig and Kuntsche (2006) describe family bonding “as a feeling of closeness and intimacy towards one’s parents and reflected in perceived monitoring, communication, involvement, and joint activities in the family” (p. 464). While Kuendig and Kuntsche’s definition does not mention siblings specifically it is intended that sibling relationships are also part of the family. Parental perceptions of family bonding were perceived by some parents, described, and unperceived by others, and explained in terms of improved sibling relationships by others. Children did not perceive family bonding but provided evidence that it had occurred in terms of improved parent child and sibling relationships as a result of participation in family Taekwondo.

The theme of improved family bonding was prevalent in the interviews with parents. One of the most common findings from the interviews was evidence of family bonding with parents and their children. Joanne described family Taekwondo to be a bonding experience, “this was really nice because it was something we could do together and we could bond a little bit through it.” In particular Joanne stated the word “bond” understanding that she had perceived the theme of family bonding. She explained earlier in the interview that Taekwondo “was initially a common ground that we could bond on.” In particular Joe being able to teach patterns to his mother she said, “helps that relationship as well.” Gina discussed how family Taekwondo had resulted in her family having joint activities together which led to more connections. She even would engage in playing video games with her son as his reward for good behaviour. Gina elaborated by explaining she would say to her child, “yes I will play some silly game with you that I really don’t want to play like Minecraft but that’s the reward at the end of the day.”

Joseph described how he became more involved in helping his children as a result of participating in family Taekwondo. Joseph engaged in more monitoring of his children to support them. He explained, at home “give them direction in the same as you would in Taekwondo class.” Joseph and his children developed a stronger bond through participating in family Taekwondo. Although there is a bit of overlap between ADHD management and family bonding when analyzing Joseph’s perspective, the theme of family bonding is also present. He said, “if they do something correctly give them a light touch on the shoulder, I did something

good, warm fuzzies... good job!!” The feelings concept of “warm fuzzies” described by Joseph provides insight into the relationship between the parent and child. The statements provided evidence of a nurturing and present father who has developed a strong bond. Father involvement in parenting their children reflects a stronger bond between parent and child (Krampe & Newton, 2006).

When looking at the children’s perspective in the study, the theme of family bonding with their parents continued. Jesse stated, “it was a way that I could spend time with my mom after school and I got to do something fun.” Jill provided evidence for the theme of family bonding through her need for support from her parents in the program. She explained that family Taekwondo was helpful to her as a means of support through the challenge of the Taekwondo curriculum. She stated, “when I was younger my parents would help me through it and now I am teaching with them and it is a lot more fun with them than if I wasn’t with them.” Joe did not provide any evidence of family bonding in his interview. In comparison to Joe, Jill and Jesse described how family Taekwondo was an activity that provided quality time with their parents.

There was evidence of family bonding in the form of closer relationships between siblings as a result of participating in family Taekwondo by creating opportunities for siblings to interact with each other and form deeper connections. Joanne discussed how her younger son was very interested in participating in family Taekwondo. She stated that her younger son “idolizes Joe and now that I do it he really wants to do it.” Jill explained that the way she plays with her sibling has changed “when playing with my brother I think it is a little more rough and competitive but it keeps it fun.” Jesse reported that family Taekwondo has given him something to talk about with his sister. In Jesse’s words, “yeah we’ll talk about Taekwondo a bit and my sister and play sometimes. We just do fake wrestling moves on each other and now lots of Taekwondo and its pretty funny.” Joe did not report any evidence of sibling bonding in the interview. While there are similarities between Jesse and Jill’s explanation of increased positive rough and tumble play as a result of family Taekwondo, Joe has a different story. Joe was not aware of any family bonding but his mother reported increased closeness in the relationship between Joe and his brother as a result of participation in the program as Joe’s brother wants to join in the fun.

5. Adoption of Taekwondo culture

Culture is a concept that is defined differently depending on the perspective it is viewed. Multiple disciplines have their own definitions of the term culture. Leininger (1995), defined culture, as “the learned and shared beliefs, values, and life ways of a designated or particular group which are generally transmitted intergenerationally and influence one’s thinking and action modes” (p. 9). Part of participating in Taekwondo is embracing the culture of the school, which ultimately guides Taekwondo societies and the instructors of the Dojang. Individuals who are novice learners start with white belt ranking and then progress to yellow and other colors finishing with the black belt level. Black belt level Taekwondo practitioners are shown respect

from those whom are lower rank. Some ways in which this is demonstrated is bowing to a black belt when they enter the Dojang or addressing them as Mister or Miss. Respect is a cornerstone of the culture of Taekwondo in addition to the tenants of Taekwondo, which are courtesy, integrity, perseverance, self-control, and indomitable spirit. Taekwondo practitioners show respect to black belt instructors and seniors by bowing to them as they enter the Dojang. Individuals who do not comply with the culture of Taekwondo may be asked to do remedial activities like push ups or in severe cases may be asked to leave the school. Noncompliance with Taekwondo rules can delay promotion to a higher belt rank. Through examining the interviews the theme of adoption of Taekwondo culture emerged. Parents perceived the learned Taekwondo culture to have a positive effect on their children and in some instances to be a challenge to their authority as parents. Children perceived they had learned the tenants of Taekwondo and in particular about respect.

Parents perceived their experience with family Taekwondo to be positive and challenging to their authority as parents at times. Joanne indicated that Joe felt increased self-esteem in achieving a higher belt than his mother as he began training earlier than his mother. Joanne explained he “likes feeling that he has a higher belt than me, that is a big sense of accomplishment and pride for him.” Joanne also perceived Joe to have become more self-disciplined through participating in the program. Joanne reflected, “it has shown him a lot more self-discipline in how to control himself.” Gina discussed that belt rank has become a game at home since her children are at the same and higher belt levels than she is. She responded, “I was a higher belt but now he has caught up so now we are equal. So that gets thrown out quite a few times as well.” Gina described a challenge to her authority at home and at the Dojang as her daughter is a higher level belt than her. In Gina’s words, “it has become a game where if I go on the floor right now and my daughter and my son are both on the floor, I have to address my daughter as mam because she is second degree black belt.” Gina mentioned that the concept of ranking was apparent in her family, as she said, “it has become a bit of a ranking thing at home.”

Some parents found the culture practiced at the Dojang was also practiced at home. Joseph noticed that his children would challenge his authority at home, in particular those with a higher belt ranking than him. Joseph indicated that there have been some instances where the children decline doing certain chores requested by their parents because of their higher belt status at home. “You need to do this..., no I don’t.” However, parents were able to correct resistant behaviour at home that occasionally occurred. Joseph exclaimed, “they forget that mom and dad are the boss at home and when push comes to shove, it’s we who are the black belts, were the instructors.” He discussed how the customs and culture learned at the Dojang was integrated at home. He describes, “our house is pretty relaxed but I have to say when push comes to shove yeah it becomes a Taekwondo class.” The evidence found in the parent interviews supports the theme of Taekwondo culture with parents perceiving positive effects and challenges with the culture of the Dojang coming home with the children.

Children commented on different aspects of Taekwondo culture they learned. Joe had learned much about the tenants of Taekwondo and was proud to comment on how “it teaches you

courtesy, integrity, perseverance, self-control, and indomitable spirit.” Jesse explained that he enjoyed learning the Korean language in class. He indicated he enjoyed “the bilingual parts where you get to learn the words in bilingual I have always liked different speech concepts.” Part of the culture of Taekwondo is respect. Joe and Jill found they learned much more about being respectful through participating in the program. Jill stated, “I am definitely more respectful.” Joe explained, “I have noticed it teaches you respect.” Children perceived that they had all learned different aspects of Taekwondo culture through participating.

6. ADD/ADHD management skills

Parents perceived their child’s ADHD symptoms to be inadequately controlled prior to family Taekwondo and they learned strategies to manage their child’s ADD/ADHD through participation. Further, their children learned to manage themselves autonomously. Some children perceived family Taekwondo to be a tool to utilize in managing ADD/ADHD symptoms and one child did not comment on it in his interview.

Many of the parents commented on how the classes themselves were a strategy for improving ADD/ADHD symptoms in their child, in particular helping their children to focus. In family Taekwondo classes children are held accountable for bowing and showing respect to senior belts and colleagues in class. Children are taught focusing skills in the program like looking into the instructor’s eyes and at their mouths when an instructor is talking and different stances depending on what is happening in class. For example, some techniques require extra attention and no talking to friends in class. As a result, students are instructed to go into listening position. The different stances are important Taekwondo directions. In the process, children learn self-regulation skills to control themselves through Taekwondo training. Positive reinforcement is a core strategy taught throughout the program. Students are expected to take turns teaching classes and role-playing different techniques. This means that parents will teach the class and their children will teach them occasionally. When students teach a skill in class, break a board or perform, students are expected to clap in support of that student.

Joanne discussed that her child had developed improved focus from participating in the program. She reported, “it has helped him to focus his attention more on what he should be doing than on what is going on around him.” Other parents commented on how teaching some of the classes has helped them to understand how to assist their child in their learning and performing day to day tasks at home. Joseph stated, “to keep the attention of the little ones, I constantly add something new every couple of minutes.” He says, “You have to keep the structure of moving at that pace because they lose interest.” Joseph described how he learned to use his tone of voice as a means of helping his children to refocus at home. He continued by sharing, “they know it from the tone of voice, alright this is serious now, I have to pay attention.” Joseph commented on how he has learned to break down instructions into multiple steps as opposed to one command with multiple steps. Joseph stated that he has to “give them direction in the same way as you would in Taekwondo class.” He explained how important positive reinforcement and extra help is for his

children with ADD/ADHD. Joseph explains that at home you need to be “always watching and giving direction and of course we always try to do it with positive reinforcement.” Gina described how she has learned the importance of rewarding good behaviour through participating in family Taekwondo. For example, she said, “here if you do class you get to play a game, same kind of system at home.”

Most child participants reported that they were able to use Taekwondo as an outlet for controlling some of their ADHD symptoms. The literature supports that children with ADHD struggle with self-regulation of their emotions and experience episodes of anger and aggression that are, at times, hard to control (Singh, [2011](#)). In the hyperactive type, some children also experience boundless energy (Dalsgaard, [2014](#)). Jesse identified Taekwondo as a means for him to cope with his anger. He explained, “I think it is a pretty good way to get my anger out.” Similarly, Jill described how it provided an outlet for her extra energy when she gets angry. She explained, “got me an outlet so if I am angry I can go and just kick the bags or something and use the energy towards my competitions and stuff.” Unlike Jill and Jesse, Joe did not report any perceived benefits for his ADD/ADHD symptoms in the interview.

7. Perseverance despite challenges

Having children with ADD/ADHD is identified as a challenge not only for the individual with the condition, but also for the parent and siblings (Harpin, [2005](#)). Taekwondo training itself is no easy task with intense physical training, mastery of physical patterns, and many self-defence techniques are required to progress to higher belt levels. The theme of challenge was prevalent in the interviews with parents and children. The parents perceived the program to be a challenge on a physical level. Further committing to participate was the biggest challenge for the majority. The majority of children perceived the time commitment required and learning patterns in family Taekwondo to be challenging.

Parents perceived the time commitment to be most challenging in addition to participating in the class with one parent reflecting on his experience in Taekwondo as a child. Joseph recounted, “well, it’s always a challenge and the purpose of the class is to challenge you and get you focused.” Two of the parents found the time commitment to be most challenging. Joanne commented on the challenge of dedicating the time to the program, “to find the time to get away and come to classes, two or three times per week.” Parents commented having other children to care for and juggling other sports, as being challenging. Gina explained, “My son, he enjoys Lacrosse as well as being in two places at once the most challenging for any child it is a hard thing to do.”

Children perceived Taekwondo patterns and time commitment for the program to be most challenging. For some children, the lessons and patterns were found to be the biggest challenge. Jesse explained, “they have changed the patterns three different times and I have to practice my patterns for a belt test but they changed it for a belt test and I did the wrong pattern for a belt test.” Other children found the time commitment to be a challenge. Jill declared, “giving up things that

I want to do with my friends and then there are days that I really don't want to do it but I push through and do it and then I realize how much better off I am going to be when I do it." Joe did not perceive a challenge with family Taekwondo.

V. Discussion of Significant Findings

This study explored the perceived impact of family Taekwondo on the functioning of the family and child with ADHD. The results from the study settled into three main categories: family, school performance, and ADD/ADHD management.

1. Enhanced family relationship

Families are believed to be the fundamental societal structure for humanity. Most important, families spending time together in the form of leisure activities are found to be associated with high quality and positive relationships between members (Zabrieski & McCormic, [2001](#)). When families have a member who is affected by ADD/ADHD, it has an effect on other members of the family who may not have ADD/ADHD. It is possible that family bonding, parental commitment, and parent training were all factors that have an influence on suppressing ADHD/ADD pathology.

1) Strengthened family bonds

There was evidence of enhanced family bonding with parents and their children from participation in family Taekwondo. This is not a topic that has been well researched or explored. Harpin ([2005](#)) determined having a child with ADD/ADHD in a family to have negative effects on siblings and a strain on the parents' marriage. Conversely, this study did not find any strain on sibling relationships and found family Taekwondo to be beneficial to sibling relationships. No parents reported divorce or marital problems in the study. Poor family bonding can create negative relationships between parents and their children and also siblings. In ADHD it is important for parents to have a strong relationship with their children if they are to have good outcomes. Stiefel ([1997](#)) explored attachment and parent-child relationships and ADHD development. In particular attachment or bonding with parents "may function in different ways, having significant effect on emotional, cognitive, social and motivational developments in young children" (Stiefel, [1997](#), p. 57).

2) Parental commitment

There was evidence of parental commitment to their children and commitment to participating in family Taekwondo. Despite this being identified as a challenge by parents and some children they continued to persevere and demonstrate a high level of motivation. Rogers, Wiener, Marton, and Tannock ([2009](#)) examined parental involvement of parents of children with

ADHD compared to parents of children without ADHD. Parents with children with ADHD had “lower self-efficacy in their ability to help their children” (Rogers et al., [2009](#), p. 167). The parents in this study both male and female were very involved and committed to their children. Despite having to overcome many obstacles to participate in family Taekwondo, the parents and families continued. Parents perceived learning strategies to help manage their children with ADD/ADHD through participating in the program.

3) Parent training

In this study, there was a significant evidence to show that parents received some training to manage their children through participating in family Taekwondo. This training was not taught formally to address their child’s behaviour but learned indirectly through participating. The parent training was deemed beneficial as parents reported integrating strategies used at the Dojang to their regular routine. Similarly, Lantz ([2002](#)) concluded some parents of children without ADD/ADHD developed parenting strategies through participating in family martial arts that assisted with positive discipline.

Parent training is an ongoing therapy to assist parents to help their children with ADHD. Lee, Niew, Yang, Chen, and Lin ([2012](#)) determined that behavioural parent training was an “effective intervention for children with ADHD in the area of child behaviour as well as parenting behaviour and perception” (Lee et al., [2012](#), p. 2047). It is possible that family bonding, parental commitment, and parent training may be variables that are improved through family Taekwondo, which also suppresses ADD/ADHD severity. It is likely these variables were areas requiring improvement prior to participating in the program.

2. Improved school performance

A consistent theme in the study reported that there was a perceived benefit from family Taekwondo and school performance for the children with ADD/ADHD. Parents and some of the children reported improved school performance. There are no identified studies exploring the phenomenon of family Taekwondo and its’ effects on school in children with ADD/ADHD.

1) Academic performance at school

There has been no previous research on the academic effects of family Taekwondo and ADD/ADHD in children. A study by Lantz ([2002](#)) demonstrated an improvement in academic functioning of a child with ADHD participating in a family Aikido martial arts program. Families who participated in this study identified improvement in grades in some of the children. Other family martial arts program studies have revealed grade improvements in children with ADD/ADHD (Lantz, [2002](#)).

2) Improvement of developmental delays

One parent in the study reported that her son's teachers informed her that he was not engaging in imaginative play at the same level as his peers prior to participating in family Taekwondo. After participating in family Taekwondo his parent explained he had improvement and resolution in a delay in imaginative play as a result of participation in family Taekwondo. The Dojang provided many opportunities for children to practice imaginative play in games provided to children for rewards. This is definitely a phenomenon that deserves more exploration in future study.

3) Self-confidence at school

Some parents in the study identified that their children struggled socially at school prior to participating in family Taekwondo, which helped to improve their self-confidence at school. Lantz (2002) concluded that families participating in martial arts experienced increased self-confidence. Unfortunately, this theme was not linked with children with ADD/ADHD and did not mention if children experienced increased self-confidence at school.

3. Family Taekwondo and ADHD/ADD management skills

Many of the families in the study used multimodal approaches in the management of their child's ADD/ADHD and other psychiatric disorders. All of the children in the study had more than one psychiatric condition. The majority of children were taking medication for ADD/ADHD along with nutritional supplements in addition to participating in family Taekwondo. There have been no published studies exploring the impacts of family Taekwondo on children with ADD/ADHD or comorbid psychiatric disorders.

1) Family Taekwondo and exercise

The exercise component of family Taekwondo was identified as a means to treat ADD/ADHD symptoms by many of the participants in the study.

Rommel, Halperin, Mill, Asherson, and Kuntsi (2013) completed a review of the existing literature on exercise and ADHD. Rommel et al., (2013) reported limited research on the relationship between ADHD and exercise but there is consistent evidence that it improves symptoms of the disorder. This study identified exercise in the family Taekwondo program to have perceived positive effects on the management of children with ADD/ADHD.

2. Family Taekwondo and multimodal management of ADD/ADHD

The families in the study managed their children's ADD/ADHD with more than one strategy simultaneously. The families found the family Taekwondo program to be effective in managing their children's ADD/ADHD symptoms in combination with medication and or nutritional supplements for some of the children. None of the children reported stopping their medication as a result of participation in family Taekwondo. It is important to note that the children in this

study had very involved supportive families who had the financial means to enrol their children in the sport. These children could be viewed to have a socioeconomic advantage. Other studies have established that socioeconomic advantage predicts favorable outcomes (Molina et al, 2009). Family Taekwondo appears to be a complimentary therapy working synergistically in a multimodal management regime for the disorder.

VI. Future Research

This was an initial exploratory study. Valuable themes were uncovered, however, gaps remain in the literature that need to be further explored. This research was limited to a small sample of parents and their children with ADD/ADHD. More research in different contexts is required. For example, it would be beneficial to determine if there are differences between children with ADD/ADHD and without comorbid psychiatric disorders and their response to family Taekwondo. Randomized controlled trials will be important to quantifying the effects of the Taekwondo program on ADHD/ADD symptoms.

VII. Conclusions

The results of this study show that family Taekwondo can be a positive complementary therapy in addition to medical management with a psychiatrist or paediatrician. For nurses who work with families and children with ADHD, family Taekwondo may be a therapy that is considered to help support them. Strong parent-child relationships are paramount in outcomes for success in children with ADD/ADHD. For nurses and educators, a key message from this study is that it is not only the individual affected by ADD/ADHD but also the parents and siblings. All professionals and parents need to work together to provide the best outcomes for these children.

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